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5 August 2016

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Subject: *Draft Burial Site Component of a Data Recovery and Preservation Plan for Portions of SIHP #s 50-80-14-7429 and 50-80-14-7655, Howard Hughes Corporation's Redesigned Block N East Project, Kaka'ako, Honolulu Ahupua'a, Honolulu (Kona) District, O'ahu, TMKs: [1] 2-3-002:001 (por.), 086, 087 (McDermott and Yucha 2016)*

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CSH Job Code: KAKAAKO 174

Dear Messrs. Los Banos and Neupane:

We are providing you the draft *Burial Site Component of a Data Recovery and Preservation Plan for Portions of SIHP #s 50-80-14-7429 and 50-80-14-7655, Howard Hughes Corporation's Redesigned Block N East Project, Kaka'ako, Honolulu Ahupua'a, Honolulu (Kona) District, O'ahu, TMKs: [1] 2-3-002:001 (por.), 086, 087 (McDermott and Yucha 2016)* in both hard and soft copies (PDF on CD). CSH prepared this burial site component (BSC) document to support the Howard Hughes Corporation's historic preservation review (per Hawai'i Revise Statutes Chapter 6E) of the redesigned Block N East project.

Under a transmittal memorandum on HCDA letterhead, a single hard copy of this draft BSC will be delivered to SHPD, along with the required SHPD review submittal form and \$150.00 review fee check.

If you have any questions or comments, please feel free to call me at (808) 262-9972 or toll free at 1-800-599-9962. You may also reach me by e-mail at [mmcdermott@culturalsurveys.com](mailto:mmcdermott@culturalsurveys.com).

Sincerely,

Matt McDermott  
Cultural Surveys Hawai'i, Inc.

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**Draft**

**Burial Site Component of a Data Recovery and  
Preservation Plan for Portions of  
SIHP #s 50-80-14-7429 and 50-80-14-7655,  
Howard Hughes Corporation's Redesigned  
Block N East Project,  
Kaka'ako, Honolulu Ahupua'a,  
Honolulu (Kona) District, O'ahu  
TMKs: [1] 2-3-002:001 (por.), 086, 087**

**Prepared for  
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**Prepared by  
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**Cultural Surveys Hawai'i, Inc.  
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**August 2016**

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## Management Summary

<b>Reference</b>	Burial Site Component of a Data Recovery and Preservation Plan for Portions of SIHP #s 50-80-14-7429 and 50-80-14-7655, Howard Hughes Corporation’s Redesigned Block N East Project, Kaka‘ako, Honolulu Ahupua‘a, Honolulu (Kona) District, O‘ahu, TMK: [1] 2-3-002:001 (por.), 086, and 087 (McDermott and Yucha 2016)
<b>Date</b>	August 2016
<b>Project Number(s)</b>	Cultural Surveys Hawai‘i, Inc. (CSH) Job Code: KAKAAKO 174
<b>Investigation Permit Number</b>	CSH will likely implement the burial treatment measures described in this plan as part of archaeological monitoring fieldwork carried out under CSH’s annual archaeological fieldwork permit number 16-26 and/or subsequent annual permits, issued by the Hawai‘i State Historic Preservation Division (SHPD) per Hawai‘i Administrative Rules (HAR) §13-13-282.
<b>Agencies</b>	SHPD; O‘ahu Island Burial Council (OIBC), Hawaii Community Development Authority (HCDA)
<b>Land Jurisdiction and Project Funding</b>	Private, Victoria Ward, Limited (VWL)/Howard Hughes Corporation (HHC)
<b>HHC’s Ward Neighborhood Master Plan and Its Development Blocks</b>	Finalized in 2012, HHC’s Ward Neighborhood Master Plan is a long-range development plan of 20-plus years expected to evolve over time to fulfill the needs of the Kaka‘ako community. It follows guidelines set forth in the Mauka Area Plan of the HCDA. As part of the master plan, HHC divided its 60.5-acre (24.5 hectare) Kaka‘ako land holdings into discrete development blocks. HHC is developing these blocks into an integrated community with residential, entertainment, and commercial components, as well as open space.
<b>Realignment of the Original Boundaries of Block N East Project Area</b>	As HHC’s Ward Neighborhood development proceeds, planning moves from the general ideas of the master plan to the specifics of individual development projects. Redesign of certain development block boundaries, and their proposed build-outs, are sometimes needed to better suit the actual development landscape based on the results of post-master plan studies and new information. For HHC’s Block N East, detailed archaeological inventory survey results of the development blocks in the vicinity (Blocks N East, I, and M, described below) showed that the locations of previously unknown Native Hawaiian burial sites conflicted with the initial development plans for Block N East that pre-dated the burials’ discovery. As a result, HHC consulted with the SHPD, recognized Native Hawaiian cultural descendants for the Kaka‘ako area, and the O‘ahu Island Burial Council (OIBC), and redesigned the Block N East boundaries and the proposed development within these boundaries. This redesign allowed for more appropriate

	burial treatment, with preservation in place of burial clusters and relocation of isolated fragmentary human remains. As a result, HHC's redesigned Block N East project area encompasses contiguous portions of the original Block N East, Block I, and Block M, as originally designated in the Ward Neighborhood Master Plan.
<b>Project Location</b>	The original as well as the redesigned Block N East is in the current Ward Industrial Center, within the city block bounded by Ward Avenue, Queen Street, Kamake'e Street, and Auahi Street. The current Block N East project area is depicted on the 1998 Honolulu U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle.
<b>Project Description</b>	The redesigned Block N East project will consist of a high-rise residential tower with a separate seven-story parking structure. Building podiums will be developed with a wrap of residential and retail spaces. Project-related utility connections will extend into Queen and Auahi Streets.
<b>Project Acreage</b>	3.0 acres (1.22 hectares)
<b>Historic Preservation Regulatory Context</b>	CSH prepared this burial site component of a data recovery and preservation plan (BSCDR&PP) to support the project's historic preservation review under Hawai'i Revised Statutes (HRS) §6E-42 and HAR §13-13-284. This plan is also intended to support the HCDA's review and approval of the Block N East project. Prepared in consultation with the SHPD, the recognized Native Hawaiian cultural descendants for these burial sites, and the OIBC, this document fulfills the requirements of HAR §13-300-38.
<b>Summary of Past Historic Preservation Documentation Related to the Redesigned Block N East Project Area</b>	<p>As precursors of the Block N East project's historic preservation review process, CSH prepared separate cultural impact assessment (CIA) (Cruz et al. 2012) and archaeological literature review/predictive model (O'Hare et al. 2012) studies of the entire 60.5-acre Ward Neighborhood Master Plan. These were submitted to the SHPD on 20 July 2012. In June 2012, HHC submitted to the SHPD the architectural survey for the buildings within the 60.5-acre master plan area, prepared by Fung Associates, Inc. (2012).</p> <p>For the original Block N East project area (a portion of which is within the current redesigned Block N East project area), CSH prepared an archaeological inventory survey plan (AISP) (Sroat, O'Hare, and McDermott 2014), which was accepted by the SHPD in a letter dated 21 January 2014 (LOG NO.: 2014.00644, DOC. NO.: 1402SL12). CSH's archaeological inventory survey (AIS) report for the original Block N East project (Sroat et al. 2016) proposes an archaeological monitoring program and burial treatment as mitigation for the original Block N East project area.</p>

	<p>For the Block I project area (a portion of which is within the current redesigned Block N East project area), CSH prepared an AISP (Sroat, O'Hare, and McDermott 2014), which was accepted by the SHPD in a letter issued 24 January 2014 (LOG NO: 2013.6927; DOC NO: 1401SL23). CSH's Block I AIS report (Sroat et al. 2015) was accepted by the SHPD in a letter dated 12 June 2015 (Log No. 2015.02101; Doc. No. 1505SL25). CSH's Block I AIS mitigation measures included an archaeological monitoring program, burial treatment, and an archaeological data recovery program. CSH's Block I archaeological monitoring plan (AMP) (Sroat, Leger, and McDermott 2015) was accepted by the SHPD in a letter dated 18 August 2015 (Log No. 2015.02451, Doc. No. 1508SL16). CSH's burial treatment plan, describing the combination of preservation in place and relocation of the previously identified Native Hawaiian burial sites in Block I, was accepted by the SHPD in a letter dated 3 December 2015 (LOG NO:2015.03320 DOC NO:1512.RKH09). At its 9 December 2015 meeting, the OIBC determined this treatment was appropriate and approved the Block I burial treatment plan, with the understanding that the specifics of the burial treatment would be clearly outlined in a subsequent burial site component of a data recovery and preservation plan (BSCDR&amp;PP). The Block I archaeological data recovery plan will be written when development plans for Block I are formalized.</p> <p>For the Block M project area (a portion of which is within the current redesigned Block N East project area), CSH prepared an AISP (Sroat, O'Hare, and McDermott 2014), which was accepted by the SHPD in a letter dated 10 January 2014 (LOG NO: 2013.6926, DOC NO: 1401SL10). CSH's Block M AIS report (Hawkins et al. 2015), was accepted by the SHPD in a letter dated 21 January 2015 (LOG NO: 2015.00107, 2015.0087; DOC NO: 1501SL15). CSH's Block M AIS mitigation measures included an archaeological monitoring program. CSH's Block M AMP (Leger and McDermott 2015) was accepted by the SHPD in a letter dated 21 January 2015 (LOG NO: 2015.00107, 2015.00187; DOC NO: 1501SL15).</p>
<b>Documented Historic Properties Within the Redesigned Block N East Project Area</b>	<p>The prior HHC AIS investigations described above for the original Block N East, Block I, and Block M included all portions of the redesigned Block N East project area. These AISs documented the following three historic properties, portions of which are within the current Block N East project area: 1) State Inventory of Historic Places (SIHP) # 50-80-14-7429, previously identified subsurface cultural deposits within two discrete strata, including associated features and Native Hawaiian burial sites (some of which are within, or immediately adjacent to, the redesigned Block N East project area and are part of the BSCDR&amp;PP); 2) SIHP # 50-80-14-7655, previously identified historic salt pan remnants, including associated cultural features and Native</p>

	Hawaiian burial sites (one of which, although outside the redesigned Block N East boundaries, is part of the this Block N East BSCDR&PP); and 3) SIHP # 50-80-14-7686, previously identified subsurface historic infrastructure remnants associated with the development of Kaka'ako during the late nineteenth to mid-twentieth centuries.
<b>Block N East AIS Coverage and Mitigation Commitments</b>	As detailed above, the HHC development blocks in the vicinity have had well over two years of historic preservation studies and document review. As a result, archaeological inventory survey for the entire redesigned Block N East project footprint has been completed and mitigation commitments have been worked out in consultation with the SHPD and the OIBC. Based on this past historic preservation review, the redesigned Block N East project requires an archaeological monitoring program (monitoring plan by McDermott and Hensley 2016) and this BSCDR&PP to be in effect before project construction can begin.
<b>Previously Identified Native Hawaiian Burial Sites Addressed in this Plan and the Relationship to the HHC Block I Burial Treatment Plan (BTP)</b>	This Block N East BSCDR&PP addresses the previously identified Native Hawaiian burial sites from portions of SIHP #s -7429 and -7655. The burial sites from SIHP # -7429 are within, or in the immediate vicinity of, the redesigned Block N East boundaries. The single burial site from SIHP # -7655 is not within the redesigned Block N East boundaries, but is in close proximity. These burial sites are included in this BSCDR&PP because of an existing OIBC burial treatment determination based on HHC's Block I BTP, which pertains to all these burial sites. These burial sites consist of both purposeful interments—termed in situ burials—and isolated, previously disturbed skeletal fragments found outside what would be considered a burial context. The Block N East burial sites include the following: what appears to be a pre-Contact and post-Contact cluster of in situ burials [SIHP # -7429 Feature 57 in Block I AIS Test Excavation [T]-17, Feature 58 in T-17, Feature 59 in T-17, Feature 60 in T-24, Feature 68 in T-57, Feature 70 in T-69, and Feature 79 in T-70; isolated, previously disturbed, fragmentary human skeletal remains and a potential find of coffin wood and hardware (SIHP # -7429 Feature 23 in T-3, Feature 25 in T-7, Feature 26 in T-8, and Feature 53 in T-13, respectively); and a worked human bone tool (SIHP # -7655 Feature 3 in T-35). Found and documented during the Block I AIS investigation, with one exception these are all previously identified burial sites under Hawai'i state burial law (HAR §13-300-2). The one exception is SIHP # -7429 Feature 53 (potential find of coffin wood and hardware where no human skeletal material was observed), which is being treated as a potential previously identified burial site based on the feature's context, the results of consultation, and the recognized cultural descendants' wish for a preponderance of caution.

	Based on available information the SHPD has determined ethnicity for these remains is reasonably believed to be Native Hawaiian. All of these previously identified burial sites' treatment (preservation in place of the burial cluster and relocation of the fragments to a burial preserve established at the cluster location) was accepted by the SHPD and approved by the OIBC as part of the Block I BTP. As noted above, the Block I BTP was accepted by the SHPD in a letter dated 3 December 2015 (LOG NO.: 2015.03320 DOC NO.: 1512.RKH09). Additionally, at its 9 December 2015 meeting, the OIBC determined this burial treatment was appropriate and approved the Block I BTP, with the understanding that the specifics of the burial treatment would be clearly outlined in a subsequent BSCDR&PP. This BSCDR&PP outlines the specifics of these burials' treatment within the redesigned Block N East project area.
<b>Consultation</b>	Consultation with the SHPD, the OIBC, and recognized Native Hawaiian cultural descendants regarding the original Block N East project continued during the Block N East AIS investigation in 2014 and 2015. More recently in 2016, consultation with the SHPD, the OIBC, and the Block I and Block N East recognized Native Hawaiian cultural descendants focused on the reconfiguration of the Block N East project area and the ramifications for mitigation, including archaeological monitoring and burial treatment implementation and documentation. This consultation included the following: meetings with the recognized cultural descendants on 9 February 2016, 9 May 2016, and 1 August 2016; consultation and email exchanges with the SHPD Culture and History Branch on 13 April 2016 and 18 and 31 May 2016; meetings with the SHPD Archaeology Branch on 6 April, 10 May, and 13 June 2016; and a presentation to the OIBC on 8 June 2016. This BSCDR&PP is a direct result of this consultation.
<b>Proposed Burial Treatment</b>	The Block N East burial preserve area will be established over the cluster of in situ burials associated with the portion of SIHP # -7429 within the redesigned Block N East project area (SIHP # -7429 Feature 57 in Block I AIS Test Excavation [T]-17, Feature 58 in T-17, Feature 59 in T-17, Feature 60 in T-24, Feature 68 in T-57, Feature 70 in T-69, and Feature 79 in T-70). The previously disturbed, fragmentary human skeletal remains and a potential find of coffin wood and hardware (SIHP # -7429 Feature 23 in T-3, Feature 25 in T-7, Feature 26 in T-8, and Feature 53 in T-13, respectively), as well as the worked human bone tool (SIHP # -7655 Feature 3 in T-35) will be exhumed from where they were found and relocated to within the backfilled AIS test excavations within the newly established Block N East burial preserve area. These AIS test excavations have already been inspected for archaeological deposits and documented. The relocation of these remains into these previously excavated locations will ensure that no additional human skeletal remains are encountered or disturbed during the relocation and



	<p>reinterment process. The implementation of the relocation of these isolated and fragmentary remains will be carried out during the project's archaeological monitoring program (McDermott and Hensley 2016).</p> <p>In consultation with the Block I and Block N East recognized cultural descendants, HHC has worked with their project architects and engineers to create the burial preserve area for preservation in place and relocation. The surface of the burial preserve area will be largely open to the sky and landscaped with Native Hawaiian vegetation. Only the easternmost portion of the burial preserve area will be under the Block N East parking structure footprint and will be paved over for parking. The burial preserve area will be recorded with the Bureau of Conveyances to ensure protection of this area continues with any subsequent land owners.</p>
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# Table of Contents

<b>Management Summary .....</b>	<b>i</b>
<b>Section 1 Introduction .....</b>	<b>1</b>
1.1 Project Background .....	1
1.2 Historic Preservation Regulatory Context and Document Purpose .....	8
1.2.1 Summary of Past Historic Preservation Documentation Related to the Current Block N East Project Area .....	8
1.2.2 Focus of this BSCDR&PP .....	9
1.3 Environmental Setting .....	10
1.3.1 Natural Environment.....	10
1.3.2 Built Environment .....	10
<b>Section 2 Traditional and Historical Background .....</b>	<b>13</b>
2.1.1 Explanation of Place Names .....	13
2.1.2 Legendary Accounts .....	13
2.1.3 Early Post-Contact History and Population Centers .....	17
2.1.4 Mid-Nineteenth Century and the Māhele .....	23
2.1.5 Nineteenth Century Land Use in Kukulua'e'o .....	25
2.1.6 Twentieth Century Land Use .....	34
2.2 Previous Archaeological Research .....	56
2.2.1 Ward Village Phase II (Ward Theaters).....	56
2.2.2 Honolulu High-Capacity Transit Corridor Project/ Honolulu Rapid Transit Project (City Center) .....	64
2.2.3 Ward Gateway Project (Blocks B East and C West) .....	66
2.2.4 Ward Neighborhood Block C Project.....	68
2.2.5 Ward Neighborhood Block M Project.....	68
2.2.6 Ward Neighborhood Block O Project.....	71
2.2.7 Ward Neighborhood Block I.....	77
2.2.8 Ward Neighborhood Original Block N East AIS Results.....	82
<b>Section 3 Consultation and Search for Lineal and Cultural Descendants.....</b>	<b>86</b>
3.1 Consultation During Block I AIS Fieldwork .....	86
3.2 Consultation Following Completion of Block I AIS .....	87
3.3 Consultation Following Changes to the Block N East Project Area.....	88
<b>Section 4 Proposed Burial Treatment .....</b>	<b>90</b>
4.1 Statement of Proposed Treatment.....	90
4.2 Mailing Addresses of Applicant, Landowner, and Consultant .....	92
4.3 Publication of Burial Notice .....	92
4.4 Immediate Short-Term Burial Protection Measures for SIHP #s -7429 and -7655 as part of the Block I AIS .....	94
4.4.1 SIHP # - 7429 Feature 23 (within T-3).....	96
4.4.2 SIHP # -7429 Feature 25 (within T-7).....	96
4.4.3 SIHP # -7429 Feature 26 (within T-8).....	105
4.4.4 SIHP # -7429 Feature 53 (within T-13).....	105
4.4.5 SHIP # -7429 Features 57, 58a/b, and 59a/b (within T-17).....	116
4.4.6 SHIP # -7429 Feature 60 (within T-24).....	130

4.4.7 SIHP # -7429 Feature 68 (within T-57).....	130
4.4.8 SIHP # -4729 Feature 70 (within T-69).....	144
4.4.9 SIHP # -4729 Feature 79 (within T-70).....	147
4.4.10 SIHP # -7655 Feature 3 within T-35: .....	151
4.5 Proposed Disinterment Methods.....	157
4.6 Temporary Curation.....	157
4.7 Preparation of the <i>Iwi Kūpuna</i> for Reinterment.....	157
4.8 Burial Reinterment.....	157
4.9 Short term protection measures during construction .....	157
4.10 Burial Preserve Buffers and Surface Treatment .....	161
4.11 Recognized Cultural Descendant Access.....	161
4.12 Long-Term Management of the Burial Preserves.....	162
4.13 Burial Preserve Recordation .....	162
4.14 Treatment of Inadvertent Burial Discoveries.....	162
<b>Section 5 References Cited .....</b>	<b>163</b>
<b>Appendix A SHPD Correspondence .....</b>	<b>166</b>
<b>Appendix B Legal Notices .....</b>	<b>169</b>
<b>Appendix C OHA Consultation Letter .....</b>	<b>171</b>

## List of Figures

Figure 1. Portion of the 1998 USGS 7.5-minute topographic quadrangle showing the location of the project area.....	2
Figure 2. Tax Map Key (TMK) [1] 2-3-02 showing the project area (Hawai‘i TMK Services 2014).....	3
Figure 3. Aerial photograph of the project area (Google Earth 2013).....	4
Figure 4. HHC’s 60.5-acre Ward Neighborhood Master Plan area divided into development blocks.....	5
Figure 5. The locations of the original Block N East, Block I, and Block M project areas shown over the current Block N East project area (area of read shading). Note: the “tails” extending into Queen Street and Auahi Street are needed utility corridors.....	6
Figure 6. Preliminary plan view design sketch of HHC’s redesigned Block N East project area, outlined in purple, but not including utility corridor “tails.” Shown are the seven story parking building and the high-rise residential building in relation to HART’s H RTP alignment, the future (as yet undesigned) Block N West project, and HHC’s future Halekauwila Street extension.....	7
Figure 7. Google Earth aerial photograph showing the previously identified historic properties and Native Hawaiian burial sites within the redesigned Block N East project area and the surrounding area.....	11
Figure 8. Overlay of <i>Soil Survey of the State of Hawaii</i> (Foote et al. 1972), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001).....	12
Figure 9. 1884 map of Honolulu, Kewalo Section (portion), by S.E. Bishop, showing place names and Land Commission Award (LCA) locations within and near the project area..	14
Figure 10. Early nineteenth century (ca. 1810) trails on the southwest coast of O‘ahu (illustration by Gerald Ober from ‘Ī‘Ī 1959:93), showing the location of Honuakaha, Kukuluāe‘o, and Kālia.....	15
Figure 11. 1817 map by Otto von Kotzebue showing taro <i>lo‘i</i> , fishponds, and salt pans in Honolulu and Waikīkī; few habitations are depicted along much of the shoreline portions near the project area (map reprinted in Fitzpatrick 1986:48–49).....	19
Figure 12. “Town of Honolulu: Island of Woahoo: Sandwich Islands,” portion of 1834 sketch by anonymous illustrator; the project area is east and south (left and back) of Kawaiaha‘o Church, the long thatched structure in the center of the sketch (original sketch at Bernice Pauahi Bishop Museum; reprinted in Grant 2000:64–65).....	21
Figure 13. “View of Honolulu from the Catholic Church No. 2,” central panel of sketch by Paul Emmert ca. 1853; the project area is east and south (left and back) of the coral block Kawaiaha‘o Church (structure with steeple completed in 1842) (original sketch at Hawaiian Historical Society; reprinted in Grant 2000:5).....	21
Figure 14. Kawaiaha‘o Church and Honuakaha Village, ca. 1887 photograph; the Ward’s House roof cupola, on the <i>mauka</i> end of Old Plantation, can be seen to the left of the church steeple; the project area is within the marshlands to the rear of the church (Hawai‘i State Archives, Henry L. Chase Collection; reprinted in Stone 1983:84–85).....	22
Figure 15. Kaka‘ako area, portion of a ca. 1887 photograph (see Figure 14 above), close-up of right upper background area, showing marshlands and scattered huts along the coast.....	22

Figure 16. 1884 map of Honolulu, Kewalo Section (portion), by Sereno Bishop, showing the locations of LCA parcels, fishponds, salt lands, and house lots surrounding the project area; there are no LCAs parcels located within the project area.....	24
Figure 17. “Honolulu Salt Pan, near Kaka‘ako,” 1838 sketch drawn by a French visitor, Auguste Borget (original sketch at Peabody Essex Museum, Salem, Massachusetts; reprinted in Grant 2000:64–65).....	27
Figure 18. “Native Church [Kawaiaha‘o Church], Oahu, from the Old Salt Pans,” 1845 sketch drawn by John B. Dale, from the U.S. Exploring Expedition led by Lt. Charles Wilkes (J. Welles Henderson Collection, reprinted in Forbes 1992:126); the sketch is probably from the salt pans in Ka‘ākaukukui, west of the project area.....	27
Figure 19. 1883 map of the Honolulu Water Works System (portion), by E.D. Baldwin (1883) (Hawai‘i Land Survey Division, Registered Map 1087); the grid symbol represents salt pans .....	28
Figure 20. Historic salt works within Kaka‘ako, 1902 photograph (Bishop Museum Archives, reprinted in Scott 1968:579) .....	31
Figure 21. The Kukuluāe‘o portion of the Ward Estate, nineteenth century photograph (reprinted in Hustace 2000:49) .....	32
Figure 22. The Old Plantation ‘auwai, extending from the sea to the <i>mauka</i> “lagoon” of the Ward Estate, nineteenth century photograph, view north toward Punchbowl (Hustace 2000:51) .....	32
Figure 23. 1887 map of Honolulu (portion), by W.A. Wall (copy at Library of Congress, Geography and Map Division), showing the project area location and the Ward Estate ‘auwai (labeled ditch) .....	33
Figure 24. Open-air burning of trash in area between Kewalo Basin and Ala Moana Park, 1921 photograph (Hill 1921, reprinted in Scott 1968:578).....	37
Figure 25. 1946 photograph of Kewalo Incinerator No. 1, west side of Kewalo Harbor (Mason Architects 2002).....	37
Figure 26. Honolulu and Waikīkī from Fort Armstrong (lower right) to Diamond Head, 1933 oblique aerial photograph (Hawai‘i State Archives); new lands of coral fill are shown as white patches in inland areas, along Kapi‘olani Boulevard, and offshore for the new Ala Moana Park; Kewalo Basin is at the western (lower) end of the offshore fill area .....	39
Figure 27. Portion of 1897 map of Honolulu by M.D. Monsarrat (Hawai‘i Land Survey Division, Registered Map 1910) showing the location of the project area; the map also shows the location of the “Cyclomere” .....	43
Figure 28. Portion of 1903-1909 (published 1917) U.S. Engineer’s map of O‘ahu depicting Kaka‘ako; many ponds, including Kolowalu and the Ward Estate “Long Lagoon,” are still open and unfilled east of Ward Avenue.....	44
Figure 29. Portion of 1914 Sanborn Fire Insurance map, showing single-story residential structures (denoted by the abbreviation “D.”) along Queen Street.....	45
Figure 30. Portion of 1919 U.S. Army War Department Fire Control map of O‘ahu, Honolulu Quadrangle, showing the location of the project area within a grid of streets; solid lines denote paved streets, while dotted lines represent unpaved or proposed streets .....	46
Figure 31. 1927 aerial photograph of the Kaka‘ako area showing small residential structures within the project area along Queen Street (UH SOEST) .....	47
Figure 32. Portion of 1927–1928 (published 1933) U.S. Army War Department Fire Control map of O‘ahu, Honolulu Quadrangle, showing the project area within a grid of	



unpaved/proposed streets; note the former location of Squattersville, adjacent to Kewalo Basin and east of Fort Armstrong .....	48
Figure 33. Portion of 1939–1941 aerial photograph (U.S. Army Air Corps) of Kaka‘ako, showing small residential structures within the project area along Queen Street; note the completion of Kewalo Harbor to the west and the construction of Ala Moana Park to the east along the shore .....	49
Figure 34. Portion of 1943 U.S. Army War Department Terrain Map of O‘ahu, Honolulu Quadrangle; note the addition of a large warehouse within the <i>makai</i> portion of Block N East .....	50
Figure 35. Portion of 1950 Sanborn Fire Insurance map showing the development of commercial industry along Queen Street; domestic residences are still visible within the Block N East project area .....	51
Figure 36. Portion of 1952 aerial photograph showing a large warehouse within the <i>makai</i> portion of the project area (UH SOEST) .....	52
Figure 37. Portion of 1953 Honolulu USGS topographic quadrangle, showing Block N East within an improved street grid .....	53
Figure 38. Portion of 1970 aerial photograph (UH SOEST) showing the project area .....	54
Figure 39. 1982 aerial photograph (UH SOEST) depicting large warehouses throughout Kaka‘ako and within the Block N East project area .....	55
Figure 40. Previous archaeological studies within and surrounding the Block N East project area .....	57
Figure 41. Previous archaeological sites in the vicinity of the project area .....	58
Figure 42. Profile of pile cap excavation in northeast corner of Ward Village Phase II (Ward Theaters) footprint showing old A horizon and pond sediment (Winieski and Hammatt 2001) .....	63
Figure 43. Photograph of pile cap trench showing old A horizon (dark stratum) capping sandy clay pond sediments (Winieski and Hammatt 2001) .....	63
Figure 44. HART’s H RTP AIS and supplemental AIS test excavations in the vicinity of the current Block N East project area. ....	65
Figure 45. Aerial photograph showing the distribution of historic properties identified within the Block B East and Block C West (Ward Village Gateway) project areas (Google Earth 2013) .....	67
Figure 46. Aerial photograph (Google Earth 2013) from the Yucha et al. (2014) AIS report showing the Ward Neighborhood Block C project area at the corner of Ala Moana Blvd. and Kamake‘e Street, with its AIS test excavations and the boundaries of SIHP # -742269 .....	69
Figure 47. Figure from Hawkins et al. (2015) AIS showing the location of SIHP # -7429 documented within the Block M project area (Google Earth 2013) .....	70
Figure 48. Figure from Hawkins et al. (2015) AIS showing the location of SIHP # -7686 documented within the Block M project area (Google Earth 2013) .....	72
Figure 49. 1952 aerial photograph showing three parallel warehouse structures within the Block M project area, in relation to a GIS overlay of AIS test excavations which documented SIHP # -7686, buried historic commercial structural remnants (UH SOEST) .....	73
Figure 50. Figure from Leger et al. 2015 showing the extent of SIHP # -7717 buried commercial surfaces and infrastructure remnants documented within the Block O project area (Google Earth 2013) .....	74

Figure 51. Figure from Leger et al. 2015 showing the extent of SIHP # -7717 historic living surfaces documented within the Block O project area (Google Earth 2013) .....	75
Figure 52. Figure from Leger et al. 2015 showing the extent of SIHP # -7717 in situ, natural land surfaces documented within the Block O project area (Google Earth 2013) .....	76
Figure 53. Aerial photograph showing the location of the AIS test excavations and the boundaries of the three historic properties documented within the Block I project area (Google Earth 2013) .....	78
Figure 54. Google Earth (2013) aerial photograph showing the boundaries of the original Block N East project area (light blue) and the extent of previously documented SIHP # -7429 in the vicinity, showing previously identified Native Hawaiian burial sites .....	83
Figure 55. Google Earth (2013) aerial photograph showing the boundaries of the two historic properties documented in the original Block N East AIS and the documented Native Hawaiian burial sites <i>makai</i> of Queen Street.....	84
Figure 56. Google Earth aerial photograph showing the Block I AIS Native Hawaiian burial sites that are the subject of this BSCDR&PP for the redesigned Block N East. Note: the remains from Block I AIS test excavations T-38, T-61, and T-66 will be the subject of a future Block I BSCPP, and the remains from the former Block N East test excavations T-10 and T-14 –T14G will be the subject of a future BTP for Block N West .....	91
Figure 57. Google Earth aerial photograph showing burial treatment mitigation for the previously identified Native Hawaiian burial sites from SIHP #s -7429 and -7655 within and in the immediate vicinity of the redesigned Block N East Project (refer to Figure 56) .....	93
Figure 58. Photograph of T-3, located along the <i>mauka</i> boundary of Block I between Warehouse Buildings 4 and 5, view to southeast .....	97
Figure 59. T-3 northeast profile, showing the location of SIHP # -7429 cultural deposits (Strata IIIa, IIIb, and IVa); SIHP # -7429 Feature 23, human skeletal remains, is located within Stratum IIIb.....	98
Figure 60. T-7 southwest profile, showing the location of SIHP # -7429 cultural deposits (Strata IV and Va); SIHP # -7429 Feature 25, an isolated fragment of a worn long bone, is located within Stratum IV .....	101
Figure 61. Plan view of T-7 depicting the location of the <i>iwi kūpuna</i> (SIHP # -7429 Feature 25) beneath a protective plywood board .....	103
Figure 62. Photograph of T-7, showing the implementation of short-term burial protection measures; the plywood board covers the location of SIHP # -7427 Feature 25, view to northwest.....	104
Figure 63. Photograph of T-8, located along the <i>mauka</i> boundary of Block I between Warehouse Buildings 4 and 5, view to northwest.....	106
Figure 64. T-8 northeast (124° TN) and southeast (214° TN) profiles, showing the location of SIHP # -7429 Feature 26, disarticulated human skeletal remains and a concentration of <i>'ili 'ili</i> .....	107
Figure 65. Plan view of northwest end of T-8, depicting SIHP # -7429 Feature 26 .....	108
Figure 66. Photograph of T-8, showing the implementation of short term protective measures for SIHP # -7429 Feature 26, consisting of the placement of a layer of natural sand and a plywood board atop the location of the <i>iwi kūpuna</i> before completion of backfilling and repaving, view to northwest.....	110
Figure 67. Location of T-13 within interior warehouse tenant space, view to northeast .....	111
Figure 68. T-13 southeast profile.....	112

Figure 69. Plan view of T-13 at approximately 0.8 mbs depicting SIHP # -7429 Feature 53, wood remnants with copper hardware .....	113
Figure 70. Photograph of SIHP # -7429 Feature 53, showing wood remnant with associated copper fixings.....	115
Figure 71. Photograph of T-17, located near the north corner of Block I between Warehouse Buildings 3 and 4, view to northwest.....	117
Figure 72. T-17 southwest profile, showing the location of SIHP # -7429 Features 57 and 58a/b.....	118
Figure 73. T-17 southwest wall, southern portion, showing a close-up of SIHP # -7429 Feature 57.....	119
Figure 74. T-17 northeast profile, depicting SIHP # -7429 Features 58a/b and 59a/b .....	121
Figure 75. Photographs of T-17 northeast profile, showing SIHP # -7429 Feature 59a/b within the northern corner, Feature 58a/b within the central portion, and Feature 57 within the southwestern wall in the southern portion of the trench (indicated by plywood boards), views to north and east, respectively .....	122
Figure 76. T-17 southwest wall, central portion, showing SIHP # -7429 Feature 55a/b, view to west .....	123
Figure 77. T-17 plan view at approximately 0.4 and 0.7 mbs depicting SIHP # -7429 Features 57, 58a/b, and 59a/b.....	124
Figure 78. Photograph of SIHP # -7429 Feature 58a, showing the small, rectangular coffin pit at the level of the water table, view to southeast .....	125
Figure 79. Used matchsticks associated with SIHP # -7429 Feature 58a.....	127
Figure 80. Buttons associated with SIHP # -7429 Feature 58a .....	127
Figure 81. Photograph of SIHP # -7429 Feature 59a/b in north corner of T-17, view to north ..	128
Figure 82. Photograph of T-17, showing the implementation of short term protective measures for SIHP # -7429 Features 57 (rear), 58a/b (center), and 59a/b (fore), consisting of the placement of a layer of natural sand and a plywood board atop the location of each of the burial sites before completion of backfilling and repaving, view to southeast.....	129
Figure 83. Photograph of T-24, located along the northwestern boundary of Block I, view to northeast.....	131
Figure 84. T-24 southeast profile, showing the interface of SIHP #s -7429 and -7655 cultural deposits; SIHP # -7429 Feature 60, a human deciduous tooth, is located within Stratum IIIf .....	132
Figure 85. Photograph of T-24, showing the implementation of short term protective measures for SIHP # -7429 Feature 60, consisting of the placement the <i>iwi kūpuna</i> in their original location, followed by a covering of local sediment and a plywood board before completion of backfilling and repaving, view to southwest .....	137
Figure 86. T-57 southeast profile, depicting the location of SIHP # -7429 Feature 68 at the interface of fill deposits (likely utilized to shore a modified sand dune) and salt pan deposits (SIHP # -7655).....	138
Figure 87. Photograph of T-57, showing the implementation of short term protective measures for SIHP # -7429 Feature 68, consisting of the construction of a protective sand abutment in the location of the <i>iwi kūpuna</i> within the trench sidewall, along with a perimeter of coral and stone cobbles, followed by the placement overtop of a layer of sandy sediment and a plywood board, backfilling of the remaining portions of the trench, and repaving of the asphalt surface, view to south .....	143

Figure 88. Photograph of T-69, located adjacent to T-17 (trench scar visible beneath the orange bucket) between Warehouse Buildings 3 and 4, view to east. SIHP # -7429 Feature 70 is located within the east sidewall, beneath the protective plywood board.....	144
Figure 89. T-69 east profile, depicting SIHP # -7429 Feature 70, a human burial site .....	145
Figure 90. T-70 east profile, depicting SIHP # -7429 Feature 70, an in situ human burial, at the extreme south end of the test excavation .....	148
Figure 91. T-70 south profile, depicting SIHP # -7429 Feature 79, an in situ flexed human burial .....	149
Figure 92. T-35 northwest profile, depicting SIHP # -7655 Feature 3, fire feature located within a salt pan berm .....	152
Figure 93. Photograph of T-35 showing SIHP # -7655 Feature 3 located within a salt pan berm (SIHP # -7655; Strata IIIa and IIIb), view to north.....	153
Figure 94. Plan view photograph of SIHP # -7655 Feature 3, located within a salt pan berm (SIHP # -7655).....	154
Figure 95. Photograph of T-35 showing the interim protection measures for the SIHP # -7655 Feature 3 worked human bone tool, consisting of the placement of the <i>iwi kūpuna</i> (wrapped in muslin) within a pocket of sand just below the current ground surface and overlain by a concrete tile marker (shown above), view to northeast. The test excavation was then repaved, with the concrete tile visible at ground surface.....	156
Figure 96. Google Earth aerial photograph showing the burial preserve area (solid blue) to be established immediately northwest of the Block N East 7-story parking structure.....	158
Figure 97. Design sketch with the boundaries of the redesigned Block N East project area in purple and the location of the Block N East burial preserve area immediately adjacent to the Block N East 7-story parking structure (Refer to Figure 6 and Figure 96) .....	159
Figure 98. Foundation plan of the redesigned Block N East 7-story parking structure showing the boundaries of the Block N East burial preserve area, the known Native Hawaiian burial sites to be preserve in place, and the Block I AIS test excavations. These burial preserve area boundaries will be recorded with the Bureau of Conveyances .....	160

## List of Tables

Table 1. Previous Archaeological Studies in the Vicinity of the Project Area.....	59
Table 2. SIHP # 50-80-14-7429 Previously Identified Native Hawaiian Burial Sites within Block I .....	80
Table 3. SIHP # 50-80-14-7655 Previously Identified Native Hawaiian Burial Sites within Block I .....	81
Table 4. SIHP # -7429 and -7655 Previously Identified Native Hawaiian Burial Sites That Are the Subject of This BSCDR&PP.....	94
Table 5. Stratigraphic Description for T-3.....	99
Table 6. Stratigraphic Description for T-7.....	102
Table 7. Stratigraphic Description for T-8.....	109
Table 8. Stratigraphic Description for T-13.....	114
Table 9. Stratigraphic Description for T-17.....	120
Table 10. T-24 Stratigraphic Description for Southeast Wall Profile .....	133
Table 11. Stratigraphic Description for T-57.....	139
Table 12. Stratigraphic Description for T-69.....	146
Table 13. Stratigraphic Description for T-70.....	150
Table 14. Stratigraphic Description for T-35.....	155



## Section 1 Introduction

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At the request of Victoria Ward, Limited (VWL) and the Howard Hughes Corporation (HHC), Cultural Surveys Hawai‘i, Inc. (CSH) prepared this burial site component of a data recovery and preservation plan (BSCDR&PP) for portions of State Inventory of Historic Properties (SIHP) #s 50-80-14-7429 and 50-80-14-7655, for HHC’s redesigned Block N East Project, Kaka‘ako, Honolulu Ahupua‘a, Honolulu (Kona) District, O‘ahu Island, TMKs: [1] 2-3-002:001 (por.), 086, and 087. The redesigned Block N East project area is in the current Ward Industrial Center, within the city block bounded by Ward Avenue, Queen Street, Kamake‘e Street, and Auahi Street. The project area is depicted on a portion of the 1998 U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1), a tax map plat (Figure 2), and a 2013 aerial photograph (Figure 3). Block N East is a private development owned and funded by VWL/HHC.

### 1.1 Project Background

Block N East is a discrete project of HHC’s 60.5-acre (24.5-hectare) Ward Neighborhood Master Plan. Finalized in 2012, HHC’s master plan is a long-range development plan of 20-plus years expected to evolve over time to fulfill the needs of the Kaka‘ako community. It follows guidelines set forth in the Mauka Area Plan of the Hawaii Community Development Authority (HCDA). As part of the master plan, HHC divided its 60.5-acre (24.5-hectare) Kaka‘ako land holdings into discrete development blocks (Figure 4). HHC is developing these blocks into an integrated community with residential, entertainment, and commercial components, as well as open space.

As HHC’s Ward Neighborhood development proceeds, planning moves from the general ideas of the master plan to the specifics of individual development projects. Redesign of certain development block boundaries, and their proposed build-outs, are sometimes needed to better suit the actual development landscape based on the results of post-master plan studies and new information.

For HHC’s Block N East, initial development plans included uncertainty because final design depended on the final configuration of the adjacent Honolulu Authority for Rapid Transportation (HART) Honolulu Rail Transit Project (H RTP), located within portions of Block N East, immediately *makai* (seaward) of Queen Street. Additionally, detailed archaeological inventory survey results of the development blocks in the vicinity (Blocks N East, I, and M, described below) showed that the locations of previously unknown Native Hawaiian burial sites conflicted with the initial development plans for Block N East that pre-dated the burials’ discovery. As a result, HHC consulted with the State Historic Preservation Division (SHPD), recognized Native Hawaiian cultural descendants for the Kaka‘ako area, and the O‘ahu Island Burial Council (OIBC), and redesigned the Block N East boundaries and the proposed development within these boundaries. This redesign allowed for more appropriate burial treatment, with preservation in place of burial clusters and relocation of isolated fragmentary human remains. As a result, HHC’s current Block N East project area encompasses contiguous portions of the original Block N East, Block I, and Block M, as originally designated in the Ward Neighborhood Master Plan (Figure 5).

Measuring 3.0 acres (1.22 hectares), the redesigned Block N East project will consist of a high-rise residential tower with a separate seven-story parking structure (Figure 6). These buildings will

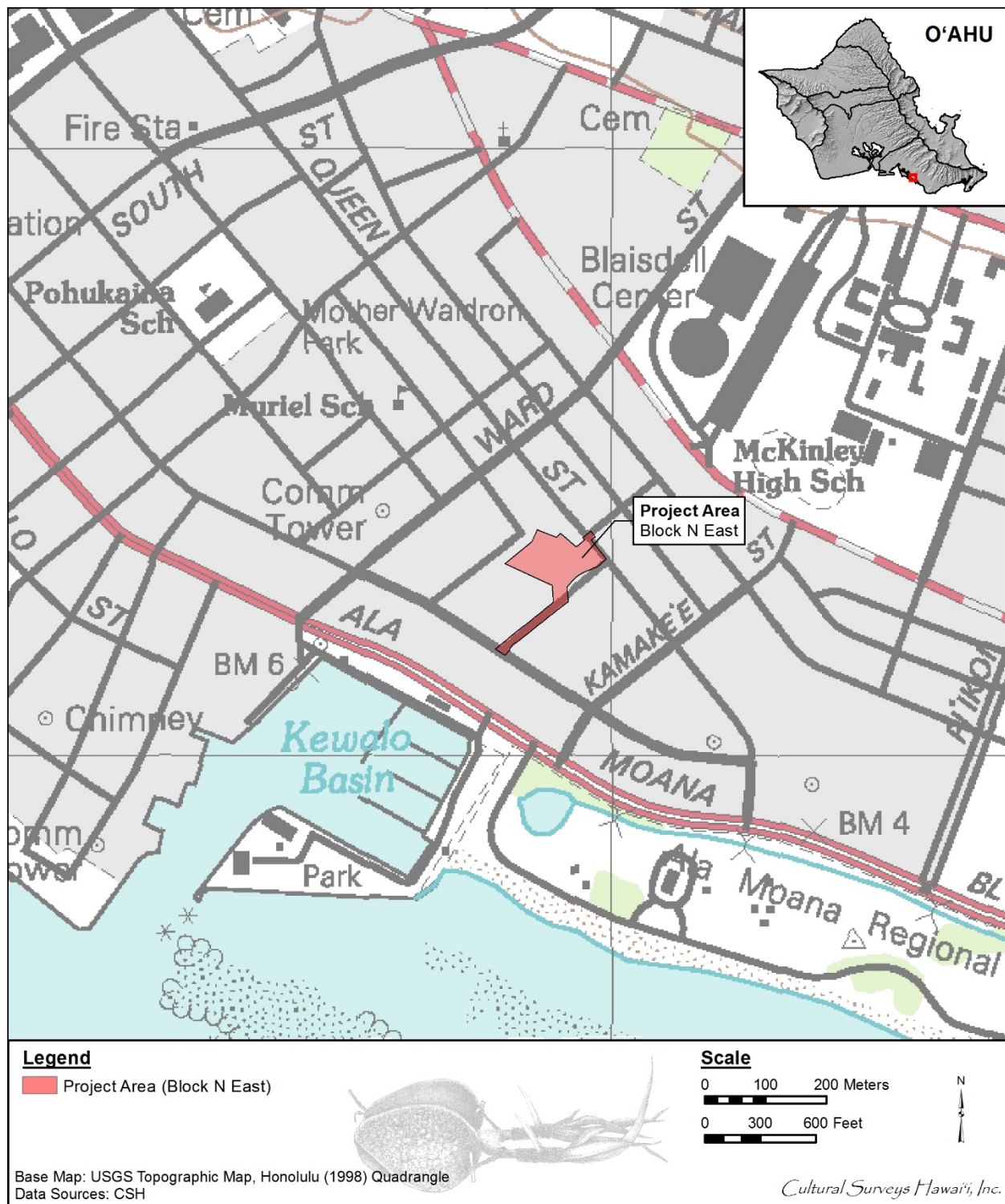


Figure 1. Portion of the 1998 USGS 7.5-minute topographic quadrangle showing the location of the project area

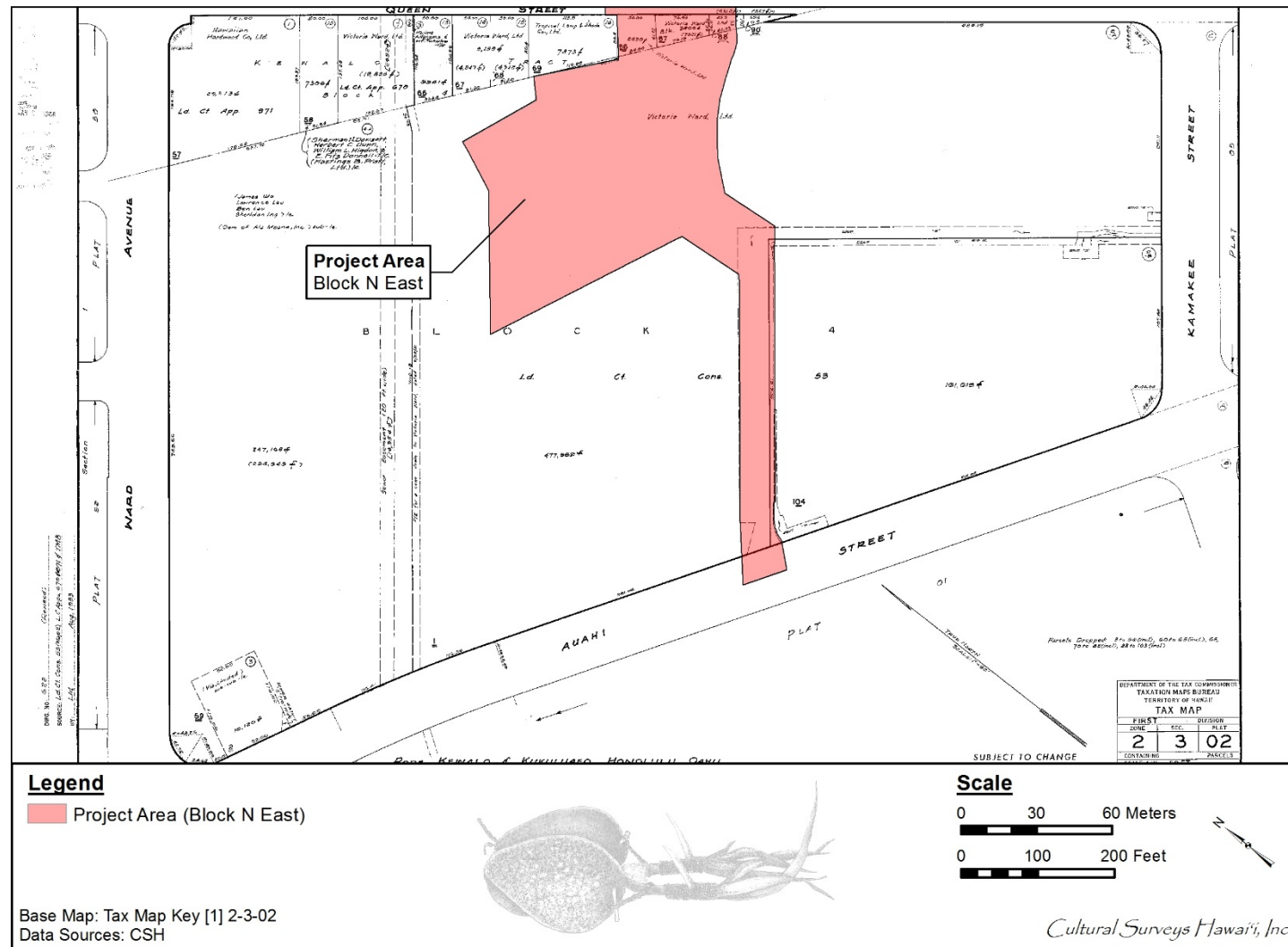


Figure 2. Tax Map Key (TMK) [1] 2-3-02 showing the project area (Hawai'i TMK Services 2014)





Figure 3. Aerial photograph of the project area (Google Earth 2013)









Figure 5. The locations of the original Block N East, Block I, and Block M project areas shown over the current Block N East project area (area of read shading). Note: the “tails” extending into Queen Street and Auahi Street are needed utility corridors



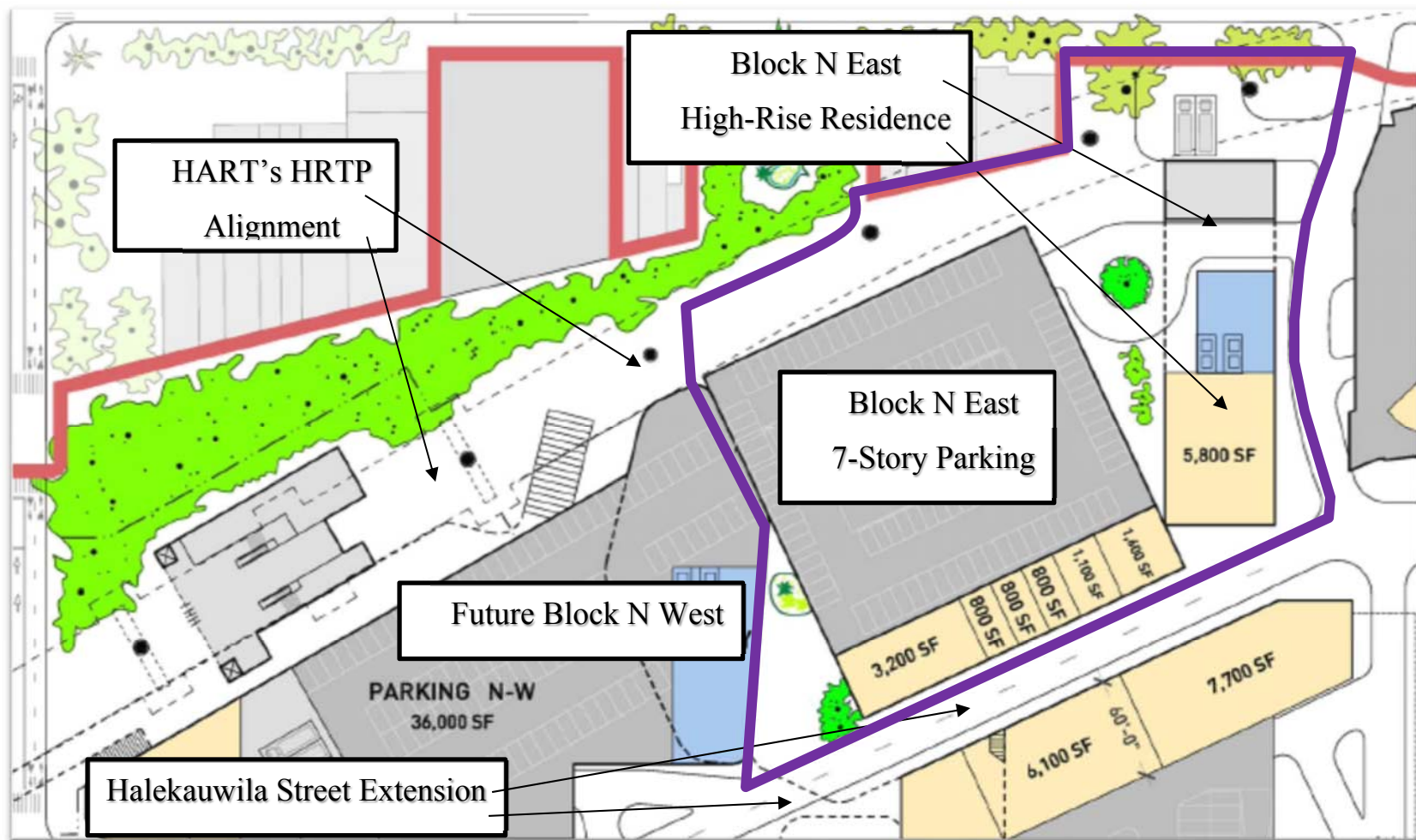


Figure 6. Preliminary plan view design sketch of HHC's redesigned Block N East project area, outlined in purple, but not including utility corridor "tails." Shown are the seven story parking building and the high-rise residential building in relation to HART's H RTP alignment, the future (as yet undesigned) Block N West project, and HHC's future Halekauwila Street extension

be between the HART's H RTP alignment and the HHC's planned extension of Halekauwila Street through this city block, and adjacent to the as yet undesigned HHC Block N West development. Parking and residential building podiums will be developed with a wrap of residential and retail spaces. Project-related utility connections will extend into Queen Street and into Auahi Street (refer to Figure 3 and Figure 5 where the "tails" in the project area shape extending into Queen Street and Auahi Street are these needed utility corridors). Project-related ground disturbance will include demolition and removal of existing buildings and structures in the Ward Industrial Center, augering related to foundation pile installation, and excavation related to the installation of structural footings, utilities, roadway and parking areas, and landscaping.

## **1.2 Historic Preservation Regulatory Context and Document Purpose**

CSH prepared this BSCDR&PP to support the project's historic preservation review under Hawai'i Revised Statutes (HRS) §6E-42 and Hawai'i Administrative Rules (HAR) §13-13-284. This plan is also intended to support the HCDA's review and approval of the Block N East project. Prepared in consultation with the SHPD, the recognized Native Hawaiian cultural descendants for these burial sites, and the OIBC, this document fulfills the requirements of HAR §13-300-38.

As detailed below, the HHC development blocks in the vicinity have had well over two years of historic preservation studies and document review. As a result, archaeological inventory survey for the entire redesigned Block N East project footprint has been completed and mitigation commitments have been worked out in consultation with the SHPD. Based on this past historic preservation review, the redesigned Block N East project requires an archaeological monitoring program and a BSCDR&PP to be in effect before project construction can begin. The Block N East archaeological monitoring plan (AMP) (McDermott and Hensley 2016) has been prepared. This BSCDR&PP describes the treatment of the redesigned Block N East's previously identified Native Hawaiian burial sites, to be implemented as part of the project's archaeological monitoring program.

CSH will likely implement the burial treatment measures described in this plan as part of archaeological monitoring fieldwork carried out under CSH's annual archaeological fieldwork permit number 16-26 and/or subsequent annual permits, issued by the Hawai'i State Historic Preservation Division (SHPD) per Hawai'i Administrative Rules (HAR) §13-13-282.

### **1.2.1 Summary of Past Historic Preservation Documentation Related to the Current Block N East Project Area**

As precursors of the Block N East project's historic preservation review process, CSH prepared separate cultural impact assessment (CIA) (Cruz et al. 2012) and archaeological literature review/predictive model (O'Hare et al. 2012) studies of the entire 60.5-acre Ward Neighborhood Master Plan. These were submitted to the SHPD on 20 July 2012. In June 2012, HHC submitted to the SHPD the architectural survey for the buildings within the 60.5-acre master plan area, prepared by Fung Associates, Inc. (2012).

For the original Block N East project area (a portion of which is within the current redesigned Block N East project area—refer to Figure 5), CSH prepared an archaeological inventory survey plan (AISP) (Sroat, O'Hare, and McDermott 2014), which was accepted by the SHPD in a letter dated 21 January 2014 (LOG NO.: 2014.00644, DOC. NO.: 1402SL12). CSH's archaeological inventory survey (AIS) report for the original Block N East project (Sroat et al. 2016) proposes an

archaeological monitoring program and burial treatment as mitigation for the original Block N East project area.

For the Block I project area (a portion of which is within the current redesigned Block N East project area—refer to Figure 5), CSH prepared an AISP (Sroat, O'Hare, and McDermott 2014), which was accepted by the SHPD in a letter issued 24 January 2014 (LOG NO: 2013.6927; DOC NO: 1401SL23). CSH's Block I AIS report (Sroat et al. 2015) was accepted by the SHPD in a letter dated 12 June 2015 (LOG NO.: 2015.02101; DOC NO.: 1505SL25). CSH's Block I AIS mitigation measures included an archaeological monitoring program, burial treatment, and an archaeological data recovery program. CSH's Block I (AMP) (Sroat, Leger, and McDermott 2015) was accepted by the SHPD in a letter dated 18 August 2015 (LOG NO.: 2015.02451, DOC NO.: 1508SL16). CSH's burial treatment plan (BTP), describing the combination of preservation in place and relocation of the previously identified Native Hawaiian burial sites in Block I, was accepted by the SHPD in a letter dated 3 December 2015 (LOG NO.: 2015.03320 DOC NO.: 1512.RKH09). At its 9 December 2015 meeting, the OIBC determined this treatment was appropriate and approved the Block I BTP, with the understanding that the specifics of the burial treatment would be clearly outlined in a subsequent BSCDR&PP. This BSCDR&PP for the redesigned Block N East Project details the treatment of the Block I burial sites that are now within the boundaries of the redesigned Block N East. It was prepared in consultation with the SHPD, the OIBC, and recognized Native Hawaiian cultural descendants. The Block I archaeological data recovery plan will be developed when development plans for Block I are formalized.

For the Block M project area (a portion of which is within the current redesigned Block N East project area—refer to Figure 5), CSH prepared an AISP (Sroat, O'Hare, and McDermott 2014), which was accepted by the SHPD in a letter dated 10 January 2014 (LOG NO.: 2013.6926, DOC NO.: 1401SL10). CSH's Block M AIS report (Hawkins et al. 2015), was accepted by the SHPD in a letter dated 21 January 2015 (LOG NO.: 2015.00107, 2015.0087; DOC NO.: 1501SL15). CSH's Block M AIS mitigation measures included an archaeological monitoring program. CSH's Block M AMP (Leger and McDermott 2015) was accepted by the SHPD in a letter dated 21 January 2015 (LOG NO.: 2015.00107, 2015.00187; DOC NO.: 1501SL15).

Selected SHPD acceptance letters for these documents are included in Appendix A.

### **1.2.2 Focus of this BSCDR&PP**

The prior HHC AIS investigations described above for the original Block N East, Block I, and Block M included all portions of the redesigned Block N East project area. These AISs documented the following three historic properties, portions of which are within the redesigned Block N East project area:

- 1) SIHP # 50-80-14-7429, previously identified subsurface cultural deposits within two discrete strata, including associated features and Native Hawaiian burial sites (some of which are within, or immediately adjacent to, the redesigned Block N East project area and are part of the BSCDR&PP);
- 2) SIHP # 50-80-14-7655, previously identified historic salt pan remnants, including associated cultural features and Native Hawaiian burial sites (one of which, although outside the redesigned Block N East boundaries, is part of the this Block N East BSCDR&PP); and

- 3) SIHP # 50-80-14-7686, previously identified subsurface historic infrastructure remnants associated with the development of Kaka'ako during the late nineteenth to mid-twentieth centuries (Figure 7).

As described in detail below, this BSCDR&PP addresses the previously identified Native Hawaiian burial sites from portions of SIHP #s -7429 and -7655.

## 1.3 Environmental Setting

### 1.3.1 Natural Environment

The Block N East project area is within a portion of O'ahu called the Honolulu Plain, an area generally less than 4.5 m, or 15 feet (ft), above sea level (Davis 1989:5). The Honolulu Plain is stratified with late Pleistocene coral reef substrate overlaid with calcareous marine sand or terrigenous sediments, and stream-fed alluvial deposits (Armstrong 1983:36).

Foote et al. (1972) show the project area as being fill (FL), as shown in Figure 8. They indicate “[t]his 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” (Foote et al. 1972:31). While fill materials were found throughout the project area, the underlying natural soils consist largely of calcareous Jaucas sand (JaC). Foote et al. (1972) describe Jaucas sand as follows:

In a representative profile the soil is single grain, pale brown to very pale brown, sandy, and more than 60 inches deep. In many places the surface layer is dark brown as a result of accumulation of organic matter and alluvium. The soil is neutral to moderately alkaline throughout the profile. [Foote et al. 1972:48]

In this area of the Honolulu District, rainfall averages less than 30 inches per year (Armstrong 1983:62). Northeasterly trade winds prevail throughout the year, although their frequency varies from more than 90% during the summer months to 50% in January; the average annual wind velocity is approximately 10 miles per hour (Wilson Okamoto & Associates 1998:2-1). Vegetation within the project area is limited to a few ornamental trees and shrubs along the project area margins.

### 1.3.2 Built Environment

The project area is located within central Honolulu, surrounded by modern urban development including commercial buildings, paved streets, sidewalks, utility infrastructure, and landscaped margins, refer to Figure 3.



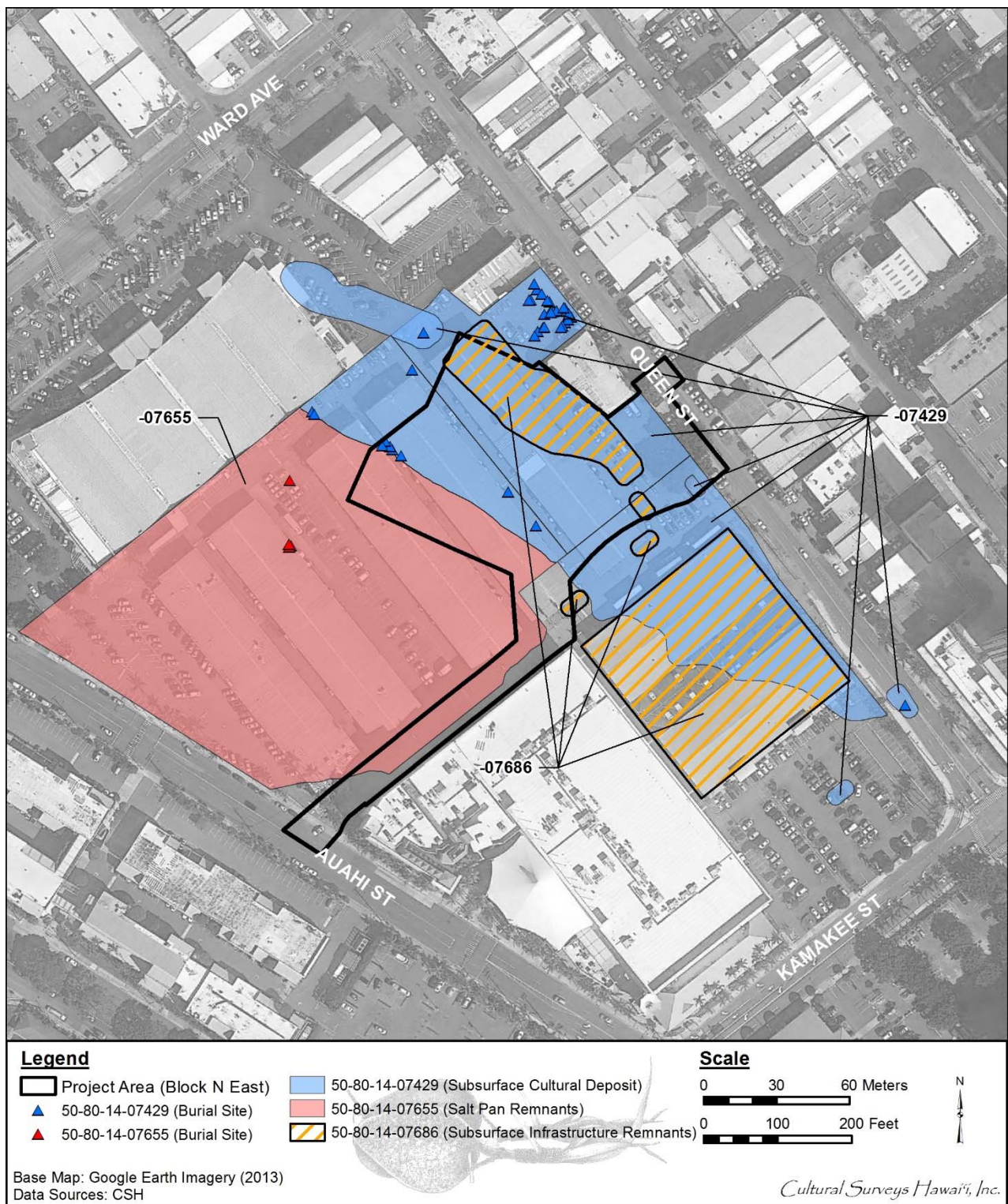


Figure 7. Google Earth aerial photograph showing the previously identified historic properties and Native Hawaiian burial sites within the redesigned Block N East project area and the surrounding area



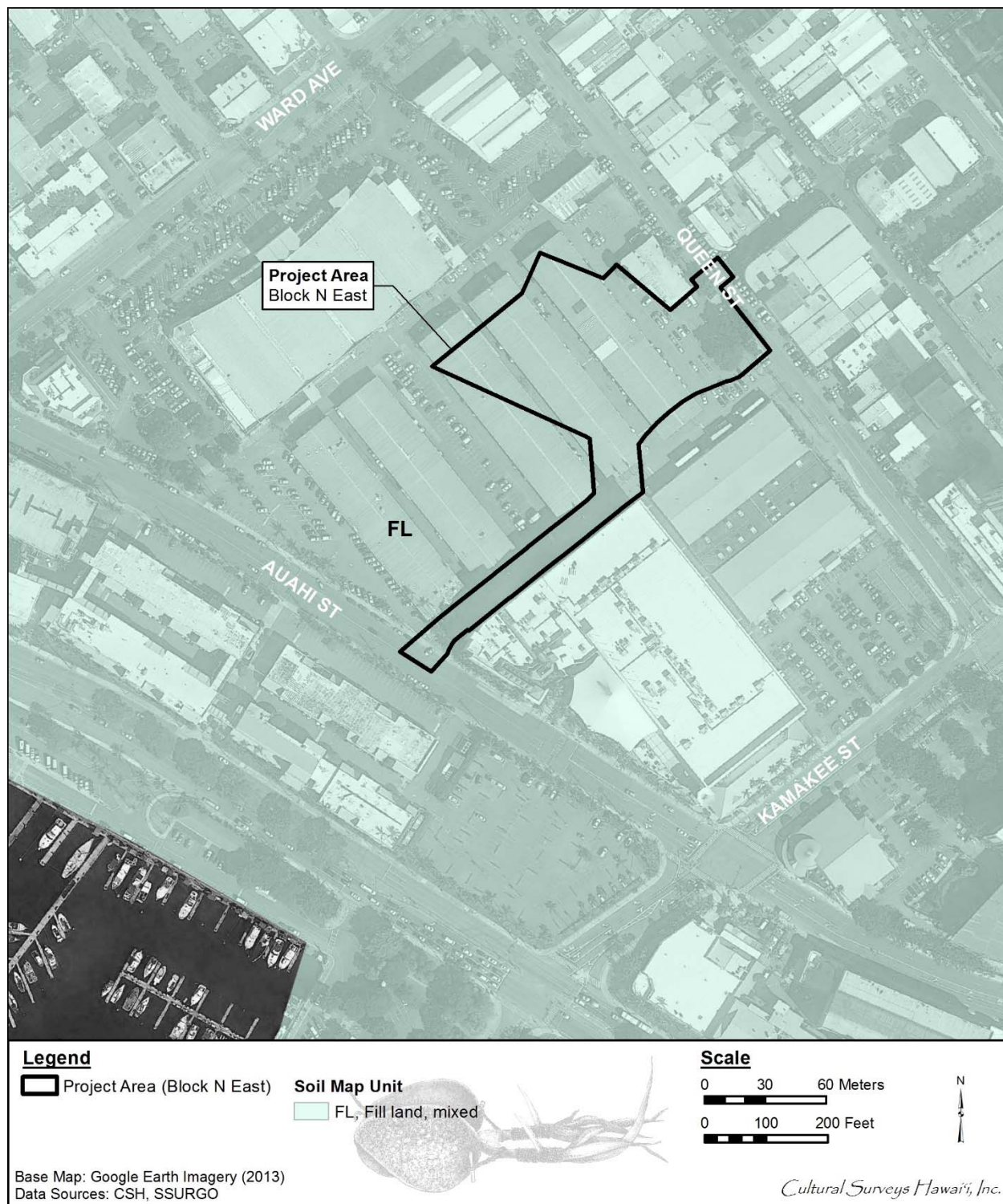


Figure 8. Overlay of *Soil Survey of the State of Hawaii* (Foote et al. 1972), indicating soil types within and surrounding the project area (U.S. Department of Agriculture Soils Survey Geographic Database [SSURGO] 2001)

## Section 2 Traditional and Historical Background

### 2.1.1 Explanation of Place Names

The place name in common usage today refers to a much larger land area than the ancient boundary of Kaka‘ako. Today Kaka‘ako comprises the *‘ili* (land section) of Kaka‘ako and lands once known as Ka‘ākaukukui, Kukuluāe‘o, and Kewalo, and even smaller areas—portions of *‘ili*—called Kawaiaha‘o, Honuakaha, Ka‘ala‘a, ‘Āpua, ‘Auwaiolimu, Pualoalo, Pu‘unui, and Kolowalu. The Block N East project area is within the *‘ili* of Kukuluāe‘o (Figure 9).

John Papa ‘Ī‘Ī mentions some of these lands while discussing early nineteenth century trails in the Honolulu/Waikīkī area (Figure 10). The fact that the trail traversed this region—characterized by ponds, marshlands, and *lo‘i* (irrigated fields)—suggests the trail, especially as it neared the coastline at Kālia, must have run on a sand berm raised above surrounding wetlands and coral flats. On this inland trail (probably close to the current alignment of Queen Street), walking from Waikīkī to Honolulu, “The trail from Kalia led to Kukuluāe, then along the graves of those who died in the smallpox epidemic of 1853, and into the center of the coconut grove of Honuakaha” (‘Ī‘Ī 1959:89).

### 2.1.2 Legendary Accounts

The Block N East project area is located in an area called Kukuluāe‘o on historic maps. The place name Kaka‘ako is found in various legends and traditions, but Kukuluāe‘o does not appear in any sources referenced in the *Hawaiian Island Legends Index* (Gotanda 1989) or in the index to *Fornander’s Collection of Hawaiian Antiquities and Folklore* (Fornander 1916–1920).

However, a *heiau* (pre-Christian place of worship) called Pu‘ukea may have once been located in Kukuluāe‘o. This *heiau* is mentioned in a *mele* (chant) to the chief Huanuikalala‘ila‘i, who was born in Kewalo, the land section north and adjacent to Kukuluāe‘o.

<i>‘O Hua-a-Kamapau ke ‘li‘i</i>	Hua-a-Kamapau the chief
<i>O Honolulu o Waikīkī</i>	Of Honolulu, of Waikīkī
<i>I hanau no la i kahua la i <b>Kewalo</b>,</i>	Was born at <b>Kewalo</b> ,
<i>‘O Kālia la kahua</i>	Kālia was the place [the site]
<i>O Makiki la ke ēwe,</i>	At Makiki the placenta,
<i>I Kānelā‘au i Kahehuna ke piko,</i>	At Kānelā‘au at Kahehuna the navel cord,
<i>I Kalo i Pauoa ka ‘a‘a;</i>	At Kalo at Pauoa the caul;
<i>I uka i Kaho‘iwai i</i>	Upland at Kaho‘iwai, at
<i>Kanaloaho‘okau . . .</i>	Kanaloaho‘okau. . .
[Kamakau 1991:24]	



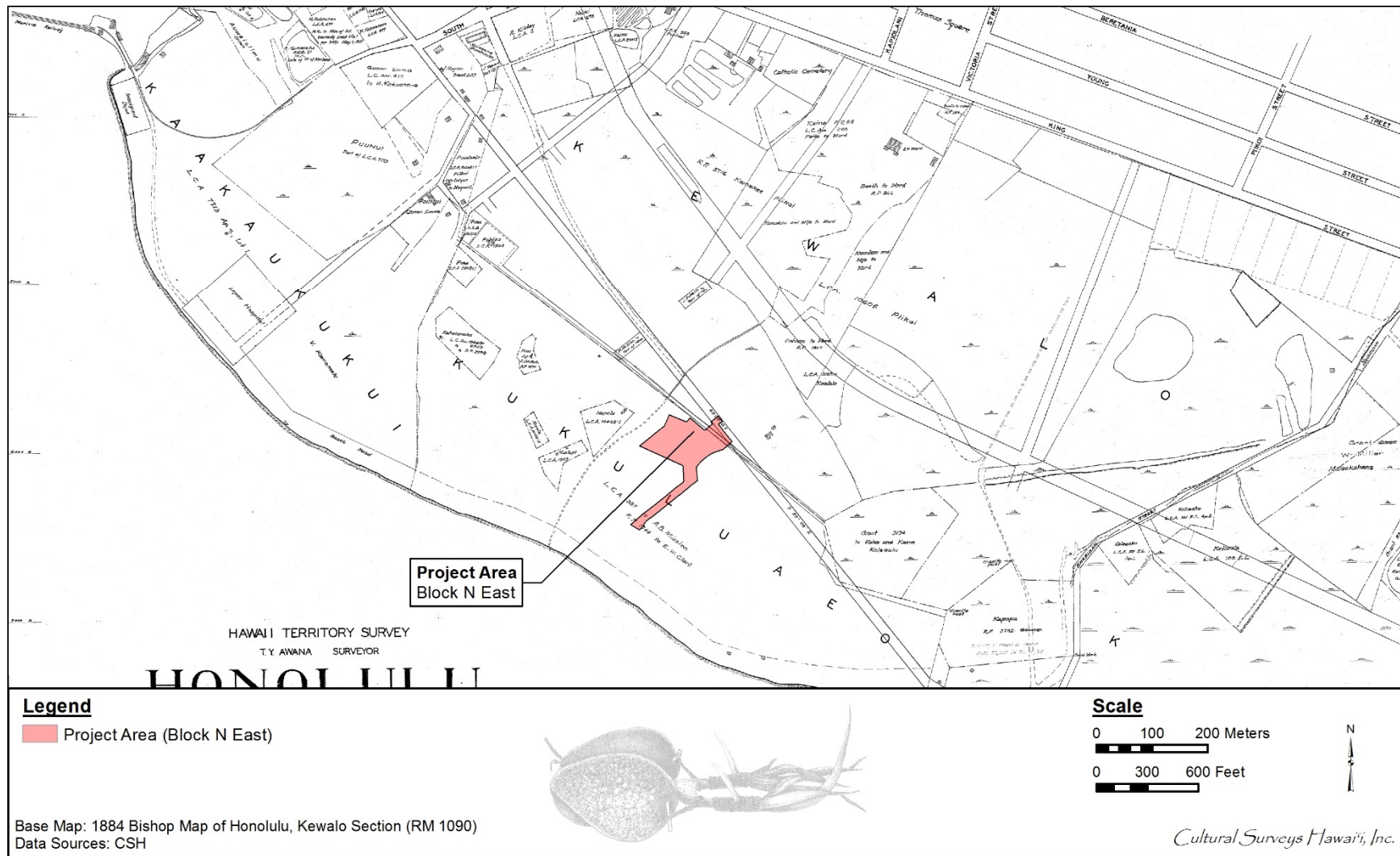


Figure 9. 1884 map of Honolulu, Kewalo Section (portion), by S.E. Bishop, showing place names and Land Commission Award (LCA) locations within and near the project area

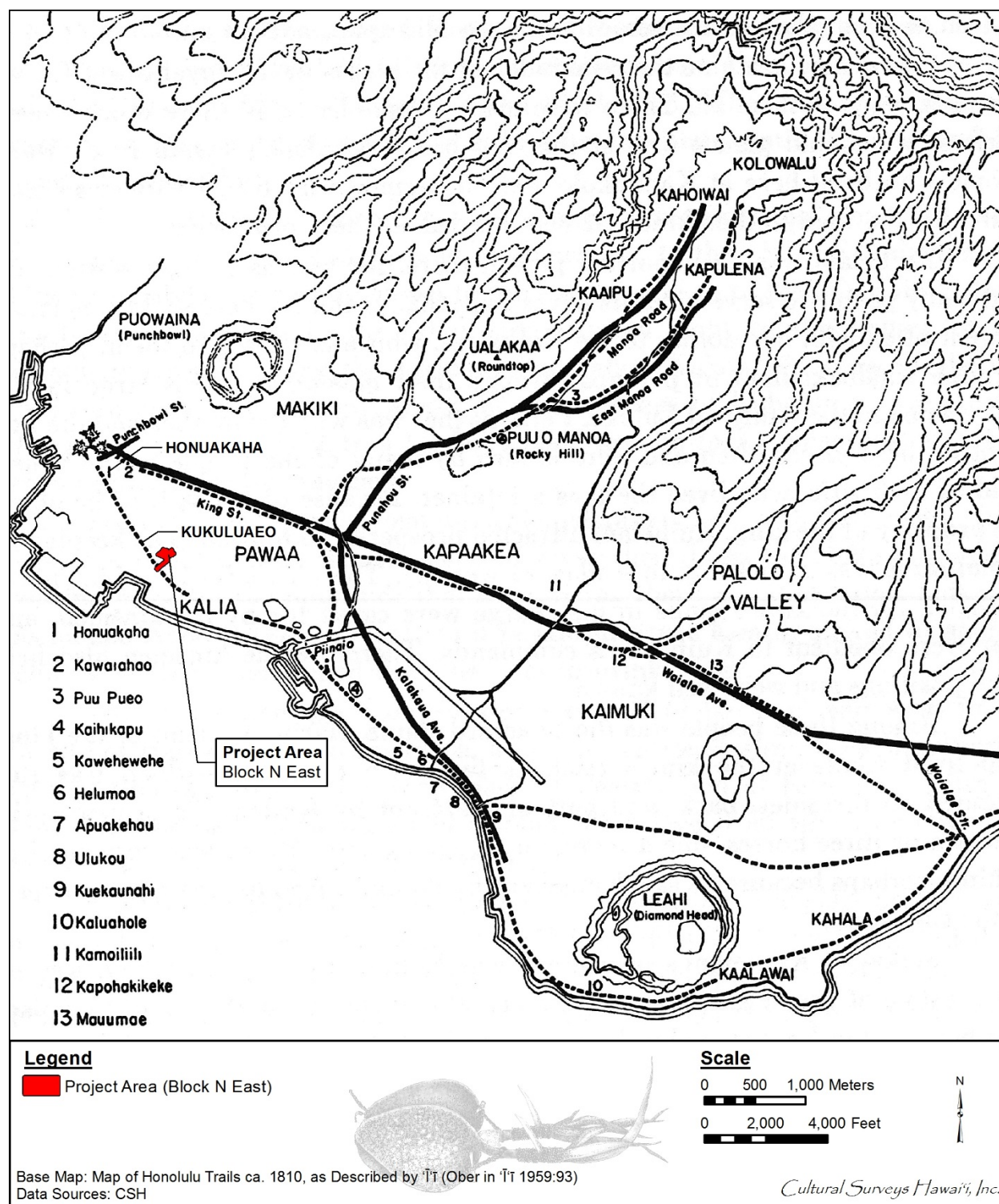


Figure 10. Early nineteenth century (ca. 1810) trails on the southwest coast of O'ahu (illustration by Gerald Ober from 'Ōt 1959:93), showing the location of Honuakaha, Kukuluaeo, and Kālia

The chief Hua was famous for his love of cultivation and his care for the people. His *heiau*, Pu‘ukea, is mentioned in a traditional *wānana* (prophecy) recorded by Kamakau (1991:24–25) as follows:

[ <i>Ka makaua ua kahi o ‘Ewa</i> ]	[The increasing “first rain” of ‘Ewa]
<i>Ua puni ka i‘a o Mokumoa,</i>	Overcomes the fish of Mokumoa,
<i>Ua kau i‘a ka nene;</i>	Washes up fish to the nene plants;
<i>Ua ha‘a kalo ha‘a nu;</i>	Lays low the taro as it patters down;
<i>Ha‘a ka i‘a o kewalo,</i>	Lays low the fish of Kewalo,
<i>Ha‘a na ‘ualu o Pahua,</i>	Lays low the sweet potatoes of Pahua,
<i>Ha‘a ka mahiki i <b>Pu‘ukea</b>,</i>	Lays low the mahiki grass at <b>Pu‘ukea</b> ,
<i>Ha‘a ka unuunu i Pele‘ula,</i>	Lays low the growing things at Pele‘ula
<i>Ha‘a Makaaho i ke ala.</i>	Lays low Makaaho [Makāho] in its path
<i>E Kū e, ma ke kaha ka ua, e Kū,</i>	O Kū, the rain goes along the edge [of the island], O Kū
[ <i>I ‘ai ‘na ka i‘a o Maunalua</i> ] . . .	[Eating the fish of Maunalua] . . .

The chant mentions the *mahiki* grass of Pu‘ukea Heiau. The Hawaiian term *mahiki* means “to peel off” (Andrews 2003:369). The word was also used to describe a rite to exorcise an evil spirit, as the skilled *kahuna* (priest) “peeled” the malicious spirit from the afflicted. Used in the ritual was a shrimp called *mahiki* or a native grass called *mahiki*. *Mahiki*, or ‘*aki‘aki*, is a tufted rush (*Sporobolus* sp.) found near the seashore. The ethnologist Mary Kawena Pukui states that even during her youth parents put “*ti* leaves, or *hala*, or ‘*aki‘aki* grass, in a little sea-salt water and [would] have the child drink it” (Pukui et al. 1972:163) to rid them of badly behaving spirits. The use of this grass in a ritual may explain its association with a ceremonial *heiau*, or it may simply be that the Kukuluāe‘o coast was a good habitat and thus a favored place for healers to collect this type of grass. The literal meaning of Pu‘ukea is “white hill” (Pukui et al. 1974:199), although it may have alternate meanings. Pu‘ukea is also the name of a small land division within the ‘*ili* of Kukuluāe‘o, mentioned in at least two Land Commission Awards, LCAs 1502 (not awarded) and 1504. LCA 1504 was located near the junction of Halekauwila and Cooke streets.

It is fairly common for a *heiau* to have the same name as the ‘*ili* it is located within, so it is possible Pu‘ukea Heiau was also near the junction of Halekauwila and Cooke streets. The majority of the house sites in the mid-nineteenth century in Kukuluāe‘o were located near Halekauwila and Queen streets, *mauka* of the low-lying coastal marsh lands on higher, dry ground. It is possible the *heiau* platform or the area it was built on was one of the few “high spots” in the flat, low-lying swamp that surrounded it, and thus gained the name *pu‘u kea* (white hill).

From these legendary accounts it can be seen that Kukuluāe‘o was traditionally noted for its fishponds and salt pans, for the marsh lands where *pili* grass and other plants could be collected, for ceremonial sites such as Pu‘ukea Heiau, and for the trails that allowed transport between the more populated areas of Waikīkī and Honolulu. Important chiefs were born in the area and conducted religious rites, and commoners traveled to the area to procure food and other resources; some commoners probably also lived in the area, possibly adjacent to the ponds and trails.

### 2.1.3 Early Post-Contact History and Population Centers

Kukuluāe‘o is between two centers of population, Kou and Waikīkī, on the southern shore of pre-Contact O‘ahu. In Waikīkī, a system of taro *lo‘i* (irrigated terraces) fed by streams descending from Makiki, Mānoa, and Pālolo valleys blanketed the plain, and networks of fishponds dotted the shoreline. Similarly, Kou—the area of downtown Honolulu surrounding the harbor—possessed shoreward fishponds and irrigated fields watered by ample streams descending from Nu‘uanu and Pauoa valleys. The pre-Contact population and land use patterns of Kukuluāe‘o may have derived from its relationship to these two densely populated areas; this population may have participated in some of the activities associated with them. Thus, any attempt to reconstruct the Kukuluāe‘o region (and the present project area) as it existed for the Hawaiians during the centuries before Western Contact and modern urbanization reconfigured the landscape must begin with accounts of Kou and Waikīkī.

Waikīkī is actually the name of a large *ahupua‘a* (traditional land division) encompassing lands stretching from Honolulu to Maunaloa Bay. Within that *ahupua‘a*, by the time of the arrival of westerners during the late eighteenth century, the area today known as Waikīkī had long been a center of population and political power on O‘ahu. According to Martha Beckwith (1940:383), by the end of the fourteenth century, Waikīkī had become “the ruling seat of the chiefs of O‘ahu.” The preeminence of Waikīkī continued into the eighteenth century and is confirmed by the decision of Kamehameha, in the midst of unifying control of the islands, to reside there after winning control of O‘ahu by defeating the island’s chief, Kalanikūpule. The nineteenth century Hawaiian historian John Papa ‘Ī‘ī, himself a member of the *ali‘i* (chiefly class), described the king’s Waikīkī residence:

Kamehameha’s houses were at Puaaliili, makai [seaward] 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. [‘Ī‘ī 1959:17]

‘Ī‘ī (1959:17) further noted that the “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.”

Chiefly residences were only one element of a complex of features sustaining a large population that characterized Waikīkī up through the pre-Contact period. Beginning at least by the fifteenth century, a vast system of irrigated taro fields was constructed, extending across the littoral plain from Waikīkī to lower Mānoa and Pālolo valleys. This field system, an impressive engineering design traditionally attributed to the chief Kalamakua, took advantage of streams descending from Makiki, Mānoa, and Pālolo valleys, which also provided ample fresh water for Hawaiians living in the *ahupua‘a*. Water was also available from springs in nearby Mō‘ili‘ili and Punahou. Closer to the Waikīkī shoreline, coconut groves and fishponds dotted the landscape. A continuous zone of population and cultivation from the shoreline of present day Waikīkī Beach extended north, well into Mānoa Valley. The western and eastern bounds of this zone are less clear, and there are no specific references to Waikīkī’s abundance reaching into the Kewalo region.

A basic description of Honolulu and Kou, up to the time of Western Contact, is given by E.S. Craighill Handy and Elizabeth Handy:

What is now Honolulu was originally that flatland area between the lower ends of Nu‘uanu and Pauoa Valleys and the harbor. [W.D.] Westervelt . . . wrote that

‘Honolulu was probably a name given to a very rich district of farm land near what is now . . . the junction of Liliha and School Streets, because its chief was Honolulu, one of the high chiefs at the time of Kakuhihewa’. . . It is probable that the chief referred to by Westervelt took his name from the harbor and adjoining land. The original name of the land where the town grew when the harbor became a haven for foreign ships was Kou. . . The number of *heiau* in this area indicates that it was a place of first importance before the era of foreign contact. [Handy and Handy 1972:479]

Rev. Hiram Bingham, arriving in Honolulu in 1820, described a still predominantly Native Hawaiian environment—still a “village”—on the brink of Western-induced transformations:

We can anchor in the roadstead abreast of Honolulu village, on the south side of the island, about 17 miles from the eastern extremity. . . . Passing through the irregular village of some thousands of inhabitants, whose grass thatched habitations were mostly small and mean, while some were more spacious, we walked about a mile northwardly to the opening of the valley of Pauoa, then turning southeasterly, ascending to the top of Punchbowl Hill, an extinguished crater, whose base bounds the northeast part of the village or town. . . . Below us, on the south and west, spread the plain of Honolulu, having its fishponds and salt making pools along the seashore, the village and fort between us and the harbor, and the valley stretching a few miles north into the interior, which presented its scattered habitations and numerous beds of *kalo* (*arum esculentum*) in its various stages of growth, with its large green leaves, beautifully embossed on the silvery water, in which it flourishes. [Bingham 1847:92–93]

The Kukuluāe‘o region would have been in Bingham’s view as he stood atop “Punchbowl Hill” looking toward Waikīkī to the south; it would have comprised part of the area he describes as the “plain of Honolulu” with its “fishponds and salt making pools along the seashore.”

Another visitor to Honolulu (which as a result of variations in pronunciation is also written as Honoruru, and on some maps, Honoonoono) in the 1820s, Captain Jacobus Boelen, hints at the possible pre-Contact character of Honolulu and its environs, including the Kukuluāe‘o area:

It would be difficult to say much about Honoruru. On its southern side is the harbor or the basin of that name. The landlocked side in the northwest consists mostly of taro [*sic*] fields. More to the north there are some sugar plantations and a sugar mill, worked by a team of mules. From the north toward the east, where the beach forms the bight of Whytete [Waikīkī], the soil around the village is less fertile, or at least not greatly cultivated. [Boelen 1988:62]

Boelen’s description implies the Kukuluāe‘o region and the current project area are within a “not greatly cultivated” region of Honolulu perhaps extending from Pūowaina (Punchbowl Crater) at the north through Kaka‘ako to the Kālia portion of Waikīkī in the east.

An early, somewhat generalized depiction of pre-Contact Native Hawaiian shaping of Waikīkī, Honolulu, and the Kukuluāe‘o region is given on an 1817 map by Otto von Kotzebue (1821), commander of the Russian ship *Rurick*, who had visited O‘ahu the previous year. The map (Figure 11) shows taro *lo‘i* (the rectangles, representing irrigated fields) massed around the streams descending from Nu‘uanu and Mānoa valleys. The depicted areas of population and habitation



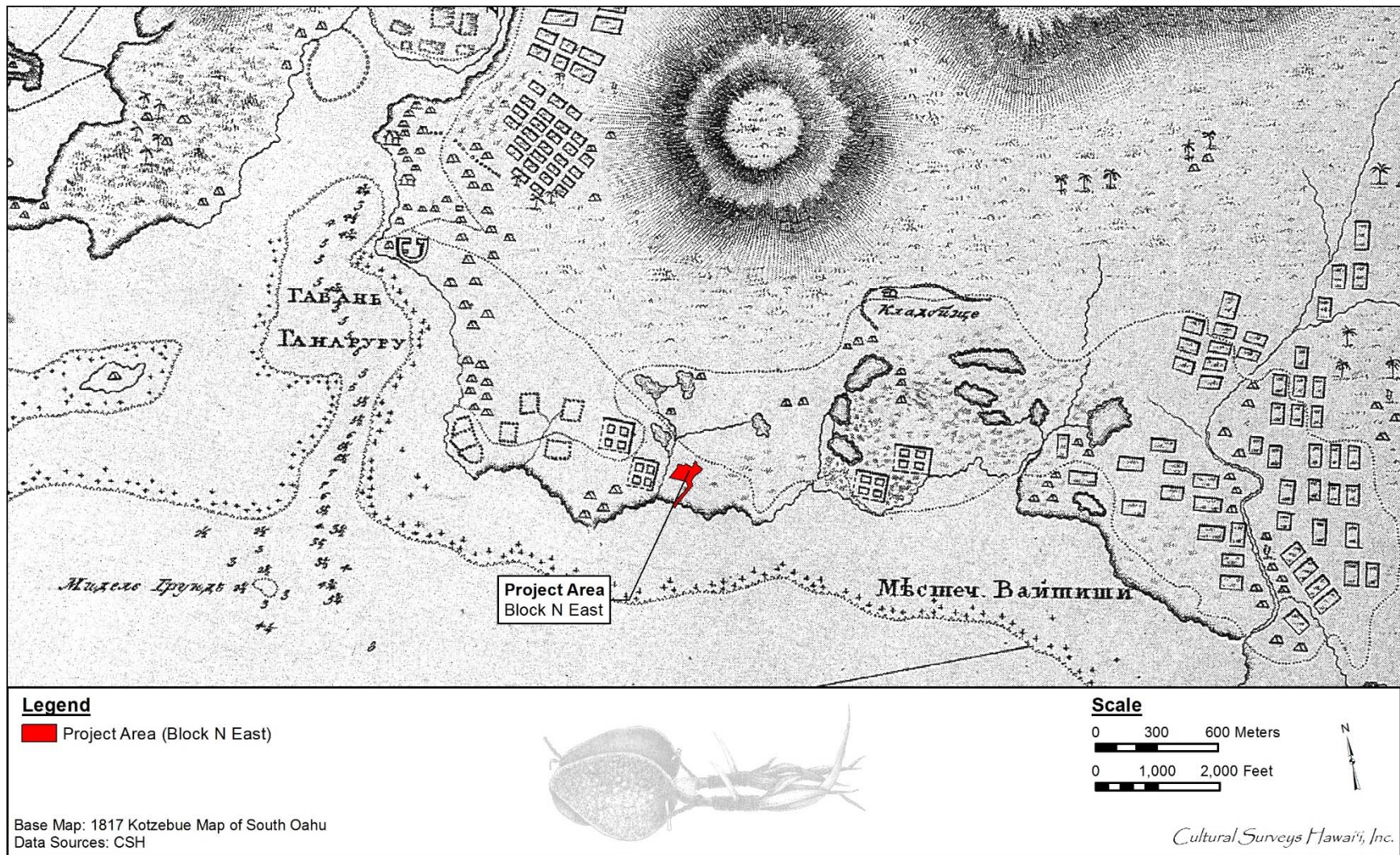


Figure 11. 1817 map by Otto von Kotzebue showing taro *lo'i*, fishponds, and salt pans in Honolulu and Waikīkī; few habitations are depicted along much of the shoreline portions near the project area (map reprinted in Fitzpatrick 1986:48–49)

concentration (illustrated by the trapezoids) probably reflect distortions caused by the post-Contact shift of Hawaiians to the area around Honolulu harbor—the only sheltered landing on O‘ahu and the center of increasing trade with visiting foreign vessels. Kamehameha himself had moved from Waikīkī to Honolulu in 1809.

Kotzebue’s map illustrates that the land between Pūowaina (Punchbowl Crater) and the shoreline—which would include the Kukuluāe‘o area—formed a “break” between the heavily populated and cultivated centers of Honolulu and Waikīkī; the area is only characterized by fishponds, salt ponds, trails connecting Honolulu and Waikīkī, and occasional taro *lo‘i* and habitation sites.

A clearer picture of Kukuluāe‘o and the current project area develops with accounts of other visitors to and settlers of Honolulu during the first half of the nineteenth century. Gorman D. Gilman, who arrived in Honolulu in 1841, recalled in a memoir the limits of Honolulu during the early 1840s:

The boundaries of the old town may be said to have been, on the *makai* side, the waters of the harbor; on the *mauka* side, Beretania street; on the Waikīkī side [i.e., the area just beyond Punchbowl Street], the barren and dusty plain, and on the Ewa [west] side, the Nuuanu Stream. [Gilman 1903:97]

Gilman further describes the “barren and dusty plain” beyond (east of) Punchbowl Street:

The next and last street running parallel [he had been describing the streets running *mauka-makai*, or from the mountains to the shore] was that known as Punchbowl Street. There was on the entire length of this street, from the *makai* side to the slopes of Punchbowl, but one residence, the two-story house of Mr. Henry Diamond, *mauka* of King Street. Beyond the street was the old Kawaiahaohao church and burying ground. A more forsaken, desolate looking place than the latter can scarcely be imagined. One, to see it in its present attractiveness of fences, trees and shrubbery, can hardly believe its former desolation, when without enclosure, horses and cattle had free access to the whole place. [Gilman 1903:89]

That the environs of the missionary enclave and Kawaiaha‘o Church were indeed “forsaken” and “desolate looking” in the 1820s when the missionaries first settled there is confirmed in the memoirs of the American missionary C.S. Stewart. Stewart arrived on Maui after living at the mission and declared Lahaina to be “like the delights of an Eden” after “four weeks residence on the dreary plain of Honoruru” (Stewart 1970:177). It is likely these descriptions of the Honolulu Plain also include—at least for western sensibilities—the Kukuluāe‘o region. The barrenness of the Kukuluāe‘o area is illustrated in two sketches, one made in 1834 (Figure 12) when Kawaiaha‘o Church was still a long grass-thatched building and one made in 1853 (Figure 13) after the grass hut had been replaced by a large coral stone structure with a steeple. Between Kawaiaha‘o Church and the sea are only a few scattered huts along the shore and aligned with the inland trail (now covered by King Street). The project area would be *makai* and left (east) of the church along the shore. An 1887 photograph of the area (Figure 14 and Figure 15) also shows the marshy nature of the area, with only scattered houses near the ponds or near the shore *makai* of Kawaiaha‘o Church. The missionary families grazed their cows in the lands *makai* of the mission houses (*Paradise of the Pacific* 1950:21).



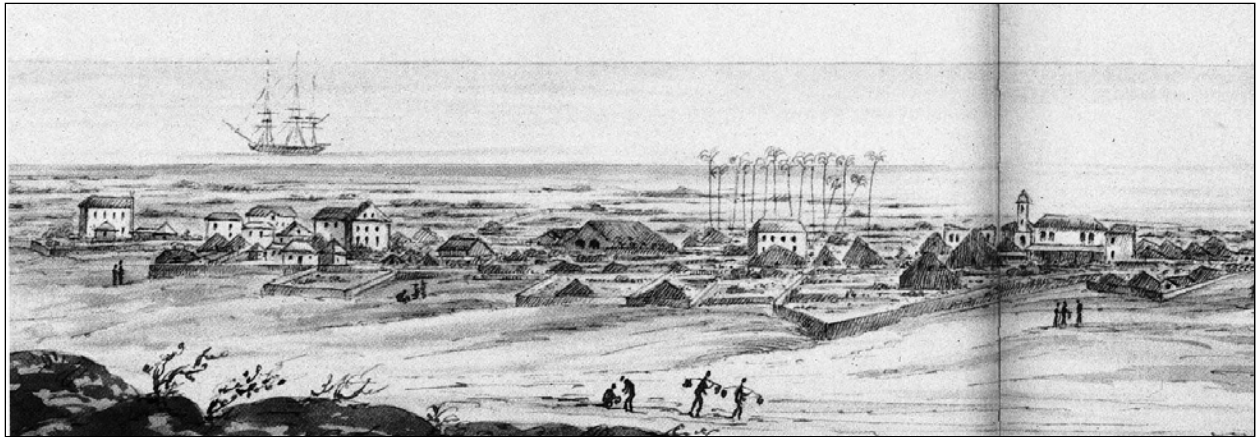


Figure 12. “Town of Honolulu: Island of Woahoo: Sandwich Islands,” portion of 1834 sketch by anonymous illustrator; the project area is east and south (left and back) of Kawaiaha‘o Church, the long thatched structure in the center of the sketch (original sketch at Bernice Pauahi Bishop Museum; reprinted in Grant 2000:64–65)

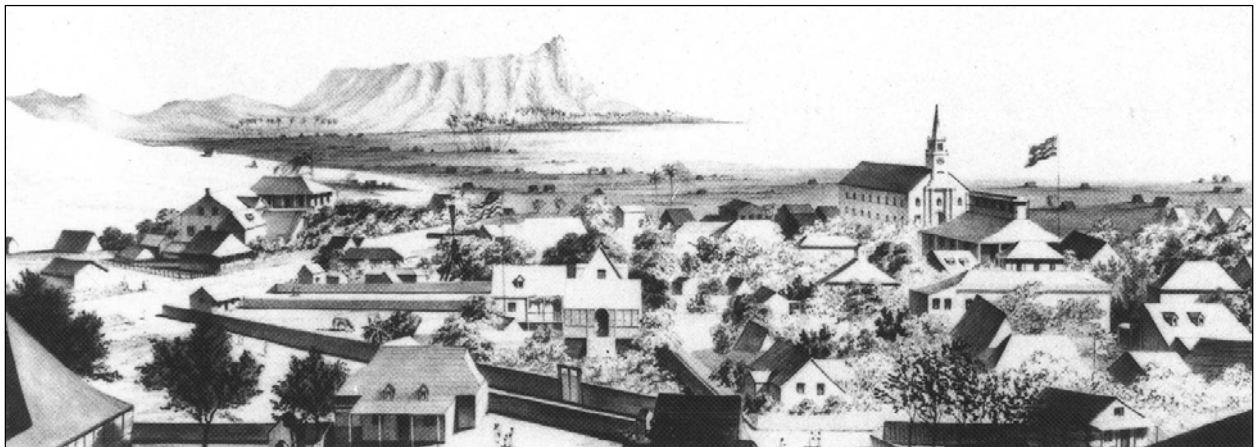


Figure 13. “View of Honolulu from the Catholic Church No. 2,” central panel of sketch by Paul Emmert ca. 1853; the project area is east and south (left and back) of the coral block Kawaiaha‘o Church (structure with steeple completed in 1842) (original sketch at Hawaiian Historical Society; reprinted in Grant 2000:5)





Figure 14. Kawaiaha'o Church and Honuakaha Village, ca. 1887 photograph; the Ward's House roof cupola, on the *mauka* end of Old Plantation, can be seen to the left of the church steeple; the project area is within the marshlands to the rear of the church (Hawai'i State Archives, Henry L. Chase Collection; reprinted in Stone 1983:84–85)



Figure 15. Kaka'ako area, portion of a ca. 1887 photograph (see Figure 14 above), close-up of right upper background area, showing marshlands and scattered huts along the coast

### 2.1.4 Mid-Nineteenth Century and the Māhele

In 1845, the Board of Commissioners to Quiet Land Titles, also called the Land Commission, was established “for the investigation and final ascertainment or rejection of all claims of private individuals, whether natives or foreigners, to any landed property” (Chinen 1958:8). This led to the Māhele, the division of lands among the king of Hawai‘i, the *ali‘i* (chiefs), and the common people, which introduced the concept of private property into Hawaiian society. In 1848, Kamehameha III divided the land into four divisions: Crown Lands to be reserved for himself and the royal house; Government Lands set aside to generate revenue for the government; Konohiki Lands claimed by *ali‘i* and their *konohiki* (supervisors); *kuleana*, habitation and agricultural plots claimed by the common people (Chinen 1958:8–15). The common people presented their claim, several witnesses confirmed that the person lived on or used the land, the parcel was surveyed, and the claimant was presented with the award.

The *‘ili* of Kukuluāe‘o (LCA 387) was awarded to the American Board of Commissioners for Foreign Missions (ABCFM). The claim (in English) with witness testimony and the award (in Hawaiian) with a map of the surveyed lot are presented in Appendix B. Initially this land was associated with Punahou School in Makiki and Mānoa valleys, as Chief Boki gave the Punahou lands to Hiram Bingham, pastor of Kawaiaha‘o Church in 1829 (DeLeon 1978:3), as stated in the LCA testimony:

The boundaries of that part which lies on the sea shore we cannot define so definitely, but presume there will be no difficulty in determining them as it is commonly known as pertaining to Punahou. This part embraces fishing grounds, coral flats & salt beds. [Land Commission Award 387; see Appendix B]

In the Māhele, however, this sea land became “detached” from the Mānoa award and was instead given to the pastor of the Kawaiaha‘o Church, as noted in Punahou School history:

There belonged in former times, as an appurtenance to the land known as Kapunahou, a valuable tract of salt-ponds, on the sea-side to the east-ward of Honolulu harbor, called Kukuluāe, and including an area of seventy-seven acres. At the time of the settlement of land claims before the Land Commission, application was made for it by the successor of Mr. Bingham in the pastorate of Kawaiahao Church—he believing it to be a glebe land for the support of that church. His claim was resisted by the then Principal of Punahou School, but without success, and a Royal Patent was issued, severing it from the Punahou estate, and awarding it to the applicant as his private property. [Punahou School and Oahu College 1866]

Within this larger award were eight *‘āpana* (lots) of five *kuleana* awards to commoners: LCA 1503 (*‘Āpana* 1, 2, and 3), LCA 1504, LCA 1903 (*‘Āpana* 2), LCA 9549, and LCA 10463 (*‘Āpana* 1 and 2). The 1884 map by Sereno Bishop shows the location of these LCA parcels, and other parcels outside the project area (Figure 16). This figure is color coded to match the description of lands indicated in the LCA testimonies, blue for fishponds, yellow for salt ponds or salt lands, and orange for house lots. As can be seen, the salt lands are mainly along the coast, the fishponds are usually located *mauka* of Queen Street, and the house lots are clustered around

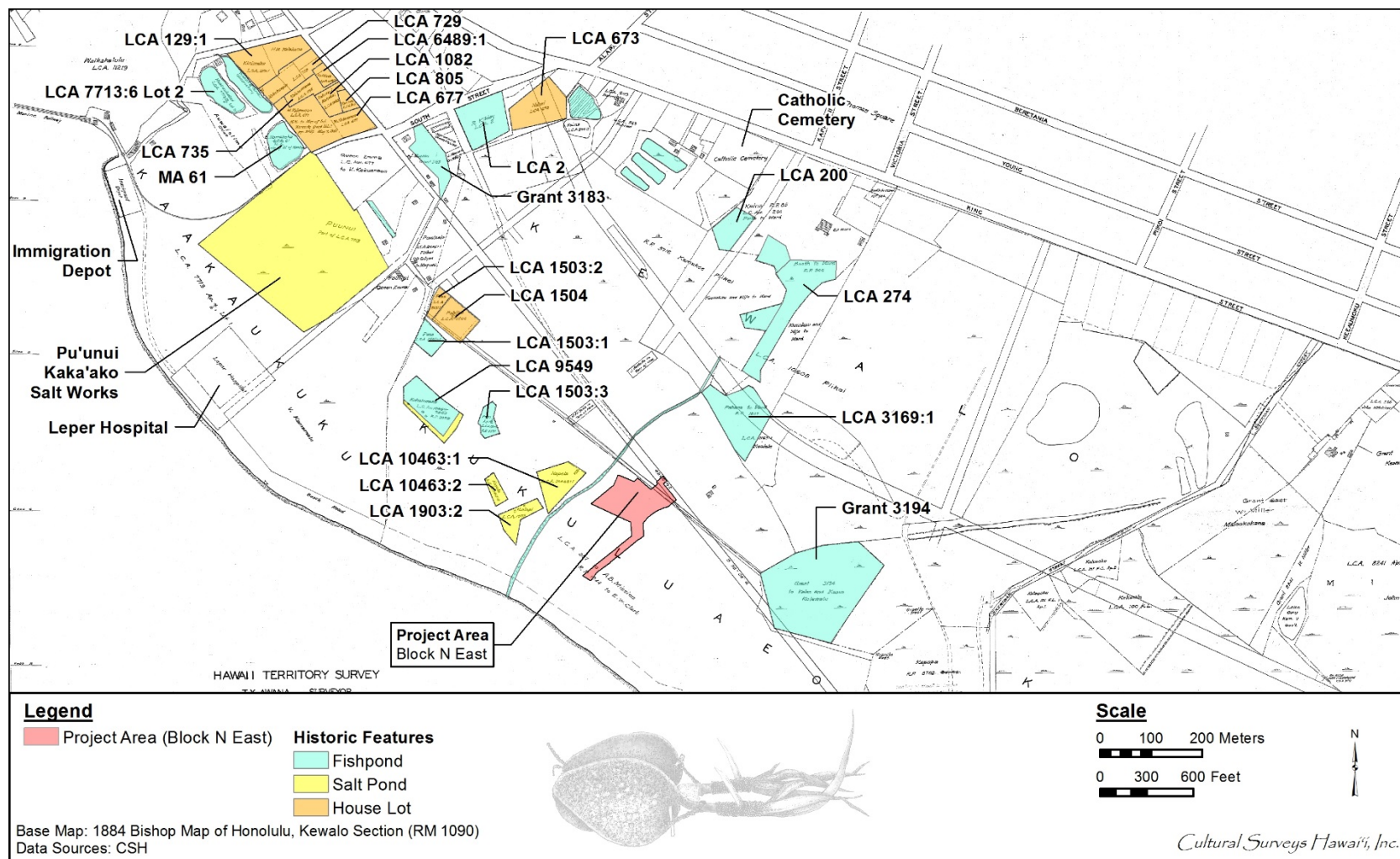


Figure 16. 1884 map of Honolulu, Kewalo Section (portion), by Sereno Bishop, showing the locations of LCA parcels, fishponds, salt lands, and house lots surrounding the project area; there are no LCAs parcels located within the project area

established roads, especially Queen and King streets. No LCA *kuleana* lots are located within the project area.

## 2.1.5 Nineteenth Century Land Use in Kukuluāe‘o

### 2.1.5.1 Salt Making

In the testimony for LCA 10463 (located just west of the current project area), salt lands, ditches, and deposits (probably related to salt) were mentioned. In the testimony for LCA 1903 (located southwest of the current project area), two *ālia* (salt beds), 15 *ho‘oliu*, two *poho kai*, and one salt *kula* were claimed. Four separate types of salt features are mentioned—the ponds near the shore that fill with salt water at high tide (*ālia*), the drains (*ho‘oliu*) where salt water is transferred to smaller clay-lined or leaf-lined channels, the natural depressions (or modified depressions) in the rocks along the shore where salt formed naturally (*poho kai*), and the salt *kula*, which was waste land, land that could probably not be used for agriculture as it was impregnated with salt. The claimant of LCA 1504 (located northwest of the current project area), Pahiha, had a house near his fishpond and salt bed. The house was probably a simple grass hut, similar to those shown on an 1838 sketch entitled “Honolulu Salt Pans, Near Kakaako” and the one shown on an 1845 sketch of Kawaihae‘o Church viewed from the “Old Salt Pans” (Figure 17 and Figure 18).

As indicated by the description of various salt features, traditional Hawaiian salt production was accomplished by diverse methods. The Native Hawaiian historian, David Malo, described one salt making method:

Salt was manufactured in certain places. The women brought sea-water in calabashes, or conducted it in ditches to natural holes, hollows, and shallow ponds (kekaha) on the sea-coast, where it soon became strong brine from evaporation. Thence it was transferred to another hollow or shallow vat, where crystallization into salt was completed. [Malo 1951:123]

Captain Cook was the first to note the method of making salt in prepared salt pans:

Their salt pans are made of earth, lined with clay; being generally six or eight feet square, and about eight inches deep. They are raised upon a bank of stones near the high-water mark, from whence the salt water is conducted to the foot of them, in small trenches, out of which they are filled, and the sun quickly performs the necessary process of evaporation. . . . Besides the quantity we used in salting pork, we filled our empty casks, amounting to sixteen puncheons, in the Resolution only. [Cook 1784:151]

The missionary William Ellis, on a tour of the Hawaiian Islands in 1822 and 1823, also noted these salt pans and recorded the final step of crystallization.

The natives of this district (Kawaihae) manufacture large quantities of salt, by evaporating sea water. We saw a number of their pans, in the disposition of which they display great ingenuity. They have generally one large pond near the sea, into which the water flows by a channel cut through the rocks, or is carried thither by the natives in large calabashes. After remaining there for some time, it is conducted into a number of smaller pans about six or eight inches in depth, which are made with great care, and frequently lined with large evergreen leaves, in order to prevent



absorption. Along the narrow banks or partitions between the different pans, we saw a number of large evergreen leaves placed. They were tied up at each end, so as to resemble a narrow dish, and filled with salt water, in which the crystals of salt were abundant. [Ellis 1827:403–404]

Following Western Contact in 1778, commercial trading vessels began to frequent Hawaiian waters at an increasing rate; one important reason for their visit was to trade for salt. Kotzebue noted during his visit in 1816 and 1817 that “Salt and sandalwood were the chief items of export” (Thrum 1905:50).

The journals of none mention the object of call other than for refreshments, though [Turnbull's *Voyage 1800–1804*] records the scarcity and high price of salt at the several points touched at, with which to serve them in the curing of furs obtained on the coast. In all probability salt was the first article of export trade of the islands and an object, if not the object, of these pioneer fur-traders' call. [Thrum 1905:45]

In order to supply this demand, commercial salt production works began to multiply throughout the early to late 1800s, including within the Kaka'ako area. Figure 19 (1883 Baldwin map) shows a large grid-like area of historic salt pans that extends across a large portion of Kaka'ako. The current Block N East project area appears to be just outside (at the northeastern fringe) this salt works zone.

In an article on Hawaiian salt works, Thomas Thrum (1924:116) mentions a salt works in Kaka'ako, likely the Kaka'ako Salt Works, in the vicinity of the present Ala Moana Shopping Center.

Honolulu had another salt-making section in early days, known as the Kakaako salt works, the property of Kamehameha IV, but leased to and conducted by E.O. Hall, and subsequently E.O. Hall & Son, until comparatively recent years. This enterprise was carried on very much after the ancient method of earth salt pans as described by Cook and Ellis. [Thrum 1924:116]

Figure 20 shows these types of large scale historic salt works, comprised of grid-like salt pans separated by man-made berms, wide transport causeways, and water transport channels.

Thrum (1924:116) states that the apex of the salt export trade in the Hawaiian Islands was in 1870, and that by 1883 “pulu, salt, and oil have disappeared entirely” from the list of yearly exports (Thrum 1884:68). However, salt continued to be manufactured for local use, as evidenced by the continued existence of the Kaka'ako Salt Works until at least 1891. Thrum (1924:116) noted that the only salt producer on O'ahu in 1916 was the Honolulu Salt Company. This is substantiated by a 1916 Commerce Report that in its discussion regarding salt production only mentioned the Honolulu Salt Company, which operated “salt beds at Puuloa, Kalihi, and Waikiki” (Taylor 1916:723).

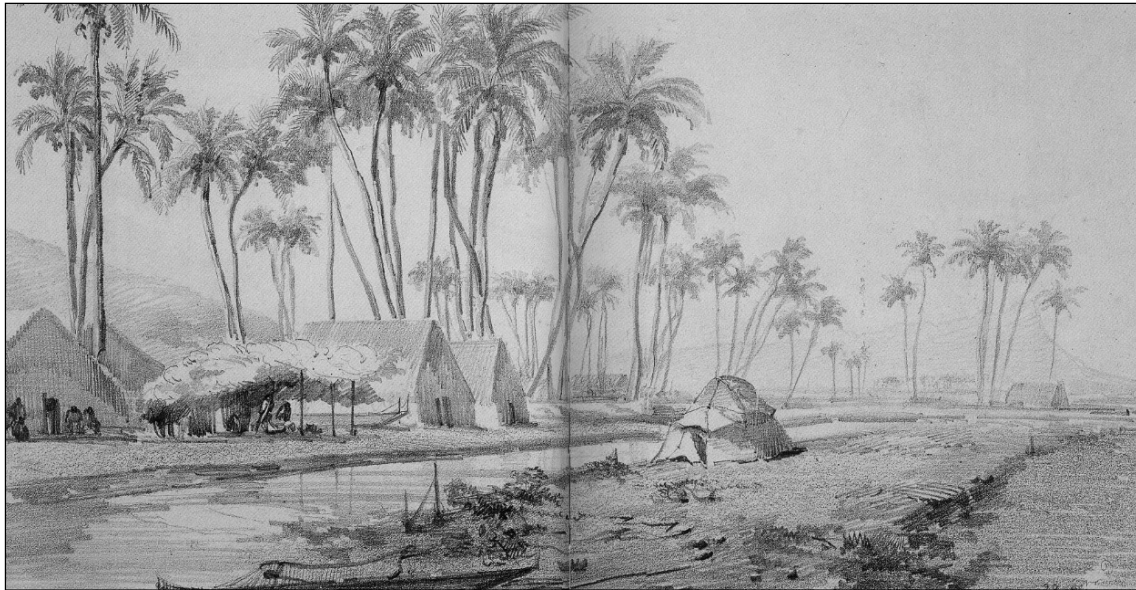


Figure 17. “Honolulu Salt Pan, near Kaka‘ako,” 1838 sketch drawn by a French visitor, Auguste Borget (original sketch at Peabody Essex Museum, Salem, Massachusetts; reprinted in Grant 2000:64–65)

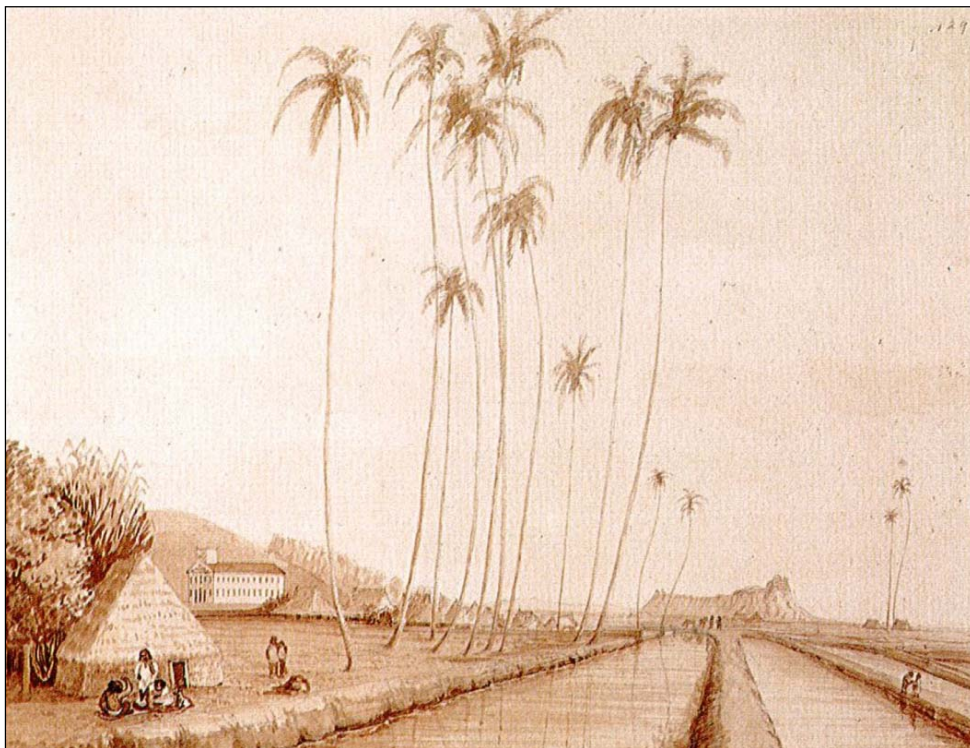


Figure 18. “Native Church [Kawaiiaha‘o Church], Oahu, from the Old Salt Pans,” 1845 sketch drawn by John B. Dale, from the U.S. Exploring Expedition led by Lt. Charles Wilkes (J. Welles Henderson Collection, reprinted in Forbes 1992:126); the sketch is probably from the salt pans in Ka‘ākaukui, west of the project area



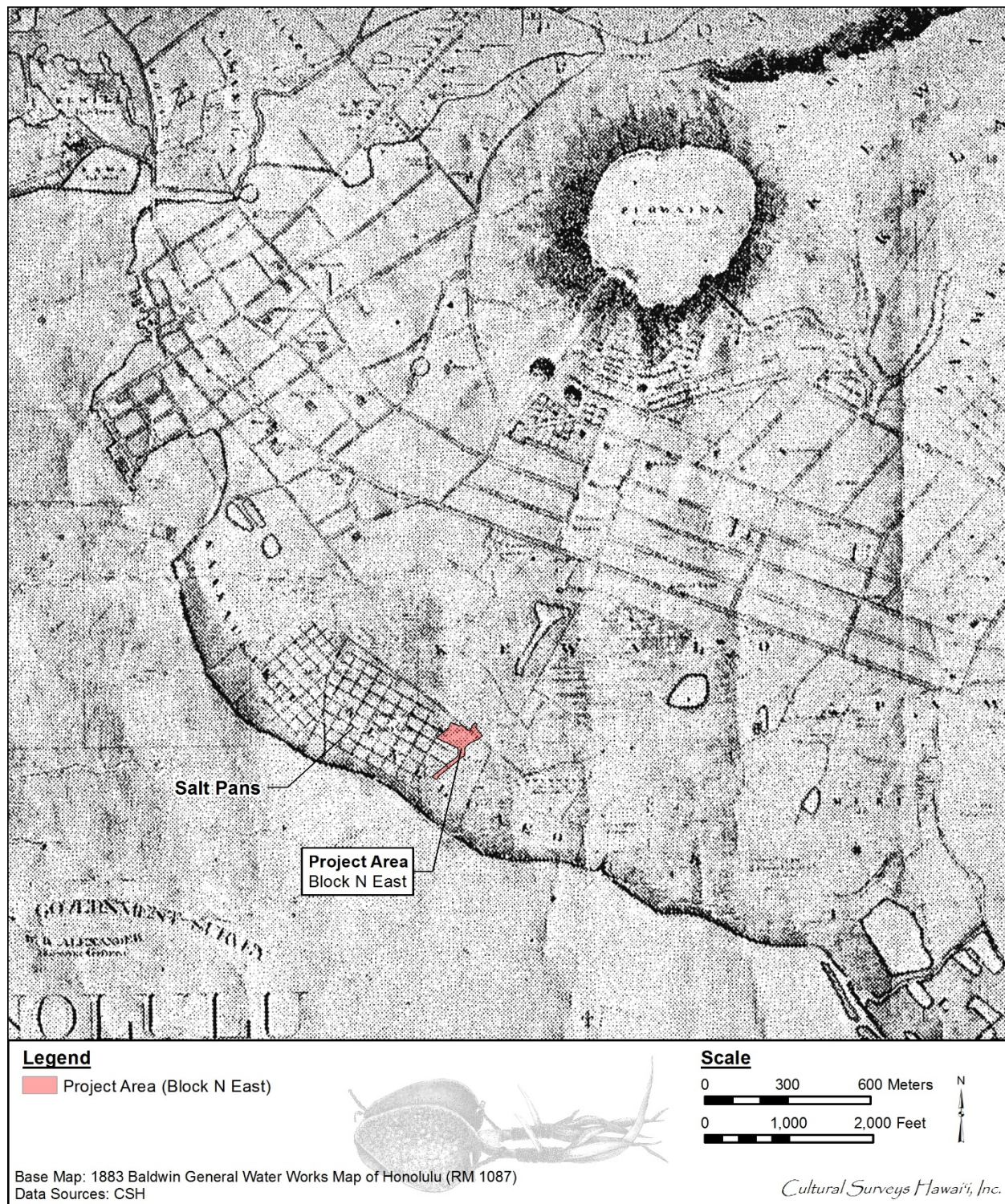


Figure 19. 1883 map of the Honolulu Water Works System (portion), by E.D. Baldwin (1883) (Hawai'i Land Survey Division, Registered Map 1087); the grid symbol represents salt pans



### 2.1.5.2 The Ward Estate

The *mauka* portion of the Ward Estate (north of Queen Street) is within the *'ili* of Kewalo, and was part of LCA 272 to Joseph Booth. Joseph Booth was an early English resident of the Hawaiian Islands who operated a saloon and hotel in Honolulu, known at the time of the Māhele as the Eagle Tavern (Greer 1994:54). He was granted lands in downtown Honolulu (where the tavern was located), in Kewalo Uka (Pacific Heights area), in the *'ili* of Kapuni, and in an area with “Three fish ponds, and a part of the plain near the road leading to Waikiki.” Little information on these three fishponds is given in the LCA testimony, but the Royal Patent No. 306 for these lands, mentions one known as “the large fishpond” or “long fishpond” (*loko ia nui*), which had two huts beside it. This pond would later be modified into the “lagoon” on the Ward estate.

Curtis Perry Ward, a native of Kentucky, came to the Hawaiian Islands in 1853, and soon established a livery and draying business, moving goods from the harbor to Honolulu town and loading goods at the docks for the whaling and shipping industries. In 1865, he married Victoria Robinson, who was descended from the Hawaiian *ali'i* and early French and British residents (Hustace 2000:21–29). For his new family, Ward purchased at auction the 12-acre estate of Joseph Booth, Royal Patent 306, and additional contiguous lands in the Kō'ula area in 1870. This constituted the *mauka* portion of the “Old Plantation,” from Thomas Square on King Street to the *makai* border at Waimanu Street. A few years later (before 1875), Ward added to his property with the purchase of 77 acres and 3,000 ft of ocean frontage in the *'ili* of Kukuluāe'o, *makai* of Queen Street (Hustace 2000:37–38) (Figure 21). The Wards had a permanent easement for the *'auwai* (ditch) that extended from the long fishpond to the sea through the Kukuluāe'o section (Figure 22). *Makaloa* grass (*Cyperus laevigatus*; Wagner et al. 1990), used to make mats and hats, grew along this *'auwai* and was one source of income for the family (Hustace 2000:7–55). The alignment of this ditch is shown on Figure 23; today it is between the alignments of Ward Avenue and Cummins Street.

Workers were hired to clear the fishponds and ditches, plant taro in the fishponds, fence in pastures for the horses, plant 6,000 coconut trees, plant *kiawe* trees (*Prosopis pallida*; Wagner et al. 1990) for firewood, and restore the *kāhaka* (salt pans) near the shore (Hustace 2000:41). A house in the southern style was built at the *mauka* end of the property near King Street, and the fishponds were modified into a long “lagoon.” An article in the *Pacific Commercial Advertiser* reported:

In taking a drive out on the Kulaokahua continuation of King street, attention is attracted to the premises just beyond the Catholic cemetery, the property of Mr. C. P. Ward. The lot consists of some thirty acres, and is thickly planted with algaroba and, in rows, there are some seven thousand thrifty young cocoanut trees. . . . The algarobas will certainly be valuable as firewood, and the cocoanuts alone will in a few years produce a handsome income. The property is well watered by means of pumps driven by windmills, there being an inexhaustible supply of water a few feet below the surface of the plains. [*Pacific Commercial Advertiser*, 4 September 1875:3]

Income from the 111-acre estate was also generated by leasing the rights to the Kukuluāe'o fishery, which was part of the Kukuluāe'o LCA 387 award. After the death of her husband in 1882, Victoria Ward derived much of her income from “eggs, bananas, firewood, *'awa*, taro leaf, *makaloa* grass, chickens, fish, hay, pigs, salt, white sand, *mānienie* grass [*Cynodon dactylon*;



Wagner et al. 1990], hides, butter, squid, and horses” (Hustace 2000:47) collected from the estate. On this estate, Victoria Ward raised her seven daughters, Mary (Mrs. Ernest Hay Wodehouse), Keakealani (Mrs. Robert Booth), Annie (Mrs. Wade Armstrong), Mele Elizabeth (Mrs. Frank Hustace, Sr.), and three unmarried daughters, Kathleen, Lucy, and Kulumanu Ward.

By 1901, most of the fishponds and salt pans *makai* of Queen Street were reported as abandoned. In that year, the Hawaii First Legislature Assembly (1901:185) proposed to build a ditch to drain away the “foul and filthy water that overflows that district at the present time.”

The district makai of King St. and the Catholic Cemetery, Ewa of Mrs. Ward’s (the Old Plantation), mauka of Clayton St., and Waikiki of the land from King St., leading to the Hoomananaauao Church, consists of six large abandoned fish ponds and a large number of smaller ones, all in filthy condition, fed by springs and flowing into Peck’s ditches. Just makai of these ponds, at the end of Clayton street, next to Mr. Ward’s, is Peck’s place. An artesian well flushing the wash houses flows into two foul ditches, thence to the big pond which is Waikiki of what used to be Cyclomere and next to Mrs. Ward’s line [ditch] extending down to Waimanu St.

The rear portion of Mrs. Ward’s property down to Waimanu St. used to be fish ponds all connecting to the sea by a ditch which is fed by an artesian well. These ponds, with the exception of three, are abandoned. [Hawaii First Legislature Assembly 1901:185]

In 1930, Victoria Ward incorporated Victoria Ward, Limited to manage the estate. In 1957, the City and County of Honolulu purchased the *mauka* portion of the estate to construct the new Blaisdell Civic Center (Hustace 2000:67, 77).



Figure 20. Historic salt works within Kaka'ako, 1902 photograph (Bishop Museum Archives, reprinted in Scott 1968:579)

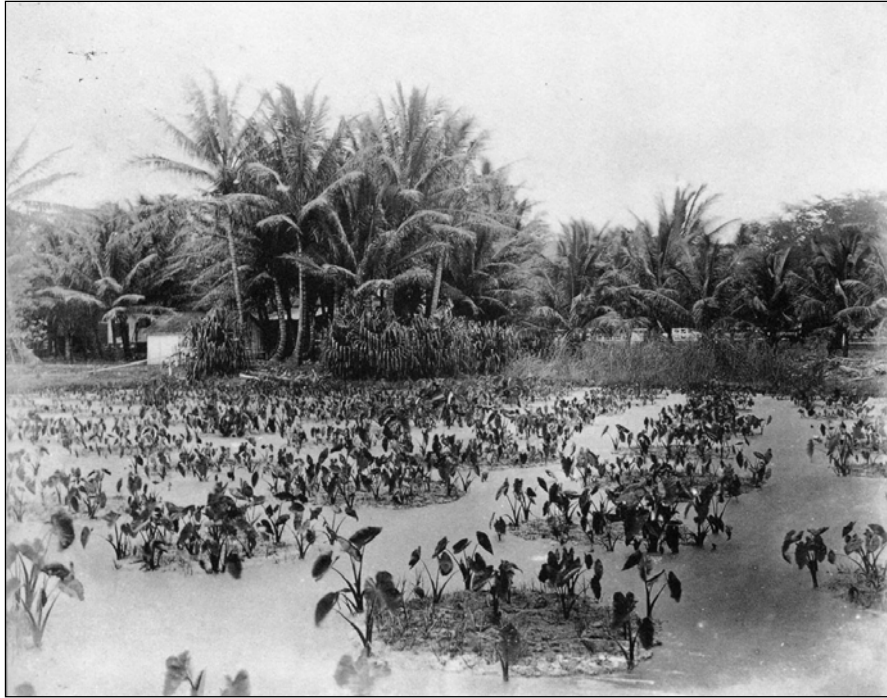


Figure 21. The Kukuluāe‘o portion of the Ward Estate, nineteenth century photograph (reprinted in Hustace 2000:49)



Figure 22. The Old Plantation ‘auwai, extending from the sea to the *mauka* “lagoon” of the Ward Estate, nineteenth century photograph, view north toward Punchbowl (Hustace 2000:51)



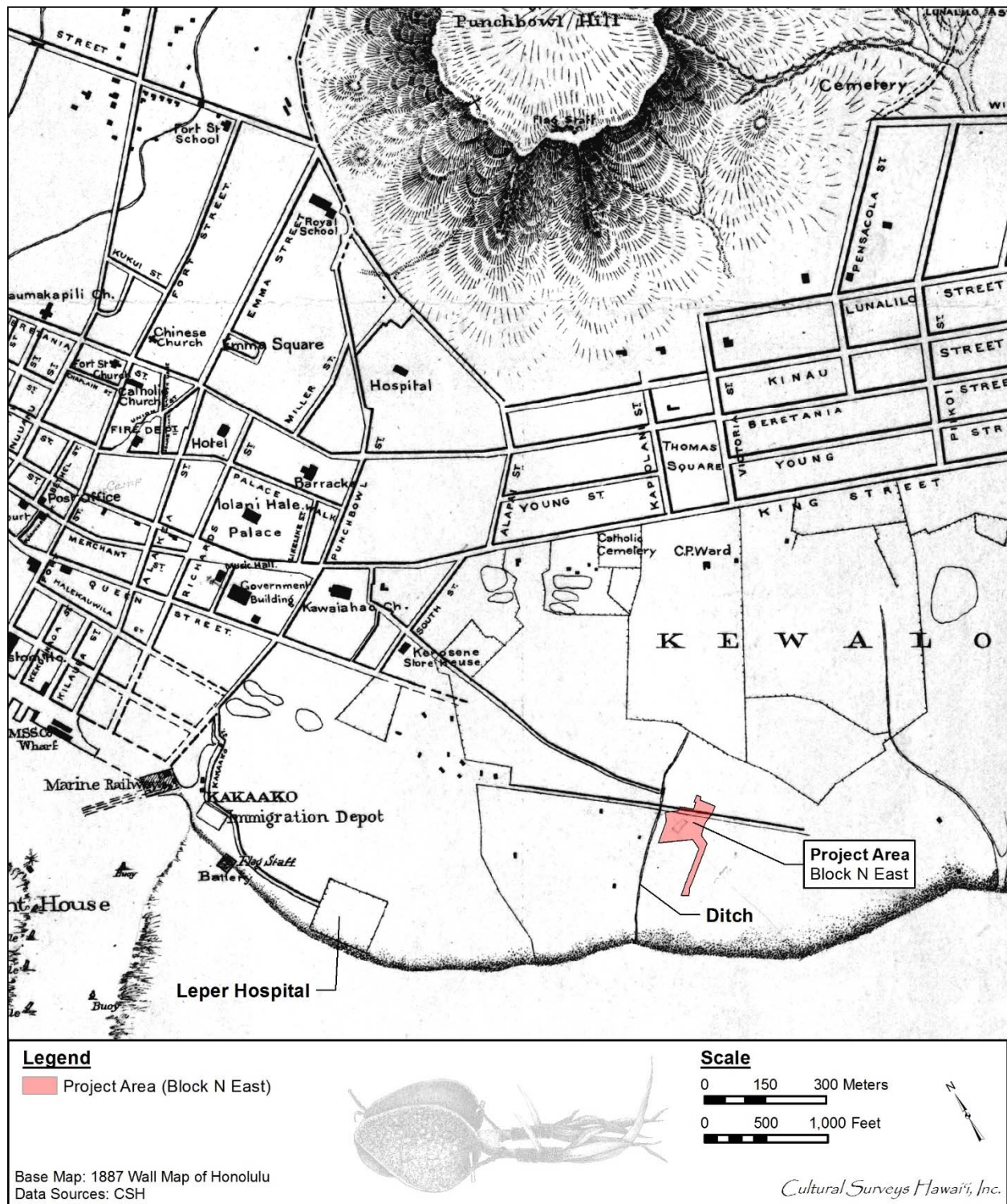


Figure 23. 1887 map of Honolulu (portion), by W.A. Wall (copy at Library of Congress, Geography and Map Division), showing the project area location and the Ward Estate *'auwai* (labeled ditch)

## 2.1.6 Twentieth Century Land Use

### 2.1.6.1 Trash Burning and the Kaka'ako and Kewalo Incinerators

In the early years of garbage disposal, all trash was dumped into low-lying ground or landfills, or burned in an open area. To reduce the volume of waste, plans were made to build incinerators, where “putrescible” trash (mainly animal and fish waste) could be burned, while non-animal material, called “combustible” waste, was still disposed of in the earlier method (Young 2005). Thomas Thrum reported on the first incinerator in the Kaka'ako area in 1905 and 1906:

Early in the year was completed the long projected garbage crematory for the disposal, daily, of the city's refuse by a patent and sanitary process. It is located on the shore of Kakaako, adjoining the sewer pumping station; is two stories in height and built of brick. [Thrum 1905:177]

The dredging of Honolulu harbor and its channel is completed as far as planned for the present, and excavations for the *Alakea* and *Kinau* slips finished, the material therefrom being used to fill in a large area of Kakaako and the flats in the vicinity of the sewer pumping station and garbage crematory. The amount of material removed by the Federal dredging was a million and a half cubic yards. [Thrum 1906:148–149]

For the incinerator, Thrum noted,

The new station is built on piles on reclaimed land that is being filled in from the coral dredgings that is going on, and is gradually taking on a tropical appearance. . . . Adjoining its premises on the mauka side is the new building designed for the Planters's Association for their labor bureau. [Thrum 1906:148–149]

The first efforts to deepen Honolulu Harbor were made in the 1840s. The idea to use the dredged material composed of sand and crushed coral to fill in low-lying lands was quickly adopted. Between 1857 and 1870, the “Esplanade” between Fort and Alakea streets was created on 22 acres of filled-in former reef and tideland. By 1874, Sand (Quarantine) Island, site of the first immigration station, had been created as “reclaimed” land atop the reefs (Hawaii Department of Transportation, Harbors Division 2007:3).

By the 1880s, filling-in of the mud flats, marshes, and salt ponds in the Kaka'ako and Kewalo areas had begun. This filling was pushed by three separate but overlapping improvement justifications. The first directive or justification was for the construction of new roads and raising the grade of older roads so improvements would not be washed away by flooding during heavy rains. A report by the Hawaii Board of Health (1908) noted the following:

I beg to call attention to the built-up section of Kewalo, ‘Kaka'ako,’ where extensive street improvements, filling and grading have been done. This, no doubt, is greatly appreciated and desirable to the property owners of that locality, but from a sanitary point of view is dangerous, inasmuch as no provision has been made to drain the improved section, on which have been erected neat cottages occupied for the greater part by Hawaiian and Portuguese families, now being from one to three feet below the street surface, and which will be entirely flooded during the rainy

season. Unless this is remedied this locality will be susceptible to an outbreak [of cholera] such as we experienced in the past. [Hawaii Board of Health 1908:80]

As mentioned in the above section, the justification most frequently cited was public health and sanitation, the desire to clean up rivers and ponds that were reservoirs for diseases such as cholera and that acted as breeding places for rats and mosquitoes. Thus, as early as 1902, it is reported that

The Board [of Health] has paid a great deal of attention to low-lying stagnant ponds in different parts of the city, and has condemned a number of them. The Superintendent of Public Works has given great assistance to seeing that the ponds condemned by the Board are filled. In September a pond on South Street was condemned as deleterious to the public health. [Hawaii Board of Health 1902:80]

The first areas to be filled were those closest to Honolulu town, then areas moving outward to Kaka'ako (Griffin et al. 1987:13). The first fill material may have been set down for the Kaka'ako Leper Branch Hospital (between Coral and Keawe streets), which had been built on a salt marsh. Laborers were hired to "haul in wagonloads of rubble and earth to fill up that end of the marsh" (Hanley and Bushnell 1980:113). In 1903, five more lots in Kewalo, on Laniwai, Queen, and Cooke streets, were condemned and ordered to be filled (Hawaii Board of Health 1903:6).

A main concern in this area was the Kaka'ako Ditch, which originated from the large fishponds in the *mauka* portion of the Ward Estate and extended to the sea (see Figure 23). A Hawaii legislature report of 1901 asked for an appropriation to build a new drainage ditch through the Kewalo district to address problems with older ditches:

The district makai of King St. and the Catholic Cemetery, Ewa of Mrs. Ward's (the Old Plantation) . . . consists of six large abandoned fish ponds and a large number of smaller ones, all in filthy condition, fed by springs and flowing into Peck's ditches. . . . The rear portion of Mrs. Ward's property down to Waimanu St. used to be fish ponds all connecting to the sea by a ditch which is fed by an artesian well. These ponds, with the exception of three, are abandoned.

When Desky opened Kewalo for settlement he dug a ditch from the pond on Peck's place along Waimanu St. to Mrs. Ward's ditch, and drained all the above described property. A law suit ensued, as the foul water drove away the fish, and the connecting ditch was torn out . . . and a dyke wall was built between Mr. Ward's and Peck's.

The result was that as the Kakaako ditch, at the point of juncture with Peck's ditch, was too high, the water in Peck's ditch rose and backed up . . . and as it must necessarily go somewhere, it overflowed its banks and at present Ward avenue from end to end is a big pond with no footing for pedestrians, and a carriage driven through the other day sank to the body of the same in water and mud. [Hawaii First Legislative Assembly 1901:186]

Although public health and safety were prominently cited, according to Nakamura (1979), the main desire (and third justification) to fill in Honolulu, Kewalo, and then Waikiki lands was to provide more room for residential subdivisions, industrial areas, and finally tourist resorts. In the early part of the twentieth century, Kaka'ako was becoming a prime spot for large industrial complexes such as iron works, lumber yards, and draying companies, which needed large spaces



for their stables, feed lots, and wagon sheds. In 1900 (Thrum 1901:172), the Honolulu Iron Works, which produced most of the large equipment for the Hawaiian plantation sugar mills, moved from their old location at Queen and Merchant streets near downtown Honolulu to the shore at Kaka'ako, on land that had been filled from dredged material during the deepening of Honolulu Harbor. Other businesses soon followed. Thrum (1901) noted,

The Union Feed Co. is another concern whose business has outgrown the limits of its old location, corner of Queen and Edinburgh streets. Like the Iron Works Co. they have secured spacious premises at Kakaako, erecting buildings specially adapted to the needs of their extensive business at the corner of Ala Moana (Ocean Road) and South Street. [Thrum 1901:168]

Private enterprises were not the only new occupants of Kaka'ako. A sewer pumping station, an immigrant station, and a garbage incinerator were also built on "reclaimed land." The new immigration station had seven large rooms for dormitories, surrounded by a breezy, open, *lanai*, where immigrant workers would stay while waiting for clearance to go to their new work places on the sugar plantations. Adjacent to the dormitory was a hospital, which was used to check the new immigrants for any "loathsome or dangerous contagious disease" (Hawaii Governor 1905:77). The hospital was also used during epidemics to isolate contagious patients, suffering from diseases such as smallpox, cholera, or plague.

In 1900, a pond surrounded by a bicycle racing track, called the Cyclomere (built in 1897), in the Kewalo area was filled in. This was located on the *makai* side of Kapi'olani Avenue between Cooke Street and Ward Avenue. In 1904, the area around South Street from King to Queen streets was filled in. The Hawaii Department of Public Works (1904:7) reported "considerable filling [was] required" for the extension of Queen Street, from South Street to Ward Avenue, which would "greatly relieve the district of Kewalo in the wet season."



Figure 24. Open-air burning of trash in area between Kewalo Basin and Ala Moana Park, 1921 photograph (Hill 1921, reprinted in Scott 1968:578)

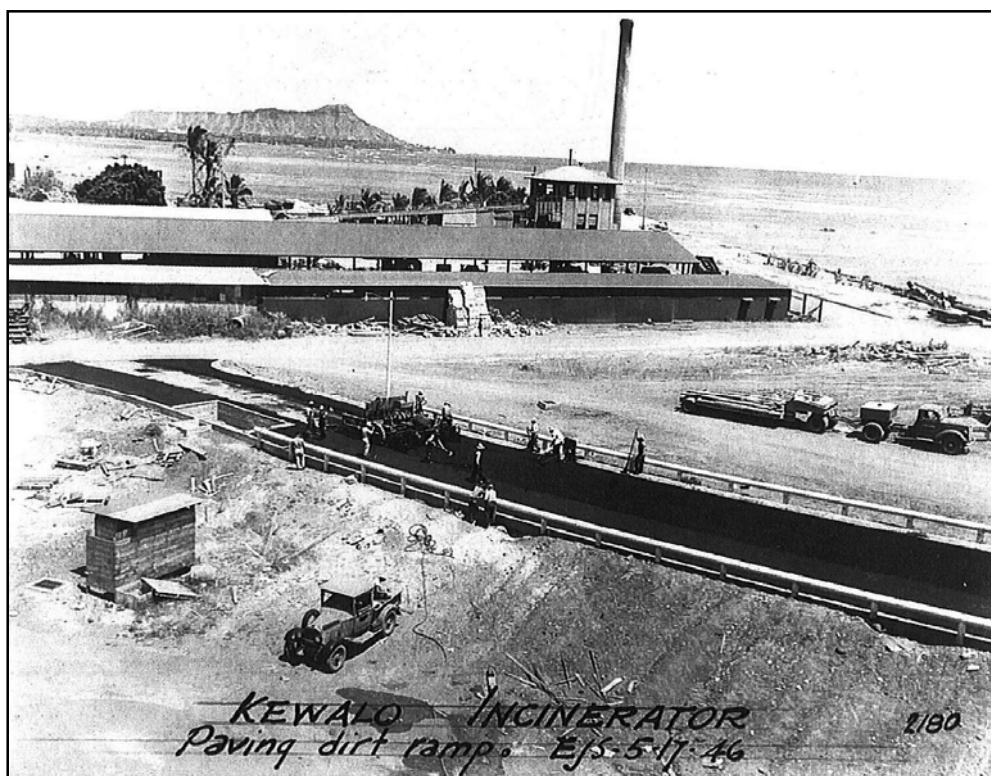


Figure 25. 1946 photograph of Kewalo Incinerator No. 1, west side of Kewalo Harbor (Mason Architects 2002)

### 2.1.6.2 Kewalo Basin Dredging

Prior to dredging, Kewalo Basin was a natural deep pocket in the reef seaward of Ala Moana Boulevard between Ward Avenue and Kamake'e Street. It had been used as a canoe landing in pre-Contact times. In 1919, the Hawaii Government appropriated \$130,000 to improve the small harbor of Kewalo for the aim of "harbor extension in that it will be made to serve the fishing and other small craft, to the relief of Honolulu harbor proper" (Thrum 1920:147). As the area chosen for the harbor area was adjacent to several lumber yards, the basin was initially made to provide docking for lumber schooners, but by the time the wharf was completed in 1926, this import business had faded, so the harbor was used mainly by commercial fishermen. The dredged material from the basin was used to fill a portion of the Bishop Estate on the western edge of Waikīkī and some of the Ward Estate in the coastal area east of Ward Avenue (U.S. Department of Interior 1920:52). The new basin and the coral fill, used to fill inland areas and make new land offshore, can be seen in a 1933 oblique aerial photograph of Kaka'ako and Waikīkī (Figure 26). In 1941, the basin was dredged and expanded to its current 55 acres. In 1955, dredged material was placed along the *makai* side to form an 8-acre land section protected by a revetment, now part of Kewalo Basin Park (Kewalo Basin Harbor 2013).

### 2.1.6.3 Waikīkī Reclamation Project

It was during the 1920s that southeast O'ahu was transformed when construction of the Ala Wai Drainage Canal—begun in 1921 and completed eight years later—resulted in the draining and filling in of the remaining ponds and irrigated fields of Honolulu and Waikīkī. The canal was one element of a plan to urbanize Waikīkī and the surrounding districts, first conceived in 1906. The final result was a "canal three miles long, with an average depth of twenty-five feet and a breadth of two hundred fifty feet" (*Honolulu Advertiser*, 17 October 1928:2:16).

The land surface of modern Honolulu and Waikīkī is situated on the result of this decade-long dredging and fill project of which the creation of the Ala Wai Canal was a part. In Nakamura's (1979:113) *The Story of Waikīkī and the Reclamation Project*, he writes that this land "reclamation" program, under the subterfuge of "drainage" and "sanitation," changed the ecology of Waikīkī from a once viable and important agriculture and aquaculture center. Many of the original property owners lost their land or had serious damage to their property as a result of the reclamation activities and/or the costly expense for the mandatory filling in of their properties.



Figure 26. Honolulu and Waikīkī from Fort Armstrong (lower right) to Diamond Head, 1933 oblique aerial photograph (Hawai'i State Archives); new lands of coral fill are shown as white patches in inland areas, along Kapi'olani Boulevard, and offshore for the new Ala Moana Park; Kewalo Basin is at the western (lower) end of the offshore fill area



#### 2.1.6.4 Commercial and Residential Development

Subsequent maps show the future development of the Kukuluāe‘o area in a grid of streets extending from Honolulu town toward Waikīkī. Other maps and documents generated during the last decades of the nineteenth century and first decades of the twentieth century reveal the disappearance of the traditional Hawaiian landscape of Kukuluāe‘o, including the conversion of taro *lo‘i* to rice fields. The urban development of the area is shown on a series of late nineteenth and twentieth century maps and aerial photographs from 1897 through 1982 (Figure 27 through Figure 39).

The 1884 Bishop map (see Figure 9) shows the nascent traces of future development in the grid of roads stretching *mauka* of the project area. Kaka‘ako was considered to be outside the Honolulu town boundary and was used in the mid- to late nineteenth century as a place for cemeteries, burial grounds, and for the quarantine of contagious patients. Then in the beginning of the twentieth century, the area was used as a place for sewage treatment and garbage burning, finally becoming an area for cheap housing, and commercial industries (Griffin et al. 1987:13). Other maps, photographs, and documents generated from the last decades of the nineteenth century up to the present reveal further details of the original character of the Kewalo lands and the disappearance of that landscape.

An 1897 map (see Figure 27) by M.D. Monsarrat shows Thomas Square and the Old Plantation, and makes evident the urbanization of the landscape of Honolulu that had taken place near the end of the nineteenth century. The map clearly displays the development occurring *mauka* and ‘Ewa of the project area, and the “arm” of streets projecting from downtown Honolulu into Kaka‘ako and Kewalo. It is on this map that Kamake‘e Street first appears, running from Queen Street and dead-ending *mauka* of Waimanu Street toward where Kapi‘olani Boulevard would eventually be constructed. A large portion of Kaka‘ako, however, remains open and the map reveals that the area adjacent to (east of) the Old Plantation and *mauka* of the project area has become “Rice Fields.” This 1897 map also shows the Cyclomere, a pond surrounded by a bicycle racing track in Kewalo area. This was located on the *makai* side of Kapi‘olani Avenue between Cooke Street and Ward Avenue.

A 1903-1909 U.S. Engineer’s map (see Figure 28) depicts houses clustered around the few paved roads, including along the *makai* side of Queen Street within the Block N East project area and a scatter of houses also along the Ward Estate *‘auwai* and along the shore. There is no indication on this map of the deep water channel east of Fort Armstrong, which will later be dredged to create Kewalo Basin. Numerous ponds are shown to the east of the project area, in particular Kolowalu Pond at the eastern terminus of Queen Street, and the “Long Lagoon” of the Ward Estate, north of the Queen Street terminus.

A 1914 Sanborn Fire Insurance map (see Figure 29) also shows four single-story residential structures within Block N East along the *makai* side of Queen Street (denoted by the abbreviation “D.” for dwelling).

The 1919 U.S. Army War Department Fire Control map (see Figure 30) shows residences clustered around Queen Street and Ward Avenue. The project area is now located within a grid of largely unpaved or proposed roads. There are still many ponds east of the project area, in the area northeast later to be part of McKinley High School, and the area east along the coast, which will

be developed into Ala Moana Shopping Center and Park. Poor people, mainly Native Hawaiians, inhabited the area. In the 1920s, on the east side of Kewalo Basin, they congregated at a camp named "Blue Pond," named after a large and deep pond near the shore. On the west side of the basin, in the Ka'ākaukukui area (shortened to 'Ākaukukui), they lived in shacks and sturdy houses in an area called "Squattersville," named because they lived without authorization on government land. This camp was generally around Olomehani Street near the shore, protected from the waves by a long sea wall. There were around 700 Hawaiians and part-Hawaiians living in these two camps in the mid-1920s, but by 1926 they were all gone. The government evicted the families and razed the houses (Clark 1977:64).

A 1927 aerial photograph (see Figure 31) shows the development of dredging and filling projects in Kaka'ako. Areas west of Ward Avenue and *makai* of Ala Moana Boulevard are filled and developed, while the areas *mauka* and east, including Block N East, have only been recently filled (indicated by bare white coral fill areas) or are still open marsh/rice lands, such as *makai* of the new McKinley High School, the long lagoon of the Ward Estate, and Kolowalu Pond, shown to the east of the project area. Kewalo Basin is an ill-defined dredged area of deep water east of Fort Armstrong. Several small structures (residences) are still visible along Queen Street within the Block N East project area.

A 1933 U.S. Army War Department Fire Control map (see Figure 32) shows the first buildings of the new McKinley High School campus and also illustrates that the eastern portion of Kaka'ako is still undeveloped, with dotted lines showing unimproved or proposed streets, including within the majority of Block N East. However, the land was more inhabited than is evident from this map. The Ward family leased land to the Japanese for camps, schools, playgrounds, temples, and shrines (University of Hawai'i 1978:847). Kaka'ako was one of the first residential areas for working class families, housing people working at the laundries, the harbor, the Honolulu Iron Works, the Honolulu Brewery, and truck drivers, seamen, and fishermen. In 1940, Kaka'ako had over 5,000 residents. Hawaiians, Portuguese, Chinese, and Japanese settled in camps based on their ethnic origins. The residents all came together for social and community functions.

On a 1939-1941 aerial photograph (see Figure 33), Ala Moana Park, on new land created with dredged fill, is depicted with a deep-water channel meant to allow boats to sail from Kewalo Basin to the Ala Moana Yacht Harbor. Kewalo Harbor has been completed and ships line the shoreline. The former white coral areas east of Ward Avenue, including the Block N East project area, now have some vegetation, but they are still not greatly developed past the stage shown on the 1927 aerial photograph. One exception is the McKinley High School grounds, which have been completely filled in, leveled, and covered with several new campus buildings. The long lagoon of the Ward Estate is still unfilled.

On a 1943 U.S. Army War Department terrain map (see Figure 34), this eastern section of Kaka'ako is an area of open lumber yards and large warehouses. A large warehouse is now located within the *makai* portion of the Block N East project area. After World War II, Kaka'ako became increasingly industrialized, and residents moved out to the newer subdivisions away from the central Honolulu area. The 1943 map depicts the docks for Kewalo Basin. The McFarlane Tuna Company (now Hawaiian Tuna Packers) built a shipyard at the basin in 1929 for their fishermen's "sampan fleet." A new tuna cannery was built at the basin in 1933 and operated successfully. However, the entire cannery was taken over by the military in 1941 after the attack on Pearl

Harbor. The cannery was converted to military use and used to make airplane gas tanks (Schug 2001:29). Land in Kaka‘ako taken by the military was not returned until 1946 (Clark 1977:64; Gessler 1938:182–185).

A 1950 Sanborn Fire Insurance map shows the development of commercial activity along Queen Street in the immediate vicinity of Block N East (see Figure 35). Four residential structures, denoted as “D” on the map, are still present, however, within the Block N East project area.

A 1952 aerial photograph (see Figure 36) also shows major development in the eastern section of Kaka‘ako, with a large warehouse building covering the *makai* portion of Block N East. Coral fill has been placed to create the substrate for the new Ala Moana Shopping Center to the east of the project area, and new land has been created on the *makai* side of the former Fort Armstrong, west of Kewalo Basin. The dredged strip along the coast still extends from Kewalo Basin to Ala Moana Yacht Harbor and the western end of the Ala Wai Canal.

A 1953 USGS topographic map (see Figure 37), less detailed than earlier maps, indicates many of the improved or proposed roads in the eastern section of Kaka‘ako are now paved and improved.

In 1964, new land along the western boundary of the Ala Wai Yacht Club was created to make a peninsula called “Magic Island,” later renamed ‘Āina Moana State Recreation Area. The construction of this peninsula cut off access for boats between the Kewalo and Ala Moana boat docks, and the function of the channel along Ala Moana Beach Park was changed into a safe swimming area (Clark 1977:60–63).

On a 1970 aerial photograph of the eastern section of Kaka‘ako (see Figure 38), the new Ala Moana Shopping Center is completed and the Blaisdell Civic Center has replaced the grounds, house, and lagoon of the Ward Estate. The residential structures within the northern portion of Block N East have been replaced by an asphalt parking lot, while a single indeterminate structure is visible within the southern portion along Queen Street.

In 1975, it was estimated there were 990 firms operating in Kaka‘ako and approximately 30% of the neighborhood residents also worked in the area (University of Hawai‘i 1978:A-116–117). In the 1970s through 1990s, portions of eastern Kaka‘ako were used for various small businesses that existed in warehouses, along with parking lots, as shown on a 1982 aerial photograph (see Figure 39). Many of these warehouses were roofed, open-sided storage sheds for large lumber yards. Ward Warehouse was built in 1975 (Daysong 1997) and the shopping center can be seen as several adjacent structures on the 1982 aerial photograph.

In summary, the Block N East project area was apparently outside the two most intensely populated and cultivated areas—Waikīkī and Honolulu (or Kou)—along this portion of O‘ahu’s southern shore during the pre-Contact period. The area of Kaka‘ako was nonetheless well utilized by Hawaiians for activities appropriate to the specific environment, salt making and farming of fishponds, along with some wetland agriculture. The eastern portion of Kaka‘ako, including the project area, was among the last areas of urban Honolulu to be built on and developed, with many of the roads in the area not being constructed until World War II.

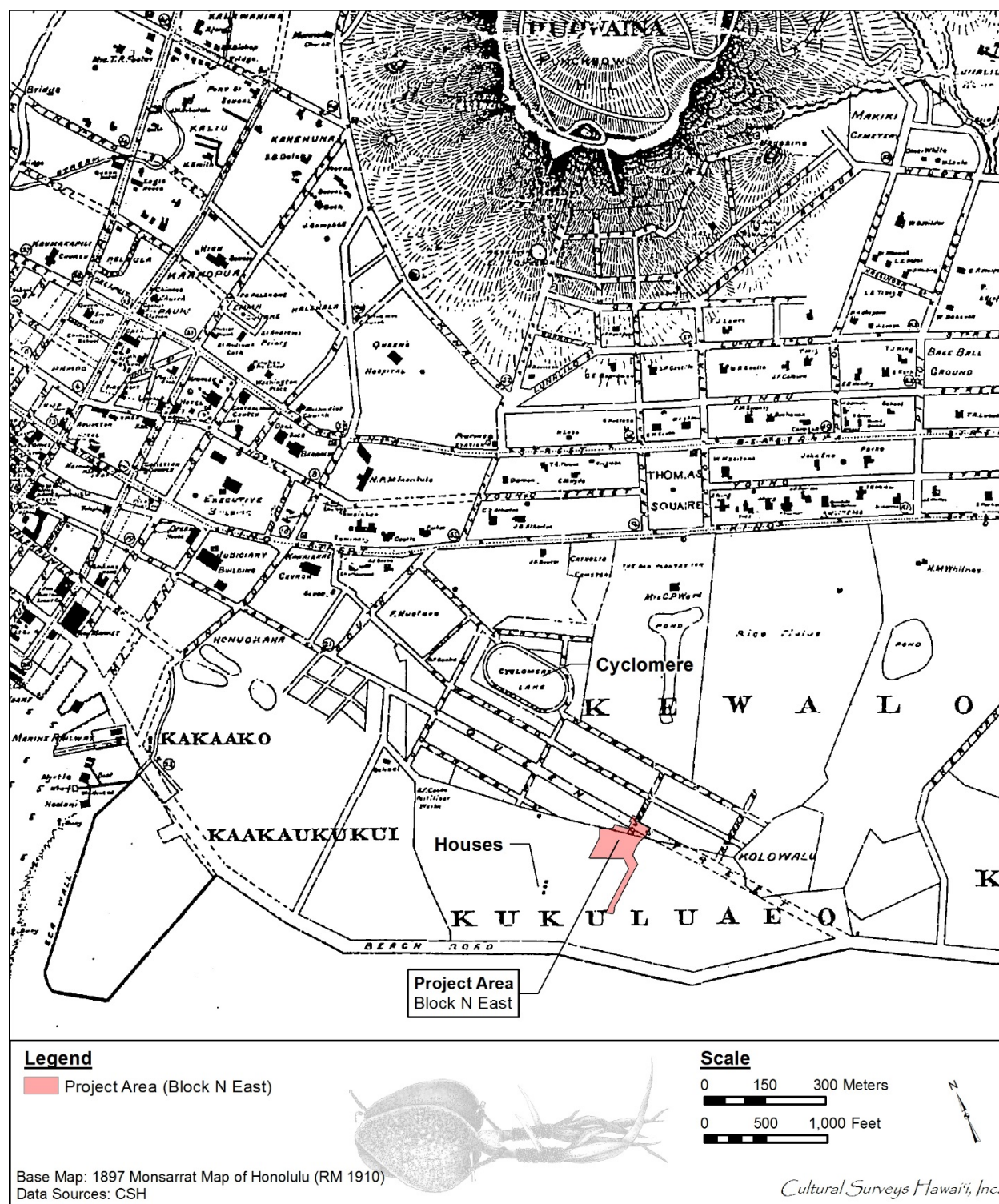


Figure 27. Portion of 1897 map of Honolulu by M.D. Monsarrat (Hawai'i Land Survey Division, Registered Map 1910) showing the location of the project area; the map also shows the location of the "Cyclomere"





Figure 28. Portion of 1903-1909 (published 1917) U.S. Engineer's map of O'ahu depicting Kaka'ako; many ponds, including Kolowalu and the Ward Estate "Long Lagoon," are still open and unfilled east of Ward Avenue

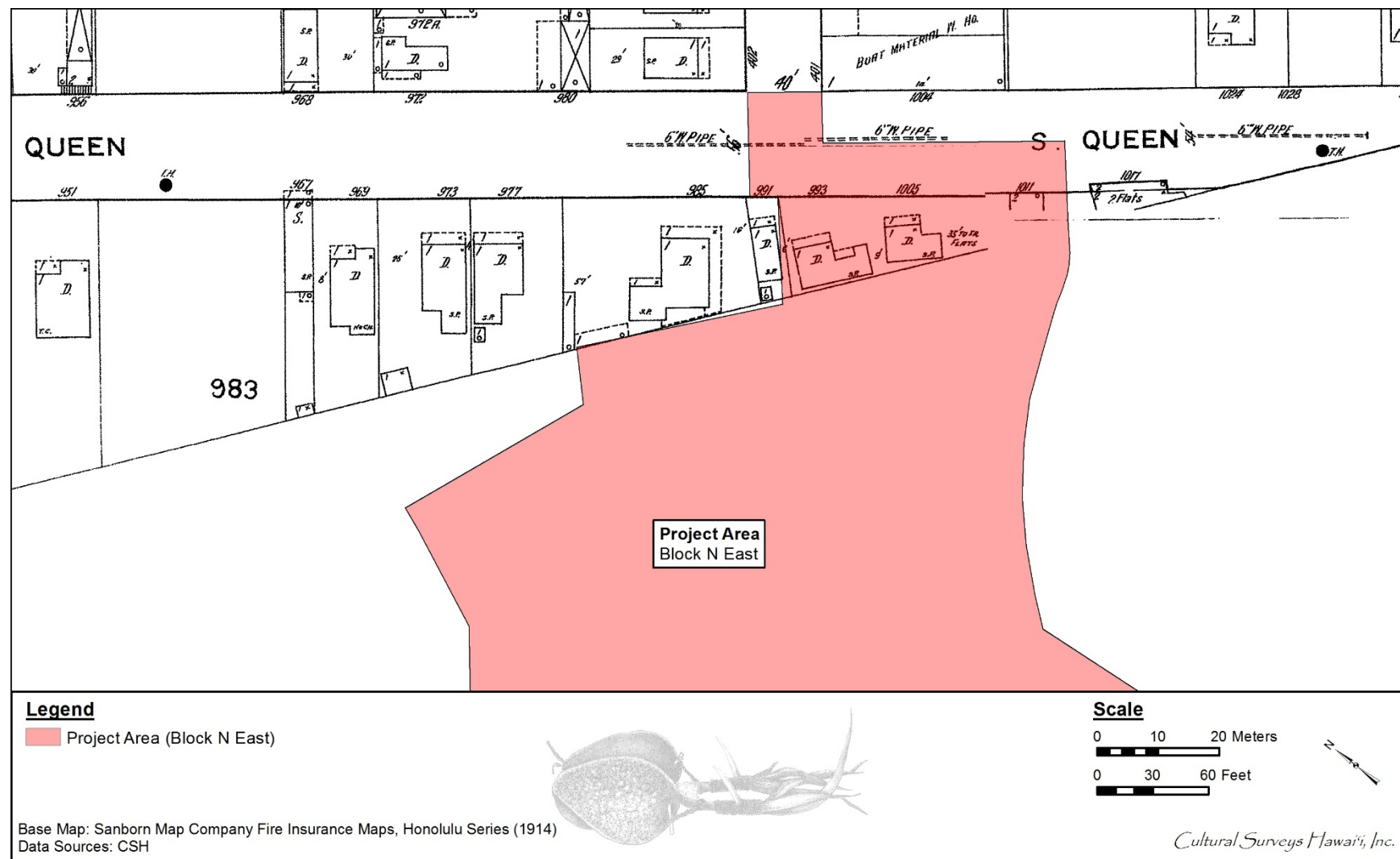


Figure 29. Portion of 1914 Sanborn Fire Insurance map, showing single-story residential structures (denoted by the abbreviation “D.”) along Queen Street



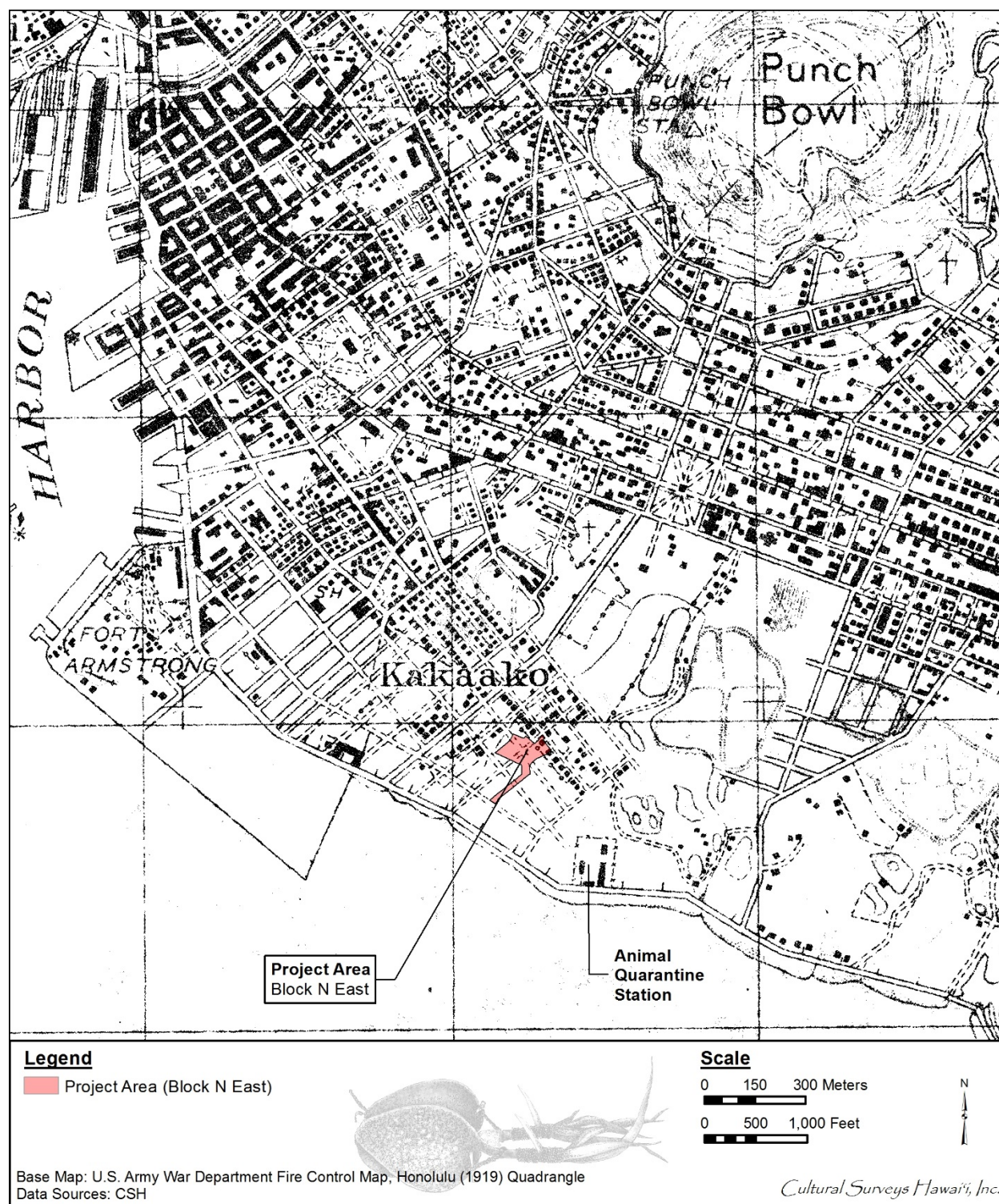


Figure 30. Portion of 1919 U.S. Army War Department Fire Control map of O'ahu, Honolulu Quadrangle, showing the location of the project area within a grid of streets; solid lines denote paved streets, while dotted lines represent unpaved or proposed streets





Figure 31. 1927 aerial photograph of the Kaka'ako area showing small residential structures within the project area along Queen Street (UH SOEST)



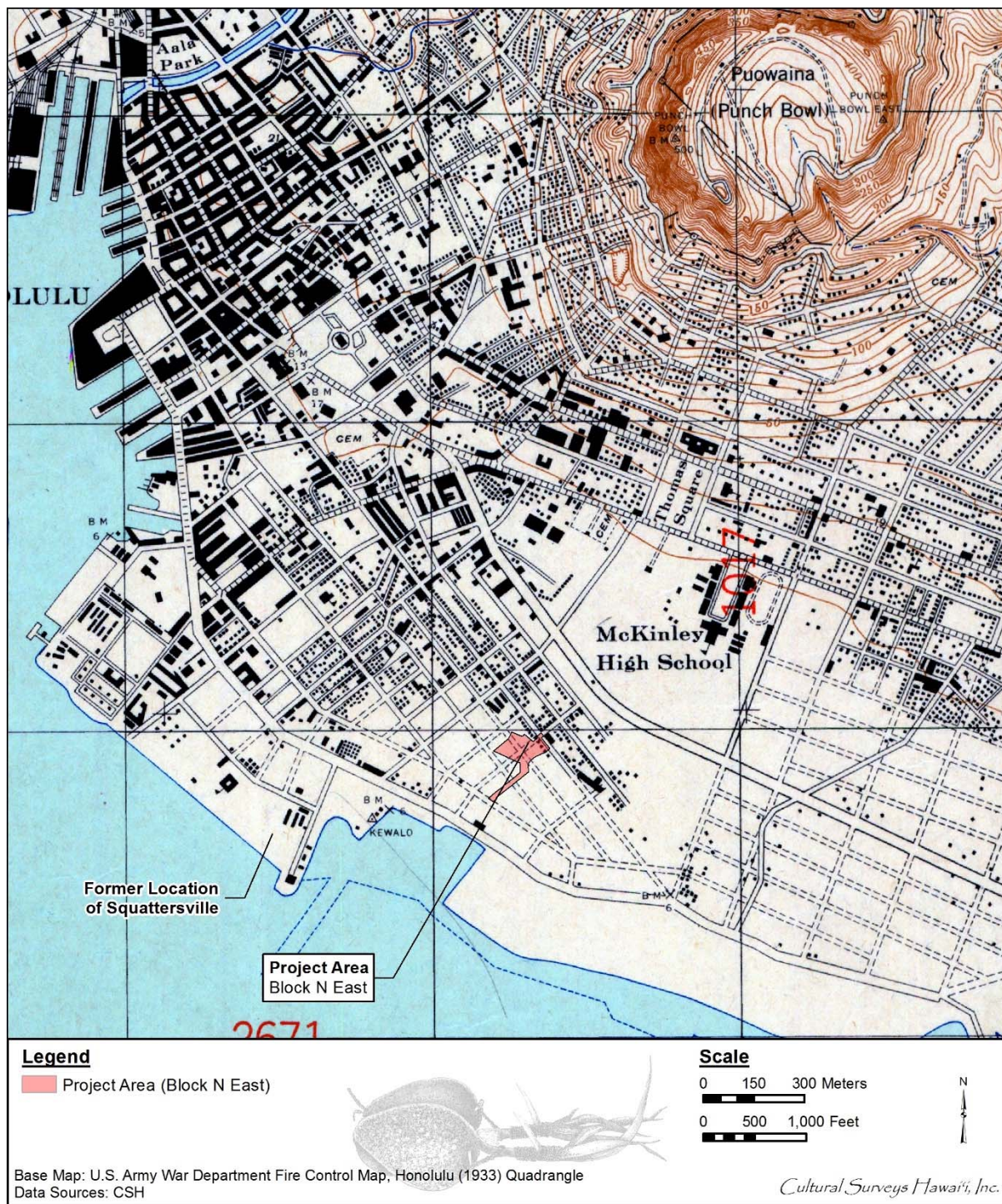


Figure 32. Portion of 1927–1928 (published 1933) U.S. Army War Department Fire Control map of O‘ahu, Honolulu Quadrangle, showing the project area within a grid of unpaved/proposed streets; note the former location of Squattersville, adjacent to Kewalo Basin and east of Fort Armstrong



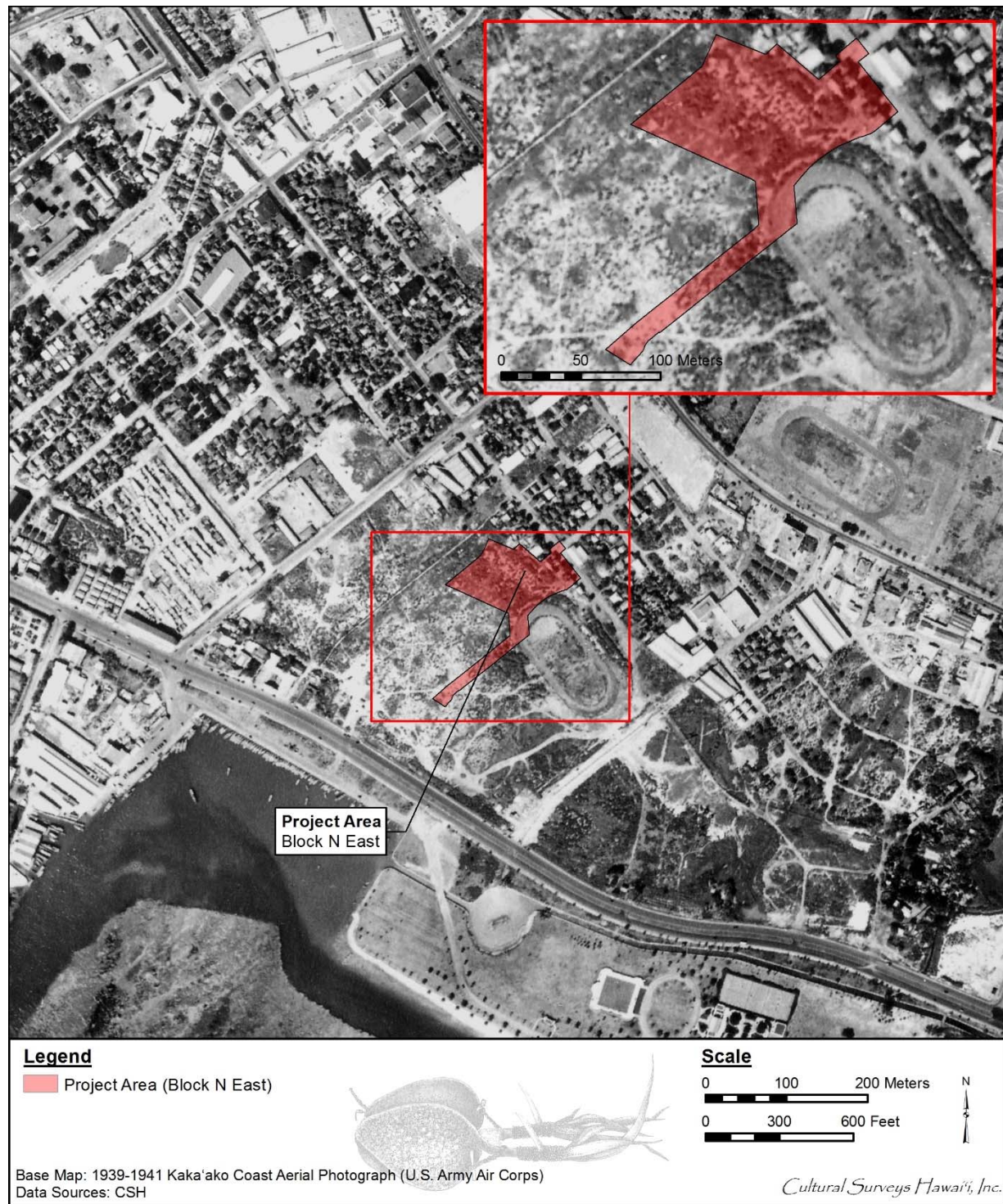


Figure 33. Portion of 1939–1941 aerial photograph (U.S. Army Air Corps) of Kaka'ako, showing small residential structures within the project area along Queen Street; note the completion of Kewalo Harbor to the west and the construction of Ala Moana Park to the east along the shore



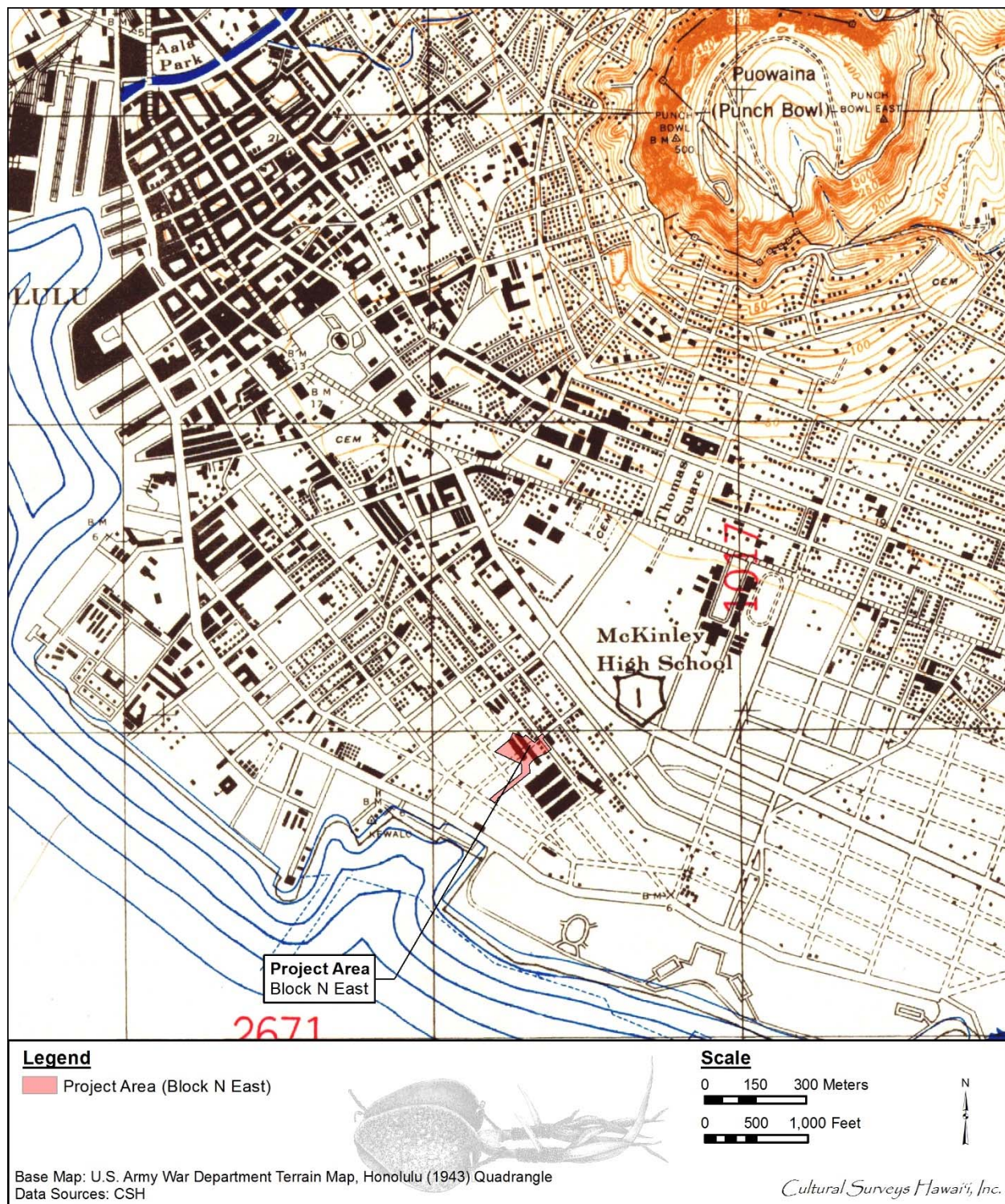


Figure 34. Portion of 1943 U.S. Army War Department Terrain Map of O'ahu, Honolulu Quadrangle; note the addition of a large warehouse within the *makai* portion of Block N East



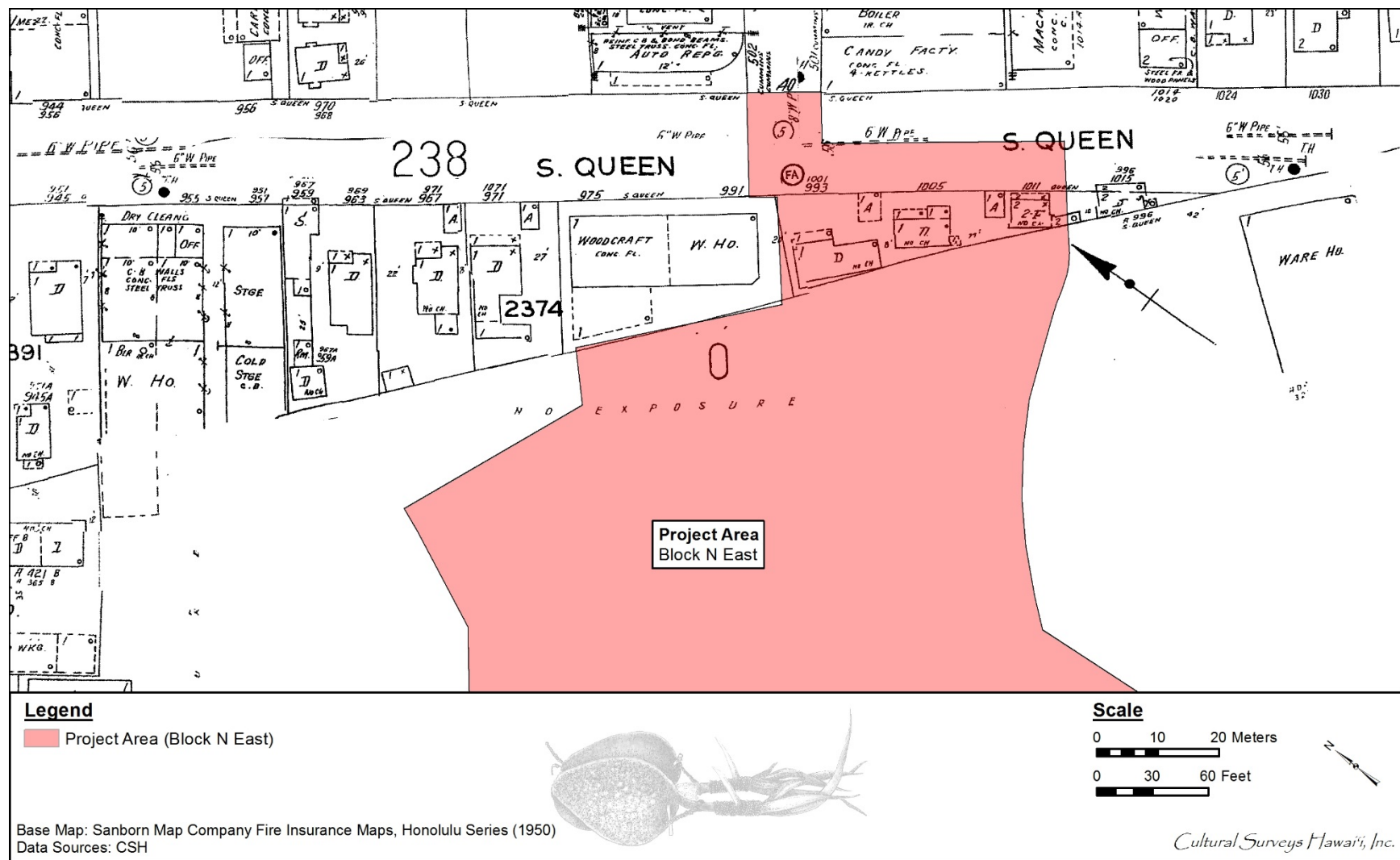


Figure 35. Portion of 1950 Sanborn Fire Insurance map showing the development of commercial industry along Queen Street; domestic residences are still visible within the Block N East project area



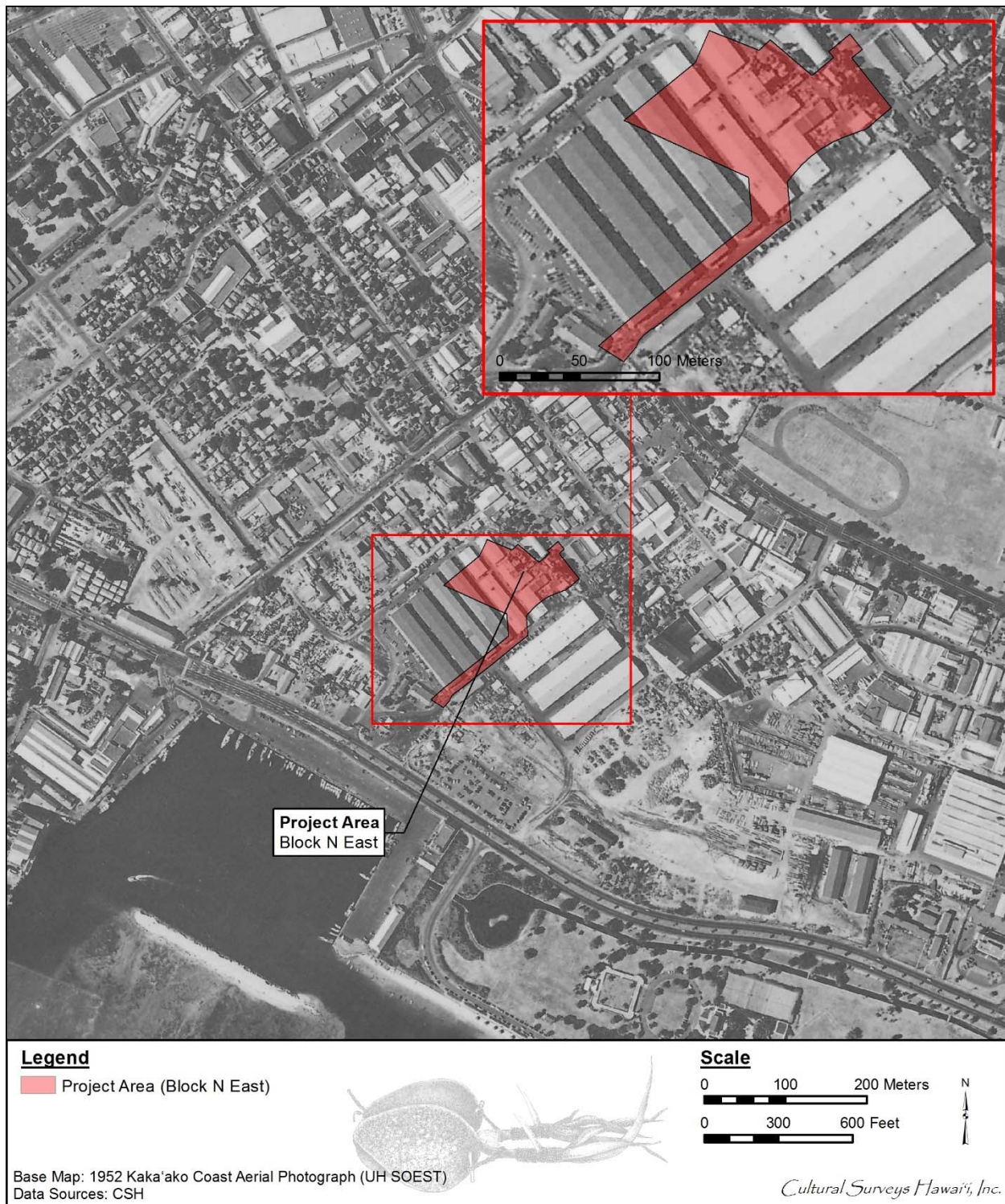


Figure 36. Portion of 1952 aerial photograph showing a large warehouse within the *makai* portion of the project area (UH SOEST)



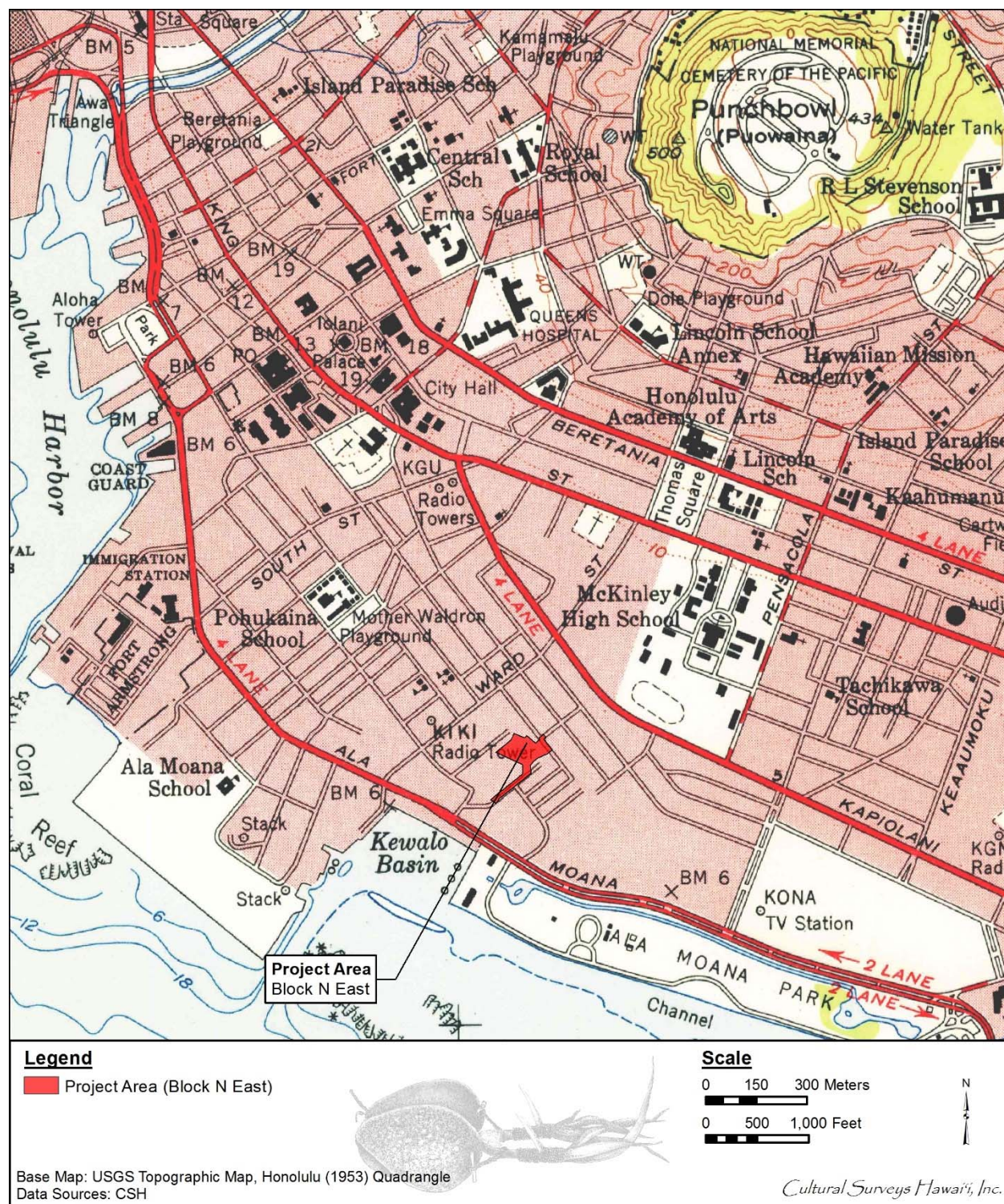


Figure 37. Portion of 1953 Honolulu USGS topographic quadrangle, showing Block N East within an improved street grid



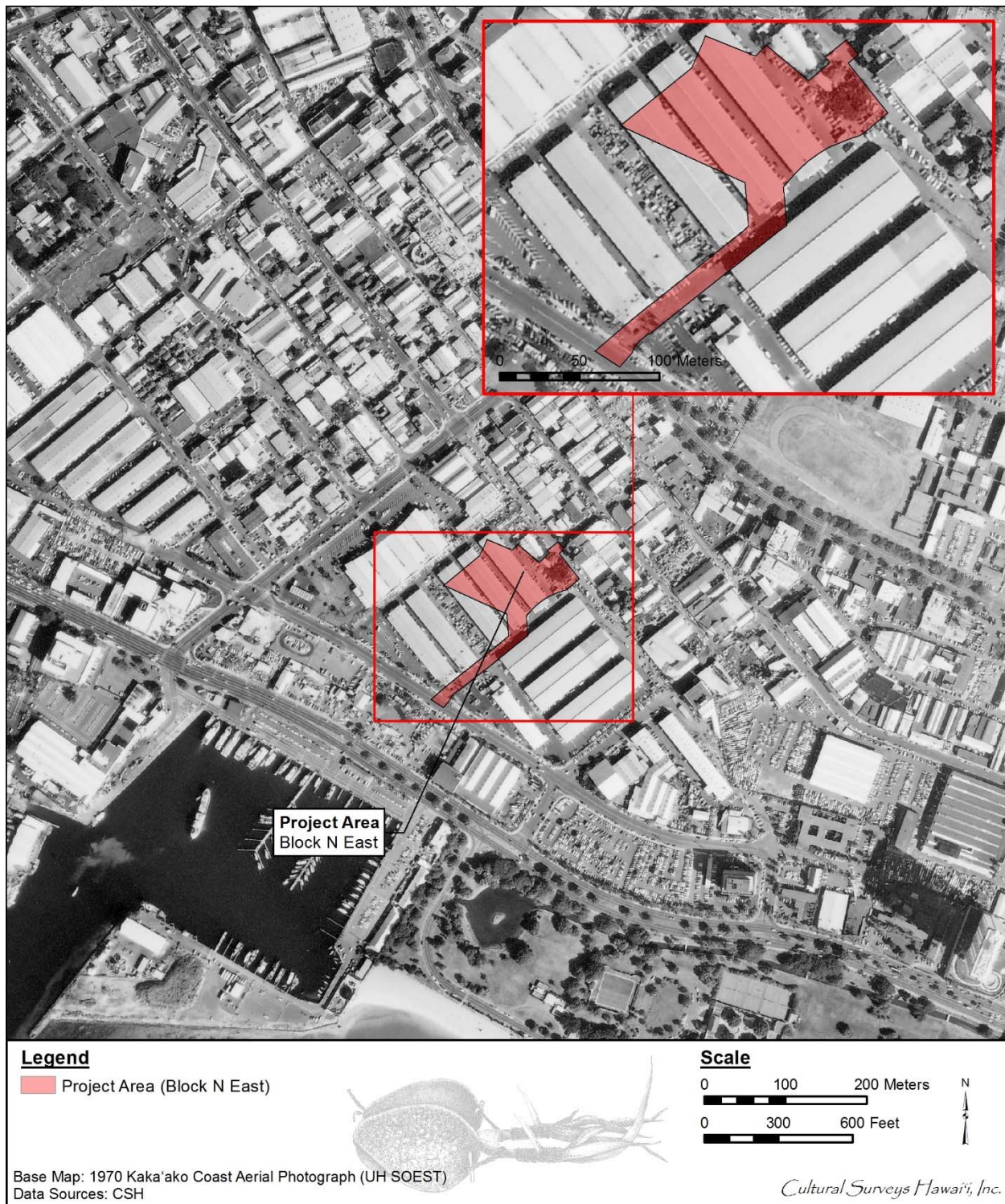


Figure 38. Portion of 1970 aerial photograph (UH SOEST) showing the project area



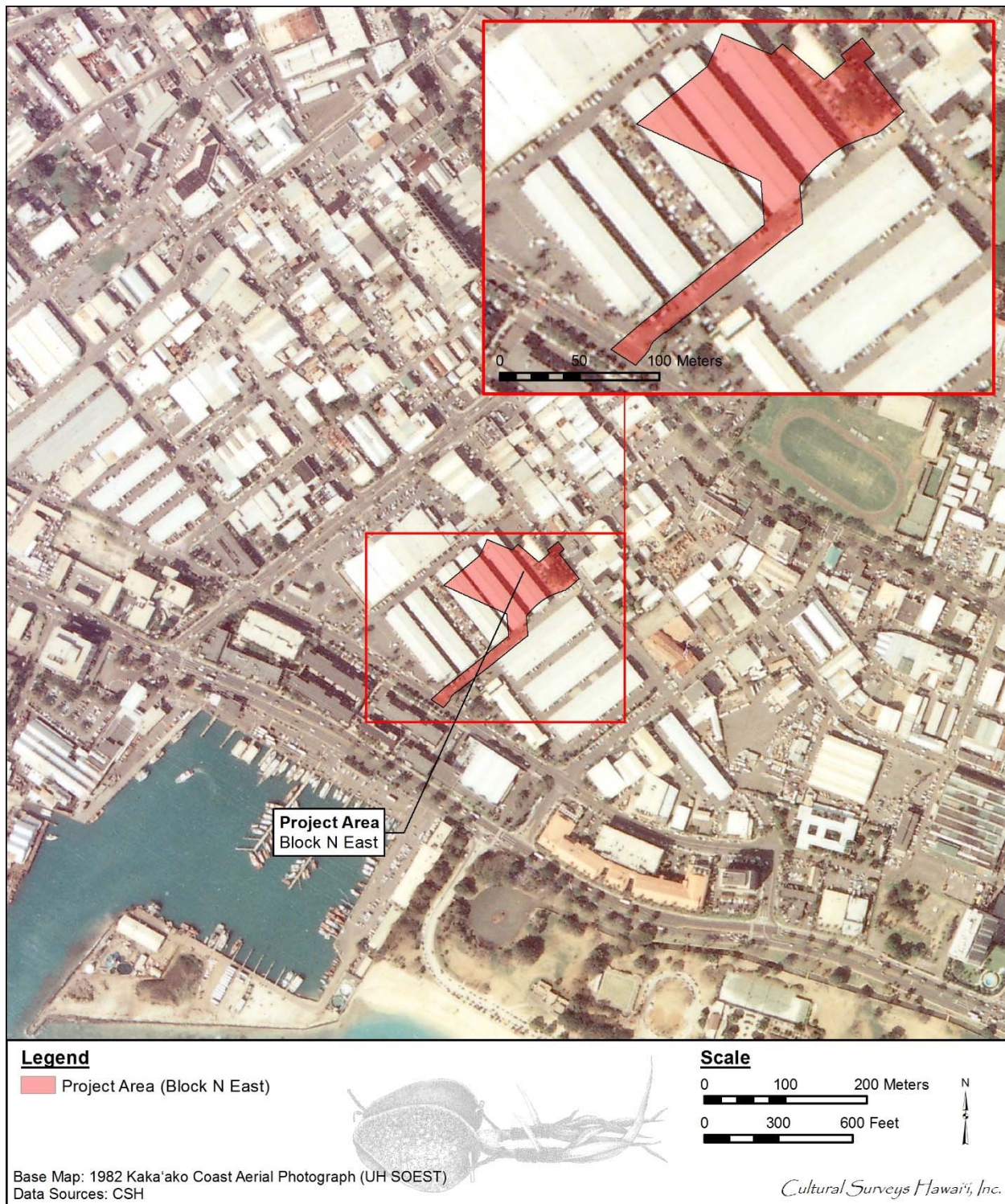


Figure 39. 1982 aerial photograph (UH SOEST) depicting large warehouses throughout Kaka'ako and within the Block N East project area

## 2.2 Previous Archaeological Research

Most traditional Hawaiian surface structures had been demolished in the Kaka'ako area by the time of the first scientific archaeological surveys (e.g., Griffin et al. 1987). In his report on the survey of O'ahu sites conducted in 1930, McAllister (1933:80) says of Honolulu, "Information regarding former sites within the present limits of Honolulu must come entirely from literary sources." He mentions Pākākā Heiau, once the main royal temple in Honolulu. This *heiau* would have been located around the foot (*makai* end) of Fort Street. He does not list Pu'ukea Heiau (discussed in Section 3.1.2), which Kamakau (1991:24–25) placed in Kukuluāe'o, but he does note that Peter Corney, a visitor to the island in 1819, saw several *heiau* (*morai*) along the Honolulu shore:

There are several morais, or churches in the village, and at new moon the priests, chiefs and hikanees (aikane) [counselors] enter them with offerings of hogs, plantains, and cocoanuts, which they set before the wooden images. The place is fenced in, and have pieces of white flags flying on the fences. [Corney 1896:101]

Prior archaeological studies have been conducted within portions of the redesigned Block N East project area—including the Honolulu Authority for Rapid Transportation's (HART) Honolulu Rapid Transit Project (HRTTP) City Center AIS and supplemental AIS (Hammatt 2013; Humphrey et al. 2015), and portions of the AIS studies for HHC Block I (Sroat et al. 2015) and Block M (Hawking et al. 2015). Several additional archaeological investigations have been conducted immediately adjacent to Block N East project area. Figure 40 shows the locations of previous archaeological investigations in relation to the redesigned Block N East project area. Figure 41 shows the locations of documented historic properties and burials. The results of archaeological investigations are summarized in Table 1 and the following text.

### 2.2.1 Ward Village Phase II (Ward Theaters)

In 2000, CSH performed archaeological monitoring for Victoria Ward, Limited at the site of the Ward Village Phase II (Ward Theaters) construction project in Kaka'ako (Winieski and Hammatt 2001). This project area is located adjacent to Block I and is bounded by Auahi Street to the south and Kamake'e Street to the east. The theater building's construction did not include subsurface structures (e.g., underground parking, businesses, storage); instead, the building is supported by numerous foundation piles. Pile cap foundation installation involved excavation of 4 by 4 m areas, 130 cm deep. Trenching, typically less than a meter deep, was also required for utility installation. No pre-Contact materials, historic cultural materials, or human burials were encountered during the Ward Village Phase II (Ward Theaters) monitoring program.

Approximately 90% of the pile cap excavations exhibited nearly identical stratigraphic sequences. Beneath what had previously been asphalt parking surfaces or building slabs was a 40-cm thick crushed coral fill layer, overlying hydraulic (i.e., pumped dredged material) clay fill, overlying the decomposing coral shelf.

At the northwest corner of the Ward Theaters project area, near the western boundary of the current Block N East project area, a few of the pile cap excavations exposed an in situ A horizon beneath fill materials, shown in a profile and a photograph (Figure 42 and Figure 43). The silty sand A horizon overlies a light brownish gray sandy clay, which was interpreted as pond



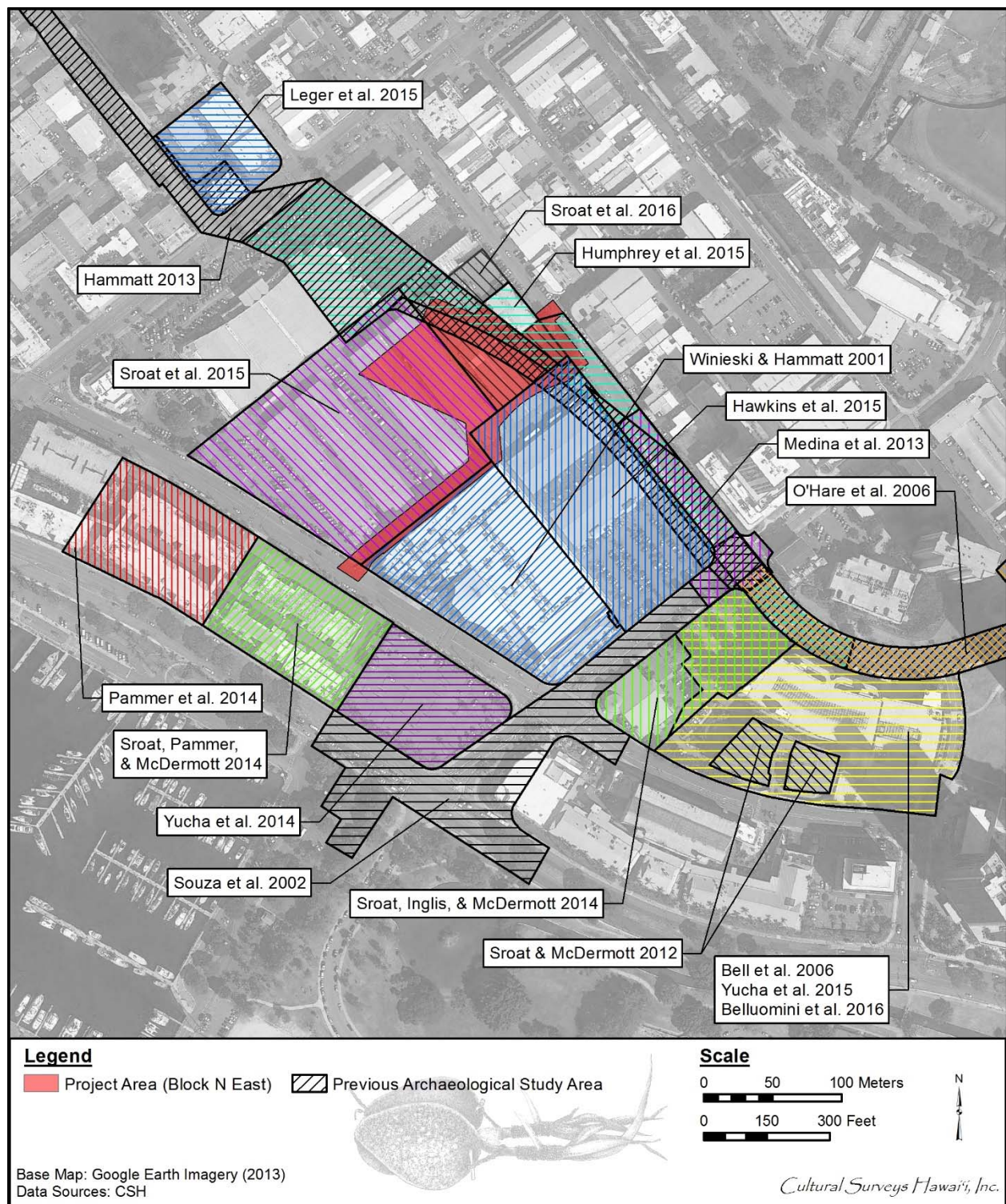


Figure 40. Previous archaeological studies within and surrounding the Block N East project area



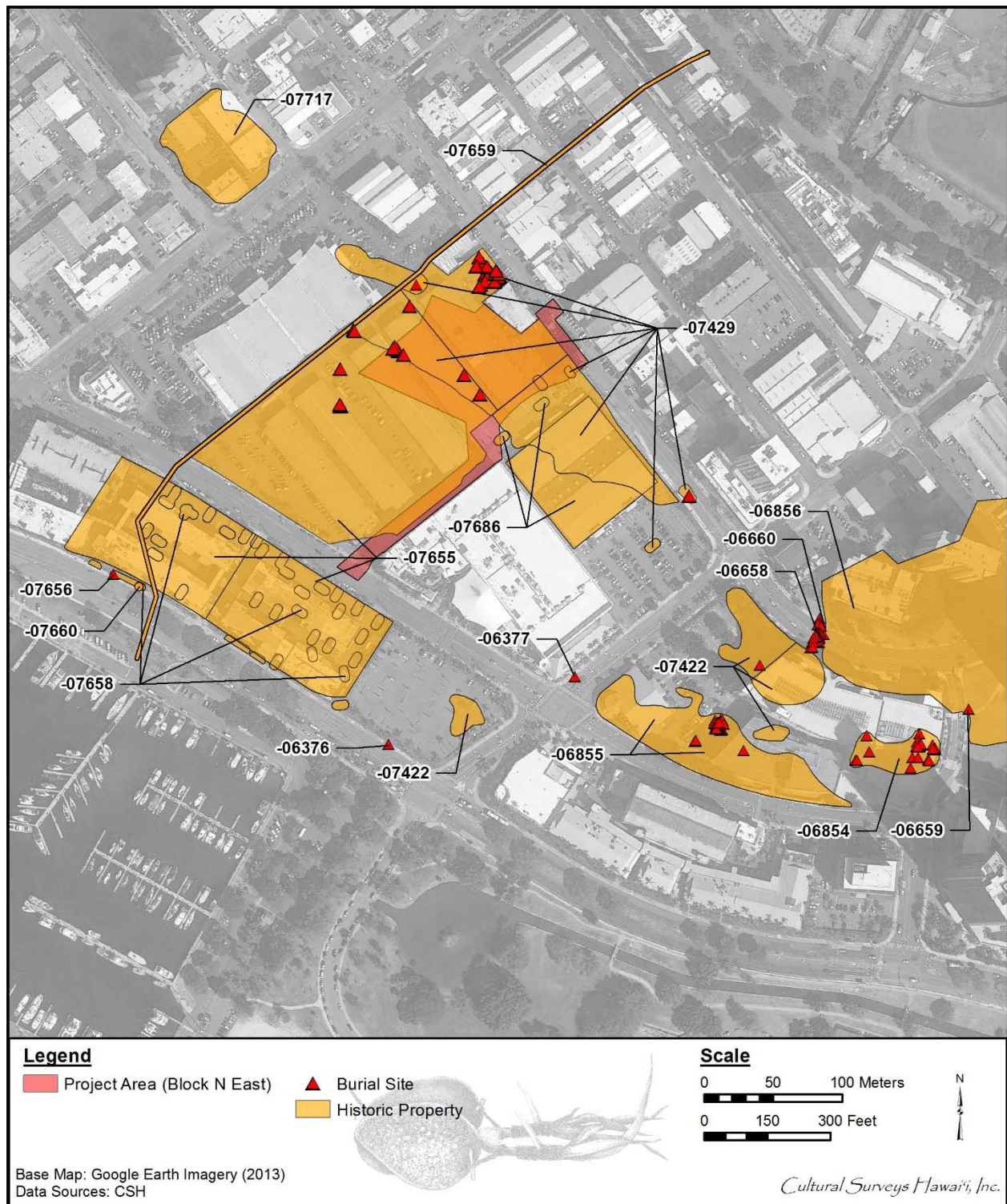


Figure 41. Previous archaeological sites in the vicinity of the project area

Table 1. Previous Archaeological Studies in the Vicinity of the Project Area

Reference	Location	Type of Study	Results (SIHP # 50-80-14****)
Winieski and Hammatt 2001	Ward Theaters	Archaeological monitoring	No burials or cultural deposits found; buried A horizon documented within pile caps in northwest and southeast corners of project area
Souza et al. 2002	Kaka'ako ID-7 on Kamake'e and surrounding streets	Archaeological monitoring	Three disturbed pre-Contact burials recorded (SIHP #s -6376, -6377, -6378); buried A horizon documented in seven of ten profiles
Bell et al. 2006	Victoria Ward Village Shops	Archaeological inventory survey	Identified three historic properties in 86 test trenches: 1) SIHP # -6854, subsurface cultural layer/activity area remnant with five Native Hawaiian burials; 2) SIHP # -6855, activity area remnant comprised of pronounced subsurface traditional Hawaiian cultural layer and six Native Hawaiian burials; and 3) SIHP # -6856, Kolowalu Fishpond remnant; three stratigraphic zones identified: 1) natural low-lying salt flats, marsh, or pond sediments, 2) natural Jaucas sand beach deposits, and 3) areas where modern/historic fill episodes have removed former natural land surface, leaving only low-energy lagoonal deposits
O'Hare et al. 2006	Kaka'ako ID-10 in Queen St	Archaeological monitoring	Three historic properties documented: 1) SIHP # -6658, a cemetery comprised of 28 historic burials; 2) SIHP # -6659, two isolated disturbed burials; and 3) SIHP # -6660, a historic trash pit
Sroat and McDermott 2012	Victoria Ward Village Shops	Supplemental archaeological inventory survey	Five test excavations within or adjacent to SIHP # -6855 substantiated the Bell et al. (2006) extrapolated boundaries of this cultural layer; no additional finds identified

Reference	Location	Type of Study	Results (SIHP # 50-80-14****)
Hammatt 2013	Honolulu High-Capacity Transit Corridor–City Center (Section 4)	Archaeological inventory survey	One historic property documented in the vicinity of Block N East, SIHP # -7429, consisting of a culturally enriched A horizon with pit features overlying Jaucas sand; included an isolated human skeletal element within the A horizon
Medina et al. 2013	Queen and Kamake'e St traffic signal	Archaeological monitoring	No historic properties noted within existing utility trenches; isolated in situ pockets of natural calcareous sand observed below fill layers
Pammer et al. 2014	Ward Neighborhood Block B East (Ward Village Gateway)	Archaeological inventory survey	Identified five historic properties in 38 test excavations: 1) SIHP # -7655, subsurface salt pan remnants; 2) SIHP # -7656, human skeletal remains; 3) SIHP # -7658, historic buried surfaces; 4) SIHP # -7659, an historic water channel; and 5) SIHP # -7660, an historic fill layer
Sroat, Inglis, and McDermott 2014	Ward Neighborhood Block K	Archaeological inventory survey	Identified portions of two historic properties in 35 test excavations: 1) SIHP # -6855, subsurface cultural deposits; and 2) SIHP # -7422, a burned trash layer; majority of project area contained modern developed land surface, fill layers, and hydraulic (dredged) fill overlying remnant buried A horizon or organic-rich peat material, Jaucas sand, and gleyed marine sandy clay
Sroat, Pammer, and McDermott 2014	Ward Neighborhood Block C West (Ward Village Gateway)	Archaeological inventory survey	Identified two historic properties in 36 test excavations: 1) SIHP # -7655, subsurface salt pan remnants; and 2) SIHP # -7658, historic buried surfaces
Yucha et al. 2014	Ward Neighborhood Block C	Archaeological inventory survey	Identified burned trash layer (SIHP # -7422); majority of project area contained sand or peat A horizon and Jaucas sand beneath reclamation fill layers; no cultural material or features observed



Reference	Location	Type of Study	Results (SIHP # 50-80-14****)
Hawkins et al. 2015	Ward Neighborhood Block M	Archaeological inventory survey	Identified portions of two historic properties in 68 test excavations: 1) SIHP # -7429, subsurface cultural deposits, consisting of two discrete cultural deposits, and associated features; and 2) SIHP # -7686, twentieth century commercial infrastructure remnants
Humphrey et al. 2015	H RTP (City Center)	Supplemental archaeological inventory survey	Identified additional components of SIHP # -7429 in 15 test excavations, including three pit features and a human burial
Leger et al. 2015	Ward Neighborhood Block O	Archaeological inventory survey	Identified one historic property in 27 test excavations: SIHP # -7717, pre- to post-Contact subsurface residential and commercial surfaces; project area contained modern developed land surface and fill layers overlying two sequences of natural layers: 1) loamy sand A horizon, Jaucas sand, and natural wetland or marine deposits; and 2) wetland A horizon over natural wetland or marine deposits
Sroat et al. 2015	Ward Neighborhood Block I	Archaeological inventory survey	Documented portions of three previously identified historic properties in 88 test excavations: 1) SIHP # -7655, subsurface historic salt pan remnants, including cultural deposits and a human burial site; 2) SIHP # -7429, subsurface cultural deposits, consisting of two discrete cultural deposits, including associated features, burial sites, and dislocated human remains; and 3) SIHP # -7659, the Ward Estate concretized 'auwai (irrigation canal)
Yucha et al. 2016; Belluomini et al. 2016	Victoria Ward Village Shops	Archaeological monitoring	Further documented four previously identified historic properties: SIHP #s -6854 and -6855, subsurface cultural deposits/activity area remnants; SIHP # -6856, Kolowalu Fishpond sediments; and SIHP # -7422, a burnt trash fill layer; within SIHP # -6854, documented an additional 23 human burials and 31 features; within SIHP # -6855, documented an additional 31 human burials and eight features

Reference	Location	Type of Study	Results (SIHP # 50-80-14****)
Sroat et al. 2016	HHC Original Block N East	Archaeological inventory survey	Identified additional portions of two historic properties in 35 test excavations: 1) SIHP # -7429, subsurface cultural deposits, consisting of two discrete cultural deposits, and associated features with a cluster of pre-Contact and post-Contact human burials; and 2) SIHP # -7686, twentieth century commercial infrastructure remnants

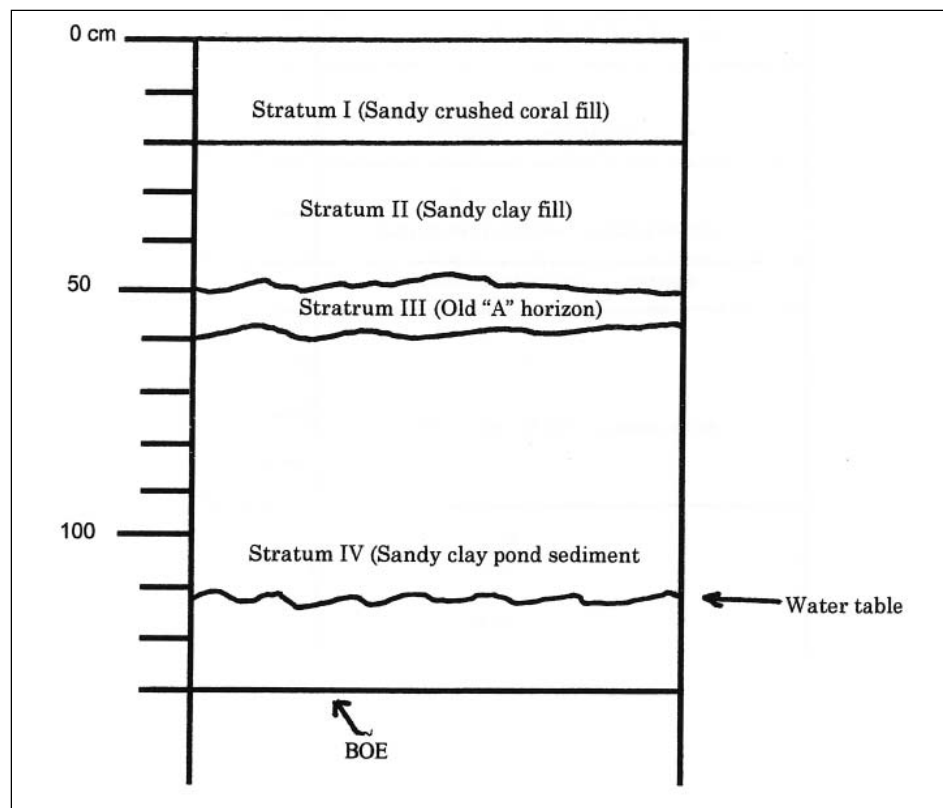


Figure 42. Profile of pile cap excavation in northeast corner of Ward Village Phase II (Ward Theaters) footprint showing old A horizon and pond sediment (Winieski and Hammatt 2001)



Figure 43. Photograph of pile cap trench showing old A horizon (dark stratum) capping sandy clay pond sediments (Winieski and Hammatt 2001)



sediments. An in situ sand A horizon was also present above a sterile calcareous sand layer in a 50-m long shallow trench dug for associated telephone cable conduits, just *mauka* of the Ward Theaters project area (within the western portion of the current Block M project area [Hawkins et al. 2015]). In this trench the A horizon and sand layer were continuous, apparently not disturbed by previous construction.

At the southeast corner of the Ward Theaters project area, near the intersection of Auahi and Kamake'e streets, an A horizon and sand layer are also present, however, they are discontinuous, having been disturbed by previous construction activities and replaced with backfill. It is near this area that a human burial was encountered within the sand matrix during the adjacent Kaka'ako Improvement District 7 project (SIHP # -6377, Souza et al. 2002, refer to Table 1) (see Figure 42).

### **2.2.2 Honolulu High-Capacity Transit Corridor Project/ Honolulu Rapid Transit Project (City Center)**

Between November 2011 and February 2013, CSH conducted an archaeological inventory survey of the Honolulu Authority for Rapid Transportation's (HART) Honolulu High-Capacity Transit Corridor project (HHCTCP—now known as the Honolulu Rapid Transit Project [H RTP])—City Center, which extended from Kalihi Stream in the west to Ala Moana Center in the east (Hammatt 2013). Two hundred-fifty test excavations were documented. A total of 19 historic properties were identified along the length of the project corridor; however, only one historic property was documented within the vicinity of HHC's Block N East, SIHP # -7429 (see Figure 40 and Figure 41). SIHP # -7429 was identified as a culturally enriched buried A horizon overlying Jaucas sand, exhibiting both pre- and post-Contact land use. Seven archaeological features were identified, consisting of six pits (two identified as possible post molds) and one isolated human cranial fragment. Stratigraphy documented within and immediately adjacent to the current Block N East project area showed interspersed areas of wetland (peaty clay) and sand dunes (A horizon developed within calcareous sand).

A 2014 supplemental AIS of HART's HHCTCP (now termed the H RTP) City Center project area, from the location of the Kaka'ako Station to just east of Kamake'e Street (Figure 44), further identified and documented SIHP # -7429 within two cultural deposits (Humphrey et al. 2015). The cultural deposits consist of an in situ loamy sand A horizon and an overlying historic fill deposit comprised of redeposited local sediments. These two cultural deposits are designated Component 1 (culturally enriched historic fill) and Component 2 (culturally enriched natural A horizon). Four additional features of SIHP # -7429 were identified, including a fire pit feature within Component 2 and a flexed human burial within the underlying natural Jaucas sand. Stratigraphy consisted of interspersed sand and wetland deposits.

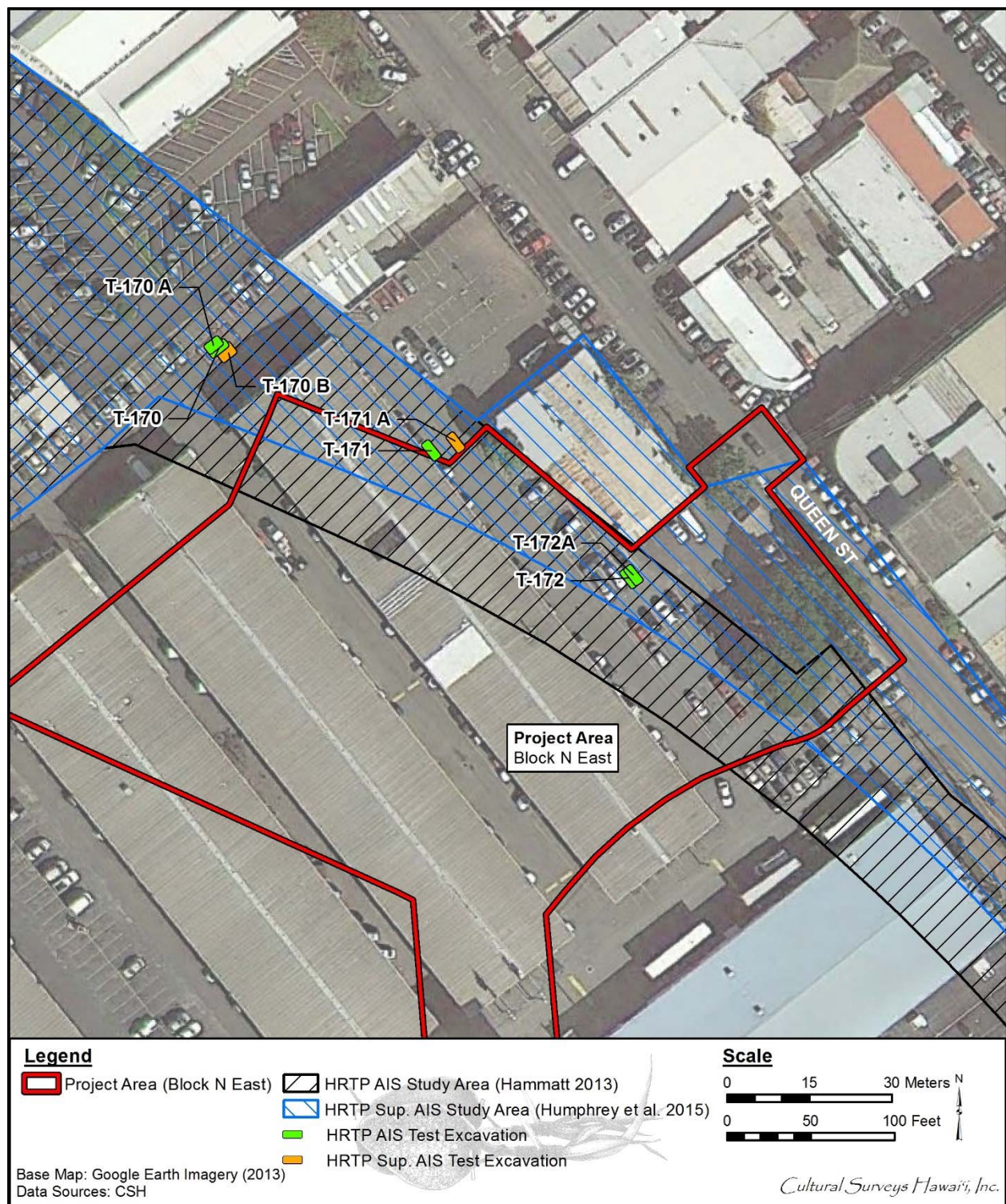


Figure 44. HART's H RTP AIS and supplemental AIS test excavations is the vicinity of the current Block N East project area.

### 2.2.3 Ward Gateway Project (Blocks B East and C West)

Between 14 April and 9 June 2014, CSH conducted archaeological inventory surveys of Block B East (Pammer et al. 2014) and Block C West (Sroat, Pammer, and McDermott 2014), contiguous project areas, which together comprise the proposed Ward Village Gateway project. CSH completed 38 test excavations within Block B East and 36 test excavations within Block C West, and documented components of five historic properties (Figure 45).

The modern developed land surface consisted of asphalt parking lot surfaces and concrete commercial floors associated with the Ward Warehouse commercial complex, as well as various layers of fill. Beneath these modern layers, CSH documented previous twentieth century development land surfaces (SIHP # -7658) consisting of asphalt, concrete, coral and tar pavement, and oil-rolled surfaces (see Figure 45).

Underlying the modern and historic surfaces and fill layers were extensive reclamation fill deposits, utilized to in-fill low-lying wetland areas and create a dry, level land surface. The reclamation fill deposits consisted of crushed coral and hydraulic-dredged marine clays. AIS results show reclamation fill throughout the Gateway project area with the exception of the *makai*-most portions. Background research indicated land reclamation activity within the Block B East and C West project areas occurred sometime between 1919 and 1927, following allocation of territorial funds for the dredging of Kewalo Basin in 1919.

Underlying the reclamation fill deposits, historic salt pan remnants were documented (SIHP # -7655) (see Figure 45). The historic salt pan remnants were located within areas of natural low-lying wetlands, which had been converted to salt pan basins enclosed by man-made berm structures. The berm structures are comprised of archaeosediments believed to be marine sandy clay deposits previously located within or in the immediate vicinity of the project area. The salt pan beds consisted of the natural underlying wetland sediments covered with very thin organic laminations, likely associated with salt production methods.

Two features associated with the historic salt pans (SIHP # -7655 Features 1 and 2) were identified. Feature 1 consisted of naturally tabular limestone boulders, placed to create a relatively level surface over the natural marine sandy clay. The limestone boulders were determined to be associated with the land altering events connected to the historic salt pans. Feature 2 consisted of limestone boulders integrated into a man-made berm adjacent to a small section of peaty pond sediments.

Along the *makai* edge of the Gateway project area, the stratigraphy changed to disturbed and reworked Jaucas sand and coastal marine sandy clay sediments overlain by various fill deposits and crisscrossed by utility lines. Much of the disturbance to the natural sediments in this area appeared to be due to the surrounding urban development including landscaping, roadway improvements, and various construction events.

The western portion of the Ward Village Gateway project (Block B East) contained three additional historic properties (see Figure 45). SIHP # -7656 consisted of a single human cranial fragment encountered within disturbed sand along the *makai* boundary of the project area. SIHP # -7659 consisted of the concretized and rerouted Ward Estate *'auwai*. SIHP # -7660 consisted of an historic trash fill deposit located within an abandoned storm drain box along the *makai* boundary of the project area. The historic trash included bottles, ceramic, metal fragments, and boat trash likely related to the nearby fishing and tuna cannery industry.



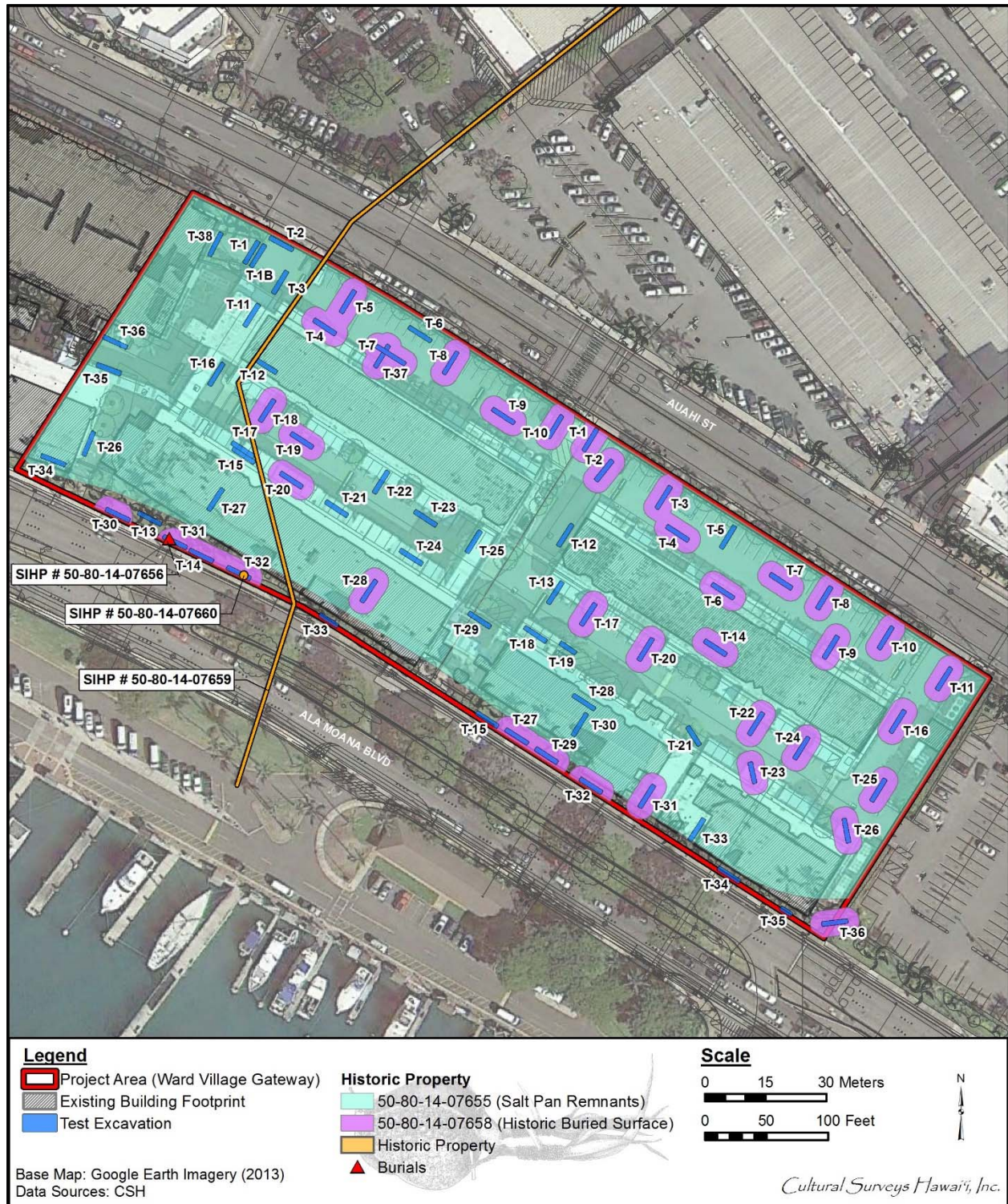


Figure 45. Aerial photograph showing the distribution of historic properties identified within the Block B East and Block C West (Ward Village Gateway) project areas (Google Earth 2013)

### 2.2.4 Ward Neighborhood Block C Project

Between December 2012 and January 2013, CSH conducted an archaeological inventory survey of the Ward Neighborhood Block C project, located south of the Block N East project area within a parking lot at the intersection of Ala Moana Boulevard and Kamake'e Street (Yucha et al. 2014). CSH documented 41 test excavations within the project area, identifying a single historic property comprised of a burned trash layer located near the corner of Kamake'e and Auahi streets (SIHP # -7422) (Figure 46). Stratigraphy within the project area was largely consistent. A deposit of hydraulic fill material associated with the reclamation infilling of Kaka'ako during the 1913 to 1930 period was found within the north, west, and south portions of the project area. Beneath the fill layers, a majority of the project area (35 test excavations) contained Jaucas sand. Other than the burned trash layer, no cultural material or features were observed.

### 2.2.5 Ward Neighborhood Block M Project

Between 13 January and 1 June 2014, CSH conducted an archaeological inventory survey of the Block M project, a component of HHC's Ward Neighborhood Master Plan (Hawkins et al. 2015). The Block M project area is located at the western corner of the intersection of Queen and Kamake'e streets, and is bounded to the southwest by Ward Theaters and to the northwest by Ward Industrial Center. CSH excavated 68 test excavations and documented portions of two historic properties within the Block M project area: 1) a portion of SIHP # -7429, consisting of two cultural deposits and associated features; and 2) SIHP # -7686, consisting of twentieth century commercial infrastructure remnants.

SIHP # -7429 was previously identified during HART's H RTP (City Center) AIS (Hammatt 2013 and Humphrey et al. 2015, see above) and its boundaries expanded during the Block M AIS. Approximately 150 m southeast of the previously identified SIHP # -7429 subsurface cultural deposits, cultural deposits (similar in soil color, texture, and material content) and associated features were encountered in the Block M project area. As previously documented, SIHP # -7429 within Block M consisted of cultural deposits along the *makai* edge of a continuous sand dune abutting the Kaka'ako coastal wetlands. These were included as part of SIHP # -7429 based on similar cultural content, depositional history, and spatial continuity.

The Block M AIS documented SIHP # -7429 within 13 test excavations (T-2, T-4, T-5, T-10, T-15, T-23, T-31, T-43, T-48, T-64, T-65, T-66, and T-68) (Figure 47). Seven test excavations contained associated features, SIHP # -7429 Features 8–19. Two discrete cultural deposits were identified, consisting of a very thin, culturally enriched historic sand and soil fill deposit (Component 1) overlying a buried sandy loam A horizon (Component 2). The overlying historic deposit was not originally identified by Hammatt (2013); however, re-inspection of the field documents (i.e., photographs) from the previous AIS indicate this very thin layer was indeed present, represented as a slightly lighter colored loamy sand layer (Component 1) atop the buried A horizon (Component 2).

SIHP # -7429 Component 1 consists of a layer of mixed sand and soil that contains historic artifacts, faunal material (including a modified dog bone), shell midden, charcoal, milled wooden posts, and irrigation features. This layer appeared to be composed of locally procured sand and sediment, including redistributed A horizon material, most likely utilized to modify, or level, the natural topography. This sand fill layer directly overlies, and in most cases, truncates the buried



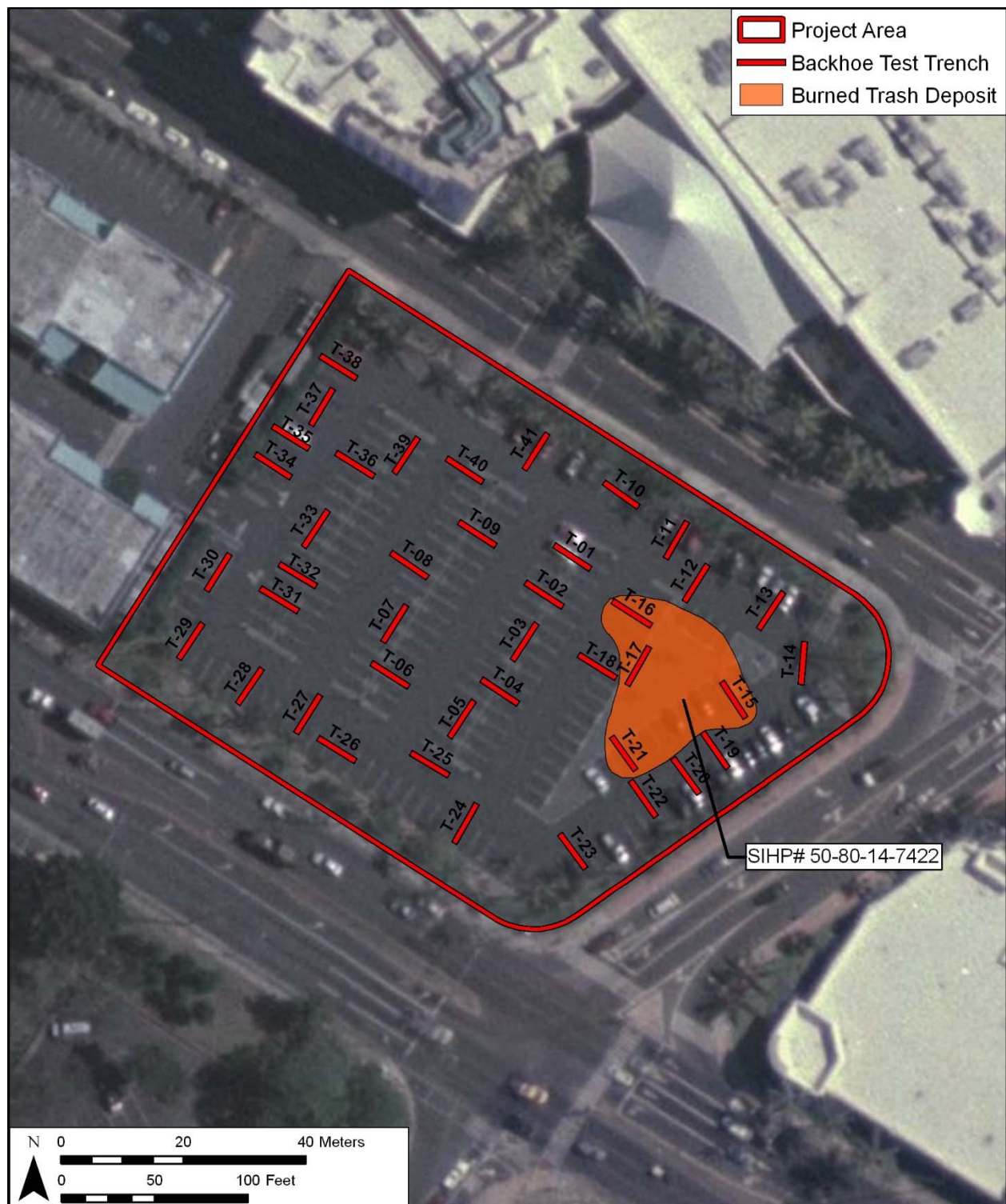


Figure 46. Aerial photograph (Google Earth 2013) from the Yucha et al. (2014) AIS report showing the Ward Neighborhood Block C project area at the corner of Ala Moana Blvd. and Kamake'e Street, with its AIS test excavations and the boundaries of SIHP # -7422



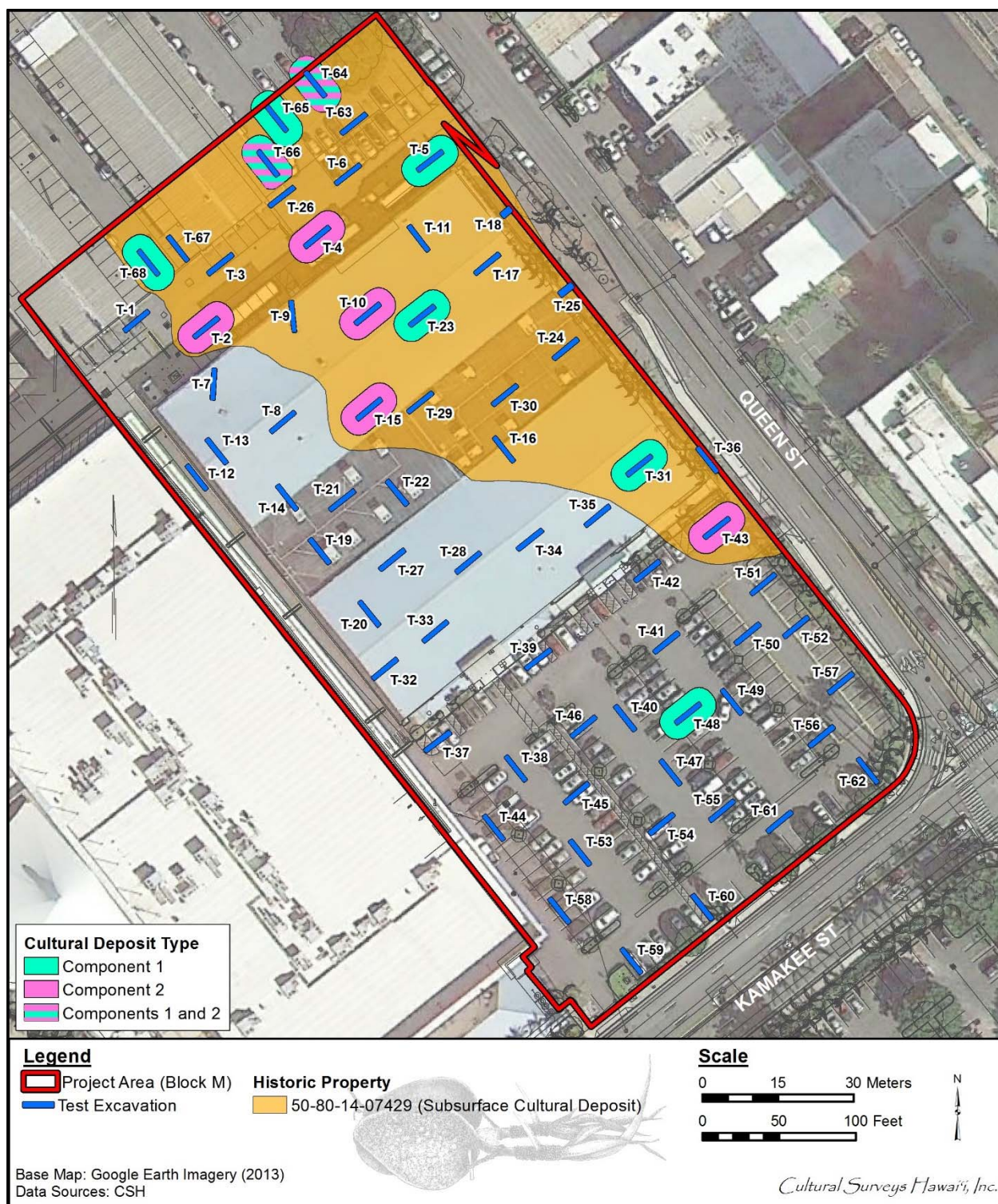


Figure 47. Figure from Hawkins et al. (2015) AIS showing the location of SIHP # -7429 documented within the Block M project area (Google Earth 2013)

natural A horizon (Component 2). SIHP # -7429 Component 2 consists of a buried natural A horizon developed within calcareous Jaucas sand that contains both traditional Hawaiian and historic cultural deposits consisting of marine midden, charcoal, faunal material, glass and ceramic fragments, a wooden die, and miscellaneous historic artifacts. The 12 features associated with SIHP # -7429 originated from both components. SIHP # -7429 Features 8–19 consisted of pits for food preparation and consumption, pits of indeterminate function, two postholes, and two *'auwai* (irrigation channel).

SIHP # -7686 was a newly identified historic property consisting of buried historic commercial infrastructure remnants associated with development during the mid- to late twentieth century. The subsurface commercial remnants, comprised of buried concrete surfaces, asphalt surfaces, associated base course layers, concrete footings and beams, and a cinder block structural remnant, were documented within 23 of the 68 AIS test excavations and were located within the central and northwest portions of the Block M project area (Figure 48). Based on aerial photographs and historic maps, three parallel warehouses were constructed within the project area sometime between 1939 and 1943 and remained in use until the 1990s when they were removed in order to build the current commercial building. The structural remnants documented during the Block M AIS corresponded with the locations of the 'Ewa and central warehouses, as well as asphalt roadways located immediately northwest of the 'Ewa warehouse (Figure 49). No structural remnants of the Diamond Head (southern) warehouse were identified during the Block M AIS and were likely completely removed during the 1990s.

### 2.2.6 Ward Neighborhood Block O Project

Between 14 April and 16 October 2014, CSH conducted an archaeological inventory survey of the Block O project, a component of HHC's Ward Neighborhood Master Plan (Leger et al. 2015). The Block O project area is located at the *mauka*, north corner of the intersection of Ward Avenue and Halekauwila Street. The project area is bound to the west by a residential building, to the north by Ilaniwai Street, to the south by Halekauwila Street, and to the east by Ward Avenue. CSH excavated 27 test excavations and documented one historic property within the Block O project area: SIHP # -7717, consisting of subsurface residential and commercial surfaces (Figure 50, Figure 51, and Figure 52).

The modern developed land surface consists of asphalt parking lot surfaces and concrete commercial floors associated with the present commercial complex, as well as various layers of fill, including base course and landscaping fill.

Underlying the modern and historic surfaces and fill layers, were extensive reclamation fill deposits, utilized to in-fill low-lying wetland areas and create a dry, level land surface. All Block O test excavations contained reclamation fill. In some instances, these reclamation fill deposits also show evidence of having served as a stable living surface and contain cultural deposits and/or features; these were designated as part of SIHP # -7717.

SIHP # -7717 is composed of multiple buried residential and commercial surfaces and features located throughout the Block O project area. These buried surfaces and associated features evidenced residential (living) and commercial land use within Block O over an extended period of time. These buried commercial surfaces indicate a change in land use within the project area from residential to commercial sometime in the mid-twentieth century. The majority of the subsurface



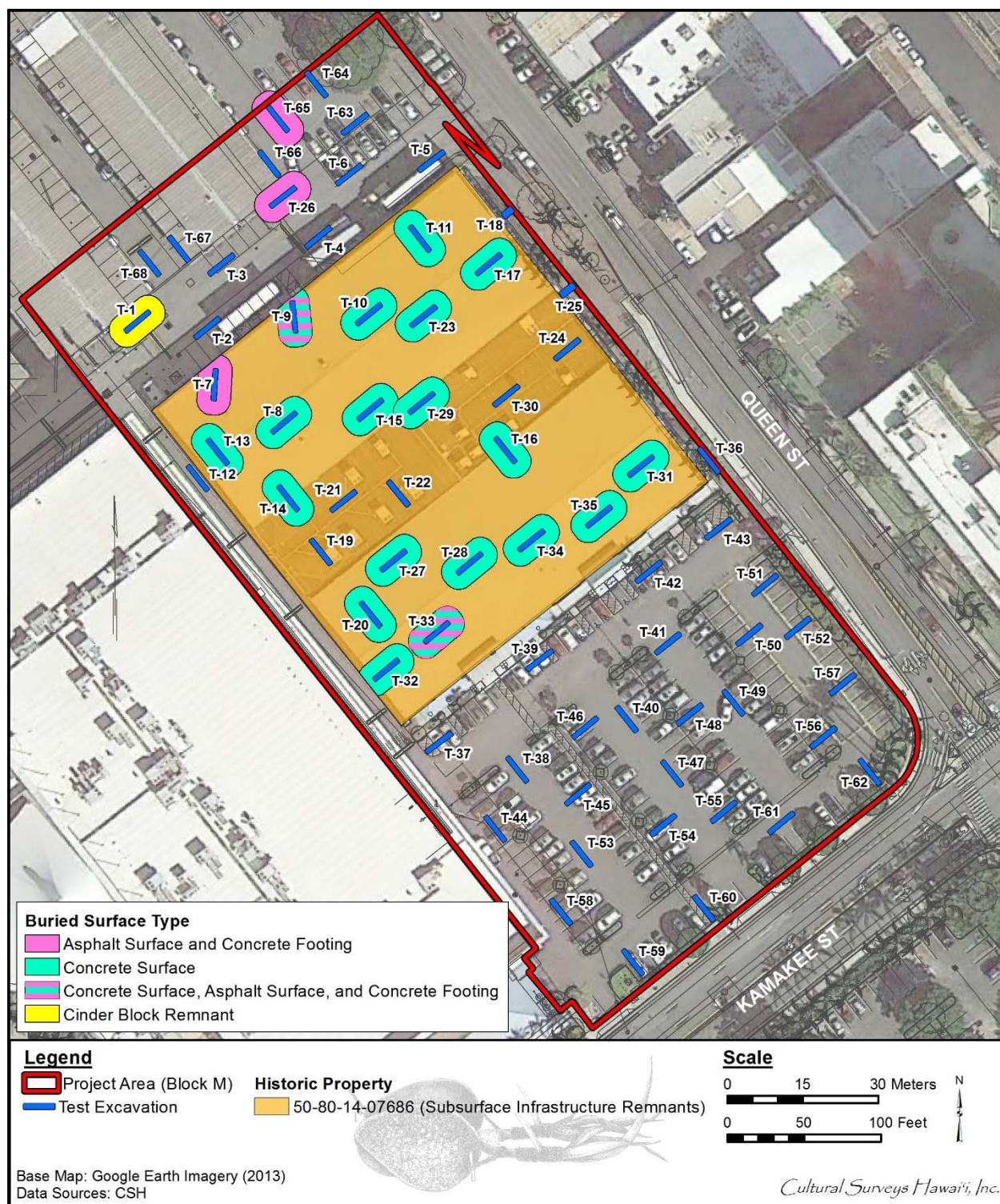


Figure 48. Figure from Hawkins et al. (2015) AIS showing the location of SIHP # -7686 documented within the Block M project area (Google Earth 2013)



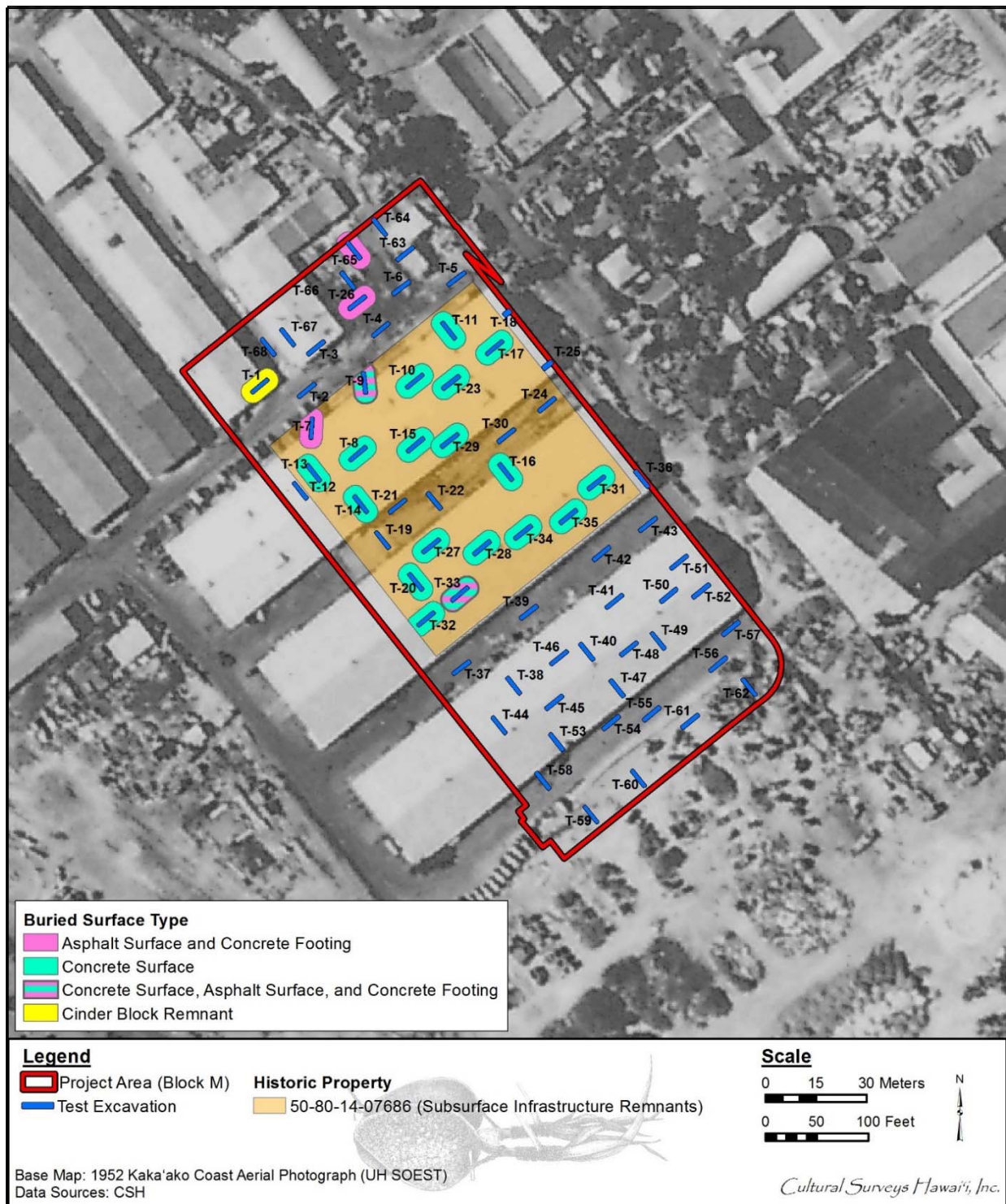


Figure 49. 1952 aerial photograph showing three parallel warehouse structures within the Block M project area, in relation to a GIS overlay of AIS test excavations which documented SIHP # -7686, buried historic commercial structural remnants (UH SOEST)



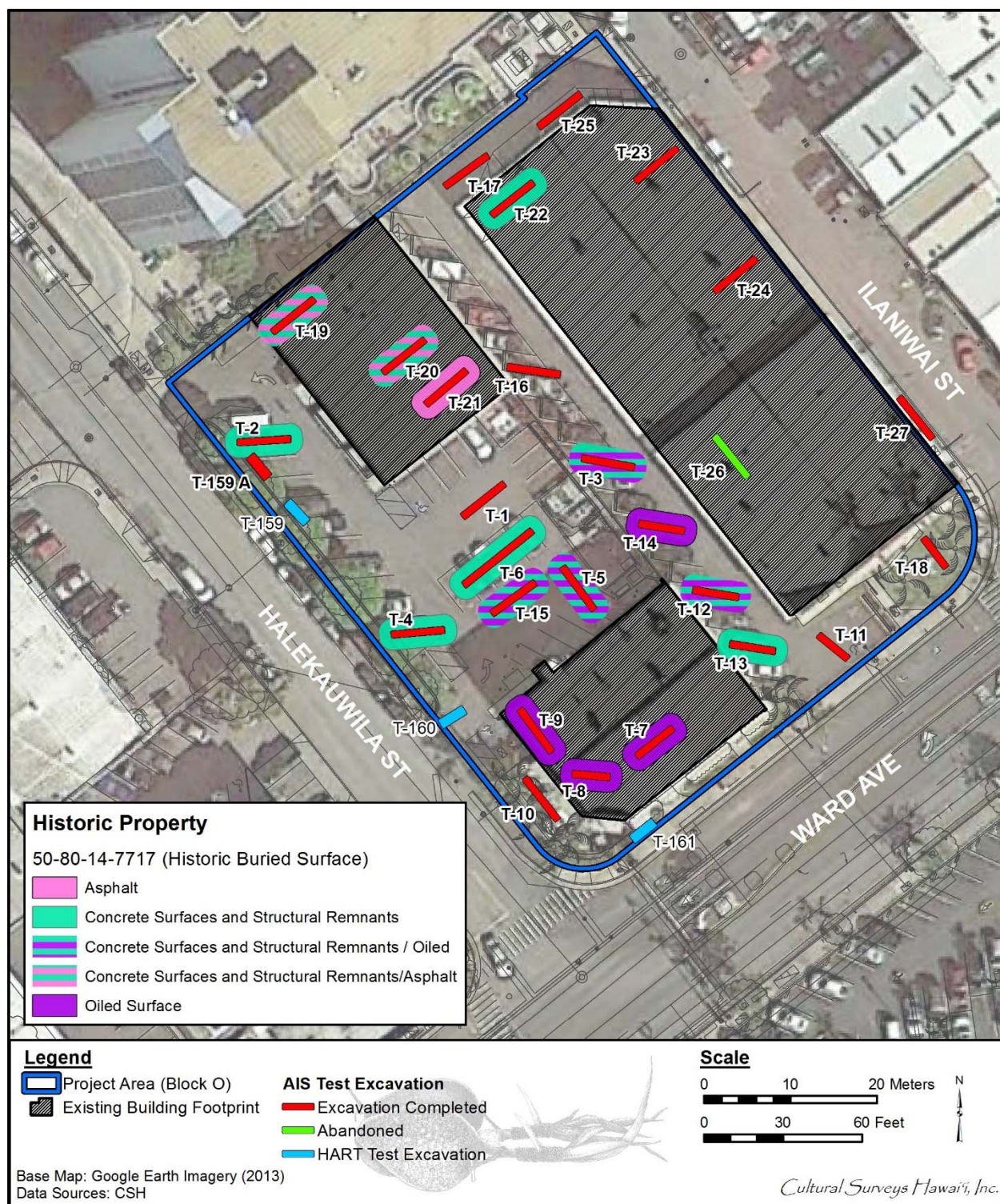


Figure 50. Figure from Leger et al. 2015 showing the extent of SIHP # -7717 buried commercial surfaces and infrastructure remnants documented within the Block O project area (Google Earth 2013)



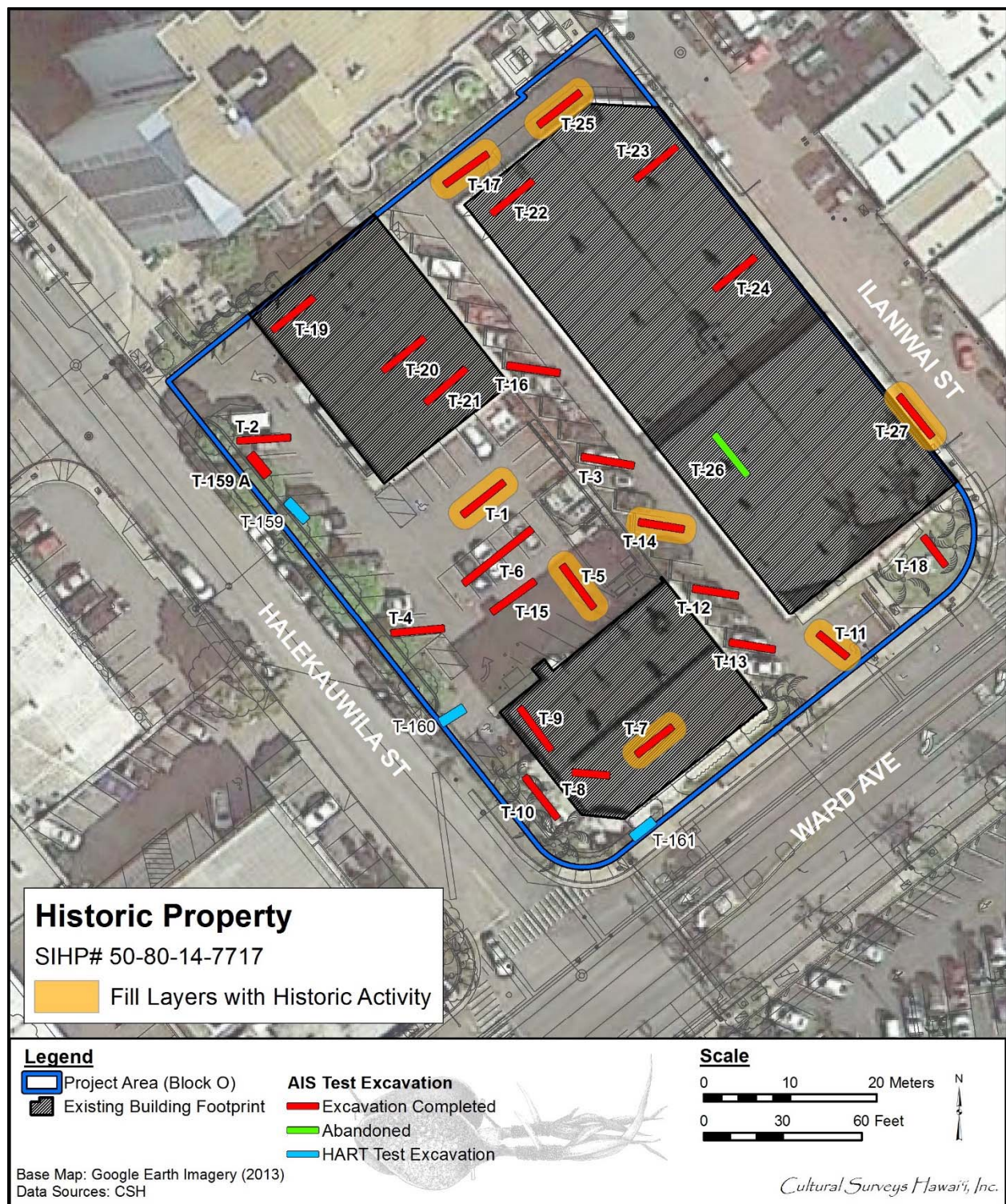


Figure 51. Figure from Leger et al. 2015 showing the extent of SIHP # -7717 historic living surfaces documented within the Block O project area (Google Earth 2013)



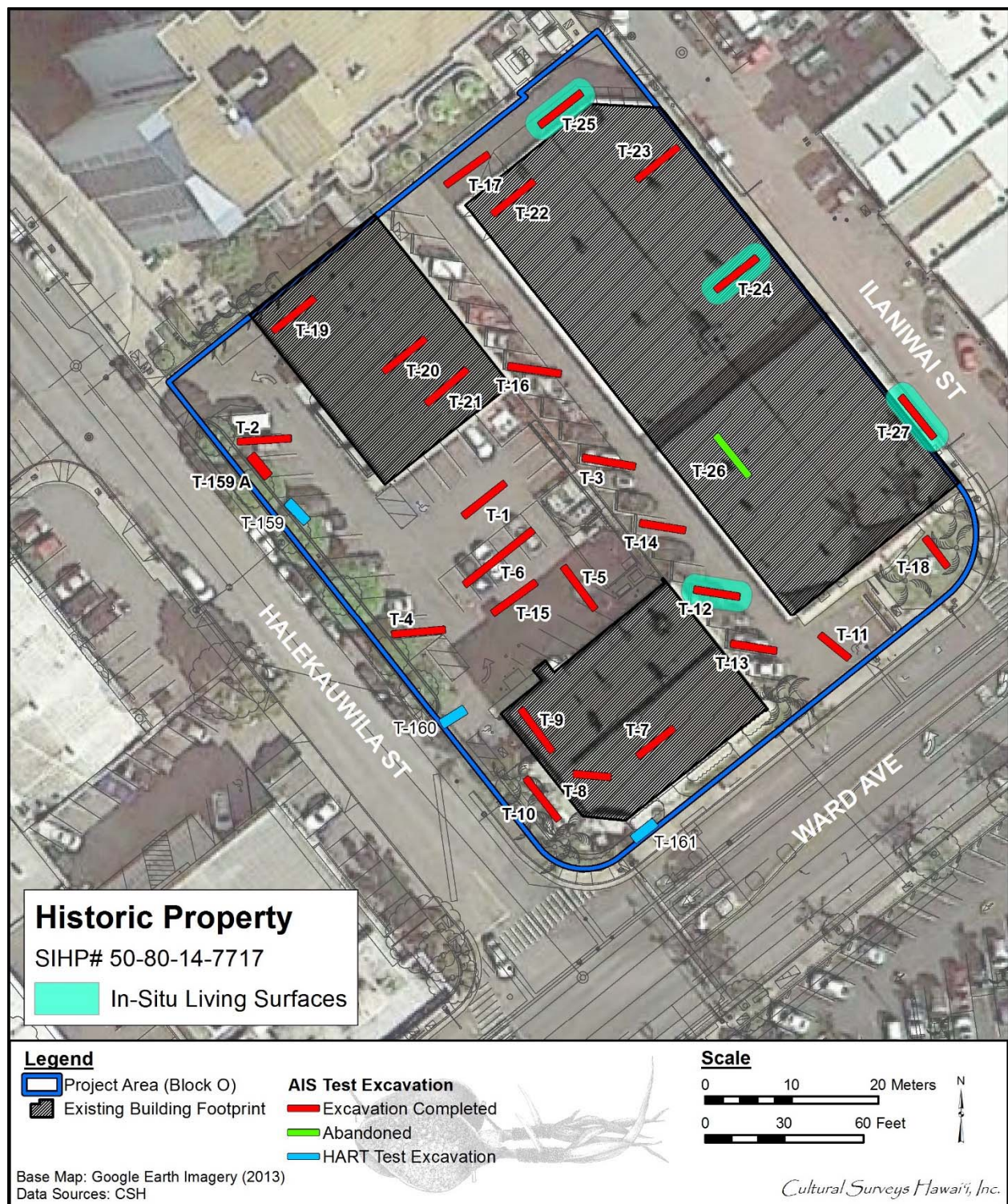


Figure 52. Figure from Leger et al. 2015 showing the extent of SIHP # -7717 in situ, natural land surfaces documented within the Block O project area (Google Earth 2013)

residential and commercial surfaces are a part of the numerous building events that took place following the infilling associated with the Kewalo Reclamation project (1910–1914) and prior to the construction of the current standing architecture that is visible on aerial photographs by 1970.

### 2.2.7 Ward Neighborhood Block I

Between 17 March and 2 August 2014, CSH conducted an archaeological inventory survey of Block I, a component of HHC's Ward Neighborhood Master Plan area (Sroat et al. 2015). The Block I project area is located *mauka* of Auahi Street and is bound to the southeast by Ward Theaters and to the northwest by Ward Gateway Center.

CSH excavated 88 test excavations (Figure 53) and documented portions of the following three historic properties within the Block I project area: 1) SIHP # -7655, previously identified historic salt pan remnants, including Native Hawaiian burial sites; 2) SIHP # -7429, previously identified subsurface cultural deposits and Native Hawaiian burial sites; and 3) SIHP # -7659, the previously identified concretized Ward Estate *'auwai* (irrigation channel).

Within Block I, the modern developed land surface consists of asphalt parking lot surfaces, associated base courses, and concrete commercial floors associated with the present commercial complex, as well as various layers of imported fill. Beneath these modern layers are crushed coral and hydraulic (dredged) reclamation fills, utilized to in-fill low-lying wetland areas and create a dry, level land surface. Background research indicates land reclamation activity within Block I occurred sometime between 1919 and the 1930s, following allocation of territorial funds for the dredging of Kewalo Basin in 1919. Two buried historic properties with multiple components, SIHP #s -7429 and -7655, were documented underlying the fill layers throughout the study area. Beneath these were natural terrestrial deposits (e.g., Jaucas sand) and/or wetland deposits (i.e., accumulated in a submerged or continually saturated environment) that often contained an O or A horizon at the upper boundary.

SIHP # -7429 was previously identified during the HHCTCP (H RTP) (City Center) AIS (Hammatt 2013), and subsequently documented during the Block M AIS (Hawkins et al. 2015) and H RTP (City Center) supplemental AIS (Humphrey et al. 2015). Within Block I, SIHP # -7429 extends across the *mauka* boundary of the project area, along the *makai* edge of a continuous sand dune deposit that abuts the Kaka'ako coastal wetlands, bridging between the two previously identified areas.

Within Block I, SIHP # -7429 is documented below land reclamation fill within 19 test excavations and is comprised of two discrete cultural deposits, Components 1 and 2. Component 1 is comprised of multiple, culturally enriched, historic sandy fill deposits; composed of locally procured and redeposited sediment, including Jaucas sand, redistributed A horizon material, and clayey wetland sediment. These deposits were likely used to modify, or level, the natural topography, and based on the presence of associated pit features, these layers also served as a land surface for a period of time. Component 1 historic fill deposits contained historic debris, faunal material (including marine midden), charcoal, fire-altered rock, coconut and *kukui* nut shells, traditional Hawaiian artifacts, and Native Hawaiian burial sites. Component 2 is a culturally enriched buried natural A horizon developed within natural calcareous Jaucas sand. This culturally enriched A horizon was consistently documented below Component 1 and/or culturally sterile historic fill deposits or, rarely, reclamation fill. The overlying layers often truncated the A horizon.



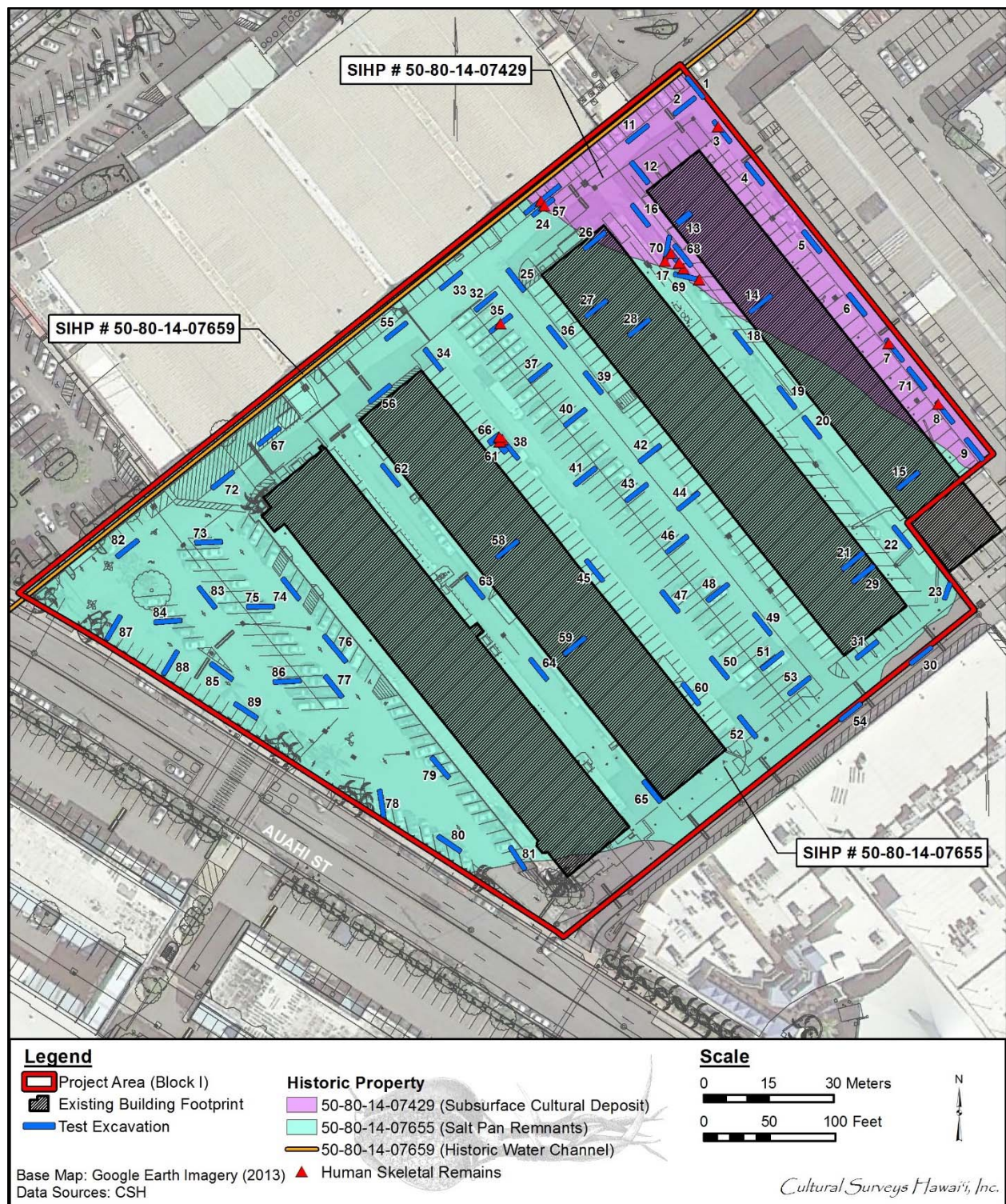


Figure 53. Aerial photograph showing the location of the AIS test excavations and the boundaries of the three historic properties documented within the Block I project area (Google Earth 2013)



Component 2 contained historic debris, faunal material (including marine midden), charcoal, fire-altered rock, and traditional Hawaiian artifacts.

CSH documented 62 features associated with SIHP # -7429 within the Block I project area. These features consisted of Native Hawaiian burial sites (comprised of both historic coffin burials and pre-Contact or early post-Contact flexed burials, previously disturbed skeletal fragments in fill sediments, and a secondary bundle burial—see Figure 53), a concentration of *'ili 'ili* (small gravel often used for paving), midden pits, post molds, fire pits, a cobble hearth, a grouping of manuports, a cat burial, and pits of indeterminate function. Twenty-nine of these features were associated with Component 1 historic fill layers, and 33 were associated with the Component 2 natural A horizon.

SIHP # -7655, buried salt pan remnants, was previously documented by Pammer et al. (2014) and Sroat et al. (2014) within the Ward Village Gateway project area (HHC Blocks B East and C West), located immediately *makai* of the Block I project area, where CSH documented an extensive, interconnected system of man-made linear structural features (berms) and low-lying, level wetland sediments overlain by thin organic laminations (salt pan beds). Based on the magnitude of this structural complex and the significant earth-moving activity that would have been required to construct its component features, the complex was interpreted to represent historic commercial salt production activity.

Within the Block I portion of SIHP # -7655, the man-made berm structures are composed of relatively homogenous sediments, consisting of medium-grained sandy clay, loamy clay sand, or slight variations thereof. The color of the berm sediment ranges slightly from very pale brown to grayish brown to light gray, and is readily distinguished from the surrounding sediments. The salt pan bed deposits associated with SIHP # -7655 consist of thinly to thickly bedded (1–8 cm thick), laminated organic deposits, with the laminated micro-layers observable as variations of color, sediments, and texture.

The combined results of the Block I AIS and the Ward Village Gateway AIS (Blocks B East and C West) indicate the presence of three types of salt pan liners. Type 1 was documented within the *makai* salt pan beds of Blocks B East and C West. Type 2 salt pan bed lining deposits were encountered within the *makai* portion of the Block I study area. These deposits have an average thickness of 5–8 cm and consist of highly fibrous, laminated organic material. Type 3 salt pan bed lining deposits were encountered within the central and *mauka* portions of Block I, and consist of a dense layer of finely laminated, humic material with an average thickness of 5–7 cm. The laminations are comprised of intact leaf structures, clay, and decomposing organic material.

SIHP # -7659 is the subsurface concrete channel associated with the Ward Estate concretized *'auwai*. While this historic property was not documented in any of the Block I test excavations, it is visible at ground surface along the northwest boundary of the study area, traveling from *mauka* to *makai*. The Ward Estate *'auwai* is a continuous feature running from Kapi'olani Boulevard into Kewalo Basin. SIHP # -7659 was initially identified during the Block B East AIS (Pammer et al. 2014). The concretized Ward Estate *'auwai* was constructed in the early twentieth century to replace the existing Old Plantation *'auwai*, prior to land reclamation activity within the Ward Estate lands.

Within the Block I project area, CSH documented skeletal remains associated with SIHP #s -7429 and -7655 (see Figure 53). Based on the SHPD's ethnicity determinations and Hawai'i State

burial law definitions (HRS §13-300-2) these are Native Hawaiian burial sites. Native Hawaiian burial sites associated with SIHP # -7429 were identified within nine test excavations in the *mauka* portion of Block I, including in situ burials, exhumed burials, and isolated, previously disturbed remains. An in situ burial cluster was located in T-17 and two adjacent test excavations, T-69 and T-70. Isolated, previously disturbed human skeletal fragments were located in T-3, T-7, T-8, T-24, T-35, and T-57. Possible disturbed coffin remnants consisting of a wood fragment with metal hardware were located in T-13, however, no human remains were identified; the remnants may also represent a wood box. These are summarized below in Table 2.

Native Hawaiian burial sites associated with SIHP # -7655 were identified within four test excavations in the central portion of Block I. An in situ secondary bundle burial located in T-38, T-61, and T-66 was documented. These three test excavations were immediately adjacent to each other with the burial located at the intersection of the three trenches. A worked human bone tool was located in T-35 within a pit feature. These are summarized below in Table 3.

Table 2. SIHP # 50-80-14-7429 Previously Identified Native Hawaiian Burial Sites within Block I

Fea. #	Provenience	Depth (mbs)	Cultural Deposit Component	Description	Content/Elements	Interpreted Age
23	T-3; Str. IIIb	0.7	1	Disarticulated human skeletal remains	Lunate and humerus fragment	Pre- to early post-Contact
25	T-7; Str. IV	0.7	1	Probable disarticulated human skeletal remains	Long bone fragment	Pre- to early post-Contact
26	T-8; Str. VIa	0.39–0.52	2	Concentration of 'ili 'ili and disarticulated human skeletal remains	Ulna portion and tiny bone fragments, approximately 65 'ili 'ili, and two pieces of charcoal	Pre- to early post-Contact
53	T-13; Str. IIIb	0.79–0.83	1	Possible burial pit; contains remnant wood box or coffin with metal hardware; no human remains identified	Remnant of wood box or coffin with metal hardware	Post-Contact
57	T-17; Str. II	0.4–0.65	1	Human burials	Adult and newborn burials, coffin remnants, and two buttons	Post-Contact

Fea. #	Provenience	Depth (mbs)	Cultural Deposit Component	Description	Content/Elements	Interpreted Age
58a	T-17; Str. IIIa	0.65	2	Original burial pit; underlying later disinterment pit feature (Fea. 58b)	Adult calcaneus, coffin remnants, historic grave goods, dog bones, fish bone, charcoal, <i>kukui</i> nuts, matches	Post-Contact
59a	T-17; Str. IIIa	0.2–1.14	2	Original burial pit; underlying later disinterment pit feature (Fea. 59b)	Coffin remnants, historic grave goods, red brick fragment, faunal bone fragment	Post-Contact
60	T-24; Str. IIIf	0.72	1	Disarticulated human skeletal remains	Deciduous tooth	Pre- to early post-Contact
68	T-57; Str. IIIi	1.1–1.2	1	Disarticulated human skeletal remains	Cranial fragment	Pre- to early post-Contact
70	T-69; Str. IIb	0.63–0.75	1	Human burial	Adult or adolescent burial—only cranium exposed	Post-Contact
79	T-70; Str. IIIa	0.88–1.1	2	Human burial	Adult or older adolescent burial	Pre- to early post-Contact

Table 3. SIHP # 50-80-14-7655 Previously Identified Native Hawaiian Burial Sites within Block I

Fea. #	Provenience	Depth (mbs)	Description	Content/Elements	Interpreted Age
3	T-35; Str. IIIa	0.35–0.8	Fire feature	Worked human bone tool, charcoal, fire-affected rock, a waterworn basalt manuport, a dog tooth pendant, faunal bone, and marine shell midden	Post-Contact
6	T-38 (Str. III); T-61, and T-66 (Str. IIa)	0.2–0.4	Secondary human burial	Adult burial	Post-Contact



### 2.2.8 Ward Neighborhood Original Block N East AIS Results

Between 5 May 2014 and 10 October 2015, CSH conducted an archaeological inventory survey of the original Block N East, a component of HHC's Ward Neighborhood Master Plan area (Sroat et al. 2016). The original Block N East project area was located within Ward Industrial Center, along the *makai* side of Queen Street between Ward Avenue and Kamake'e Street, covering approximately 0.63 hectares (1.55 acres) (Figure 54). CSH excavated 35 test excavations and documented portions of the following two previously documented historic properties: 1) SIHP # -7429, subsurface, pre- to post-Contact cultural deposits including Native Hawaiian burial sites, and 2) SIHP # -7686, subsurface historic infrastructure remnants associated with the development of Kaka'ako during the late nineteenth to mid-twentieth centuries (Figure 55). The Block N East modern developed land surface consisted of asphalt parking lot surfaces, associated base courses, and concrete commercial floors associated with the present commercial complex, as well as various layers of modern imported fill.

SIHP # -7429 was identified in 25 of the original Block N East AIS test excavations. As previously noted, this historic property had been initially identified by Hammatt (2013) during the H RTP City Center AIS, near the corner of Ward Avenue and Queen Street, and was subsequently documented by the Block M AIS (Hawkins et al. 2015) and the Block I AIS (Sroat et al. 2015), as well as by the supplemental H RTP AIS (Humphrey et al. 2015) investigations. Within the original Block N East project area, as was the case in adjacent Ward Neighborhood blocks, SIHP # -7429 comprised two discrete cultural components: historic fill living surfaces (Component 1) overlying culturally enriched, in situ natural sand deposits (Component 2).

CSH documented 70 features associated with SIHP # -7429 (Features 84–154) within the original Block N East study area. These features were categorized as belonging to either Component 1 or Component 2. Within Block N East, SIHP # -7429 Component 1 consists of two distinct types of cultural deposits: a) locally procured fill layers, and b) mixed (local and imported sediment) fill layers. The mixed fill living surfaces were not documented within the surrounding project areas containing SIHP # -7429 and appear to be specific to a row of historic houses which previously fronted Queen Street within the original Block N East project area.

Within Block N East the locally procured Component 1 deposits of SIHP # -7429 contained mostly historic artifacts and faunal bone (cat, pig, chicken, rat, dog, cow, fish, and medium mammal), with some charcoal, marine shell midden, and traditional-type artifacts (two basalt flakes and a chert core). The historic artifacts include bottle and flat glass fragments, ceramic fragments, wood, brick, metal nails and fragments, buttons, and marbles. These Component 1 cultural deposits also contained 19 associated features consisting of nine indeterminate pits, two trash pits, three post molds, three possible post molds, and two areas of disturbed and fragmented human skeletal remains.

SIHP # -7429 Component 2 within Block N East consists of culturally enriched, in situ natural deposits. These deposits comprise a buried sand dune that runs east-west through the Blocks N East, I, and M project areas, and consist of sandy loam A horizons, Jaucas sand, and wetland A horizons that formed in small pockets of low-lying areas within the sand dune.



Figure 54. Google Earth (2013) aerial photograph showing the boundaries of the original Block N East project area (light blue) and the extent of previously documented SIHP # -7429 in the vicinity, showing previously identified Native Hawaiian burial sites



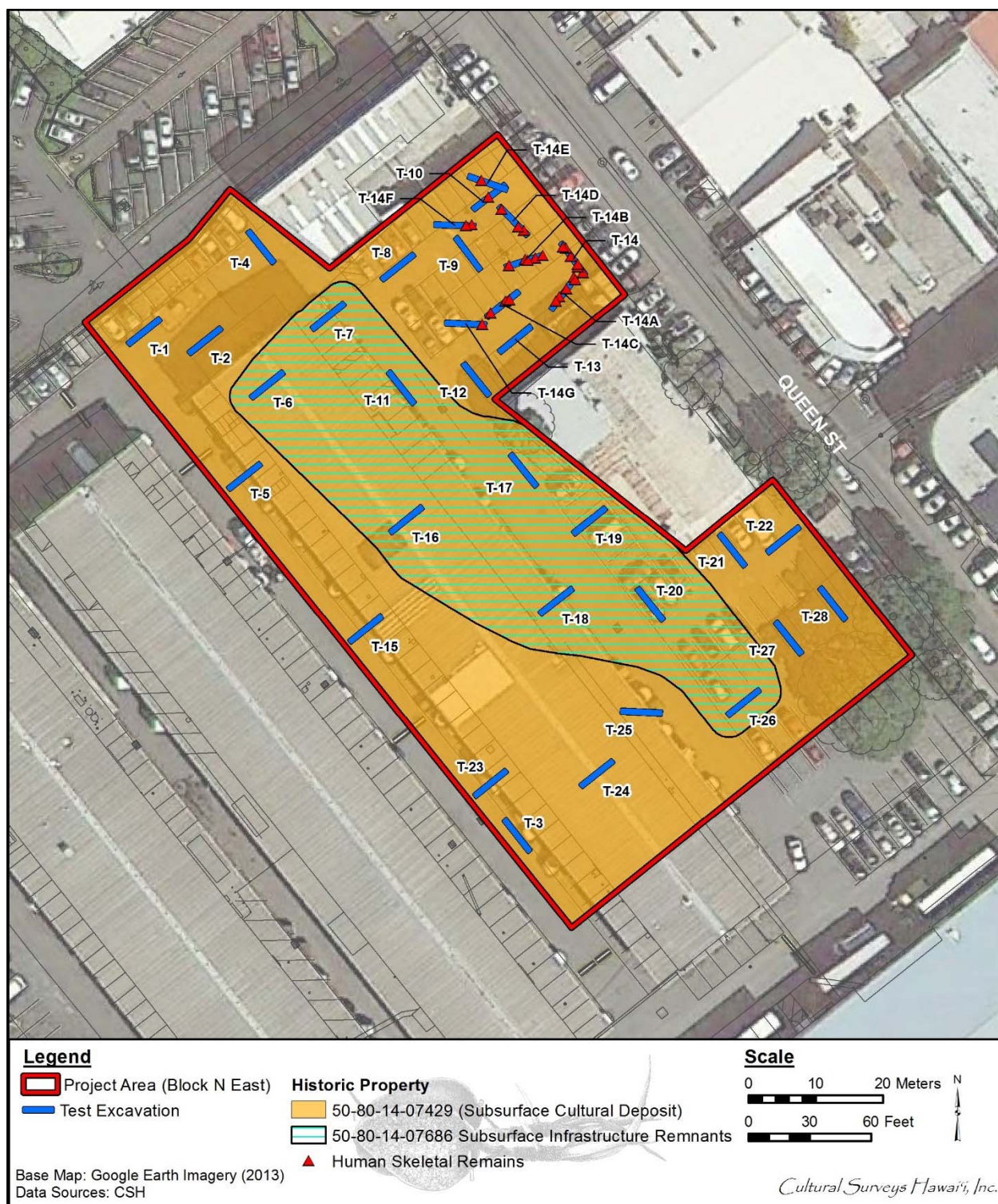


Figure 55. Google Earth (2013) aerial photograph showing the boundaries of the two historic properties documented in the original Block N East AIS and the documented Native Hawaiian burial sites *makai* of Queen Street



The Component 2 natural sandy loam A horizons within Block N East have been significantly truncated and, in many cases, partially or completely removed by later depositional events, particularly within the *mauka* portion of the project area. Much of this material was likely incorporated into the overlying Component 1 fill layers. Notwithstanding this disturbance, cultural enrichment of these A horizons was documented within ten test excavations (T-1, T-2, T-5, T-8, T-10, T-14A, T-14B, T-14C, T-14G, and T-24). The A horizons contain only very light cultural content (similar to the adjacent Block M), including small amounts of marine shell midden (*Neritidae*), fire-affected rock, charcoal, a basalt manuport, faunal bone (pig, dog, cow, rat), and glass and ceramic fragments (T-1, T-2, T-8, T-14A, T-14B, and T-24). However, numerous features are also associated with the Component 2 A horizons.

A total of 19 features originate from the Block N East Component 2 sand A horizons, including 11 indeterminate pits, two possible post molds, five in situ human burials, and one area of disturbed human skeletal remains. The majority of the indeterminate pits contain little or no cultural content (e.g., charcoal, manuports); however, based on their morphology and thickness, they are interpreted as indicative of cultural activity. Three pits within T-8 contain historic material, including a glass insulator fragment with a post-1865 manufacture date. This indicates the A horizon was still a living surface at least up through 1865 and that the overlying Component 1 mixed fill (historic residential layer) was deposited sometime after 1865.

SIHP # -7686 was identified within nine test excavations for the original Block N East AIS (refer to Figure 55). This historic property consisted of buried asphalt and oil-rolled surfaces, which may represent historic road remnants and/or commercial paved roadways. It was previously identified by Hawkins et al. (2015) within the Block M project area.

CSH documented 23 in situ burials and three instances of previously disturbed, fragmented human remains in test excavations T-10 and T-14 through T-14G within the Block N East project area (see Figure 55). Based on AIS documentation, the 23 in situ burials consist of both traditional Hawaiian burials and historic coffin burials, indicating this area was an established burial site for a period of time. The majority of these in situ burials were located within natural Jaucas sand, often lacking a burial pit. The burials span traditional Hawaiian to historic Christian burial practices, although the vast majority of burials (21) are traditional-type burials lacking evidence of a coffin or other western-style interment practices.

## Section 3 Consultation and Search for Lineal and Cultural Descendants

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As previously noted, all the previously identified Native Hawaiian burial sites that are the focus of this BSCDR&PP were originally documented as part of the HHC Block I AIS, and their treatment determined through the preparation and treatment determination of the Block I BTP. Part of this consultation included the search for potential lineal or cultural descendants, as outlined in HAR §13-300-33. This included researching relevant land conveyance documents, making inquiries of persons with knowledge of families affiliated with the remains, and placing a public notice in a general circulation newspaper.

Active consultation concerning the Native Hawaiian burial sites identified during the Block I AIS (including portions of SIHP # -7429 and -7655) has been ongoing since July 2012, including consultation with the recognized cultural descendants for the Ward Villages Shops project and subsequently for those specifically recognized for Block I, the SHPD, the OIBC, the Office of Hawaiian Affairs (OHA), and other appropriate stakeholders. A series of meetings have been held with these entities and individuals to gather input (*mana 'o*) regarding respectful approaches toward conducting the AIS as well as for the careful treatment of any *iwi kūpuna* (Native Hawaiian skeletal remains) found during the course of the Block I AIS.

### 3.1 Consultation During Block I AIS Fieldwork

AIS fieldwork for the Block I commenced on 17 March 2014 and was completed on 2 August 2014. During the course of the AIS investigation, consultation with the SHPD was ongoing, including notification of and consultation for all *iwi kūpuna* finds, discussions regarding test excavation location shifts, and SHPD site visits. During the course of the project, seven test excavations were relocated from the *makai* portion of the project area to the *mauka* portion due to access difficulties and in order to provide further testing in areas with identified *iwi kūpuna*. In addition, two test excavations were shifted in order to test the updated project building footprint (i.e., elevator shaft). All such significant test excavation relocations or shifts were discussed with and approved by the SHPD prior to their excavation. SHPD site visits included a visit by Dr. Susan Lebo, SHPD Archaeology Branch Chief, to Test Excavation 24 in order to consult regarding interpretation of historic salt works remnants (SIHP # -7655) and a large cobble feature (SIHP # -7429 Feature 62), and a visit by Dr. Lebo and Hinano Rodrigues, SHPD Culture and History Branch Chief, to investigate the burial cluster within Test Excavation 17 (SIHP # -7429). On this latter site visit, the SHPD was accompanied by OIBC Kona representative Hinaleimoana Wong-Kalu.

An informational update of the Block I AIS findings was also presented to the OIBC at the 14 May 2014 monthly meeting by CSH principle investigator Matt McDermott. The update specifically included information concerning the project's *iwi kūpuna* finds to date, as well as a general update on all ongoing Ward Neighborhood Master Plan project area AIS investigations (Blocks M, B East, and C West).

A similar informational update was provided to the Ward Village Shop project's recognized cultural descendants following the 1 June 2014 completion of the adjacent Block M project AIS.

Attendees at this meeting included CSH principal investigator Matt McDermott, Kaka'ako cultural descendants (Keala Norman, Mana Caceres, Ka'anohi Kaleikini and 'ohana members), OIBC representatives (Hinaleimoana Wong-Kalu and Jonathan Scheuer), and HHC representatives (David Striph, Race Randle, Nick Vanderboom, and John Simons). Matt McDermott provided a summary of the recently completed test excavation results from Block M, Block B East, and Block C West, as well as the ongoing AIS excavations within Block I. The discussion and cultural descendants' concerns focused on the burial finds within Block I.

Following the identification of *iwi kūpuna* within the Block I study area, several individuals and/or 'ohana sought OIBC recognition as Block I cultural descendants. On 10 June 2014, Brandy Kalehua Kamohali'i Caceres and her 'ohana and Paulette Ka'anohiokalani Kaleikini and her 'ohana received OIBC recognition as cultural descendants. On 9 July 2014, Michael Kumukauoha Lee received OIBC recognition as a cultural descendant.

### 3.2 Consultation Following Completion of Block I AIS

Following completion of all Block I AIS fieldwork, a follow-up meeting was held on 29 September 2014 with the project's recognized cultural descendants. Attendees included CSH principal investigator Matt McDermott, project cultural descendants (Mana Caceres, Paulette Kaleikini, Kalā Kaleikini, and Elijah Keaweamahi), HHC representatives (David Striph, Race Randle, Nick Vanderboom, and John Simons), and Ku'iwalu cultural consultant Dawn Chang. Discussion focused on the proposed project footprint in relation to culturally sensitive areas identified during the AIS (i.e., human in situ burials and disturbed skeletal remains). It was noted that the main ground disturbance (i.e., building footprint) will be located within the southern portion of the project area in the area of natural wetlands and historic salt pan remnants and away from the areas of *iwi kūpuna* finds.

A legal notice concerning the discovery of Native Hawaiian burial sites within the Block I study area was posted within the *Star-Advertiser* state-wide newspaper on 10, 12, and 15 October 2014 (see Appendix B). In addition, notification of the *iwi kūpuna* finds was printed within the OHA November 2014 monthly newsletter, *Ka Wai Ola*.

OHA was also notified of the project AIS findings in a consultation letter dated 24 October 2014 (via email and post) (see Appendix C). The consultation letter included a brief summary of the Block I study area and all historic properties identified within the project area, in particular the *iwi kūpuna* finds within SIHP #s -7429 and -7655.

Over the next year, various consultation meetings (19 January, 6 April, 8 June, 6 July, and 21 September 2015) were held with the project's recognized cultural descendants which addressed multiple Ward Neighborhood Master Plan projects, including Block I. At these meetings the results of the Block I AIS were reviewed, including summaries of the three documented historic properties and the context of each Native Hawaiian burial site, the status of the Block I AIS report, proposed mitigation measures, and potential burial treatment measures. The Block I AIS report was accepted by the SHPD on 8 June 2015. The AIS report mitigation recommendations were explained to the cultural descendants at the 8 June 2015 meeting, including on-site archaeological monitoring for the entire Block I parcel, data recovery for SIHP #s -7429 and -7655, and burial treatment for the human remains associated with SIHP #s -7429 and -7655. The status of the development plans for the Block I parcel were also reviewed, consisting of a residential tower project within the southern



portion of Block I (outside the area of any *iwi* finds) and various future projects within the remaining portions of Block I which have not been fully designed, but which are partially contingent upon project designs for the adjacent Block N and the Honolulu Rapid Transit project (H RTP).

Three proposed burial treatment options were presented and discussed at the 6 April, 8 June, and 6 July 2015 meetings: 1) relocation of the *iwi kūpuna* to the nearby Ward Village Shops burial preserve; 2) relocation of the *iwi kūpuna* from their current locations to a new burial preserve within Block I (location to be determined); and 3) preservation in place for all in situ human burials (SIHP # -7429 burial cluster and SIHP # -7655 secondary burial) and relocation of all disturbed and isolated *iwi* fragments to the SIHP # -7429 burial cluster preserve area. The cultural descendants agreed the third option (a combination of preservation in place and relocation) was most appropriate. In terms of surface treatment (i.e., landscaped preserve or preservation under a paved traffic thoroughfare), Mana Caceres expressed a preference for a landscaped preserve but remained open to other options depending on development constraints. Kalā Keli'inoi (a member of the Kaleikini 'ohana) brought up the importance of sufficient vertical buffers (e.g., type of protective slab, depth of slab below ground surface, amount of imported fill to be placed atop the burial raising the land surface). Based on these discussions, it was agreed to move forward with a draft BTP that incorporates the third option for burial treatment. This agreement was confirmed again during the 21 September 2015 consultation meeting. It was explicitly stated, however, that the BTP should remain flexible and subject to modification throughout the consultation process. It was agreed that the consultation process would continue until all project development plans are available and the detailed measures for the long-term burial treatment, which are contingent upon these development plans, are fully worked out and agreed upon by all parties.

In 2015, the OIBC was also kept updated on the results of the Block I AIS, mitigation recommendations, consultation efforts, and potential burial treatment measures (11 February, 11 March, 8 April, and 9 September 2015 monthly OIBC meetings). At the 9 September 2015 OIBC meeting, the third option combining preservation in place (for in situ burials) and relocation (for disarticulated and isolated *iwi*) was presented as the preferred burial treatment in consultation with the Block I recognized cultural descendants. The CSH PowerPoint presentation also included a discussion of potential buffers, surface treatment, landscaping, and descendant access.

HHC's Block I burial treatment plan, describing the combination of preservation in place and relocation of the previously identified Native Hawaiian burial sites, was accepted by the SHPD in a letter dated 3 December 2015 (LOG NO:2015.03320 DOC NO:1512.RKH09). At its 9 December 2015 meeting, the OIBC determined this treatment was appropriate and approved the Block I burial treatment plan, with the understanding that the specifics of the burial treatment would be clearly outlined in a subsequent burial site component of a data recovery and preservation plan (BSCDR&PP).

### 3.3 Consultation Following Changes to the Block N East Project Area

More recently in 2016, consultation with the SHPD, the OIBC, and the Block I and Block N East recognized Native Hawaiian cultural descendants focused on the reconfiguration of the Block N East project area and the ramifications for mitigation, including archaeological monitoring and burial treatment implementation and documentation. This consultation included the following: meetings with the recognized cultural descendants on 9 February 2016, 9 May 2016, and 1 August

2016; consultation and email exchanges with the SHPD Culture and History Branch on 13 April 2016 and 18 and 31 May 2016; meetings with the SHPD Archaeology Branch on 6 April, 10 May, and 13 June 2016; and a presentation to the OIBC on 8 June 2016. This BSCDR&PP is a direct result of this consultation.

## Section 4 Proposed Burial Treatment

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The landowner (HHC) has made a good faith effort to identify potential lineal and cultural descendants for the identified Native Hawaiian burial sites of SIHP #s -7429 and -7655. HHC has also been proactive in consulting with potential lineal and cultural descendants and the OIBC regarding the proposed development, archaeological inventory survey results, and proposed burial treatment options. This burial site component of a data recovery plan and preservation plan was prepared to reflect input from these various concerned parties.

With all previously identified Native Hawaiian burial sites on O'ahu, the decision to preserve in place or relocate burial remains falls under the jurisdiction of the OIBC, which makes its decision in consultation with any recognized lineal and/or cultural descendants, per the requirements of HAR §13-300-33. For the previously identified Native Hawaiian burial sites that are the subject of this BSCDR&PP, the OIBC has already determined that burial treatment will be a combination of preservation in place and relocation. Since this determination regarding burial treatment has already been made, the remains' proper treatment is carried out in accordance with this BSCDR&PP, prepared per HAR §13-300-38.

### 4.1 Statement of Proposed Treatment

The landowner and recognized cultural descendants are agreed to a combination of preservation in place and relocation for the Native Hawaiian burial sites associated with SIHP #s -7429 and -7655 that are the subject of this redesigned Block N East BSCDR&PP. The burial sites from SIHP # -7429 are within, or in the immediate vicinity of, the redesigned Block N East boundaries. The single burial site from SIHP # -7655 is not within the redesigned Block N East boundaries, but is in close proximity. These burial sites are included in this BSCDR&PP because of an existing (9 December 2015) OIBC burial treatment determination based on HHC's Block I BTP, which pertains to all the burial sites addressed in this BSCDR&PP. These Native Hawaiian burial sites consist of both purposeful interments—termed in situ burials—and isolated, previously disturbed skeletal fragments found outside what would be considered a burial context. Based on available information the SHPD has determined ethnicity for these remains is reasonably believed to be Native Hawaiian.

The Block N East burial preserve area will be established over the cluster of in situ burials associated with the portion of SIHP # -7429 within the redesigned Block N East project area (SIHP # -7429 Feature 57 in Block I AIS Test Excavation [T]-17, Feature 58 in T-17, Feature 59 in T-17, Feature 60 in T-24, Feature 68 in T-57, Feature 70 in T-69, and Feature 79 in T-70) (Figure 56). The previously disturbed, fragmentary human skeletal remains and a potential find of coffin wood and hardware (SIHP # -7429 Feature 23 in T-3, Feature 25 in T-7, Feature 26 in T-8, and Feature 53 in T-13, respectively), as well as the worked human bone tool (SIHP # -7655 Feature 3 in T-35) will be exhumed from where they were found and relocated to within the backfilled AIS test excavations within the newly established Block N East burial preserve area. The implementation of the relocation of these isolated and fragmentary remains will be carried out during the project's archaeological monitoring program.





Figure 56. Google Earth aerial photograph showing the Block I AIS Native Hawaiian burial sites that are the subject of this BSCDR&PP for the redesigned Block N East. Note: the remains from Block I AIS test excavations T-38, T-61, and T-66 will be the subject of a future Block I BSCPP, and the remains from the former Block N East test excavations T-10 and T-14 – T14G will be the subject of a future BTP for Block N West

In consultation with the Block I and Block N East recognized cultural descendants, HHC has worked with their project architects and engineers to create the burial preserve area in the vicinity to Block I AIS T-17 (refer to Figure 56) for preservation in place and relocation. The surface of the burial preserve area will be largely open to the sky and landscaped with Native Hawaiian vegetation. Only the easternmost portion of the burial preserve area will be under the Block N East parking structure footprint and will be paved over for parking. The final SHPD-accepted version of this BSCDR&PP will include a metes and bounds description of the burial preserve area, which will be recorded with the Bureau of Conveyances.

Based on consultation with the SHPD, the OIBC, and Block I and Block N East recognized cultural descendants, the Native Hawaiian burial site from Block I AIS test excavations T-38, T-61, and T-66 will be the subject of a future Block I burial site component of a preservation plan (BSCPP), and the Native Hawaiian burial sites from the former Block N East AIS test excavations T-10 and T-14 –T14G will be the subject of a future BTP for Block N West (Figure 57). The preparation of these future burial treatment documents will await the formalization of development plans for HHC's Block I and Block N West.

## 4.2 Mailing Addresses of Applicant, Landowner, and Consultant

### **Applicant**

The Howard Hughes Corporation  
1240 Ala Moana Blvd., Suite 200  
Honolulu, Hawai'i 96814  
Contact: Nicholas Vanderboom

### **Landowner**

The Howard Hughes Corporation  
1240 Ala Moana Blvd., Suite 200  
Honolulu, Hawai'i 96814  
Contact: Nicholas Vanderboom

### **Consultant**

Cultural Surveys Hawai'i, Inc.  
P.O. Box 1114  
Kailua, Hawai'i 96734  
Contact: Matt McDermott

## 4.3 Publication of Burial Notice

The following advertisement was submitted for publication in connection with the Block I AIS human burial site finds that included SIHP # -7429. The advertisement ran in the *Honolulu Star-Advertiser* newspaper on 10, 12, and 15 October 2014 (Appendix A). The public notice was also submitted to and ran in the November 2014 edition of *Ka Wai Ola* published by OHA (Appendix B).



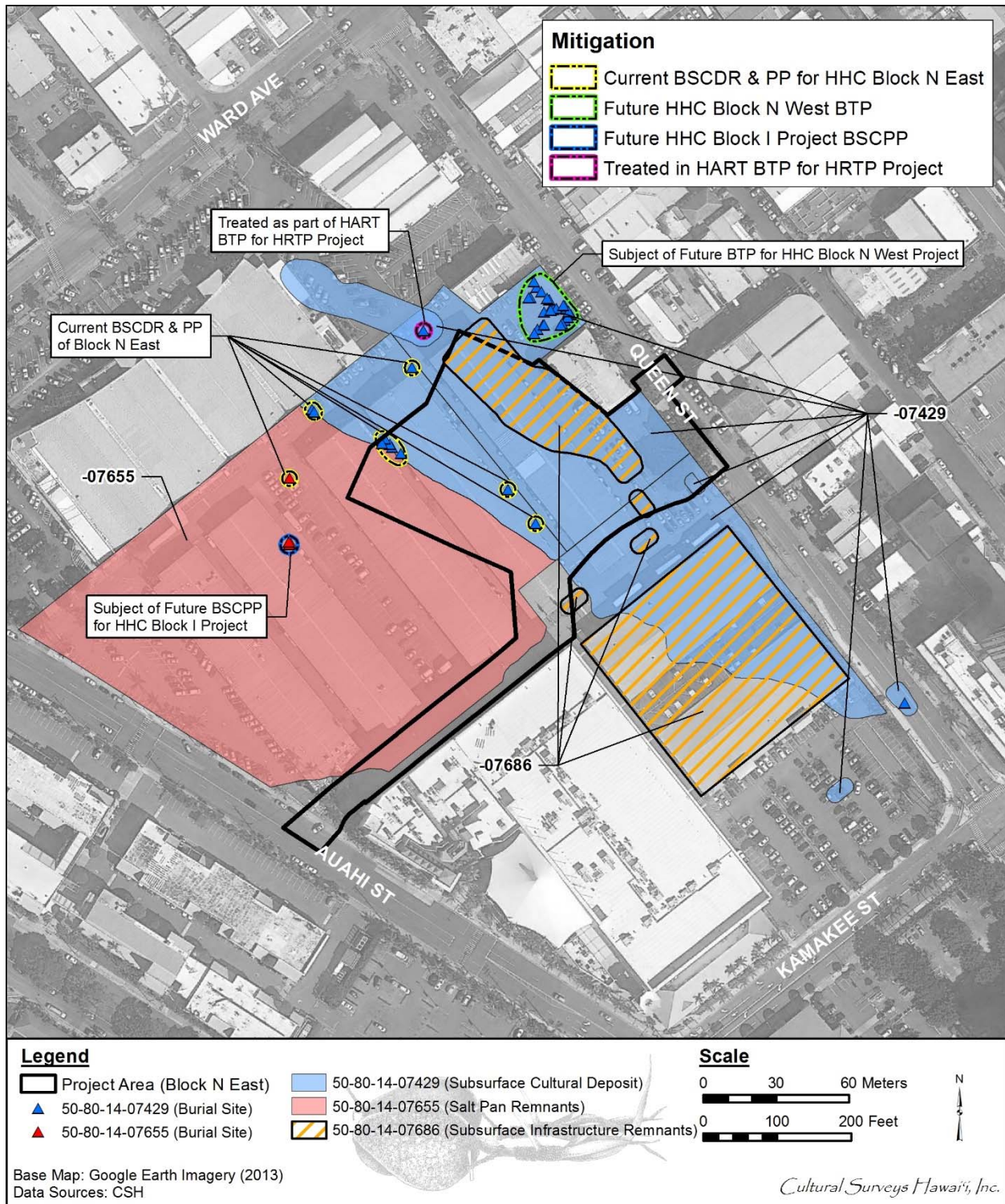


Figure 57. Google Earth aerial photograph showing burial treatment mitigation for the previously identified Native Hawaiian burial sites from SIHP #s -7429 and -7655 within and in the immediate vicinity of the redesigned Block N East Project (refer to Figure 56)



## 4.4 Immediate Short-Term Burial Protection Measures for SIHP #s -7429 and -7655 as part of the Block I AIS

Previously identified Native Hawaiian burial sites associated with SIHP #s -7429 and -7655 that are now the subject of this BSCDR&PP (refer to Figure 56) were identified within nine test excavations during an AIS for Block I, including in situ burials, exhumed burials, and isolated, previously disturbed remains. Table 4 lists the location, context, and characteristics of each of these finds. Detailed descriptions of each previously identified burial site and their context is provided below, including immediate short term protective measures that were implemented during the AIS fieldwork.

Table 4. SIHP # -7429 and -7655 Previously Identified Native Hawaiian Burial Sites That Are the Subject of This BSCDR&PP

SIHP #	Fea. #	Provenience*	Depth (mbs)	Description	Cultural Content	Age
-7429	23	T-3; Str. IIIb	0.7	Disarticulated human skeletal remains	Lunate and humerus fragment	Pre- to early post-Contact
-7429	25	T-7; Str. IV	0.7	Probable disarticulated human skeletal remains	Long bone fragment	Pre- to early post-Contact
-7429	26	T-8; Str. VIa	0.39–0.52	Concentration of 'ili 'ili and disarticulated human skeletal remains	Ulna portion and tiny bone fragments, approximately 65 'ili 'ili, and two pieces of charcoal	Pre- to early post-Contact
-7429	53	T-13; Str. IIIb	0.79–0.83	Possible burial pit; contains remnant wood box or coffin with metal hardware; no human remains identified	Remnant of wood box or coffin with metal hardware	Post-Contact
-7429	57	T-17; Str. II	0.4–0.65	Human burials	Adult and newborn burials, coffin remnants, and two buttons	Post-Contact

SIHP #	Fea. #	Provenience*	Depth (mbs)	Description	Cultural Content	Age
-7429	58a	T-17; Str. IIIa	0.65	Original burial pit; underlying later disinterment pit feature (Fea. 58b)	Adult calcaneus, coffin remnants, historic grave goods, dog bones, fish bone, charcoal, <i>kukui</i> nuts, matches	Post- Contact
-7429	59a	T-17; Str. IIIa	0.2– 1.14	Original burial pit; underlying later disinterment pit feature (Fea. 59b)	Coffin remnants, historic grave goods, red brick fragment, faunal bone fragment	Post- Contact
-7429	60	T-24; Str. IIIf	0.72	Disarticulated human skeletal remains	Deciduous tooth	Pre- to early post- Contact
-7429	68	T-57; Str. IIIi	1.1–1.2	Disarticulated human skeletal remains	Cranial fragment	Pre- to early post- Contact
-7429	70	T-69; Str. IIb	0.63– 0.75	Human burial	Adult or adolescent burial—only cranium exposed	Post- Contact
-7429	79	T-70; Str. IIIa	0.88– 1.1	Human burial	Adult or older adolescent burial	Pre- to early post- Contact
-7655	3	T-35 Str. IIIa	0.35– 0.8	Fire feature	Worked human bone tool, charcoal, fire-affected rock, a waterworn basalt manuport, a dog tooth pendant, faunal bone, and marine shell midden	Post- Contact

\*Refer to Figure 56 where these test excavations are shown

#### 4.4.1 SIHP # - 7429 Feature 23 (within T-3)

Test Excavation 3 (T-3) was an exterior trench located between Warehouse Buildings 4 and 5 (refer to Figure 56 and Figure 58). T-3 was oriented northwest-southeast and measured 6.1 m long by 0.75 m wide, with a maximum depth of 1.3 m below surface.

Human skeletal remains consisting of a lunate (wrist bone) and a fragment of a humerus shaft (arm bone) were identified within the 'Ewa portion of the test excavation within Stratum IIIb, a loamy sand fill deposit composed of local sediments (SIHP # -7429 Component 1 cultural deposit) (Figure 59 and Table 5). Based on their fragmented, disarticulated condition and their isolated location within a fill deposit, these human skeletal remains had been previously disturbed, possibly during the scraping and leveling activities associated with the deposition of the historic fill land surfaces (Strata IIIa and IIIb). These remains are designated SIHP # -7429 Feature 23.

Protective measures were implemented during AIS fieldwork to secure the human skeletal remains. In consultation with on-site Hawaiian cultural practitioners, 'Ōiwi Cultural Resources (OCR), protective measures included the construction of a clean sand pedestal extending to a height of 0.70 mbs, in the approximate original location of the *iwi kūpuna* find, which was lined with *ti* leaves. The *iwi kūpuna* were then wrapped in muslin, secured in a *lauhala* (pandanus leaf) basket, and placed on the pedestal by the on-site cultural practitioner. After all cultural protocols were observed, clean sand was deposited over the basket, followed by a wooden board, and the whole was covered again with clean sand. The remaining portions of T-3 were then backfilled to the level of the current ground surface and the test excavation repaved with asphalt.

#### 4.4.2 SIHP # -7429 Feature 25 (within T-7)

Test Excavation 7 (T-7) was an exterior trench located between Warehouse Buildings 4 and 5, approximately 60 m southeast of T-3 (refer to Figure 56). It was oriented northeast-southwest and measured 6.1 m long by 0.75 m wide, with a maximum depth of 1.3 mbs.

A 2-inch isolated fragment of a worn long bone was encountered within Stratum IV, a mix of locally procured loamy sand and clay sand with charcoal staining at the upper boundary (SIHP # -7429 Component 1 cultural deposit) (Figure 60 and Table 6). Analysis by CSH osteologist Malina Reveal, M.Sc., and subsequently by University of Hawai'i Department of Anthropology professor and osteologist Michael Pietrusewsky, Ph.D., identified the bone fragment as consistent with human. Based on its fragmented, disarticulated condition and isolated location within a fill deposit, the long bone had been previously disturbed, possibly during the scraping and leveling activities associated with the deposition of the historic fill land surface (Stratum IV). The bone is designated SIHP # -7429 Feature 25.

Protective measures were implemented during AIS fieldwork to secure the *iwi kūpuna*. In consultation with on-site Hawaiian cultural practitioners (OCR), protective measures were implemented, similar to those implemented for SIHP # -7429 Feature 23. The interim protection measures consisted of the construction of a clean sand pedestal extending to a height of 0.70 mbs, in the approximate original location of the find, which was lined with *ti* leaves. The *iwi kūpuna* were then wrapped in muslin, secured in a *lauhala* basket, and placed on the pedestal by the on-site cultural practitioner. After all cultural protocols were observed, clean sand was deposited over the basket, followed by a wooden board placed at 0.30 mbs, and the whole was covered again with clean sand (Figure 61 and Figure 62). T-7 was then backfilled to the level of the current ground surface and the test excavation repaved with asphalt.





Figure 58. Photograph of T-3, located along the *mauka* boundary of Block I between Warehouse Buildings 4 and 5, view to southeast

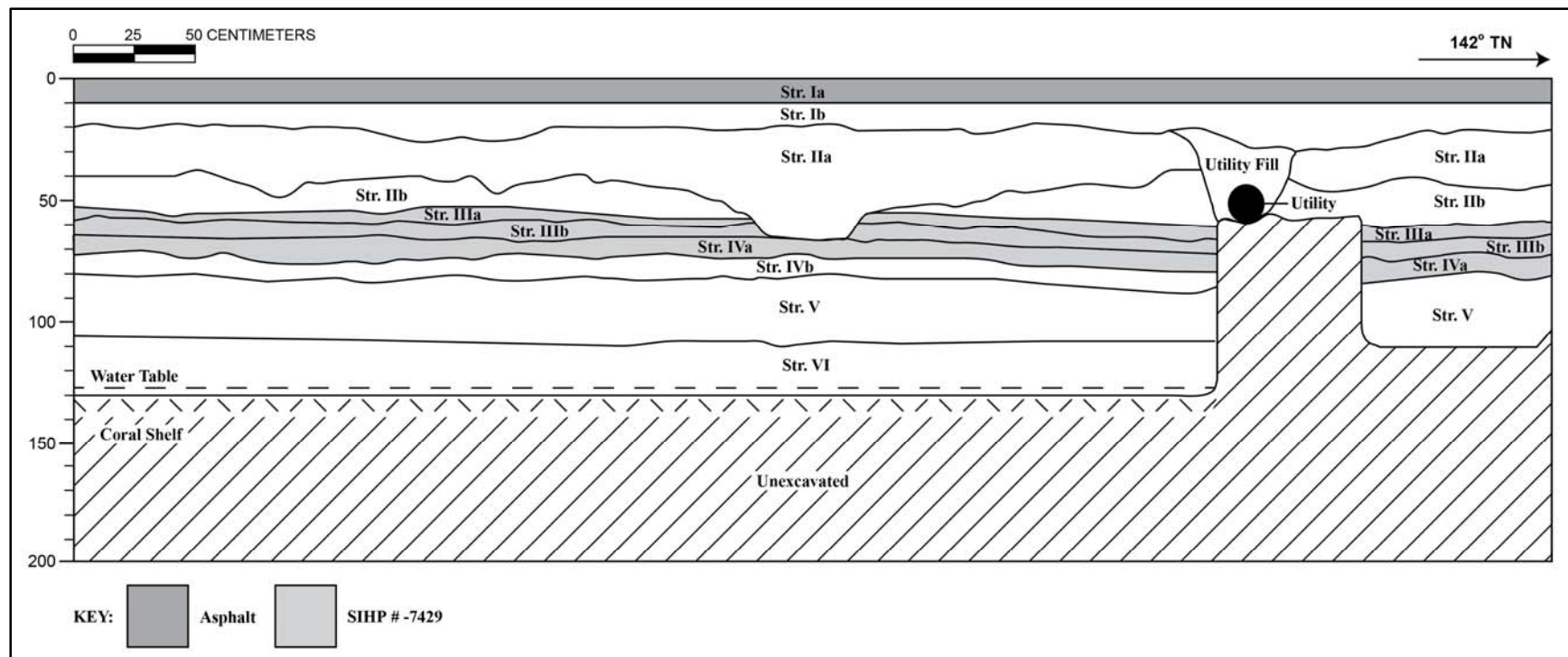


Figure 59. T-3 northeast profile, showing the location of SIHP # -7429 cultural deposits (Strata IIIa, IIIb, and IVa); SIHP # -7429 Feature 23, human skeletal remains, is located within Stratum IIIb

Table 5. Stratigraphic Description for T-3

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–10	Asphalt; road surface
Ib	10–30	Fill; gravel base course
Utility trench	20–55	Fill; loamy sand; fill associated with utility line
IIa	20–50	Fill; 10YR 7/2, light gray; extremely gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; irregular, abrupt to clear, lower boundary; crushed coral fill associated with early twentieth century land reclamation
IIb	40–60	Fill; 10YR 8/2, very pale brown; silty sand grading to silty clay; weak, fine, platy structure; moist, friable consistence; slightly plastic to plastic; marine origin; abrupt, smooth lower boundary; hydraulic (dredged) fill associated with early twentieth century land reclamation
IIIa	53–65	SIHP # -7429; 2.5YR 6/3, light yellowish brown; loamy sand; weak, fine, granular structure; moist, very friable consistence; non-plastic; mixed origin; clear, smooth lower boundary; redeposited and reworked local sand and A horizon material; contains marine shell midden and rusted metal fragments
IIIb	59–74	SIHP # -7429; 2.5YR 5/2, grayish brown; loamy sand; moderate, medium, platy structure; moist, very firm consistence; slightly plastic; mixed origin; clear, smooth lower boundary; extremely compacted fill composed of redeposited and reworked local sand and A horizon material; contains ceramic and glass fragments, red brick fragments, rusted metal, charcoal, marine shell midden, faunal bone, and isolated human bone (SIHP # -7429 Feature 23)
	70	SIHP # -7429 Feature 23; disarticulated, isolated human skeletal remains consisting of a lunate and a humerus shaft fragment
IVa	65–80	SIHP # -7429; 10YR 4/2, dark grayish brown, grading to 10YR 5/2, grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, smooth lower boundary; coarse, dark stained sand grading into finer sand; natural A horizon; contains marine shell midden, faunal bone, charcoal, and fire-altered basalt cobbles
IVb	73–88	Natural; 2.5YR 7/3, pale yellow; coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; clear, smooth lower boundary; Jaucas sand; Stratum IVa parent material
V	80–106	Natural; 10YR 7/4, very pale brown; sandy clay; structureless (massive); wet, slightly sticky consistence; marine origin; diffuse, wavy lower boundary



Stratum	Depth (cmbs)	Description of Sediment
VI	106–130 (BOE)	Natural; 10Y 7/1 (GLEYS 1), light greenish gray; coarse to very coarse sand; structureless (single-grain); wet, non-sticky consistence; marine origin; abrupt, smooth lower boundary; marine sand; overlying coral shelf

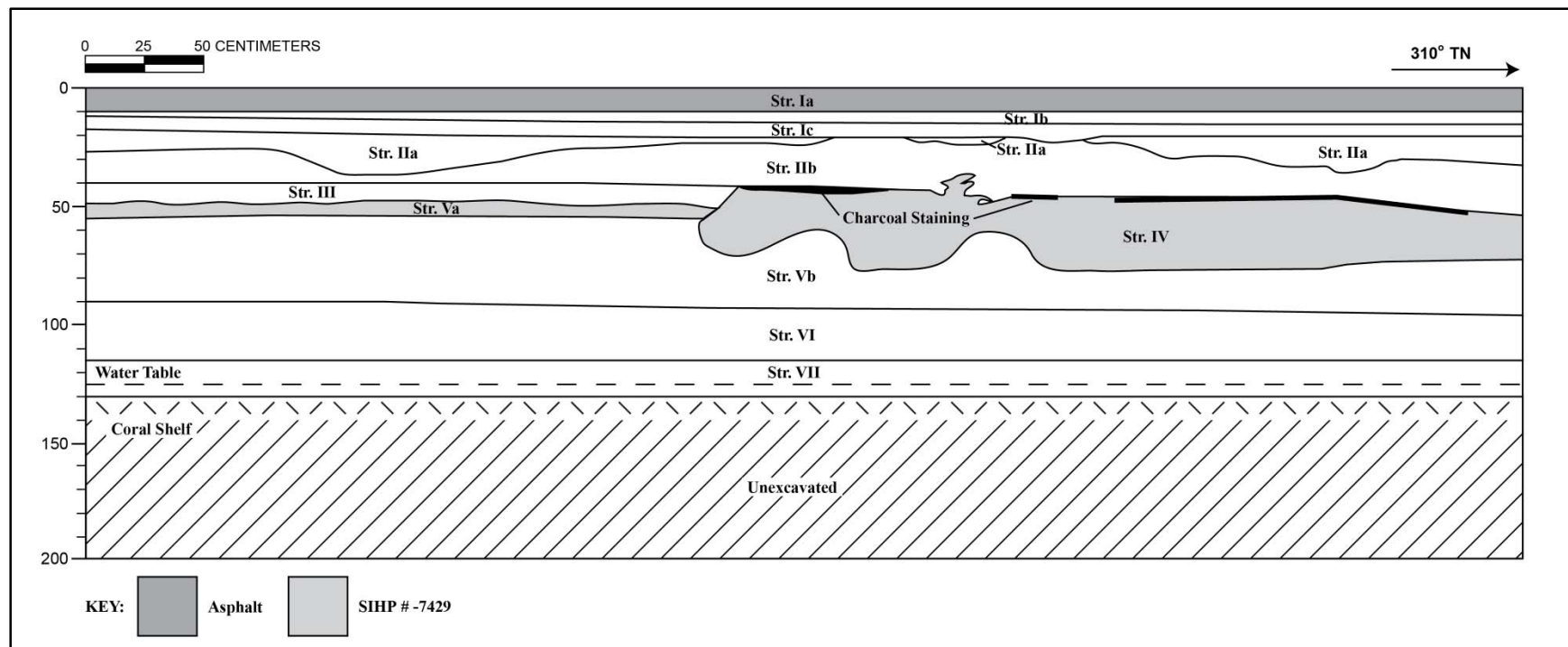


Figure 60. T-7 southwest profile, showing the location of SIHP # -7429 cultural deposits (Strata IV and Va); SIHP # -7429 Feature 25, an isolated fragment of a worn long bone, is located within Stratum IV

Table 6. Stratigraphic Description for T-7

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–8	Asphalt; parking lot surface
Ib	8–18	Fill; gravel base course
Ic	12–25	Fill; 10YR 3/3, dark brown; cobbly silty sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary
IIa	20–44	Fill; 10YR 7/3, very pale brown; extremely gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, irregular, discontinuous lower boundary; crushed coral fill associated with early twentieth century land reclamation
IIb	20–45	Fill; 10YR 7/2, light gray; very fine silty sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, broken/discontinuous, lower boundary; hydraulic (dredged) fill associated with early twentieth century land reclamation
III	40–52	Fill; 10YR 4/3, dark grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; redeposited, locally procured sand and A horizon material; contains rusted metal, slag, and faunal remains
IV	40–76	SIHP # -7429; 10YR 5/2, grayish brown, with mottles of gray, dark gray brown, and pale brown; loamy sand and clay sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; abrupt, broken/discontinuous lower boundary; mixed locally procured material consistent with a machine-backfilled event; contains charcoal staining and a probable human long bone fragment (SIHP # -7429 Feature 25)
	70	SIHP # -7429 Feature 25; isolated, probable human long bone fragment
Va	45–55	SIHP # -7429; 10YR 3/3, dark brown; silt loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; diffuse, discontinuous lower boundary; natural A horizon; contains ceramic fragments (Acc. # 43), faunal bone, and marine shell midden
Vb	40–99	Natural; 10YR 7/4, very pale brown; medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; Jaucas sand; Stratum Va parent material
VI	99–115	Natural; 10YR 8/3, very pale brown; silty clay; weak, fine, blocky structure; moist, firm consistence; plastic; marine origin; clear, smooth lower boundary; common fine roots observed
VII	115–129 (BOE)	Natural; 10YR 7/1, light gray; sandy clay; moderate, medium, blocky structure; wet, sticky consistence; plastic; marine origin; abrupt, smooth lower boundary; overlying coral shelf



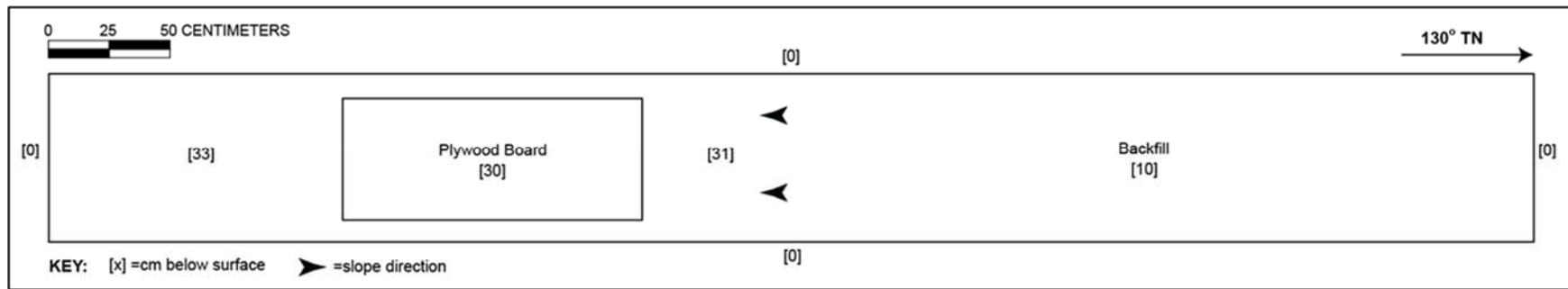


Figure 61. Plan view of T-7 depicting the location of the *iwi kūpuna* (SIHP # -7429 Feature 25) beneath a protective plywood board



Figure 62. Photograph of T-7, showing the implementation of short-term burial protection measures; the plywood board covers the location of SIHP # -7427 Feature 25, view to northwest

#### 4.4.3 SIHP # -7429 Feature 26 (within T-8)

Test Excavation 8 (T-8) was an exterior trench located between Warehouse Buildings 4 and 5, approximately 15 m southeast of T-7 (refer to Figure 56 and Figure 63). It was oriented northeast-southwest and measured 6 m long by 0.7 m wide, with a maximum depth of 1.28 mbs.

At the northwest end of T-8 within Stratum VIa, a natural loamy sand A horizon, a discoloration of soil was observed which appeared to be a disturbed portion of the A horizon intermixed with overlying fill material. This disturbed area measured 0.45 by 0.42 m and extended from approximately 0.39 to 0.52 mbs. It contained a concentration of *'ili'ili* (waterworn pebbles), two pieces of charcoal that adhered to two of the pebbles, a human ulna (arm bone) portion, and tiny bone fragments (Figure 64, Figure 65, and Table 7). The *'ili'ili* and human remains appeared to have been previously disturbed and scattered from their original location(s). Several scattered *'ili'ili* were observed in the overlying Stratum III fill deposit as well as one pebble within the nearby Stratum IV incinerator fill deposit. The human ulna was located at the interface of this feature within Stratum VIa and the overlying Stratum III. The bone has been calcified by prolonged exposure to water, suggesting its original interment location was at or below the water table or possibly that the fragment spent time in a pool of water after it was removed from its original location. The concentration of *'ili'ili* stones and human skeletal remains is designated SIHP # -7429 Feature 26.

Protective measures were implemented during AIS fieldwork to secure the *iwi kūpuna*, as well as the possibly associated *'ili'ili*. In consultation with on-site Hawaiian cultural practitioners (OCR), the protective measures were similar to those implemented for SIHP # -7429 Features 23 and 25 and included the construction of a clean sand pedestal extending to a height of 0.45 mbs, in the approximate original location of the find, which was lined with *ti* leaves. The *iwi kūpuna* were then wrapped in muslin and secured in a *lauhala* basket and they, along with the *'ili'ili*, were placed on the pedestal by the on-site cultural practitioner. After all cultural protocols were observed, 15 cm of clean sand was deposited over the basket, followed by a wooden board at 0.30 mbs, and the whole was covered again with clean sand (Figure 66). T-8 was then backfilled to the level of the current ground surface and the test excavation repaved with asphalt.

#### 4.4.4 SIHP # -7429 Feature 53 (within T-13)

Test Excavation 13 (T-13) was located in Warehouse Building 4 inside active tenant space (refer to Figure 56 and Figure 67). It was oriented southwest-northeast and measured 3.7 m long by 0.91 m wide, with a maximum depth of 1.83 mbs. T-13 was located just *mauka* of the SIHP # -7429 burial cluster within T-17, T-69, and T-70.

Within the southwest portion of T-13, a previously disturbed pit containing wood remnants and associated hardware was documented extending into Stratum IVa, a natural loamy sand A horizon (Figure 68 through Figure 70, and Table 8). The remnant wood appeared intact on one end and jagged from being previously disturbed on the other end (see Figure 70). Numerous pieces of oxidized copper were observed along the wood as well as a band of rusted metal, likely a decorative band. No nails were found in association with the wood remnant, although several were found within the adjacent Stratum IIIa. The pit feature, composed of gray loamy clay, was very shallow, extending from approximately 0.79 to 0.83 mbs, and appeared to have been significantly truncated. No *iwi kūpuna* were documented in this feature (or anywhere within this test excavation) to





Figure 63. Photograph of T-8, located along the *mauka* boundary of Block I between Warehouse Buildings 4 and 5, view to northwest

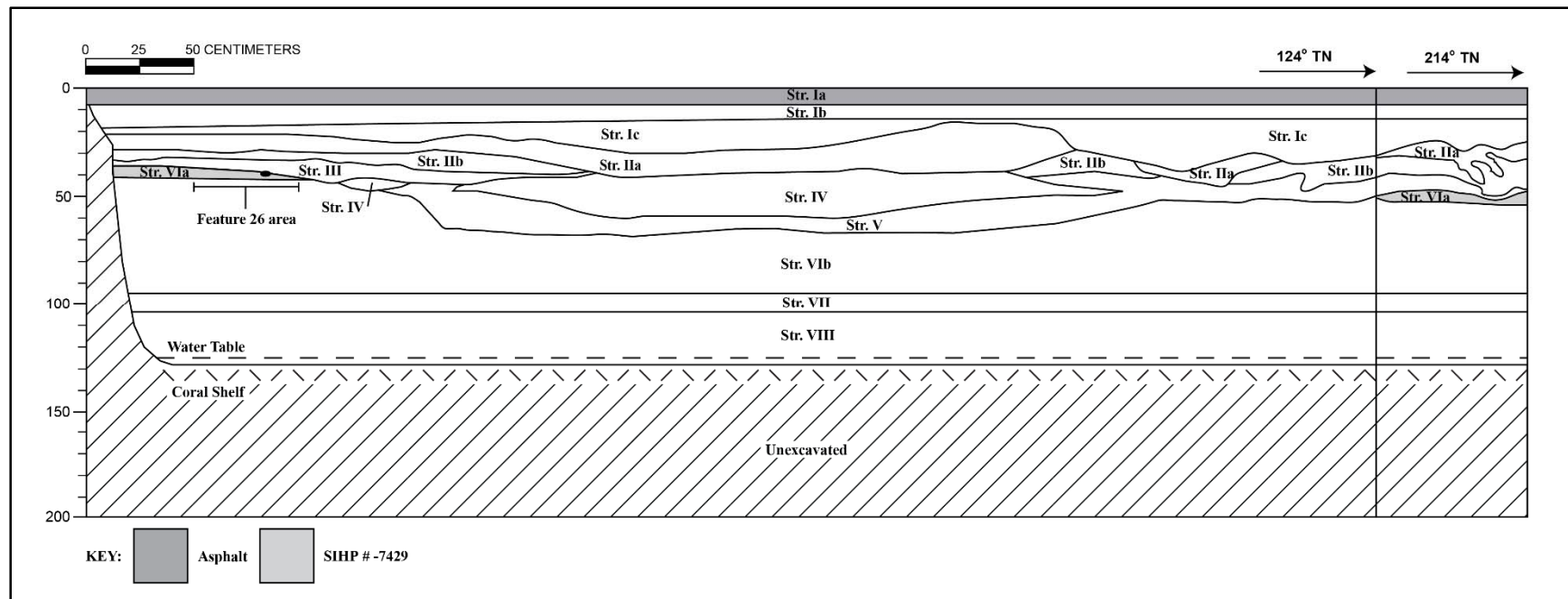


Figure 64. T-8 northeast (124° TN) and southeast (214° TN) profiles, showing the location of SIHP # -7429 Feature 26, disarticulated human skeletal remains and a concentration of *'ili 'ili*

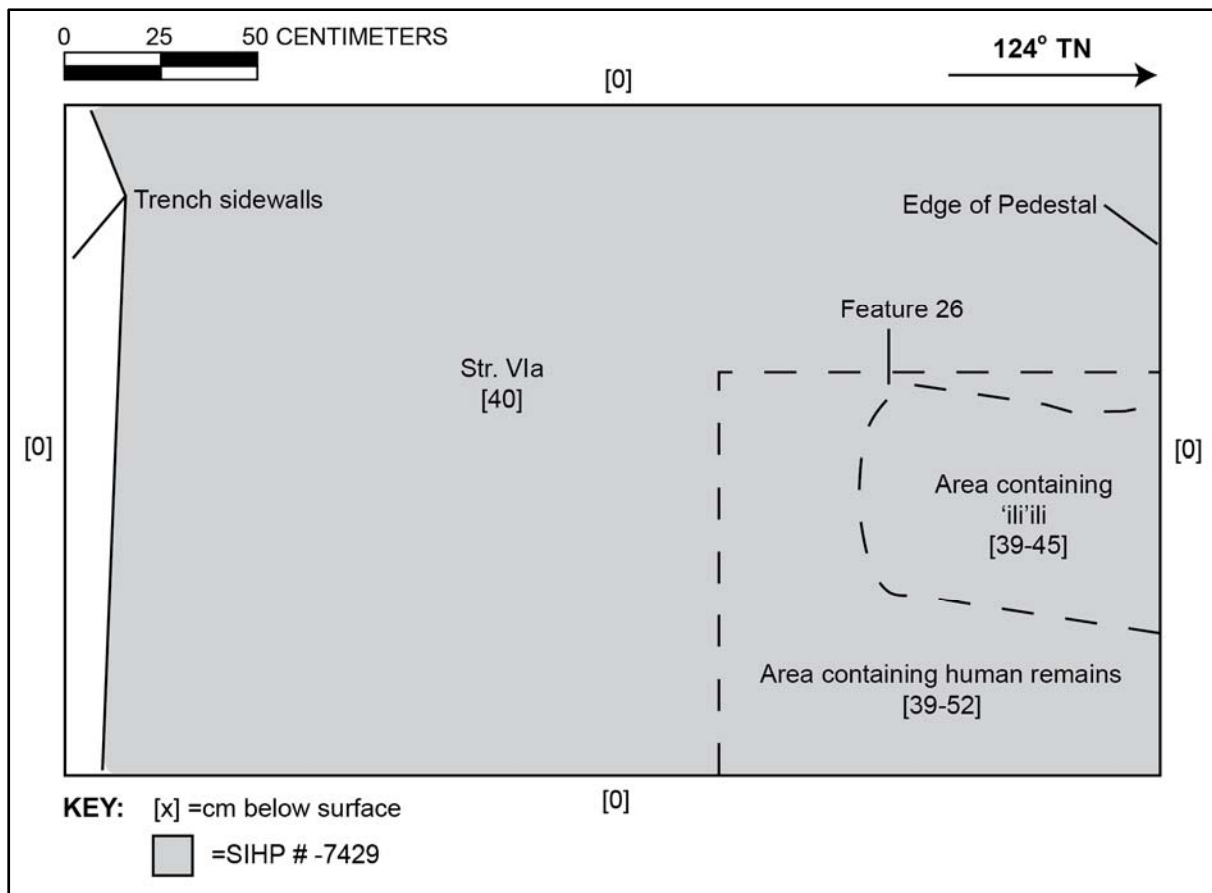


Figure 65. Plan view of northwest end of T-8, depicting SIHP # -7429 Feature 26



Table 7. Stratigraphic Description for T-8

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–7	Asphalt; road surface
Ib	7–16	Fill; gravel base course
Ic	16–23	Fill; 10YR 3/3, dark brown; cobbly silty sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear wavy lower boundary
IIa	15–41	Fill; 10YR 5/3, brown; extremely gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, broken/discontinuous lower boundary; crushed coral fill associated with early twentieth century land reclamation
IIb	30–48	Fill; 10YR 8/1, white; silty clay; weak, fine, platy structure; moist, friable consistence; slightly plastic; marine origin; clear, irregular and broken/discontinuous lower boundary; hydraulic (dredged) fill associated with early twentieth century land reclamation
III	36–45	Fill; 10YR 5/4, yellowish brown; loam; moderate, medium, crumb structure; moist, friable consistence; slightly plastic; mixed origin; clear, broken/discontinuous lower boundary; highly compacted fill; contains scattered (previously displaced) <i>'ili 'ili</i>
IV	43–61	Fill; incinerator fill deposit composed of thermally altered and fused metal, glass, and slag; no sediment matrix; contained one displaced <i>'ili 'ili</i> ; extremely indurated at upper boundary; clear, broken/discontinuous lower boundary
V	40–70	Fill; 10YR 4/3, dark grayish brown; sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; redeposited, locally procured sand and A horizon material
VIa	47–55	SIHP # -7429; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, granular structure; moist, very friable consistence; non-plastic; mixed origin; clear, irregular and discontinuous lower boundary; natural A horizon; contains SIHP # -7429 Features 26 and 27
	39–52	SIHP # -7429 Feature 26; disturbed area containing <i>'ili 'ili</i> stones and human skeletal remains
	43–67	SIHP # -7429 Feature 27; pit feature of indeterminate function; no cultural material observed
VIb	35–95	Natural; 10YR 7/4, very pale brown; medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; Jaucas sand; Stratum VIa parent material
VII	95–105	Natural; 2.5YR 8/2, pale yellow; sandy clay; moderate, coarse, blocky structure; wet, sticky consistence; slightly plastic; marine origin; diffuse, smooth lower boundary; contained common fine to medium roots

Stratum	Depth (cmbs)	Description of Sediment
VIII	105–128 (BOE)	Natural; 2.5YR 7/1, light gray; clay sand; weak, fine, blocky structure; wet, sticky consistence; slightly plastic; marine origin; abrupt, smooth lower boundary; contains fine decomposing roots; marine deposit; overlying coral shelf



Figure 66. Photograph of T-8, showing the implementation of short term protective measures for SIHP # -7429 Feature 26, consisting of the placement of a layer of natural sand and a plywood board atop the location of the *iwi kūpuna* before completion of backfilling and repaving, view to northwest

indicate that Feature 53 is a burial site. While it is possible Feature 53 represents a disturbed historic burial, particularly in light of the proximity of the SIHP # -7429 documented burial cluster (see T-17 excavation results) and disturbed human skeletal remains along the *mauka* boundary of the study area, no conclusive evidence is available.

The wood remnants and metal hardware were collected and are being temporarily stored within the CSH Waimānalo office.



Figure 67. Location of T-13 within interior warehouse tenant space, view to northeast



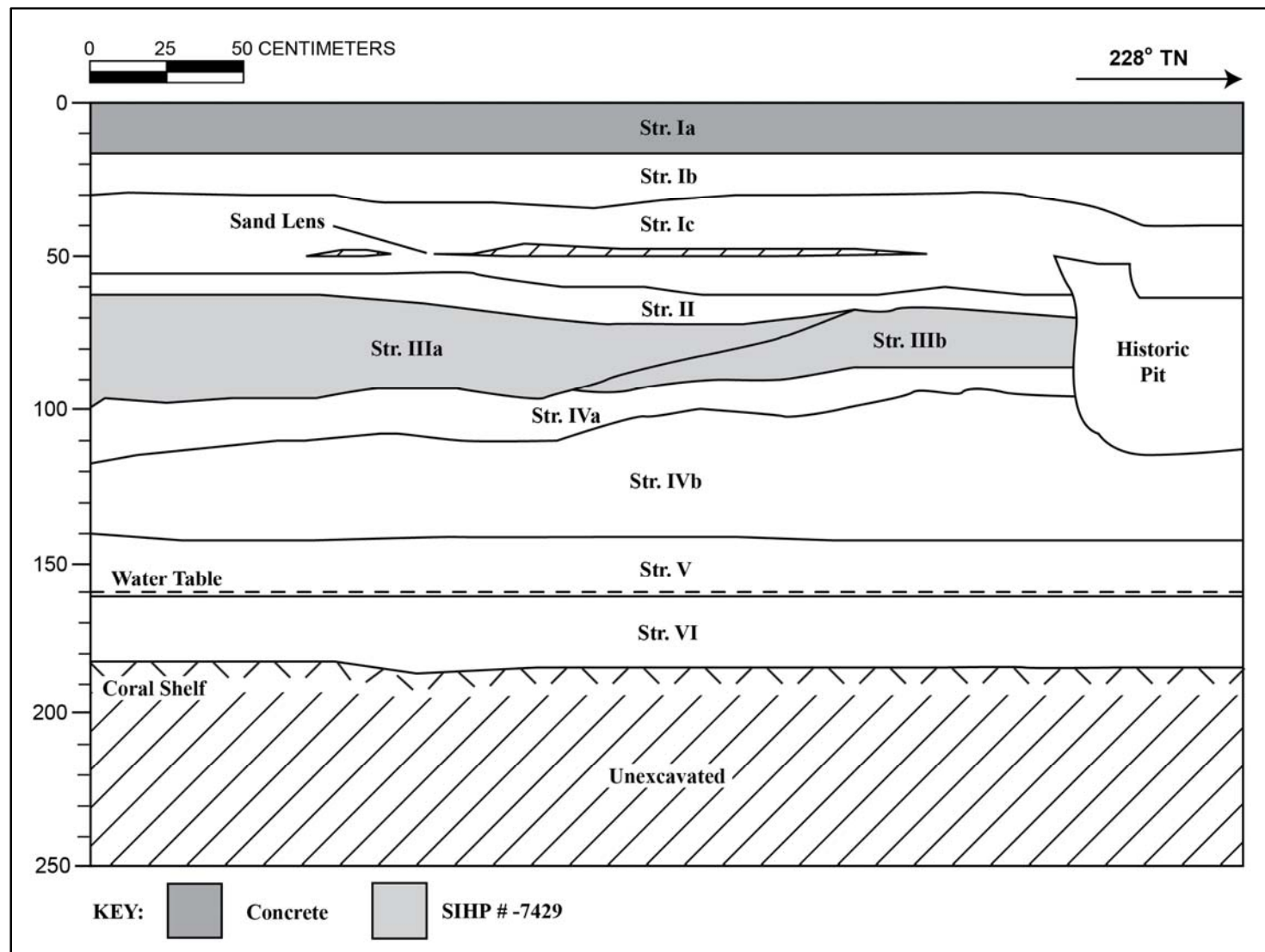


Figure 68. T-13 southeast profile

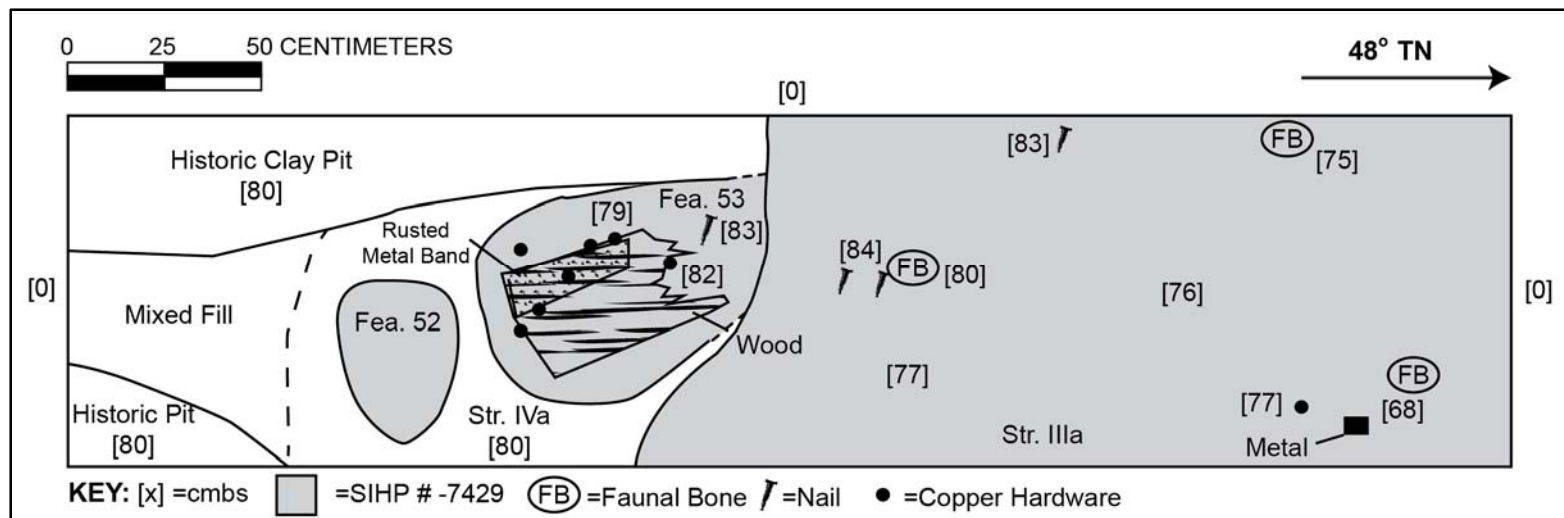


Figure 69. Plan view of T-13 at approximately 0.8 mbs depicting SIHP # -7429 Feature 53, wood remnants with copper hardware

Table 8. Stratigraphic Description for T-13

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–16	Concrete
Ib	16–40	Fill; gravel base course
Ic	29–65	Fill; 10YR 2/2, very dark brown; gravelly sandy loam; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; contained sand lenses; imported loam fill
Historic pit	50–115	Fill; gravelly loamy sand; historic pit
II	55–73	Fill; 10YR 8/3, very pale brown; extremely gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin abrupt, smooth lower boundary; crushed coral fill associated with early twentieth century land reclamation
IIIa	62–78	SIHP # -7429; 7.5YR 5/2; brown; loamy sand; weak, coarse, granular structure; moist, loose consistence; non-plastic; mixed origin; diffuse, smooth lower boundary; contains marine shell midden, faunal bone, fire-altered rock, charcoal, metal nails (Acc. # 121), and metal fragments; redeposited and reworked local sand and A horizon material used as early twentieth century fill
IIIb	67–95	SIHP # -7429; 10YR 4/2, dark grayish brown, loamy sand; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; abrupt to clear, smooth lower boundary; contains marine shell midden, charcoal, fire-altered rock, wood fragments, metal nails, a marble, a basalt adze (Acc. # H-2), and volcanic glass debitage (Acc. # H-3); redeposited and reworked local sand and A horizon material used as early twentieth century fill; contains SIHP # -7429 Features 52 and 53
	80–87	SIHP # -7429 Feature 52; pit of indeterminate function; contains fish bone and fire-altered rock
	79–83	SIHP # -7429 Feature 53; possible burial pit; contains remnant wood box or coffin with metal hardware
IVa	93–117	Natural; 10YR 4/2, dark grayish brown; coarse loamy sand; structureless (single-grain); loose consistence; non-plastic; mixed origin; diffuse, smooth lower boundary; truncated, in situ A horizon; culturally sterile
IVb	93–143	Natural; 7.5YR 7/3, pink; sand; structures (single-grain); moist, loose consistence; non-plastic; marine origin; diffuse, smooth lower boundary; contains naturally occurring marine shell and waterworn coral; Stratum IVa parent material; Jaucas sand
IV	143–160	Natural; 7.5YR 8/2, pinkish white; sandy clay; weak, fine, blocky structure; wet, slightly sticky consistence; plastic; marine origin; diffuse, smooth lower boundary; common fine roots observed; wetland deposit



Stratum	Depth (cmbs)	Description of Sediment
V	160–183 (BOE)	Natural; N 8/ (GLEYS 1), white; clay sand; weak, very fine, granular structure; wet, slightly sticky consistence; weak cementation; slightly plastic; marine origin; overlies coral shelf; marine deposit



Figure 70. Photograph of SIHP # -7429 Feature 53, showing wood remnant with associated copper fixings

#### 4.4.5 SHIP # -7429 Features 57, 58a/b, and 59a/b (within T-17)

Test Excavation 17 (T-17) was an exterior trench located between Warehouse Buildings 3 and 4 (refer to Figure 56 and Figure 71). It was oriented northwest-southeast and measured 6 m long by 0.7 m wide, with a maximum depth of 1.6 mbs.

Three burial sites were documented within T-17, SIHP # -7429 Features 57, 58a/b, and 59a/b. Feature 57 consists of a human burial containing an adult and a newborn. The burial is located approximately 0.4 to 0.65 mbs near the lower boundary of Stratum II, a historic sandy fill deposit (Figure 72, Figure 73, and Table 9). The burial was disturbed during backhoe excavation, which removed a portion of the left side of the adult and the entire newborn. As such, the exact relationship of the infant to the adult skeletal remains unclear. The remaining in situ portion of the adult burial was located partly in the southwest test excavation sidewall. The burial was in a flexed position and oriented east-west, with the head toward the west. No burial pit was observed surrounding the burial. However, fragments of wood, believed to be possible remnant coffin wood, were observed overlying the burial along with metal nails. Some of the wood lines appeared disturbed, which could indicate previous disturbance to the burial. Two possible grave goods, a porcelain button and a pearl shell button, were also recovered from the area of the burial. As the burial is located in a historic fill deposit and is possibly associated with a coffin, it is interpreted as a historic period burial. However, the flexed position of the adult burial suggests traditional Hawaiian burial practices and could indicate a transition from traditional Hawaiian burial practices to Western-style Christian burial practices, incorporating a little of both practices. Based on the flexed burial position of the adult, these individuals were likely Native Hawaiian.

SIHP # -7429 Feature 58a is the remnants of a human adult burial within a burial pit which was subsequently disinterred in historic times. The original burial pit is designated Feature 58a, while the pit made by the subsequent disinterment of the burial is designated Feature 58b (see Figure 72 and Figure 74 through Figure 76). It was difficult to distinguish between the two pits during excavation; however, the two pits are very slightly offset from one another. Feature 58a, the original burial pit, appeared to originate from the top of the Stratum IIIa A horizon at approximately 0.65 mbs, while Feature 58b, the disinterment pit, originated at the top of the Stratum II historic fill layer at approximately 0.17 mbs (see Figure 76). Both pits are composed of multiple layers of varying sediments, typical of backfilled pits. Feature 58b was topped by a thick deposit of charcoal. Within the test excavation sidewalls, the pits extend to approximately 1.04 mbs; however, within the center of the trench, the pits continue to extend to below the water table at approximately 1.5 mbs. As the subsequent disinterment pit was located almost directly on top of the burial pit, even though the burial pit did not reach the ground surface at the time the disinterment occurred, it is believed a grave marker must have been previously present.

From approximately 0.7 to 1.0 mbs, scattered coffin wood and coffin wood staining were evident within the pits (Figure 77). Scattered coffin hardware and nails were also present. Two fragments of an adult human left calcaneus were documented at 0.72 mbs. Rusted metal, a concentration of dog bone, a large coffin wood stain, and a void were also documented within the feature at this level. A small, square, coffin outline was observed below these items and was oriented exactly east-west. The size of the coffin would have precluded an extended adult burial (Figure 78). It is possible that like the Feature 57 adult burial, this burial was also originally in a



Figure 71. Photograph of T-17, located near the north corner of Block I between Warehouse Buildings 3 and 4, view to northwest



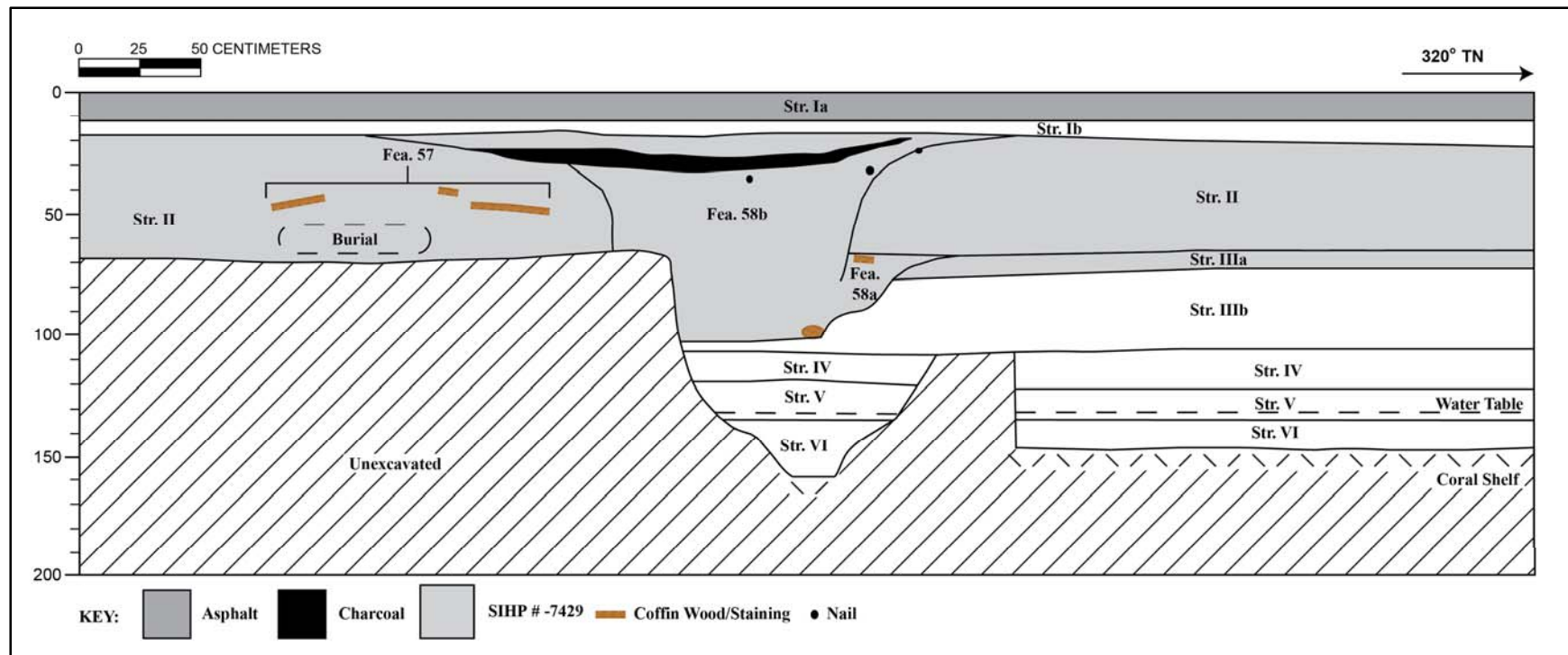


Figure 72. T-17 southwest profile, showing the location of SIHP # -7429 Features 57 and 58a/b

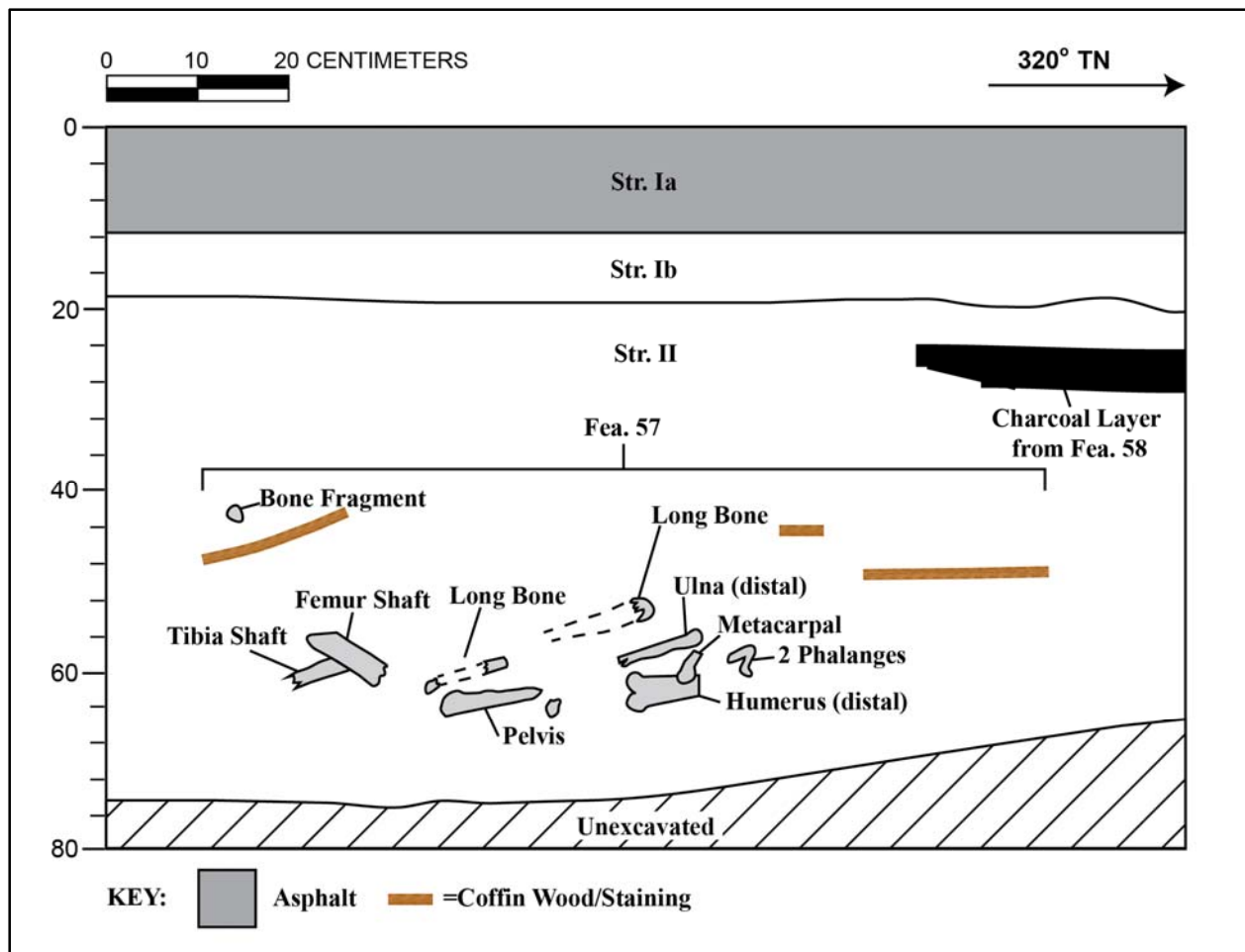


Figure 73. T-17 southwest wall, southern portion, showing a close-up of SIHP # -7429 Feature 57

Table 9. Stratigraphic Description for T-17

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–15	Asphalt; road surface
Ib	15–20	Fill; gravel base course
II	20–70	SIHP # -7429; 10YR 6/3, pale brown, mottled with 2.5YR 7/2, light gray; clay sand; weak, fine, blocky to crumb structure; non-plastic to plastic; mixed origin; reworked local sediment used to build up the terrain and which served as a living surface; contains charcoal, oxidized metal, buttons, faunal bone, and possible coffin wood; contains SIHP # -7429 Features 57, 58b, and 59b
	40–65	SIHP # -7429 Feature 57; human burial consisting of two individuals
	17–150	SIHP # -7429 Feature 58b; disinterment pit associated with Feature 55b
	69–114	SIHP # -7429 Feature 59b; disinterment pit associated with Feature 56b
IIIa	65–75	SIHP # -7429; 10YR 5/2, grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, smooth and discontinuous lower boundary; in situ A horizon; contains SIHP # -7429 Features 58a and 59a
	65–150	SIHP # -7429 Feature 58a; human burial
	68–114	SIHP # -7429 Feature 59a; human burial
IIIb	75–107	Natural; 2.5Y 7/4, pale yellow; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; Jaucas sand; Stratum IIIa parent material
IV	107–124	Natural; 10YR 7/3, very pale brown; sandy clay; weak, fine, granular structure; moist, very friable consistence; slightly plastic; marine origin; diffuse, smooth lower boundary; abundant decomposing roots
V	124–135	Natural; 10Y 7/1, light greenish gray; clay sand; weak, fine, granular structure; moist, very friable consistence; slightly plastic; marine origin; diffuse, smooth lower boundary; abundant decomposing roots
VI	135–160 (BOE)	Natural; 10Y 7/1, light greenish gray; gravelly coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; marine deposit; overlying coral shelf



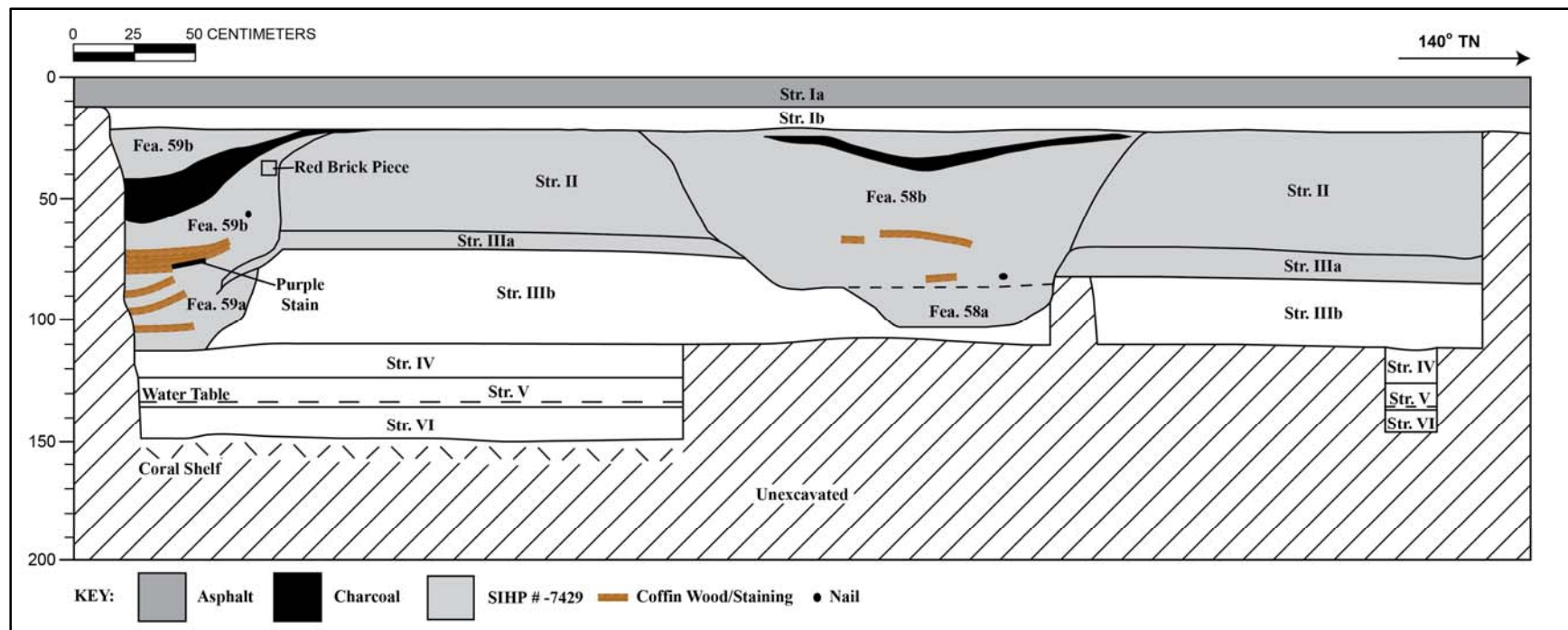


Figure 74. T-17 northeast profile, depicting SIHP # -7429 Features 58a/b and 59a/b



Figure 75. Photographs of T-17 northeast profile, showing SIHP # -7429 Feature 59a/b within the northern corner, Feature 58a/b within the central portion, and Feature 57 within the southwestern wall in the southern portion of the trench (indicated by plywood boards), views to north and east, respectively



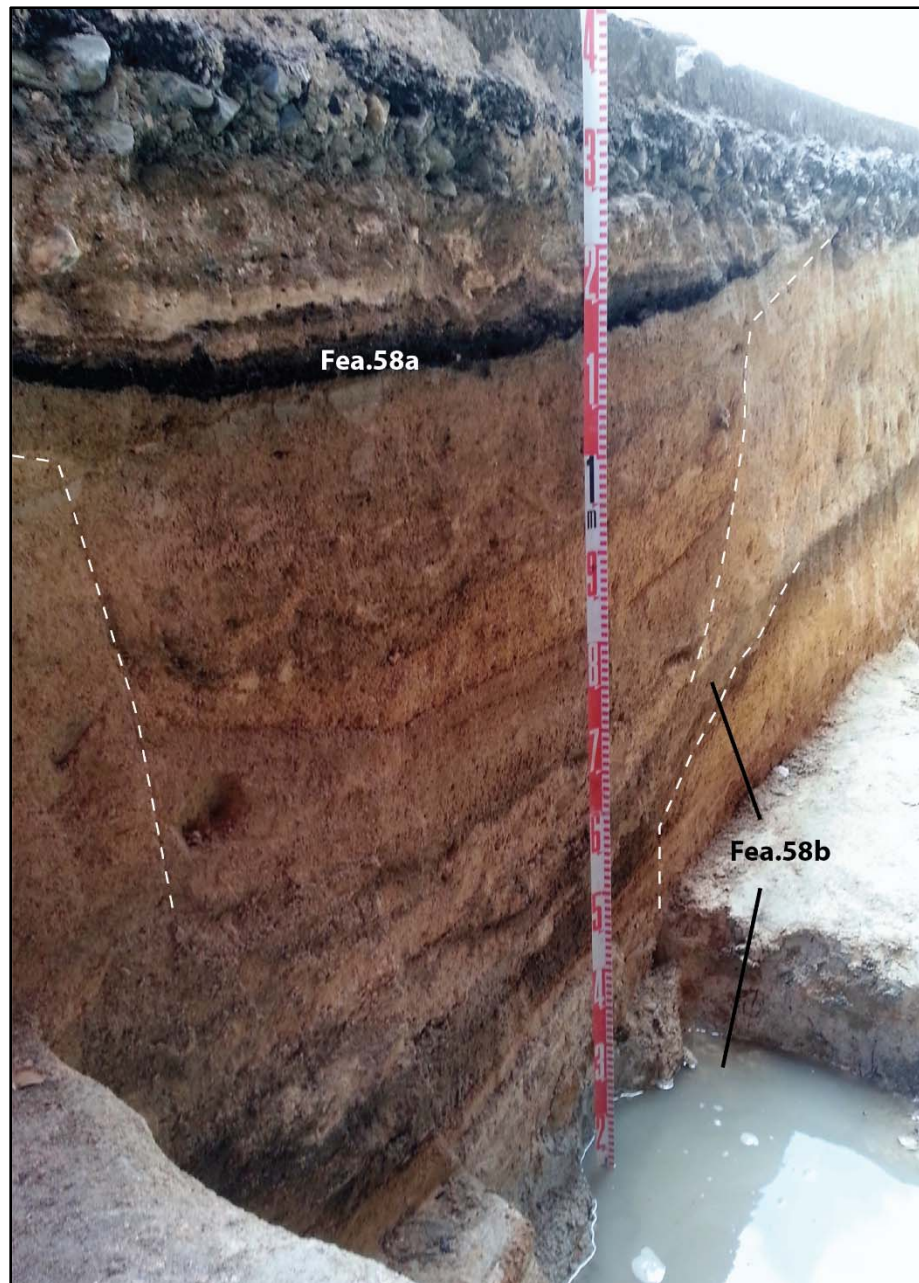


Figure 76. T-17 southwest wall, central portion, showing SIHP # -7429 Feature 55a/b, view to west



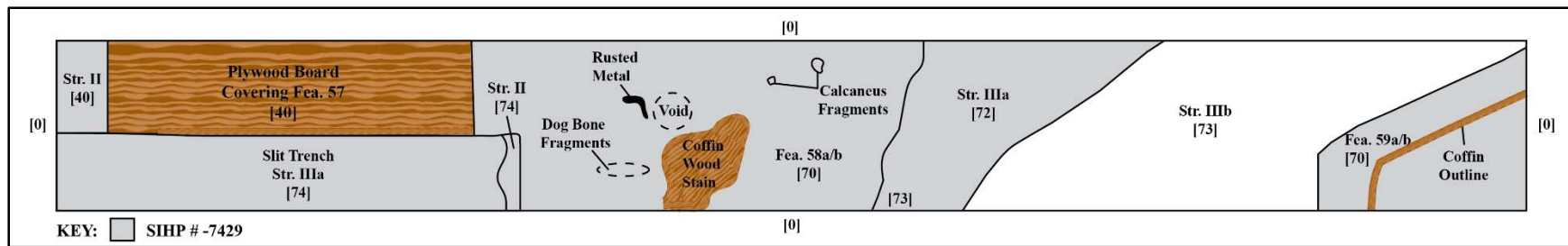


Figure 77. T-17 plan view at approximately 0.4 and 0.7 mbs depicting SIHP # -7429 Features 57, 58a/b, and 59a/b



Figure 78. Photograph of SIHP # -7429 Feature 58a, showing the small, rectangular coffin pit at the level of the water table, view to southeast

flexed burial position within a coffin, melding traditional Hawaiian and Christian burial practices.

The coffin outline extended from this point down to approximately 1.4 mbs, where intact wood planks were observed. These planks were located below the water table, which explains why they were still preserved when the upper portion of the coffin was not. Beneath the coffin base, several used, long matchsticks were documented at approximately 1.5 mbs (Figure 79). Also beneath the intact wood planks was documented a patch of dark brown silty clay soil containing abundant fishbone, some of which was burnt, and charcoal. Laboratory analysis of the fish bone indicated at least 12 species of fish are present. Two dog burials were also located near the east end of the coffin and at least five *kukui* nut shells were documented encircling the coffin. The significance of these various items is unclear. *Kukui* nuts are very symbolic in traditional Hawaiian culture. The burnt fish bone and used matchsticks could indicate a feast was cooked before the burial was placed inside. Conversely, the presence of so many species of fish, the majority of which were identified as species that are hidden (i.e., that like to hide in crevasses or burrow under the sand) and that would have required some effort to obtain, may indicate a symbolic or personal association, perhaps indicating the deceased's role as a fisherman, or may indicate some other significance. The dogs may have been personal pets of the deceased. Several other grave goods were found scattered throughout the feature, consisting of one pearl shell and four porcelain buttons (Figure 80), a clay marble, a cowrie shell, and many pieces of oxidized metal. The use of a wood coffin and the historic-era grave goods indicate this is a historic burial. The various possibly traditional Hawaiian symbolic items and the inferred possible burial position suggest this individual was likely Native Hawaiian.

SIHP # -7429 Feature 59a is the remnants of a human burial within a burial pit that was subsequently disinterred in historic times (Figure 81). This feature was located in the north corner of the test excavation, and most of the feature was located beyond the test excavation sidewalls both to the northwest and the northeast (see Figure 77). The original burial pit is designated Feature 59a, while the pit made by the subsequent disinterment of the burial is designated Feature 59b. It was difficult to distinguish between the two pits during excavation as Feature 59b was directly on top of and intrusive through Feature 59a. Feature 59a, the original burial pit, appeared to originate from the Stratum IIIa A horizon at an unknown depth, while Feature 59b, the disinterment pit, originated at the top of the Stratum II historic fill layer at approximately 0.2 mbs. Both pits are composed of multiple layers of varying sediments, typical of backfilled pits. As with Feature 58b, Feature 59b was topped by a thick deposit of charcoal. The pits extended to approximately 1.14 mbs at the base of Stratum IIb. As the subsequent disinterment pit was located almost directly on top of the burial pit even though the burial pit did not reach the ground surface at the time the disinterment occurred, it is believed that a grave marker must have been previously present.

Coffin wood and coffin staining were present from approximately 0.7 to 1.05 mbs. Coffin nails and hardware, a clear glass fragment, a slate pencil, a red brick fragment, and a faunal bone fragment were found scattered throughout the feature. No human skeletal remains were identified within this feature; however, only a small portion of the burial pit was able to be excavated. The use of a wood coffin and the historic-era grave goods indicate this is a historic burial. The ancestry of the individual could not be determined as no skeletal elements were observed; however, based on the similarity with and proximity to Features 58a/b, ancestry is likely Native Hawaiian.





Figure 79. Used matchsticks associated with SIHP # -7429 Feature 58a



Figure 80. Buttons associated with SIHP # -7429 Feature 58a





Figure 81. Photograph of SIHP # -7429 Feature 59a/b in north corner of T-17, view to north

In consultation with on-site Hawaiian cultural practitioners (OCR), protective measures were implemented to secure the human skeletal remains. For Feature 57, adult and newborn burial within the southwest sidewall, a muslin cloth was secured vertically along the sidewall to protect the in situ *iwi kūpuna*. The disturbed remains of the newborn and adult were wrapped in muslin and placed on *ti* leaves adjacent to the in situ remains along with the potential historic grave goods. The *iwi kūpuna* were then covered with sand and a protective plywood board placed overtop (Figure 82). For Feature 58a, disinterred coffin burial, the remaining isolated skeletal elements were wrapped in muslin and placed atop *ti* leaves (along with all grave goods and coffin remnants) in the original location of the find, at approximately 0.7 mbs. The *iwi kūpuna* were then covered with sand and a protective plywood board placed overtop (see Figure 82). For Feature 59a, the identified grave goods were placed in the location of the burial pit and also covered with sand and a plywood board. After all cultural protocols were observed, the remaining portions of T-17 were backfilled to the level of the current ground surface and the test excavation repaved with asphalt.



Figure 82. Photograph of T-17, showing the implementation of short term protective measures for SIHP # -7429 Features 57 (rear), 58a/b (center), and 59a/b (fore), consisting of the placement of a layer of natural sand and a plywood board atop the location of each of the burial sites before completion of backfilling and repaving, view to southeast



#### 4.4.6 SHIP # -7429 Feature 60 (within T-24)

Test Excavation 24 (T-24) was an exterior excavation located in the vicinity of Warehouse Building 3 (refer to Figure 56 and Figure 83). It was oriented northeast-southwest, and measured 8.0 m long by 0.75 m wide, with a maximum depth of 1.35 mbs.

Human skeletal remains consisting of an isolated human deciduous tooth were identified within the *mauka* portion of the test excavation within Stratum III<sub>f</sub>, a silty sandy clay fill deposit likely utilized to shore a natural sand dune at the edge of a wetland/historic salt pan deposit (SIHP # -7655) (Figure 84 and Table 10). Based on the isolated context of the *iwi kūpuna*, the tooth may indicate a previously disturbed burial or the natural loss of a deciduous (child's) tooth. These remains are designated SIHP # -7429 Feature 60.

Protective measures were implemented during AIS fieldwork to secure the human skeletal remains. In consultation with on-site Hawaiian cultural practitioners (OCR), protective measures included backfilling of the test excavation to the level of the original location of the *iwi kūpuna* at 0.72 mbs. The *iwi kūpuna* were then wrapped in muslin and placed on the *ti* leaf-lined location of the find. After all cultural protocols were observed, clean sandy sediments were deposited over the *iwi*, followed by a wooden board at approximately 0.3 mbs, and the whole was covered again with the local sediment (Figure 85). The remaining portions of T-24 were then backfilled to the level of the current ground surface and the test excavation repaved with asphalt.

#### 4.4.7 SIHP # -7429 Feature 68 (within T-57)

Test Excavation 57 (T-57) was an exterior excavation located adjacent to T-24 (approximately 0.5 m northwest) (refer to Figure 56). It was oriented northeast-southwest and measured 10 m long by 0.7 m wide, with a maximum depth of 1.35 mbs.

Human skeletal remains consisting of an isolated frontal cranial fragment were documented at 1.1-1.2 mbs within the southeast sidewall at the interface of two fill deposits (associated with the modification of a natural sand dune—Strata III<sub>h</sub> and III<sub>i</sub>), SIHP # -7655 salt pan bed deposits (Stratum VI<sub>a</sub>), and natural wetland sediment (Stratum VII) (Figure 86 and Table 11). The cranial fragment was designated SIHP # -7429 Feature 68. Based on the isolated context of the *iwi kūpuna* and its location at the interface of several strata, the origin of Feature 68 is indeterminate.

Protective measures were implemented during AIS fieldwork to secure the human skeletal remains. In consultation with on-site Hawaiian cultural practitioners (OCR), protective measures included the placement of a muslin cloth over the remains within the trench sidewall and construction of a protective sand abutment in the location of the *iwi kūpuna* along with a perimeter of coral and stone cobbles (Figure 87), followed by the placement overtop of a layer of sandy sediment and a plywood board, backfilling the remaining portions of the trench, and repaving the asphalt surface.



Figure 83. Photograph of T-24, located along the northwestern boundary of Block I, view to northeast

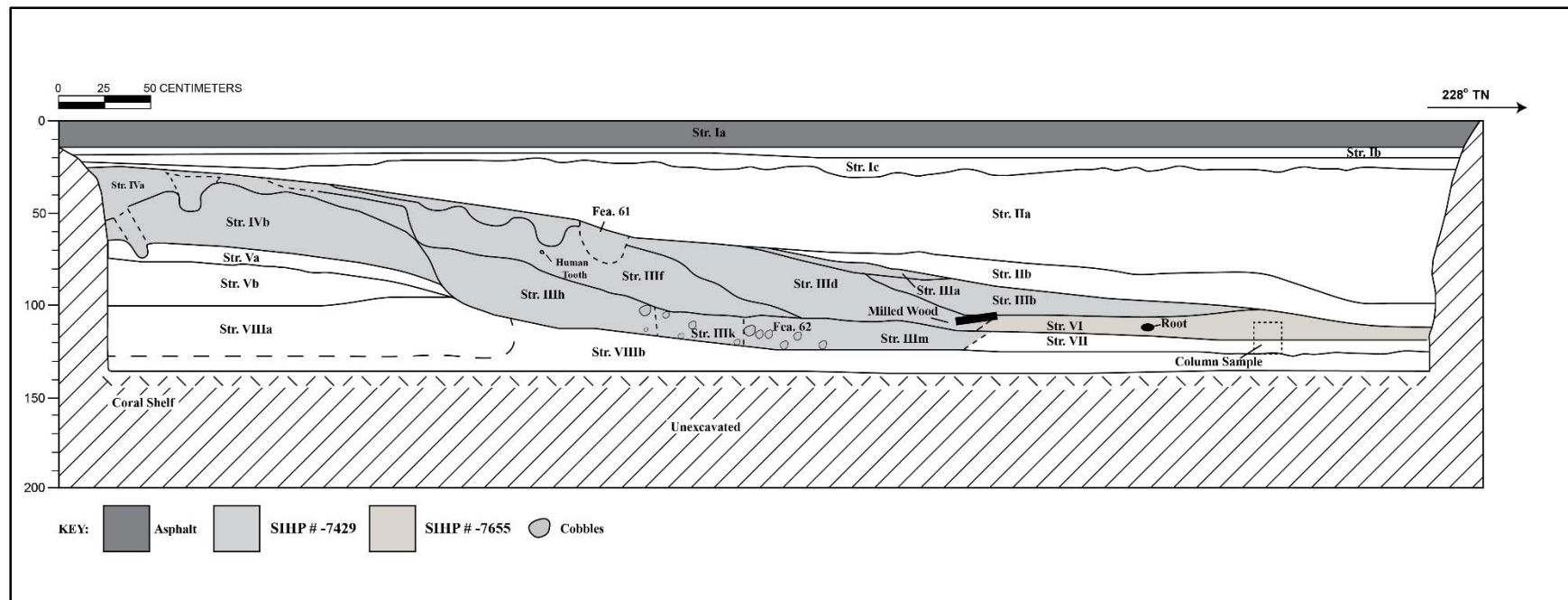


Figure 84. T-24 southeast profile, showing the interface of SIHP #s -7429 and -7655 cultural deposits; SIHP # -7429 Feature 60, a human deciduous tooth, is located within Stratum IIIf



Table 10. T-24 Stratigraphic Description for Southeast Wall Profile

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–15	Asphalt; road surface
Ib	10–20	Fill; 10YR 4/2, dark grayish brown; gravelly loam sand; weak, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; base course; very compact in profile
Ic	10–30	Fill; 10YR 7/2, light gray; cobbly coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill, very compact in profile
Id	15–30	Fill; 10YR 2/1, black; gravelly loamy sand; structureless (single-grain); moist, very friable consistence; mixed origin; clear, smooth, and discontinuous lower boundary; base course; northwest wall profile only
IIa	22–98	Fill; 10YR 8/3, pale brown; cobbly fine to coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, irregular, and discontinuous lower boundary; crushed coralline sand fill associated with Kaka'ako land reclamation activities
IIb	25–85	Fill; 10YR 7/2, light gray; slightly gravelly clay sand; structureless (single-grain); moist, very friable consistence; slightly plastic; mixed origin; clear, discontinuous lower boundary; disturbed hydraulic dredge material associated with Kaka'ako land reclamation activities intermixed with other fill sediment; northwest wall profile only
IIc	65–111	Fill; 10YR 8/2, very pale brown; clayey fine sand; structureless (massive); moist, very friable consistence; plastic; marine origin; abrupt, smooth lower boundary; becomes darker in color toward the lower boundary; hydraulic dredge material associated with Kaka'ako land reclamation activities
IIIa	67–90	SIHP # -7429; 10YR 3/2, very dark grayish brown mottled with 10YR 3/4, dark yellowish brown; fine to medium sandy loam; weak, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, smooth, and discontinuous lower boundary; historic fill deposit; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
IIIb	88–105	SIHP # -7429; 10YR 2/1, black; fine to medium sandy loam; weak, crumb structure; wet, non-sticky consistence; slightly plastic; clear, wavy and discontinuous lower boundary; fine to medium roots; charcoal, milled wood, and organics observed; historic fill deposit; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)

Stratum	Depth (cmbs)	Description of Sediment
IIIc	70–105	SIHP # -7429; 10YR 3/1, very dark gray; fine sandy loam; crumb structure; moist, friable consistence; non-plastic; terrigenous origin; diffuse, discontinuous lower boundary; fine to medium roots; <i>pipipi</i> ( <i>Theodorus neglectus</i> ) observed; historic fill deposit; northwest wall profile only; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
IIId	68–113	SIHP # -7429; 10YR 4/1, dark gray mottled with 10YR 2/1, black (50%); sandy loam; blocky to crumb structure; moist, very friable consistence; non-plastic to slightly plastic; mixed origin; very abrupt, irregular, and discontinuous lower boundary; consists of alternating layers of a dark gray loamy sand and black silty clay with peat, layers mixed as sediment was redeposited from <i>makai</i> to <i>mauka</i> ; contains Feature 58; <i>pipipi</i> ( <i>Theodorus neglectus</i> ), charcoal, glass, milled wood fragments observed; historic fill deposit; Strata IIc, IIIe, and IIIj constituents observed; southeast wall profile only; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
	55–77	SIHP # -7429 Feature 61; cat burial
IIIe	60–95	SIHP # -7429; 10YR 3/2, very dark grayish brown; fine sand clay loam; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear, discontinuous lower boundary; large amount of charcoal observed; historic fill deposit; northwest wall profile only; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
III f	38–110	SIHP # -7429; 10YR 5/1, gray; silty fine sandy clay; weak, blocky structure; moist, very friable consistence; plastic; mixed origin; clear, wavy lower boundary; contains marine shell; historic fill deposit; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
	72	SIHP # -7429 Feature 60; isolated human deciduous tooth
IIIh	45–117	SIHP # -7429; 10YR 4/1, dark gray; fine sandy clay loam; blocky structure; moist, friable consistence; slightly plastic; mixed origin; <i>pipipi</i> ( <i>Theodorus neglectus</i> ) observed; mottled to laminated; mixed with dark gray to grayish brown fine sandy loam, sloping up from <i>makai</i> to <i>mauka</i> ; contains Stratum IIIi constituents; historic fill deposit; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)

Stratum	Depth (cmbs)	Description of Sediment
IIIi	80–103	SIHP # -7429; 10YR 5/1, gray mottled with 10YR 4/1, dark gray; fine sandy loamy clay; blocky structure; moist, very friable consistence; plastic; <i>kukui</i> nut ( <i>Aleurites moluccana</i> ) and <i>pipipi</i> ( <i>Theodoxus neglectus</i> ) observed; transitions from gray to dark gray with varying amounts of sand content; Strata IIIh and IIIk constituents observed as well as elements of laminated humus; historic fill deposit; northwest wall profile only; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
IIIj	95–115	SIHP # -7429; 10YR 3/1, very dark gray; silty clay loam; blocky structure; moist, friable consistence; plastic; mixed origin; clear, wavy, and discontinuous lower boundary; disturbed laminated humus and other decomposing organics most likely from Stratum VI (SIHP # -7655); brackish water snails, charcoal, glass, and milled wood observed; historic fill deposit; northwest wall profile only; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
IIIk	102–125	SIHP # -7429; 10YR 4/1, dark gray; fine sandy clayey loam; blocky structure; very friable; very plastic; mixed origin; heavily mixed stratum, contains material from Strata IIIfi and IIIj; mottled and laminated; mixed with dark gray to grayish brown fine sandy loam; sloping up from <i>makai</i> to <i>mauka</i> ; clear lower boundary; <i>pipipi</i> ( <i>Theodoxus neglectus</i> ) and charcoal observed; historic fill deposit; likely associated with shoring/modifying the SIHP # -7429 modified berm (Strata IVa–IVb)
IIIIm	100–130	SIHP # -7429; 5Y 5/1 to 4/1, gray to dark gray; sandy clay; medium, blocky structure; moist, firm consistence; plastic; clear, smooth and discontinuous lower boundary; contains abundant marine shell and small brackish water snails; contains SIHP # -7429 Feature 62 basalt cobble and hearth deposit
	105–132	SIHP # -7429 Feature 62; basalt cobble hearth feature; contains charcoal, burned <i>kukui</i> nut shell, faunal bone, and marine shell
IVa	20–88	SIHP # -7429; 10YR 3/1, very dark gray; loamy fine to medium sand; structureless (single-grain); moist, friable consistence; non-plastic; mixed origin; very abrupt, irregular, and discontinuous lower boundary; charcoal and <i>pipipi</i> ( <i>Theodoxus neglectus</i> ) observed; strongly compacted reworked A horizon developed within fill sediment, served as a historic ground surface
IVb	32–82	SIHP # -7429; 10YR 7/3, very pale brown; clayey fine to medium sand; structureless (single-grain); moist, very friable consistence; non-plastic; marine origin; abrupt, smooth and discontinuous lower boundary; man-made berm constructed of redeposited sand



Stratum	Depth (cmbs)	Description of Sediment
Va	65–88	Natural; 2.5Y 5/2, grayish brown; loamy sand; granular structure; dry, loose consistence; non-plastic; mixed origin; diffuse, smooth, discontinuous lower boundary; truncated, in situ A horizon
Vb	75–103	Natural; 2.5Y 7/3, pale brown; sand; structureless (single-grain); dry, loose consistence; non-plastic; marine origin; clear, smooth, and discontinuous lower boundary; calcareous Jaucas sand; C horizon
VI	93–118	SIHP # -7655; 10YR 3/1, very dark gray; sandy clay; moderate, fine; moist to wet, firm to sticky consistence; plastic; terrigenous origin; clear-diffuse, discontinuous lower boundary; heavily disturbed laminated humus consisting of multiple layers of plant material and partially decomposed organics; contains milled wood, glass bottles and bottle fragments, ceramic fragments, minor amount of fire-affected cobbles, oxidized metal, shoe fragments, unidentified fabric, and heavy charcoal staining (Acc. #s 122–171 and 183 from Stratum VI and/or III); faunal material collected consists of <i>Sus scrofa</i> , <i>Bos taurus</i> , cf. <i>Canis lupus familiaris</i> , <i>Gallus gallus</i> (chicken), and Osteichthyes; interpreted as former salt pan bed that later became a refuse dumping ground; intense site deformation in the form of subsidence most likely the result of weight of overlying strata; historic trash permeated layer below
VII	113–130	Natural; 2.5Y 5/1, gray; silty clay; structureless (massive); moist, very sticky consistence; very plastic; abrupt, smooth lower boundary; common, many very fine to fine roots; contains minor amount of small snails, bottle glass, ceramic, and metal (Acc. #s 172–177 and 182); extremely smooth deposit, indicative of a quiet wetland environment; historic debris observed permeating from overlying stratum (VI); natural soil
VIIIa	95–128	Natural; 2.5Y 8/2, pale brown; clay sand; weak, fine, blocky structure; moist, very friable consistence; slightly plastic; marine origin; clear, smooth, and discontinuous lower boundary; many, fine roots; abundant decomposing roots; natural soil
VIIIb	105–135 (BOE)	Natural; 5Y 7/1, light gray; clay sand; weak, fine, granular structure; wet, slightly sticky consistence; slightly plastic; marine origin; abrupt, smooth lower boundary; many, fine roots; wetland deposit, abundant decomposing roots; natural soil

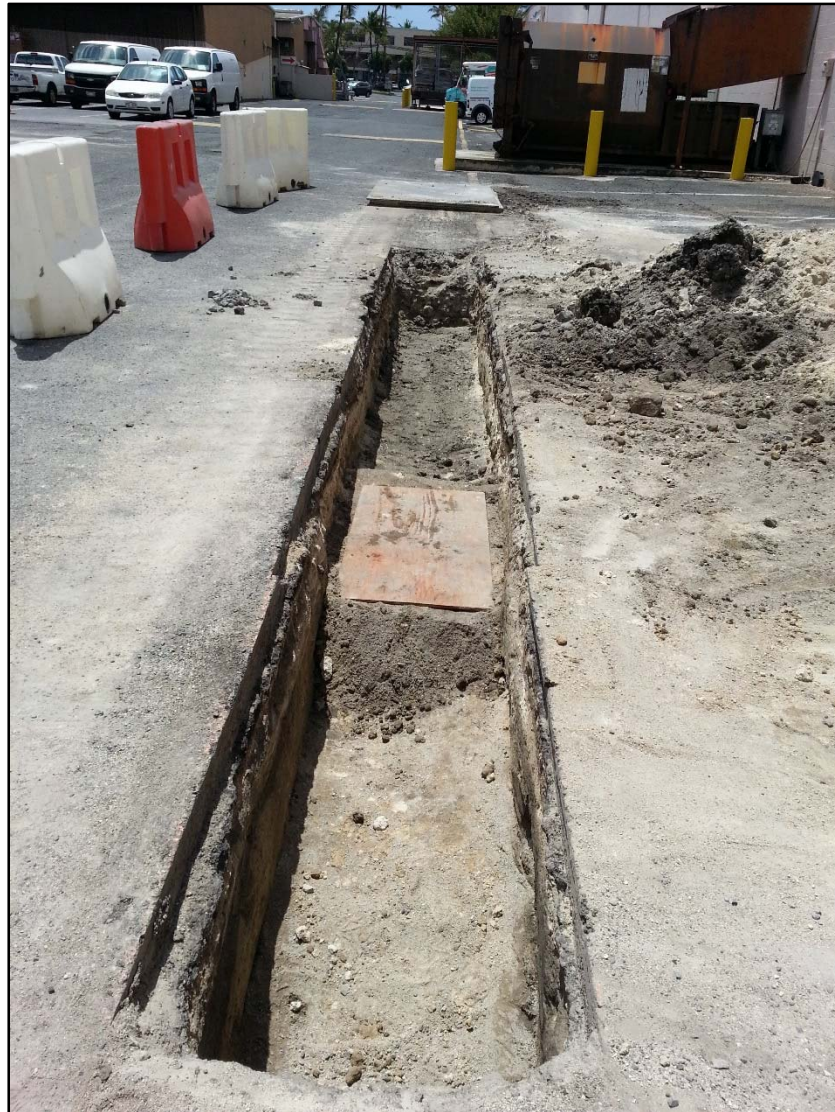


Figure 85. Photograph of T-24, showing the implementation of short term protective measures for SIHP # -7429 Feature 60, consisting of the placement the *iwi kūpuna* in their original location, followed by a covering of local sediment and a plywood board before completion of backfilling and repaving, view to southwest

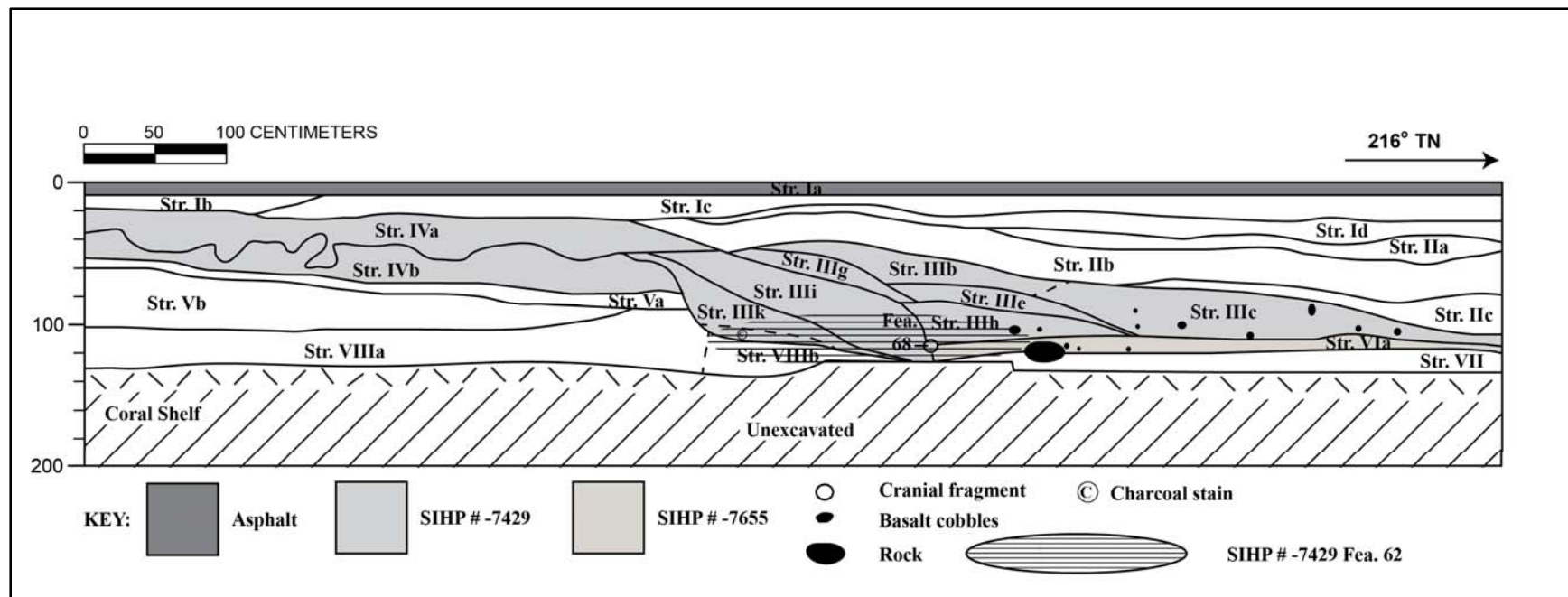


Figure 86. T-57 southeast profile, depicting the location of SIHP # -7429 Feature 68 at the interface of fill deposits (likely utilized to shore a modified sand dune) and salt pan deposits (SIHP # -7655)



Table 11. Stratigraphic Description for T-57

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–9	Asphalt; road surface
Ib	9–15	Asphalt lens, southwest (makai) end only
Ic	9–29	Fill; 10YR 3/2, very dark gray brown; very gravelly, loamy sand; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear, smooth lower boundary; imported fill; northwest wall only
Id	22–39	Fill; 10YR 2/2, very dark brown; medium sandy clay loam; weak, medium, crumb structure; moist, friable consistence; slightly plastic; clear, discontinuous lower boundary; imported fill; northwest wall only
IIa	29–45	Fill; 10YR 7/1, light gray; silty clay; moderate, very fine, blocky structure; slightly plastic; marine origin; clear, discontinuous lower boundary; hydraulic (dredged) fill associated with Kaka'ako land reclamation activities, very low clay content, mostly silt
IIb	33–95	Fill; 10YR 8/2, very pale brown; fine to coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; very abrupt, irregular lower boundary; crushed coralline sand fill associated with Kaka'ako land reclamation activities, alternating layers of coarse and fine sand, hydraulic fill inclusions on northwest wall
IIc	68–104	Fill; 10YR 7/3, very pale brown; very fine sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; very abrupt, discontinuous lower boundary; hydraulic (dredged) fill associated with Kaka'ako land reclamation activities; southeast wall only
IIIa	60–90	SIHP # -7249; 7.5YR 4/1, dark gray, mottled with 7.5YR 5/2, brown; sandy clay to loamy sand; moderate, fine, blocky structure; moist, very friable consistence; slightly plastic; mixed origin; clear, irregular, discontinuous lower boundary; historic deposit associated with SIHP # -7249; contains charcoal and small snails; northwest wall only
IIIb	40–80	SIHP # -7249; 7.5Y 2/1, black; clayey sand; weak, fine to medium, crumb structure; moist, loose to very friable; non-plastic; mixed origin; clear to diffuse, broken lower boundary; historic deposit associated with SIHP # -7249; contains Neritidae and other marine shells; southeast wall only
IIIc	70–110	SIHP # -7249; 10YR 7/3, very pale brown; medium sandy loam; weak, medium, crumb structure; moist, very friable consistence; non-plastic; mixed origin; historic deposit associated with SIHP # -7249; contains broken glass bottles, fire-affected rock, charcoal, and faunal material

Stratum	Depth (cmbs)	Description of Sediment
IIIId	23–90	SIHP # -7249; 2.5Y 6/2, light brownish gray; slightly gravelly clay sand mottled with sandy clay loam; weak, fine, blocky to crumb structure; non-plastic to slightly plastic; clear to diffuse, wavy, discontinuous lower boundary; historic deposit associated with SIHP # -7429; contains charcoal and marine shell; northwest wall only
IIIe	70–92	SIHP # -7249; 2.5Y 4/2, dark grayish brown, mottled with 10YR 4/4 dark yellowish brown; fine to medium sandy loam; weak, fine to medium, blocky structure; moist, loose to very friable consistence; non-plastic; mixed origin; clear, smooth, discontinuous lower boundary; historic deposit associated with SIHP # -7429; contains glass fragments, charcoal, and Neritidae; southeast wall only
IIIIf	30–100	SIHP # -7249; 2.5Y 4/2–3/1, dark grayish brown to very dark gray; sandy clay loam; weak, fine, blocky to crumb structure; moist, very friable; non-plastic; mixed origin; clear to diffuse, wavy lower boundary; historic deposit associated with SIHP # -7429; contains charcoal, Neritidae; northwest wall only
IIIg	50–82	SIHP # -7249; 2.5Y 5/1–4/1, gray to dark gray; fine to medium sandy clay; weak, fine to medium, blocky structure; wet, slightly sticky; plastic; mixed origin; clear, irregular, discontinuous lower boundary; historic deposit associated with SIHP # -7429; contains charcoal; southeast wall only
IIIh	100–110	SIHP # -7249 ; 2.5Y 4/2, dark grayish brown; sandy clay; weak, fine, crumb structure; wet, sticky consistence; slightly plastic to plastic; diffuse, discontinuous lower boundary; common, fine to medium roots; historic deposit associated with SIHP # -7429; contains faunal bone (Hawaiian duck)
IIIi	40–120	SIHP # -7249; 2.5Y 5/1, gray; sandy clay; weak, medium, crumb structure; moist, very friable consistence; plastic; mixed origin; clear to diffuse, discontinuous lower boundary; historic deposit associated with SIHP # -7429; contains charcoal and Neritidae; truncates Stratum IIIk; lower boundary intersects with Feature 68
	110–120	SIHP # -7249 Feature 68; human cranial fragment
IIIk	50–112	SIHP # -7249; 2.5Y 4/1, dark gray; slightly sandy loamy clay; moderate, fine, blocky structure; wet, slightly sticky consistence; slightly plastic; mixed origin; clear, irregular, discontinuous lower boundary; historic deposit associated with SIHP # -7429; contains glass bottle fragments, kukui nut shells, charcoal, Neritidae, faunal bone (horse), and fire-altered cobbles; may be the remnants of a truncated feature (SIHP # -7429, Feature 62)

Stratum	Depth (cmbs)	Description of Sediment
IVa	18–118	SIHP # -7249; 10YR 2/2, very dark brown; weak, fine, crumb structure; moist, very friable consistence; slightly plastic; mixed origin; abrupt, irregular, discontinuous lower boundary; former living surface with evidence of culture; contains SIHP # -7429 Features 63–67
	55–62	SIHP # -7249 Feature 63; a circular discoloration of soil; interpreted as a post mold; contained Neritidae shell and charcoal staining
	75–82	SIHP # -7249 Feature 64; a circular discoloration of soil; interpreted as a post mold; contained Neritidae shell and charcoal staining
	75–79	SIHP # -7249 Feature 65; a circular discoloration of soil; interpreted as a post mold; did not contain any evidence of material culture
	20–38	SIHP # -7249 Feature 66; small rectangular discoloration of soil observed in profile on the northwest side wall; contained sparse amount of fish bone; interpreted as a pit of indeterminate function
	20–74	SIHP # -7249 Feature 67; large slightly rectangular discoloration of soil observed in profile on the northwest side wall; contained butchered cow bone; interpreted as a pit of indeterminate function
IVb	29–80	SIHP # -7249; 10YR 7/2 light gray; sandy loam; weak, fine, crumb structure; moist, very friable consistence; non-plastic; marine origin; anthropogenic berm
Va	45–95	Natural; 10YR 4/3, brown; loamy fine sand; weak, fine to medium, crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear to diffuse, smooth lower boundary; in situ A horizon, former stable land surface
Vb	52–106	Natural; 10YR 7/3, very pale brown; fine to medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth, discontinuous lower boundary; calcareous Jaucas sand
VIa	103–120	SIHP # -7655; 10 YR 2/1, black; loam to sandy clay loam; platy, laminated; wet, slightly sticky consistence; non-plastic; abrupt to clear, discontinuous lower boundary; many fine to medium roots; contains historic glass bottles and bottle fragments, milled wood, charcoal, fire-affected basalt cobbles, and faunal remains at upper boundary; heavily impacted anthropogenic O horizon associated with remnant salt pan
VIb	100–120	SIHP # -7655; 10 YR 2/1, black, 2.5Y 4/2 dark gray brown, and 10YR 7/2, light gray; clay to sandy loam; weak, fine to medium, blocky structure; wet, slightly sticky consistence; non-plastic; mixed origin; clear to diffuse, irregular, broken lower boundary; common fine to medium roots; contains fire-affected basalt cobbles, charcoal, glass and glass bottle fragments, milled wood, faunal material, and brick; heavily impacted laminated humus associated with remnant salt pans, with inclusions of surrounding strata



Stratum	Depth (cmbs)	Description of Sediment
VII	114–135 (BOE)	Natural; 10YR 4/1, dark gray; silty clay; structureless (massive); moist, firm consistence; plastic; mixed origin; abrupt, smooth lower boundary common medium roots; contains historic debris such as glass fragments, metal, charcoal, faunal remains, and fire-affected rock, most likely subsided from above layer; quiet wetland environment used as a base for salt pan liner
VIIIa	90–132 (BOE)	Natural; 2.5Y 8/2, pale brown; clay sand; weak, fine, crumb structure; moist, very friable consistence; slightly plastic; marine origin; abrupt, smooth lower boundary; few fine roots; saturated, partially gleyed deposit, appears to have had vegetation judging by root content, laterally transitions to gleyed marine sand toward southwest
VIIIb	106–135 (BOE)	Natural; 2.5Y 7/1, light gray; sandy clay; weak, medium, crumb structure; wet, slightly sticky consistence; marine origin; abrupt, smooth lower boundary; fire-affected rock, charcoal, and charcoal staining observed at upper boundary; transitions from wetland clay sand to a marine clay below SIHP # -7429 Feature 68



Figure 87. Photograph of T-57, showing the implementation of short term protective measures for SIHP # -7429 Feature 68, consisting of the construction of a protective sand abutment in the location of the *iwi kūpuna* within the trench sidewall, along with a perimeter of coral and stone cobbles, followed by the placement overtop of a layer of sandy sediment and a plywood board, backfilling of the remaining portions of the trench, and repaving of the asphalt surface, view to south

#### 4.4.8 SIHP # -4729 Feature 70 (within T-69)

Test Excavation 69 (T-69) was an exterior trench located between Warehouse Buildings 3 and 4 and adjacent to T-17 (refer to Figure 56 and Figure 88). T-69 was relocated from its original planned location in the *makai* portion of the project area in order to perform more testing around the burial sites discovered in T-17. T-69 was oriented east-west and measured 6.1 m long by 0.7 m wide, with a maximum depth of 1.4 mbs.

Human skeletal remains consisting of an adult or adolescent cranium were uncovered at the east end of T-69 within Stratum IIb (SIHP # -7429 Component 2 cultural deposit) from approximately 0.63 to 0.75 mbs (Figure 89 and Table 12). Once the cranium was exposed, no further investigation was conducted and everything below the burial remained unexcavated. It is presumed that the cranium represents a full in situ burial; however, that is not certain. No burial pit was observed surrounding the remains, nor were any coffin outlines or wood observed. Based on its location within a historic deposit utilized to modify or elevate the natural landscape, the skeletal remains represent a historic period burial. The burial position and ancestry of the individual remain indeterminate; however, based on the similar stratigraphic context and proximity to Feature 57, a flexed adult and newborn burial, it is likely Native Hawaiian.

In consultation with on-site Hawaiian cultural practitioners (OCR), immediate interim protective measures were implemented to secure the human skeletal remains. The remains within the trench sidewall were covered with a muslin cloth and clean sand deposited adjacent to the sidewall containing the burial site, creating a leveled platform of sand over which a protective plywood board was then placed. The test excavation was then backfilled to the level of the current ground surface and repaved with asphalt.



Figure 88. Photograph of T-69, located adjacent to T-17 (trench scar visible beneath the orange bucket) between Warehouse Buildings 3 and 4, view to east. SIHP # -7429 Feature 70 is located within the east sidewall, beneath the protective plywood board



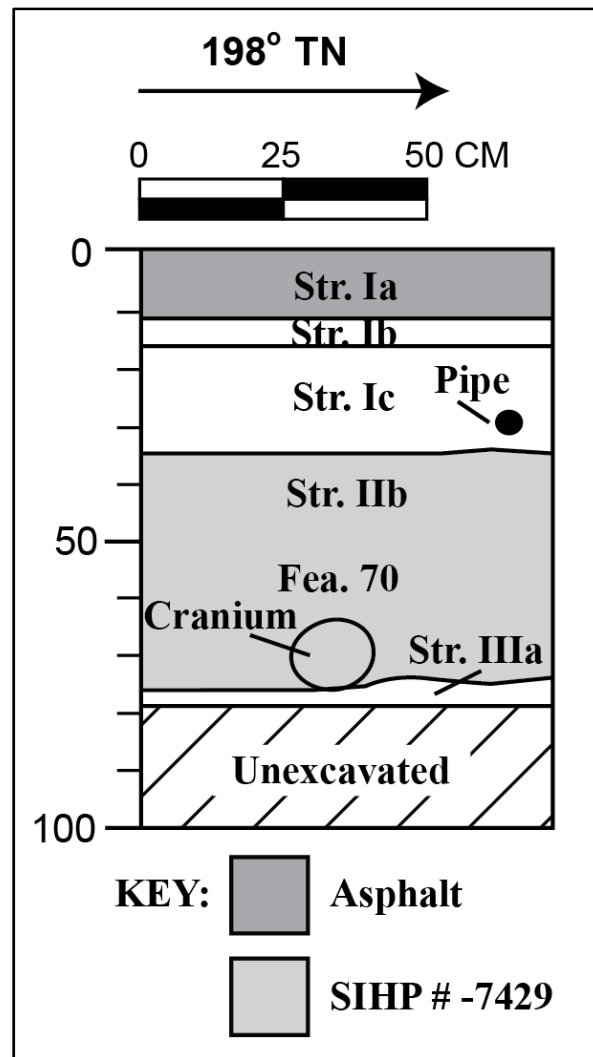


Figure 89. T-69 east profile, depicting SIHP # -7429 Feature 70, a human burial site

Table 12. Stratigraphic Description for T-69

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–13	Asphalt; road surface
Ib	12–22	Fill; gravel base course
Ic	18–40	Fill; 10YR 4/2, dark grayish brown; cobbly loamy sand; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear, smooth lower boundary; contains a metal utility pipe; grading fill
Id	35–45	Fill; 10YR 7/6, yellow; fine loamy sand; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; grading fill
IIa	24–58	SIHP # -7429; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine, crumb structure; moist, very friable consistence; slightly plastic; mixed origin; diffuse, broken/discontinuous lower boundary; contains charcoal and faunal remains; disturbed and truncated A horizon
IIb	30–121	SIHP # -7429; 10Y 7/1 (GLEYS 1), light greenish gray; fine sandy clay; moderate, fine, blocky structure; wet, slightly sticky consistence; plastic; mixed origin; clear, smooth lower boundary; common medium to coarse roots; contains faunal bone, snail shells, ceramics (Acc. #s 115–118), bricks, metal nails, and a human burial (SIHP # -7429 Feature 70); redeposited local sediment
	63–75	SIHP# -7429 Feature 70; human cranium; burial site
IIIa	81–110	Natural; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, crumb structure; moist, very friable consistence; slightly plastic; mixed origin; diffuse, broken/discontinuous lower boundary; truncated, culturally sterile A horizon
IIIb	85–114	Natural; 10YR 6/3, pale brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, broken/discontinuous lower boundary; Jaucas sand; Stratum IIIa parent material
IV	107–114	Natural; 10YR 3/2, very dark grayish brown; loam; moderate, fine, blocky structure; wet, non-sticky consistence; slightly plastic; mixed origin; clear, broken/discontinuous lower boundary; contains snail shells; organic peat deposit
V	108–118	Natural; 10YR 5/1, gray; medium sandy clay; structureless (massive); wet, slightly sticky consistence; plastic; marine origin; clear, broken/discontinuous lower boundary; contains snail shells; wetland deposit
VI	109–140 (BOE)	Natural; 10Y 7/1 (GLEYS 1), light greenish gray; sandy clay; strong, medium, blocky structure; wet, slightly sticky consistence; plastic; marine origin; many fine roots; overlies coral shelf; wetland deposit

#### 4.4.9 SIHP # -4729 Feature 79 (within T-70)

Test Excavation 70 (T-70) was an exterior trench located between Warehouse Buildings 3 and 4 and adjacent to T-17 and T-69 (refer to Figure 56). T-70 was relocated from its original planned location in the *makai* portion of the project area in order to perform more testing around the burial sites discovered in T-17. T-70 was oriented north-south and measured 6.1 m long by 0.76 m wide, with a maximum depth of 1.46 mbs.

Human skeletal remains consisting of an adult burial were documented within a faint burial pit located at the extreme south end of T-70 and extending into the south sidewall. The burial pit appears to have been intrusive through Strata IIIa (loamy sand A horizon—SIHP # -7429 Component 1 cultural deposit) and IIIb (Jaucas sand) and is capped by Stratum IIb (SIHP # -7429 Component 2 cultural deposit) (Figure 90, Figure 91, and Table 13). It extends from 0.88 mbs to at least 1.1 mbs where excavation was halted. The burial appears to be articulated and in situ and is in a flexed burial position. No signs of coffin wood or coffin outlines were observed. No grave goods were observed. Observed portions of the burial included the left ulna, left radius, left lunate, left scaphoid, right patella, and the right distal femur. Once these remains were exposed, no further investigation was conducted and everything below the burial remained unexcavated. The burial appears to represent an adult or older adolescent individual. The flexed burial position suggests Native Hawaiian ethnicity. The flexed burial position, lack of coffin and grave goods, and the provenience of the burial suggest the burial is pre-Contact or early post-Contact in origin.

In consultation with on-site Hawaiian cultural practitioners (OCR), immediate interim protective measures were implemented to secure the human skeletal remains. The remains within the trench sidewall were covered with a muslin cloth and clean sand deposited adjacent to the sidewall containing the burial site, creating a leveled platform of sand over which a protective plywood board was then placed. The test excavation was then backfilled to the level of the current ground surface and repaved with asphalt.



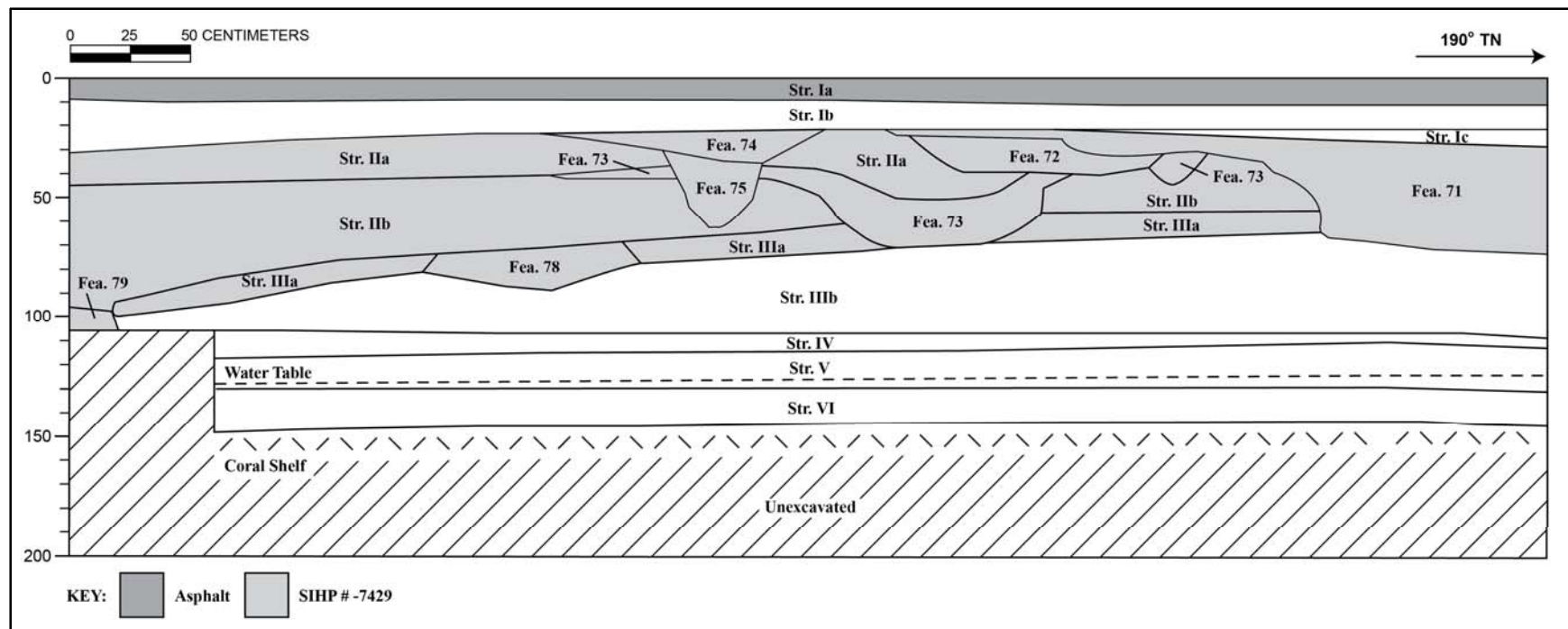


Figure 90. T-70 east profile, depicting SIHP # -7429 Feature 70, an in situ human burial, at the extreme south end of the test excavation

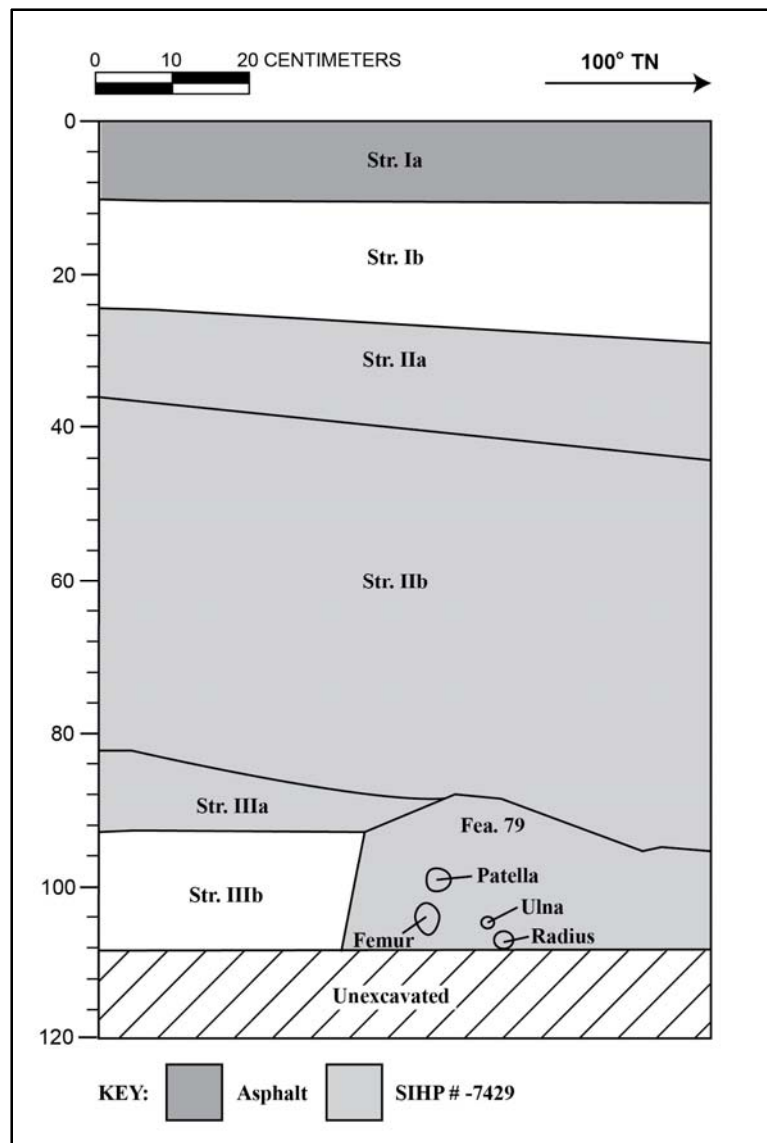


Figure 91. T-70 south profile, depicting SIHP # -7429 Feature 79, an in situ flexed human burial

Table 13. Stratigraphic Description for T-70

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–10	Asphalt; road surface
Ib	10–30	Fill; gravel base course
Ic	20–40	Fill; 10YR 3/2, very dark grayish brown; gravelly sandy loam; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; grading fill
IIa	20–62	SIHP # -7429; 10YR 6/3, pale brown; fine loamy sand; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; diffuse, broken/discontinuous lower boundary; locally procured and redeposited; contains SIHP # -7429 Features 71, 72, 74, 75, and 77
	30–70	SIHP # -7429 Feature 71; pit of indeterminate function; contained charcoal and pig bone
	24–41	SIHP # -7429 Feature 72; fire pit; contained fire-altered rock, charcoal, and marine shell midden
	22–36	SIHP # -7429 Feature 74; pit of indeterminate function; contained coral gravel and charcoal
	35–63	SIHP # -7429 Feature 75; pit of indeterminate function; no cultural material observed
	24–53	SIHP # -7429 Feature 77; pit of indeterminate function; contained coral gravel and charcoal
IIb	25–100	Fill; 10YR 7/3, very pale brown; sandy loam; weak, fine, crumb structure; moist, very friable consistence; mixed origin; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; locally procured and redeposited; contains SIHP # -7429 Features 73 and 76
	33–73	SIHP # -7429 Feature 73; fire pit; contained coral gravel and charcoal
	37–67	SIHP # -7429 Feature 76; fire pit; contained fire-altered rock, charcoal, coral, and marine shell midden
IIIa	55–100	SIHP # -7429; 2.5Y 3/2, very dark gray brown; loamy fine sand; weak, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear, smooth lower boundary; truncated A horizon; contains SIHP # -7429 Feature 78 and likely Feature 79
	69–89	SIHP # -7429 Feature 78; fire pit; contained coral gravel and charcoal
	88–110	SIHP # -7429 Feature 79; human burial; flexed position; capped by Stratum IIb but possibly originated from Stratum IIIa
IIIb	65–110	Natural; 10YR 8/6, yellow; fine medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; Jaucas beach sand; Stratum IIIa parent material



Stratum	Depth (cmbs)	Description of Sediment
IV	100–116	Natural; 10YR 9/6, yellow; extremely gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; indurated sand and coral layer
V	105–130	Natural; 10YR 8/3, very pale brown; sandy clay; structureless (massive); wet, slightly sticky consistence; plastic; mixed origin; common, fine roots observed; contained non-worked angular basalt stones; wetland deposit
VI	130–146 (BOE)	Natural; 5Y 6/1, gray; coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; charcoal observed; marine deposit; overlying coral shelf

#### 4.4.10 SIHP # -7655 Feature 3 within T-35:

Test Excavation 35 (T-35) was an exterior excavation located within the parking lot between Warehouse Buildings 2 and 3 (refer to Figure 56). T-35 was oriented northeast-southwest and measured 6.0 m long by 0.70 m wide, with a maximum depth of 1.35 mbs.

Human skeletal remains consisting of a worked human bone tool were identified within a fire feature located within the upper portion of a large salt pan berm (Stratum IIIa) (Figure 92 through Figure 94, and Table 14). The feature is designated SIHP # -7655 Feature 3. Feature 3 is a large irregular discoloration of sediment that measured 213 cm in length, 70 cm in width, and 45 cm thick. In addition to the *iwi kūpuna*, the feature also contained abundant charcoal, fire-affected rock, marine shell midden, faunal bone, a dog tooth pendant, and a waterworn basalt manuport.

In consultation with on-site Hawaiian cultural practitioners (OCR), immediate interim protective measures were implemented to secure the human skeletal remains. Upon completion of the test excavation, the trench was backfilled to just below the current asphalt ground surface. A small pit was then excavated within the central/‘Ewa portion of T-35 within which was deposited a layer of sand, followed by the *iwi kūpuna* wrapped in muslin, accompanied by appropriate protocol, and another layer of sand to the lower boundary of the current asphalt surface. A concrete tile was then placed atop the *iwi kūpuna* to serve as a protective barrier and as a marker in the event that it is later determined to relocate the *iwi* (Figure 95). The test excavation was then repaved with asphalt, with the concrete tile visible at ground surface.

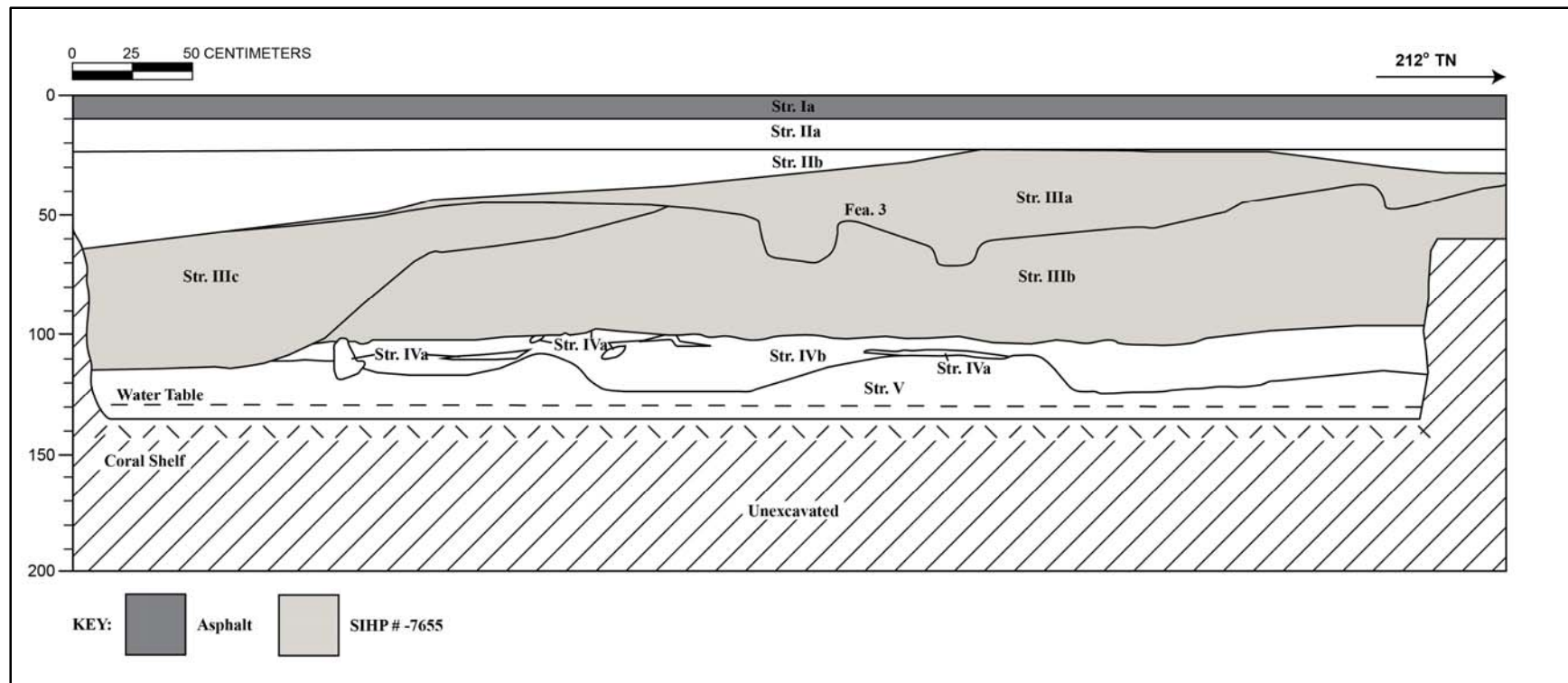


Figure 92. T-35 northwest profile, depicting SIHP # -7655 Feature 3, fire feature located within a salt pan berm

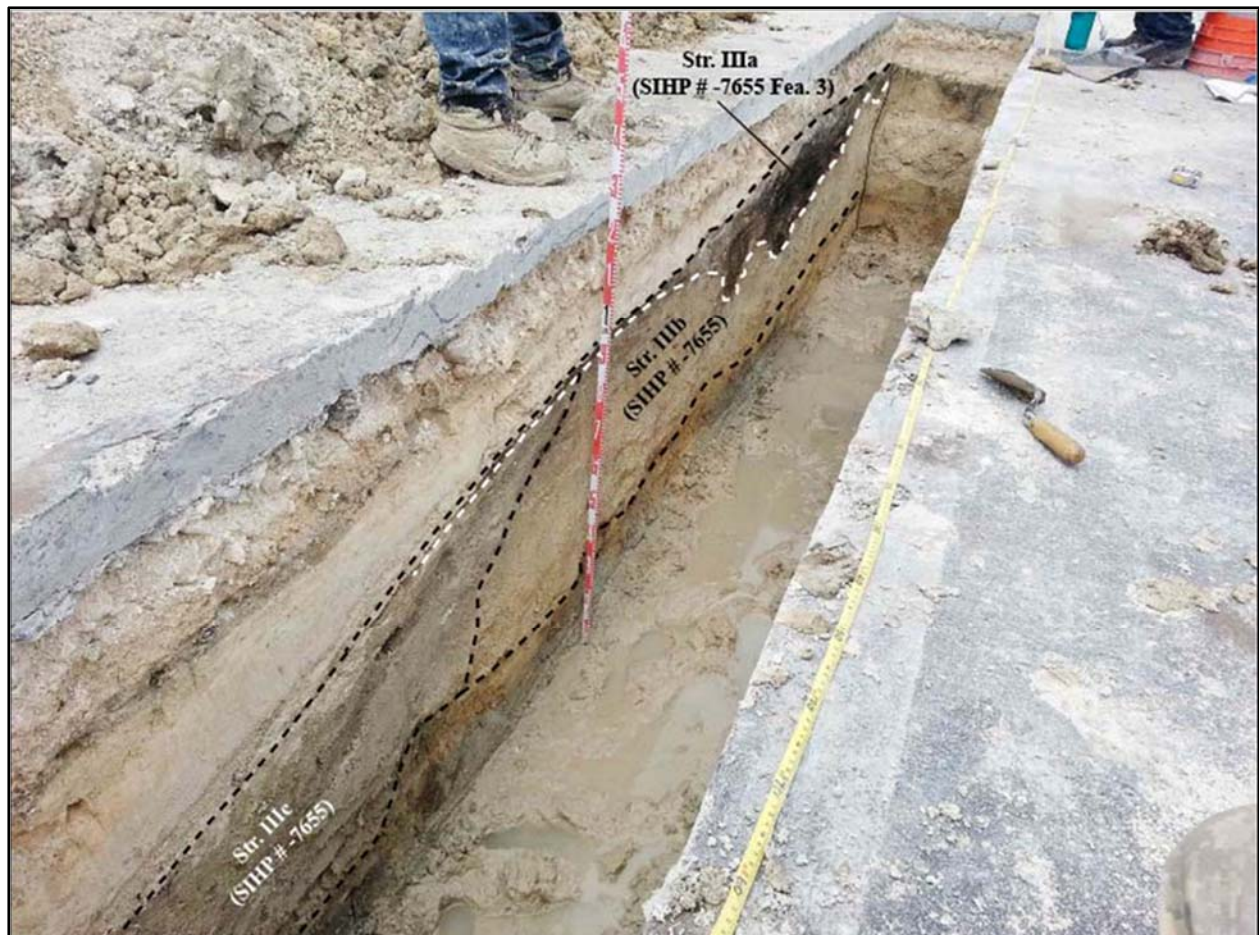


Figure 93. Photograph of T-35 showing SIHP # -7655 Feature 3 located within a salt pan berm (SIHP # -7655; Strata IIIa and IIIb), view to north





Figure 94. Plan view photograph of SIHP # -7655 Feature 3, located within a salt pan berm (SIHP # -7655)

Table 14. Stratigraphic Description for T-35

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–10	Asphalt; road surface
IIa	10–23	Fill; 10YR 8/3, very pale brown; very gravelly medium sand; structureless (single-grain); dry, loose consistence; non-plastic; marine origin; diffuse, wavy lower boundary; crushed coralline sand fill associated with Kaka'ako land reclamation activities
IIb	23–57	Fill; 2.5Y 8/2, pale yellow; fine sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; very abrupt, wavy lower boundary; hydraulic (dredged) fill associated with Kaka'ako land reclamation activities
IIIa	30–75	SHIP # -7655; 2.5Y 3/1, very dark gray; sandy loam; moderate, medium, granular structure; moist, loose consistence; non-plastic; mixed origin; abrupt, irregular lower boundary; anthropogenic/culturally enriched A horizon; contains SIHP # -7655 Features 3–5
	35–80	SHIP # -7655 Feature 3; circular stain, light to very dark gray sandy clay stain; interpreted as a fire feature; contained charcoal, marine shell midden, faunal material, burned crustacean, sea urchin, fire-affected rock, a dog tooth pendent (Acc. # H-7), a worked human bone tool (Acc. # H-8), and waterworn basalt pebble manuport (Acc. # H-6)
	36–77	SHIP # -7655 Feature 4; dark gray, sandy loam stain; interpreted as a fire feature; contained charcoal and fire-affected rock
	36–72	SHIP # -7655 Feature 5; dark gray, sandy loam stain, indeterminate function; contained abundance of charcoal
IIIb	40–111	SHIP # -7655; 2.5Y 8/3, pale yellow; sandy clay loam; moderate, medium, granular structure; moist, friable consistence; non-plastic; mixed origin; clear, broken, and irregular lower boundary; secondary man-made berm associated with historic salt pan remnants
IIIc	46–116	SHIP # -7655; 2.5Y 7/1, light gray; clay loam; strong, medium, blocky structure; wet, slightly sticky consistence; slightly plastic; mixed origin; clear, irregular lower boundary; common, fine roots; primary man-made berm associated with historic salt pan remnants
IVa	98–112	Natural; 10YR 3/2, very dark grayish brown; sandy loam; strong, medium, blocky structure; moist, firm consistence; non-plastic; terrigenous origin; clear, discontinuous lower boundary; few, fine roots; wetland A horizon
IVb	101–125	Natural; 10YR 8/2, very pale brown; loamy sand; weak, medium, granular structure; wet, slightly sticky consistence; non-plastic; mixed origin; clear, irregular lower boundary; few, fine roots; wetland C horizon

Stratum	Depth (cmbs)	Description of Sediment
V	114–135 (BOE)	Natural; 10Y 7/1 (GLEYS 1), light greenish gray; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; common, fine roots; trace amounts of loam; wetland deposit; overlying coral shelf

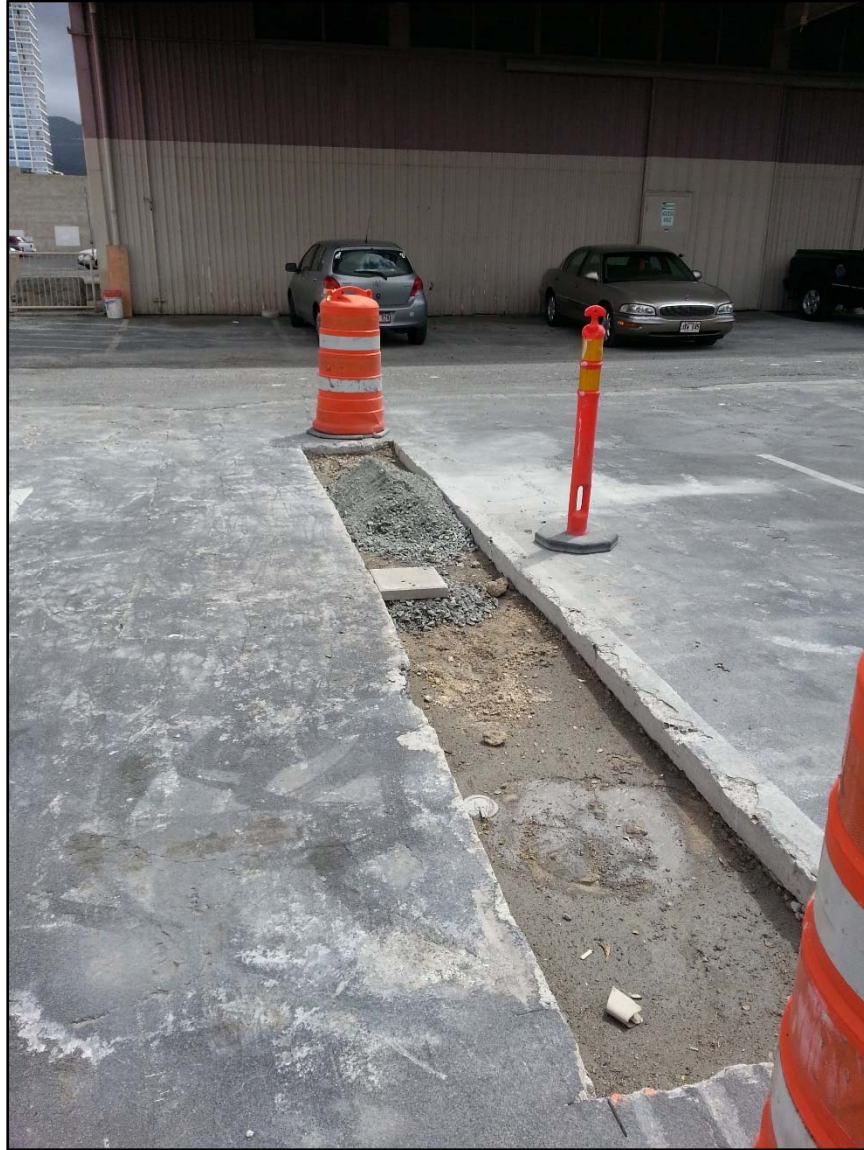


Figure 95. Photograph of T-35 showing the interim protection measures for the SIHP # -7655 Feature 3 worked human bone tool, consisting of the placement of the *iwi kūpuna* (wrapped in muslin) within a pocket of sand just below the current ground surface and overlain by a concrete tile marker (shown above), view to northeast. The test excavation was then repaved, with the concrete tile visible at ground surface.



## 4.5 Proposed Disinterment Methods

The recognized cultural descendants favor a combination of preservation in place and relocation for the previously identified *iwi kūpuna* associated with SIHP #s -7429 and -7655 that are the subject of this redesigned Block N East BSCDR&PP. The SIHP # -7429 in situ burial cluster (located within T-17, T-69, and T-70) will be preserved in place. The remaining isolated *iwi* fragments (located within T-3, T-7, T-8, T-24, T-35, and T-57) will be disinterred and reinterred within the SIHP # -7429 burial cluster preserve area (refer to Figure 56).

Disinterment of the isolated *iwi* will be carried out respectfully via a combination of careful mechanized and hand excavation. This will be carried out as part of the Block N East archaeological monitoring program before project construction begins. Prior to *iwi* disinterment, a backhoe will be used to strip away the fill layers over each *iwi* location to within 30–40 cm (approximately 1–1.5 ft) above the recorded depth for each *iwi* (or approximately just above the depth of the previously emplaced protective plywood). Following removal of the protective plywood board, excavation will proceed through careful hand excavation, including both slow shovel scrapes and troweling, until the *iwi* and any associated burial goods are located.

## 4.6 Temporary Curation

Following disinterment, the *iwi kūpuna* and any associated burial goods will be temporarily curated within a secured location on HHC property. As reinterment is proposed to take place very shortly upon completion of the disinterment of all burial remains, curation time is anticipated to be minimal.

## 4.7 Preparation of the *Iwi Kūpuna* for Reinterment

Appropriate preparation of the *iwi kūpuna* for reinterment is anticipated to be determined by the recognized cultural descendants and will likely include wrapping the remains in a combination of unbleached cotton muslin, twine, and ti leaves and *laua* 'e fern.

## 4.8 Burial Reinterment

The isolated *iwi* fragments from SIHP #s -7429 –and 7655 will be reinterred within the SIHP # -7429 burial preserve. The isolated remains will be relocated to within the boundaries of the backfilled AIS test excavations within the preserve area, three feet (90 cm) below the current land surface. These AIS test excavations have already been inspected for archaeological deposits and documented. The relocation of these remains into these previously excavated locations will ensure that no additional human skeletal remains are encountered or disturbed during the reburial process. The implementation of the relocation of these isolated and fragmentary remains will be carried out during the project's archaeological monitoring program, before project construction begins.

## 4.9 Short term protection measures during construction

Prior to project construction, an interim construction barrier will be established on the boundaries of the burial preserve area (Figure 96, Figure 97, and Figure 98) and remain for the duration of the Block N East construction activities. The temporary construction barrier, comprised

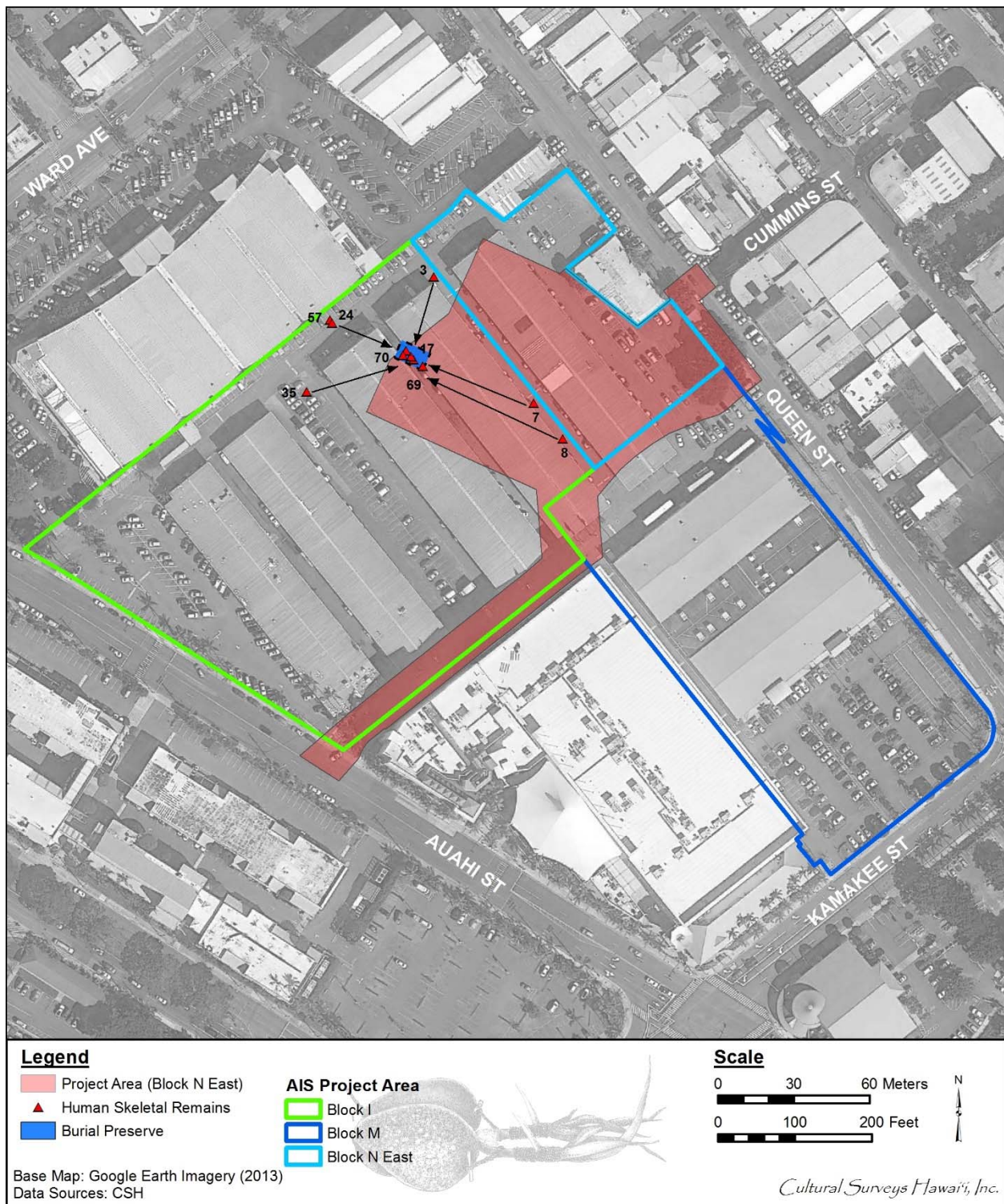


Figure 96. Google Earth aerial photograph showing the burial preserve area (solid blue) to be established immediately northwest of the Block N East 7-story parking structure

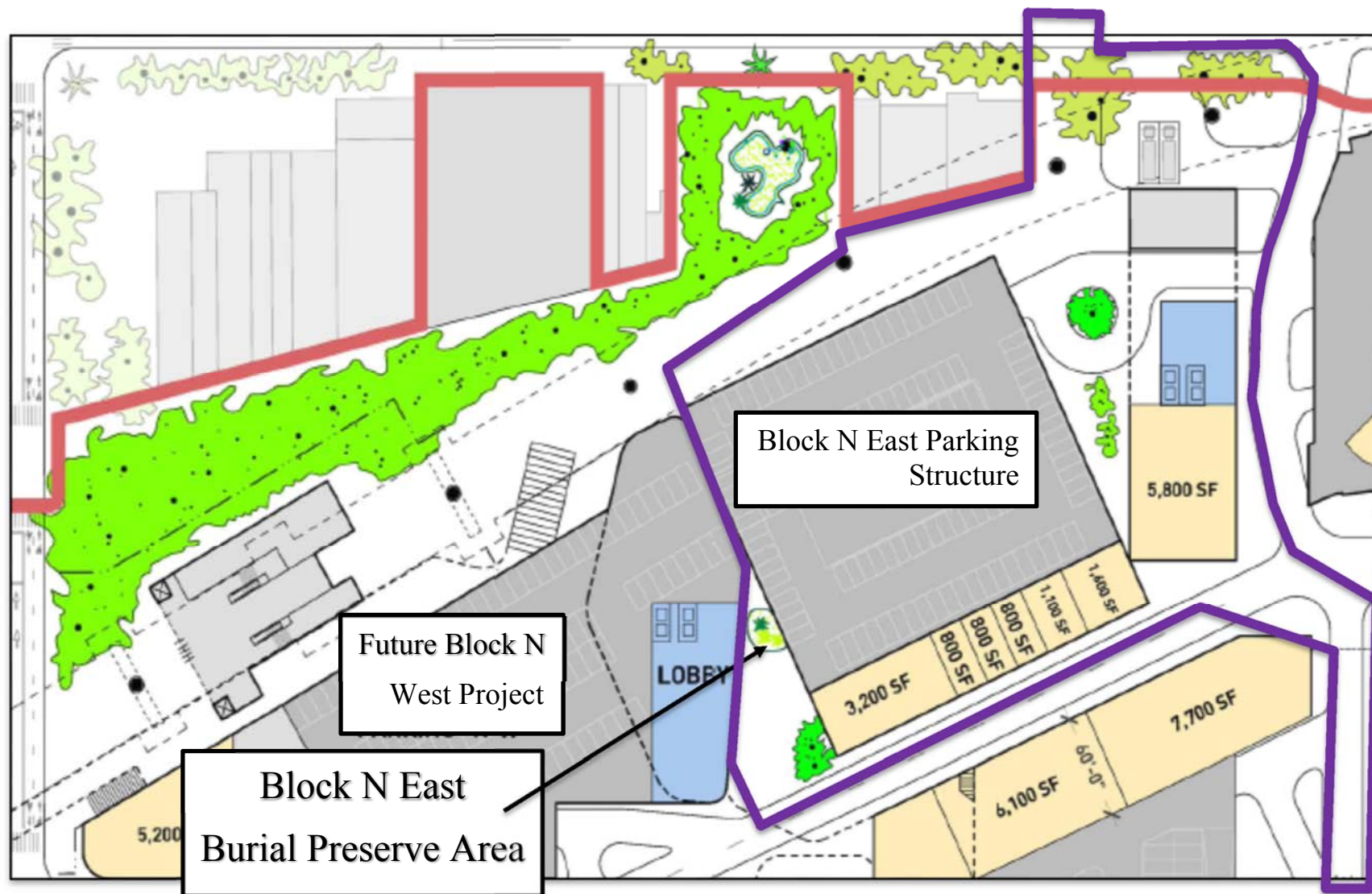


Figure 97. Design sketch with the boundaries of the redesigned Block N East project area in purple and the location of the Block N East burial preserve area immediately adjacent to the Block N East 7-story parking structure (Refer to Figure 6 and Figure 96)





Figure 98. Foundation plan of the redesigned Block N East 7-story parking structure showing the boundaries of the Block N East burial preserve area, the known Native Hawaiian burial sites to be preserve in place, and the Block I AIS test excavations. These burial preserve area boundaries will be recorded with the Bureau of Conveyances

of a 4-ft high plywood barricade, will serve to keep construction activity, and pedestrian and vehicular traffic, away from the burials to the extent possible. When construction activity is unavoidable within the interim construction barrier, the barrier will be condensed or moved as necessary, and reestablished immediately following the necessary work. No ground disturbance will be allowed within the burial preserve area, with the exception of the installation of final landscaping once project construction is complete. The vertices of the burial preserve area will be clearly marked on the ground with whisker flags or some comparable means to facilitate reestablishing the interim construction barrier. The burial preserve area boundaries will be recorded on all construction plans. All construction personnel will be instructed on the importance of the burial preserve area remaining free of construction activity. During construction, the burial preserve area will be kept free of construction materials, construction vehicles, and windblown trash. As part of the project's ongoing archaeological monitoring program, the on-site archaeological monitor will help ensure the temporary barrier around the burial preserve area is appropriately maintained.

#### **4.10 Burial Preserve Buffers and Surface Treatment**

In consultation with the Block I and Block N East recognized cultural descendants, HHC has worked with their project architects and engineers to create the burial preserve area (refer to Figure 96, Figure 97, and Figure 98). The surface of the burial preserve area will be almost entirely open to the sky, located between the Block N East parking structure and the future Block N West development. Only the easternmost portion of the burial preserve area will be under the Block N East parking structure footprint and will be paved over for parking. The burial preserve includes not only the extent of the known burials but a variable buffer around the area of known burials. The buffer out from the known in-situ burials, included within the burial preserve area, varies between 4 and 15 feet. The burial preserve area extends east/west from the Block N East western project boundary approximately 44 feet, and is 22 feet wide (refer to Figure 98).

Based on consultation with the project's recognized cultural descendants, no public signage, rock walls, or fencing will mark the final burial preserve area boundaries on the ground. There will be no public pedestrian access within the burial preserve area. Instead Native Hawaiian vegetation, including ground cover of sufficient density to prohibit pedestrian access, will be installed and maintained.

#### **4.11 Recognized Cultural Descendant Access**

In consultation with the landowner, recognized cultural descendants will have access to the burial preserve area. Simple access to the burial preserve by recognized cultural descendants occurring outside regular business hours will require 48 hours' notice to the landowner to ensure dissemination of appropriate notifications to management, employees, and security can be made. Included with this requirement for 48 hours' notice would be requests for access to harvest Native Hawaiian plant resources from the burial preserve area by recognized cultural descendants. Should recognized cultural descendants desire more complex visits to the burial preserve, for example visits involving more than five participants and/or more elaborate cultural protocols, held during regular business hours that could affect parking, employees, and business, a two weeks' notice to the landowner will be required to ensure appropriate preparations and notifications can be made.

## **4.12 Long-Term Management of the Burial Preserves**

Storm, flood, fire, traffic mishap, or other natural and/or cultural events could potentially damage the established burial preserve areas. Should this occur, short-term, immediate repairs will be made to the burial relocation area to stabilize the damage. The SHPD and OIBC will be notified of the damage. The landowner (HHC/VWL), in consultation with the SHPD and OIBC, will perform repairs and/or reconstruction of the burial preserve areas. Repairs and/or reconstruction will follow best practices.

The landowner will install and maintain the Native Hawaiian vegetation ground cover within the burial preserve area. The only ground disturbance allowed within the burial preserve area will be the relatively shallow excavation (less than 12 inches [30 cm] below the current land surface) to install the landscaping, needed irrigation, and routine maintenance related to landscaping.

## **4.13 Burial Preserve Recordation**

In order to provide perpetual protection for the burial preserve area, the project proponents, acting on behalf of the SHPD pursuant to HAR §13-300-38(g), will record the burial preserve area location with the State of Hawai'i Bureau of Conveyances. This recordation will create an encumbrance on the project property to run with the land in perpetuity. The burial preserve area recordation with the Bureau of Conveyances will be done upon the completion of project construction. Copies of the recorded document shall be submitted to the SHPD, the OIBC, and interested parties that participated in the burial treatment consultation process. Additionally, the project proponents may enter into an In Situ Burial Agreement, or another appropriate form of agreement, with the State.

## **4.14 Treatment of Inadvertent Burial Discoveries**

The prior Block I, Block M, and original Block N East AIS investigations represented good faith efforts to identify and document the historic properties within the redesigned Block N East project area. Based on a comprehensive subsurface testing sampling strategy, CSH is reasonably confident that all historic properties within Block N East have been identified and documented. Due to the inherent limitations of any sampling strategy, however, it is possible new historic properties or additional features of the three documented historic properties, potentially including human burials, may be uncovered during project construction within Block N East.

An archaeological monitoring plan for the redesigned Block N East project area was prepared (McDermott and Hensley 2016). This archaeological monitoring plan will facilitate the identification and proper treatment of any inadvertent burial finds that might be discovered during project construction, and will gather additional information regarding any non-burial archaeological deposits.

If burial remains are discovered during project construction, they will be treated in accordance with Hawai'i State burial law regarding inadvertent burial discoveries (HAR §13-300-40). Following these regulations, burial treatment of all inadvertent burial finds shall be determined by the SHPD in accordance with HRS §6E-43.6 and HAR §13-300-40, in consultation with recognized lineal/cultural descendants.



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# Appendix A SHPD Correspondence

DAVID Y. IGE  
GOVERNOR OF HAWAII



**STATE OF HAWAII**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**

STATE HISTORIC PRESERVATION DIVISION  
KAKUHIHEWA BUILDING  
601 KAMOKILA BLVD., STE 555  
KAPOLEI, HAWAII 96707

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA  
FIRST DEPUTY

W. ROY HARDY  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENFORCEMENT

FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

June 12, 2015

Anthony J. H. Ching, Executive Director  
Hawaii Community Development Authority  
461 Cooke Street  
Honolulu, Hawaii 96813

Log No. 2015.02101  
Doc. No. 1505SL25  
Archaeology

Mr. Race Randle, Senior Director of Development  
The Howard Hughes Corporation  
1240 Ala Moana Blvd., Suite 200  
Honolulu, HI 96814

Dear Sirs:

**SUBJECT: Chapter 6E-42 Historic Preservation Review —  
Archaeological Inventory Survey Report for the Block I Project, Kaka'ako, KAK 14-058  
Honolulu Ahupua'a, Honolulu (Kona) District, Island of O'ahu  
TMK: (1) 2-3-002:001 por.**

Thank you for the opportunity to review your revised draft report titled *Archaeological Inventory Survey Report for the Block I Project, Kaka'ako, Honolulu Ahupua'a, Honolulu (Kona) District, O'ahu (TMK: [1] 2-3-002:001 (portion))* (Sroat et al., May 2015). We received two copies of the initial draft, one from Cultural Surveys Hawaii, Inc. (CSH) on November 17, 2014 (Log No. 2015.05178) and another from the Hawaii Community Development Authority (HCDA) on November 18, 2014 (Log No. 2014.05201), revised drafts from CSH on April 14, 2015 (Log No. 2015.01468) and on May 29, 2015 (Log No. 2015.02101), and minor final revisions via email on June 12, 2015.

A cultural impact assessment (CIA) (Cruz et al. 2012) and an archaeological literature review and predictive model study (O'Hare et al. 2012) were submitted to SHPD for review on July 20, 2012. An archaeological inventory survey plan (Sroat et al. 2014) for the Block I study area was reviewed and accepted by SHPD on January 24, 2014 (Log No. 2013.6927, Doc. No. 1401SL23). The archaeological inventory survey (AIS) was conducted at the request of Victoria Ward, Limited (VWL) and the Howard Hughes Corporation (HHC).

The 5.8-acre Block I AIS study area is located within Ward Village, and is bounded to the northeast by Queen Street, to the southeast by Kamake'e Street, to the southwest by Ward Theaters, and to the northwest by Ward Industrial Center. The project involves construction of a high-rise residential tower with commercial space on the ground floor. Ground disturbance will include demolition and removal of existing buildings and structures in Ward Village, borings related to foundation pile installation, and excavations for structural footings, utilities, roadways and parking, and for landscaping. As the location of the tower was not finalized prior to initiation of the AIS, the AIS study area was defined as the entire 5.8-acre potential project area. The tower project footprint has subsequently been identified as consisting of a 2.5-acre area in the *maka'i*/Diamond Head corner of the 5.8-acre Block I AIS study area. The completion of an AIS for the entire 5.8-acre parcel facilitates planning decisions regarding future development in other portions of the property.

The AIS identified three archaeological historic properties within the Block I study area, each of which were assigned State Inventory of Historic Places (SIHP) numbers. These historic properties consist of the following:

Mr. Ching and Mr. Randle  
June 12, 2015  
Page 2

- (1) Pre- and post-Contact cultural deposits with associated in-filled pit features, including human burials (SIHP 50-80-14-7429). This historic property was previously documented in areas to the north and south of the current study area (Hammatt 2013, Hawkins et al. 2015);
- (2) Historic salt plan remnants, including man-made berms, laminated salt pan beds, as well as evidence of in-filled pit features, including fire features and human burials (SIHP 50-80-14-7655). This historic property was initially identified within the Block B East and Block C West project areas located Makai (seaward) of Block I (Pammer et al. 2014, Sroat et al. 2014); and
- (3) A historic concretized Ward Estate 'auwai (irrigation ditch) (SIHP 50-80-14-7659). This historic property was previously identified in the Block B East project area which is *makai* of Block I (Pammer et al. 2014).

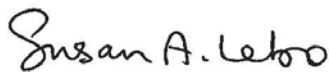
Pursuant to Hawaii Administrative Rules (HAR) §13-284-6(b)(1-5), SIHP # 7429 is assessed as significant under Criteria d (information potential) and e (important to a particular group). SIHP # 7655 is significant under Criteria c (distinctive type), d, and; and SIHP # 7659 is significant under Criterion d. Per HAR §13-284-7(a)(2), the tower project effect determination is "effect, with agreed upon mitigation commitments." The mitigation recommendations are data recovery in the form of archaeological monitoring for the proposed tower project area per HAR §13-284-8(a)(1)(C). Elsewhere within the Block I AIS study area, the effect determination for any future project(s) involving ground disturbance is "effect, with mitigation commitments," and the agreed-upon mitigation is research-defined data recovery for SIHP # -7655 and SIHP # -7429; on-site archaeological monitoring of SIHP # 7429, # 7655, and # 7659), submittal of a burial treatment plan for all burials and/or displaced human skeletal remains identified during the AIS within SIHP # 7429 and # 7655. Data recovery and archaeological monitoring each will be preceded by submittal and SHPD acceptance of the respective required plans. SHPD concurs with the site significance assessments, project effect determination, and the mitigation commitments.

The revisions adequately address the issues and concerns raised in our consultation and earlier correspondence. The report meets the standards set forth in HAR §13-276-5. It is accepted by SHPD. Please send one hardcopy of the document, clearly marked **FINAL**, along with a copy of this review letter and a text-searchable PDF version on CD to the Kapolei SHPD office, attention SHPD Library.

As stipulated in HAR §13-284-7(e), when SHPD comments that the project will have an "effect, with agreed upon mitigation commitments," then detailed mitigation plans shall be developed for SHPD review and acceptance. Per HAR §13-284-8(a)(1)(C), the agreed-upon mitigation measure for the tower project area is data recovery in the form of archaeological monitoring. Pursuant to HAR §13-284-8(a)(3)(e), we look forward to receiving an archaeological monitoring plan that meets HAR §13-279-4.

Please contact me at (808) 692-8019 or at [Susan.A.Lebo@hawaii.gov](mailto:Susan.A.Lebo@hawaii.gov) if you have any questions or concerns regarding this letter.

Aloha,



Susan A. Lebo, PhD  
Oahu Lead Archaeologist  
Acting Archaeology Branch Chief

cc: Matt McDermott, Projects Manager, Cultural Surveys Hawai'i, Inc. ([mmcdermott@culturalsurveys.com](mailto:mmcdermott@culturalsurveys.com))



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
KAKUHIWEA BUILDING  
601 KAMOKILA BLVD. STE 555  
KAPOLEI, HAWAII 96707

SUZANNE D. CASE  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA  
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AQUATIC RESOURCES  
HUNTING AND OCEAN RECREATION  
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COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

December 3, 2015

Ms. Malina L. Reveal  
Ms. Ena Sroat  
Mr. Matt McDermott  
Cultural Surveys Hawaii, Inc.  
P.O. Box 1114  
Kailua, HI 96734

LOG NO: 2015.03320  
DOC NO: 1512.RKH09

Aloha mai,

**Subject: DRAFT Burial Treatment Plan for SIHP #s 50-80-14-7429 and 50-80-14-7655,  
Block I, Kaka'ako, Honolulu Ahupua'a, Honolulu (Kona) District, O'ahu,  
TMK: [1] 2-3-002:001 (por.)**

The above draft plan has been reviewed and is in compliance with HAR §13-300-33 such that you may address the O'ahu Island Burial Council (OIBC) for a determination on whether to preserve-in-place or relocate the human skeletal remains identified above. Per your request, this item has been placed on the OIBC's December 9th, 2015 agenda.

If you have any questions or concerns, please contact the Oahu Burial Sites Specialist, Regina Hilo via email at [Regina.Hilo@hawaii.gov](mailto:Regina.Hilo@hawaii.gov), or at (808) 436-4801.

Ke aloha,

Mr. Hinano Rodrigues  
History and Culture Branch Chief  
State Historic Preservation Division



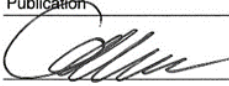
# Appendix B Legal Notices


*Honolulu Star-Advertiser 10, 12, and 15 October 2014*

**AFFIDAVIT OF PUBLICATION**

**IN THE MATTER OF**  
Legal Notice

STATE OF HAWAII }  
City and County of Honolulu } SS.

**Doc. Date:** 10/15/14 **# Pages:** 1  
**Notary Name:** COLLEEN E. SORANAKA **First Judicial Circuit**  
**Doc. Description:** Affidavit of Publication  
 10/15/14  
Notary Signature Date



**NOTICE TO INTERESTED PARTIES IS HEREBY GIVEN** that six human burials and seven isolated human bone fragments were identified by Cultural Surveys Hawai'i during the course of an archaeological inventory survey related to the Block I Project, Kaka'ako, Honolulu Ahupua'a, Kona District, O'ahu, TMK: [1] 2-3-002:001 (por.). The landowner is Victoria Ward Limited (VWL).

Background research indicates that during the Mahela the project area was within lands awarded to the American Board of Commissioners for Foreign Missions (Land Commission Award [LCA] 387), comprising the 'ili of Kukulua'e-o, Kuleana (maka'ainana) LCAs within the vicinity include LCA 1903 to Lolohi and LCA 10463 to Napela.

Following the procedures of Hawai'i Revised Statutes (HRS) Chapter 6E-43, and Hawai'i Administrative Rules (HAR) Chapter 13-300, the remains were determined to be over 50 years old and most likely Native Hawaiian. The State Historic Preservation Division (SHPD) has assigned SIHP (State Inventory of Historic Properties) numbers of 50-80-14-7429 and 50-80-14-7655 to the human skeletal remains finds. The project proponents are currently proposing preservation in place for all human skeletal remains. The decision to preserve in place or relocate these previously identified human remains shall be made by the O'ahu Island Burial Council (OIBC) in consultation with SHPD and any identified lineal and/or cultural descendants, per the requirements of HAR Chapter 13-300-33. The proper treatment of the remains shall occur in accordance with HAR Chapter 13-300-38.

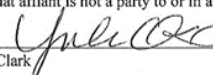
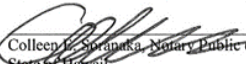
SHPD is requesting persons having any knowledge of the identity or history of these human skeletal remains to immediately contact the SHPD Culture and History Branch, Mr. Hinano Rodriguez, at the DLNR Maui Office Annex, 130 Mahalanui Street, Wailuku, Hawai'i 96793 (TEL (808) 243-4640, FAX (808) 243-5838). All interested parties shall respond within thirty (30) days of this notice and provide information to SHPD adequately demonstrating lineal descent from these specific burials or cultural descent from ancestors buried in the same ahupua'a or district. (SAS77056 10/10, 10/12, 10/15/14)

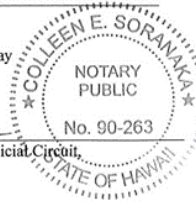
Julie Clark being duly sworn, deposes and says that she is a clerk, duly authorized to execute this affidavit of Oahu Publications, Inc. publisher of The Honolulu Star-Advertiser and MidWeek, that said newspapers are newspapers of general circulation in the State of Hawaii, and that the attached notice is true notice as was published in the aforementioned newspapers as follows:

Honolulu Star-Advertiser 3 times on:  
10/10, 10/12, 10/15/2014

Midweek Wed. 0 times on:  
                     times on:

And that affiant is not a party to or in any way interested in the above entitled matter.

  
Julie Clark  
Subscribed to and sworn before me this 15<sup>th</sup> day  
of October A.D. 2014  
  
Colleen E. Soranaka, Notary Public of the First Judicial Circuit,  
State of Hawaii



My commission expires: Jan 06 2016  
Ad # 0000677056

SP.NO.: \_\_\_\_\_ L.N.

BSCDR&PP for Portions of SIHP #s 50-80-14-7429 and -7655, HHC's Redesignated Block N East Project, Kaka'ako, O'ahu

TMK: [1] 2-3-002:001 (por.), 086, 087

*Ka Wai Ola O OHA Malaki November 2014*

HO'OLAHA LEHULEHU  
PUBLIC NOTICE

nowemapa2014 29

**HONOLULU AHUPUA'A**  
NOTICE TO INTERESTED PARTIES IS HEREBY GIVEN that six human burials and seven isolated human bone fragments were identified by Cultural Surveys Hawai'i during the course of an archaeological inventory survey related to the Block I Project, Kaka'ako, Honolulu Ahupua'a, Kona District, O'ahu, TMK: [1] 2-3-002:001 (por.). The landowner is Victoria Ward Limited (VWL).

Background research indicates that during the *Māhele* the project area was within lands awarded to the American Board of Commissioners for Foreign Missions (Land Commission Award [LCA] 387), comprising the 'ili of Kukuluāe'o. *Kuleana* (*maka'āinana*) LCAs within the vicinity include LCA 1903 to Lolohi and LCA 10463 to Napela.

Following the procedures of Hawai'i Revised Statutes (HRS) Chapter 6E-43, and Hawai'i Administrative Rules (HAR) Chapter 13-300, the remains were determined to be over 50 years old and most likely Native Hawaiian. The State Historic Preservation Division (SHPD) has assigned SIHP (State Inventory of Historic Properties) numbers of 50-80-14-7429 and 50-80-14-7655 to the human skeletal remains finds. The project proponents are currently proposing preservation in place for all human skeletal remains. The decision to preserve in place or relocate these previously identified human remains shall be made by the O'ahu Island Burial Council (OIBC) in consultation with SHPD and any identified lineal and/or cultural descendants, per the requirements of HAR Chapter 13-300-33. The proper treatment of the remains shall occur in accordance with HAR Chapter 13-300-38.

SHPD is requesting persons having any knowledge of the identity or history of these human skeletal remains to immediately contact the SHPD Culture and History Branch, Mr. Hinano Rodrigues, at the DLNR Maui Office Annex, 130 Mahalani Street, Wailuku, Hawai'i 96793 [TEL (808) 243-4640, FAX (808) 243-5838]. All interested parties shall respond within thirty

(30) days of this notice and provide information to SHPD adequately demonstrating lineal descent from these specific burials or cultural descent from ancestors buried in the same *ahupua'a* or district.

# Appendix C OHA Consultation Letter

## CULTURAL SURVEYS HAWAI'I

ARCHAEOLOGICAL, CULTURAL, AND HISTORICAL DOCUMENTATION SERVICES - SINCE 1982



24 October 2014

Dr. Kamana'opono Crabbe  
Administrator  
Office of Hawaiian Affairs  
560 N. Nimitz Highway, Suite 200  
Honolulu, Hawai'i 96817

Subject: Cultural Surveys Hawai'i, Inc.'s (CSH) request for consultation regarding archaeological inventory survey results for the Block I Project Area, Kaka'ako, Honolulu Ahupua'a, Honolulu (Kona) District, O'ahu Island (TMK: [1] 2-3-002:001 por.)

**O'ahu Island**

P.O. Box 1114  
Kailua, Hawai'i 96734  
Ph: (808) 262-9972  
Fax: (808) 262-4950

**Maui Island**

1860 Main Street  
Wailuku, Hawai'i 96793  
Ph: (808) 242-9882  
Fax: (808) 244-1994

**Branch Offices:**

Hilo, Hawai'i  
Kona, Hawai'i  
Lāwai, Kaua'i

CSH Job Code: KAKAAKO 121

Aloha Dr. Crabbe:

On behalf of Victoria Ward, Limited and The Howard Hughes Corporation, CSH has recently completed an archaeological inventory survey (AIS) for the Block I project area within the Ward Neighborhood Master Plan area (Figure 1). For the purposes of consultation and to provide the Office of Hawaiian Affairs (OHA) with the preliminary results of this archaeological investigation, a brief summary of the AIS findings is presented below. Following your review of the information provided, CSH requests that OHA reply with any questions, comments, or concerns regarding the Block I project area AIS findings.

**Block I Project Summary**

The Block I project area is located within the Ward Industrial Center and is bounded to the southwest by Auahi Street, to the southeast by Ward Entertainment Center, and to the northwest by Ward Gateway Center. A total of 88 test excavations were completed, encompassing both exterior parking lots and interior commercial space (Figure 2). Three historic properties were identified during the AIS (Figure 3): 1) State Inventory of Historic Properties (SIHP) # 50-80-14-7659, the concretized Ward Estate 'auwai; 2) SIHP # -7655, historic salt pan remnants, including an associated human burial; and 3) SIHP # -7429, pre- to post-Contact cultural deposits with associated features, including human burials. A brief summary of each of these historic properties is provided below.



WWW.CULTURALSURVEYS.COM - INFO@CULTURALSURVEYS.COM



**To: Office of Hawaiian Affairs****Page 2****24 October 2014**SIHP # -7659

SIHP # -7659 consists of the twentieth century concretized Ward Estate 'auwai. It was documented during a pedestrian inspection of the project area. During the early twentieth century, as part of the reclamation of Kaka'ako wetlands, the old Ward Estate open air 'auwai was encased in concrete. The surface of this concrete encasement is visible running along the asphalt surface of the project area, along the northwest boundary (Figure 4, Figure 5).

SIHP # -7655

SIHP # -7655 consists of historic large-scale, commercial salt pan remnants. These salt pan remnants were documented within the central and *makai* portions of the project area, as well as within the adjacent (*makai*) Block B East and Block C West project areas. The salt pan works consist of a complex of man-made berm structures arranged in a grid formation around low-lying salt pan beds with associated 'auwai (Figure 6, Figure 7). In some limited areas, the berm features evidenced cultural activity, including traditional-type pit features and artifacts (including a modified human bone tool within T-35). One secondary (previously disturbed and reinterred) human burial was documented within the upper portion of a salt pan berm (T-38).

SIHP # -7429

SIHP # -7429 consists of buried cultural deposits located within the *mauka* portion of the project area. This area of Block I contains a buried sand dune, bordering the *makai* wetlands (converted in historic times to salt pan works). The cultural deposits consist of a buried pre- to post-Contact living surface and overlying historic fill deposits which served as living surfaces for a period of time during the nineteenth century to early twentieth century (Figure 8). The pre- to post-Contact living surface contains both traditional-type and historic cultural material and features, including fire pits, hearth features, midden pits, and human burials. The historic fill deposits directly overlying the pre- to post-Contact living surface contain historic pit features, fire features, postmolds, animal burials, human burials, and previously disturbed, disarticulated human skeletal remains.

A total of 10 burial sites were documented within the *mauka* portion of Block I, SIHP # -7429 (see Figure 3). A cluster of five burials was documented within test excavations T-17, T-68, T-69, and T-70, including flexed burials and coffin burials. In addition, isolated and disarticulated human remains were found within fill deposits within five trenches (T-3, T-7, T-8, T-24, and T-57), indicating that historic earth movement activity had previously disturbed human burials in the general area.

Consultation

Consultation with the State Historic Preservation Division (SHPD) and the O'ahu Island Burial Council (OIBC) concerning the results of the Block I AIS investigation was ongoing throughout the AIS fieldwork, including informational presentations, meetings, and site visits. Cultural monitors were on-site during the AIS fieldwork and provided cultural protocol for all identified *iwi kūpuna*. In addition, on 29

[www.culturalsurveys.com](http://www.culturalsurveys.com)[info@culturalsurveys.com](mailto:info@culturalsurveys.com)

To: Office of Hawaiian Affairs

Page 3

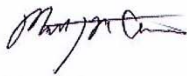
24 October 2014

September 2014, the AIS findings, and in particular the burial site findings in relation to the proposed project footprint, were presented to the recognized cultural descendants of the project. Consultation with cultural descendants, SHPD, the OIBC, and any concerned parties is ongoing.

Once again, CSH welcomes OHA's input in this consultation process. Please review the information and figures provided in this consultation letter and contact CSH with any questions, concerns, or comments that OHA may have regarding the AIS investigation and findings. Thank you for your consideration of this matter.

Sincerely,

Cultural Surveys Hawai'i, Inc.



Matt McDermott  
([mmcdermott@culturalsurveys.com](mailto:mmcdermott@culturalsurveys.com))  
Tel. (808) 262-9972

[www.culturalsurveys.com](http://www.culturalsurveys.com)

[info@culturalsurveys.com](mailto:info@culturalsurveys.com)



To: Office of Hawaiian Affairs

Page 4

24 October 2014



Figure 1. Aerial photograph showing the location of the Block I project area within the context of the Ward Neighborhood Master Plan Project area



To: Office of Hawaiian Affairs

Page 5

24 October 2014

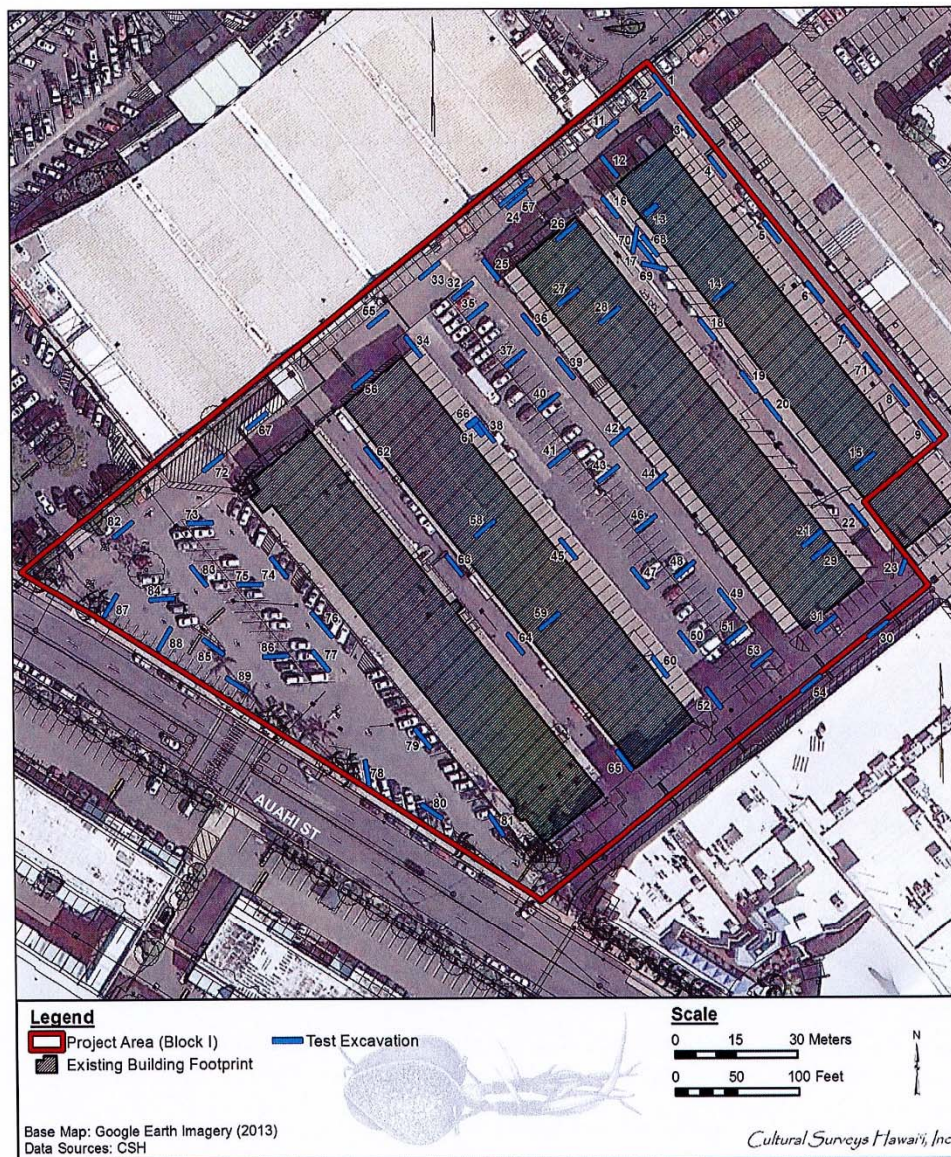


Figure 2. Aerial photograph showing the location of 88 test excavations within the Block I project area



To: Office of Hawaiian Affairs

Page 6

24 October 2014

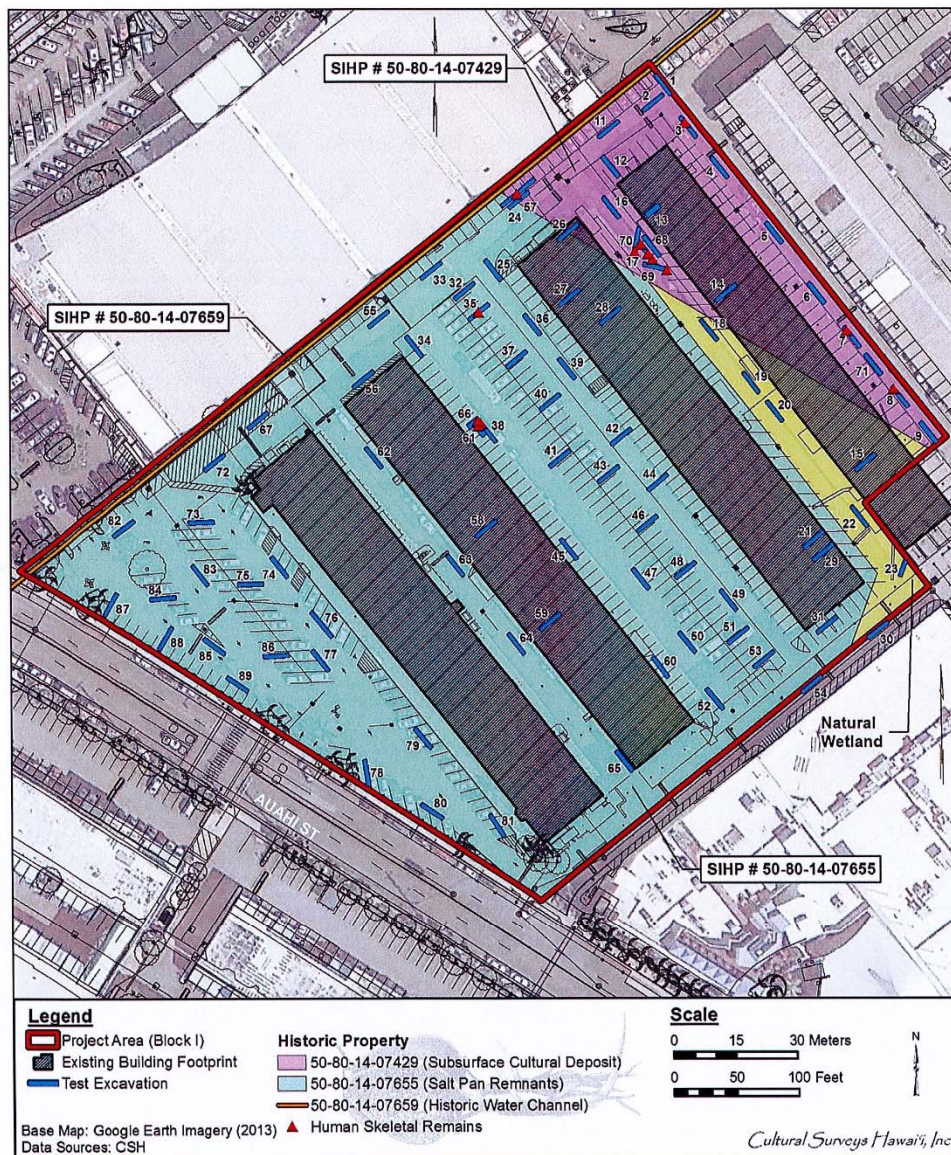


Figure 3. Figure showing the location of documented historic properties within the Block I project area

To: Office of Hawaiian Affairs

Page 7

24 October 2014



Figure 4. Concretized Ward Estate 'auwai (SIHP # -7659) extending *mauka-makai* through the Block I project area



Figure 5. Interior of Ward Estate 'auwai (SIHP # -7659)



To: Office of Hawaiian Affairs

Page 8

24 October 2014

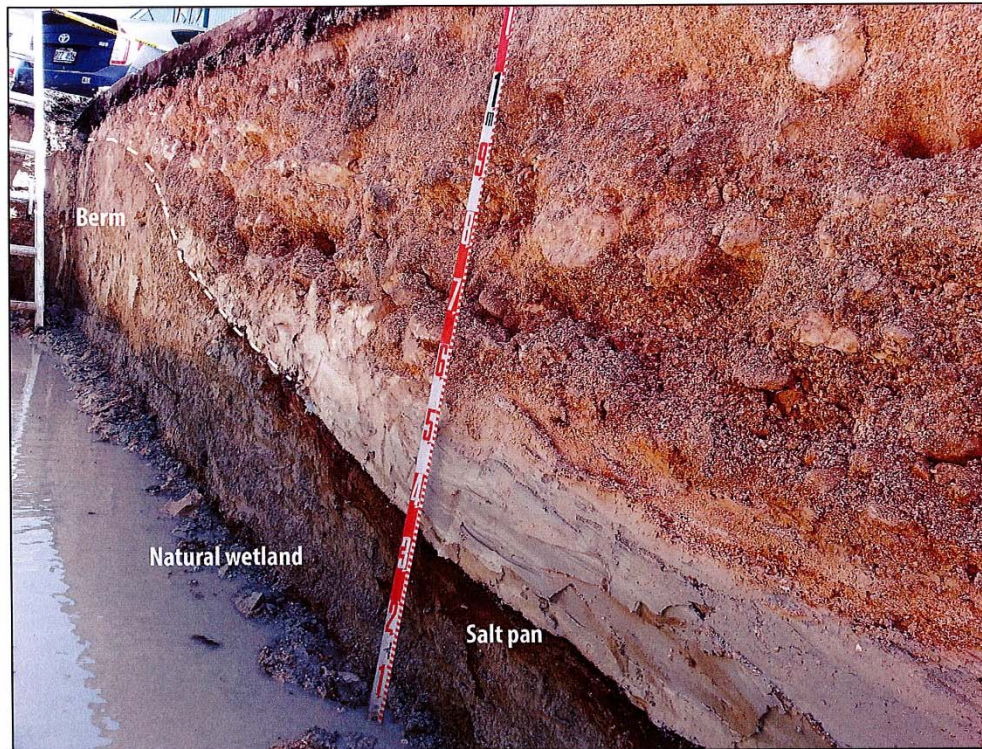


Figure 6. Photograph showing man-made historic salt pan berm structures and salt pan bed

To: Office of Hawaiian Affairs

Page 9

24 October 2014



Figure 7. Salt pan berms and a *mauka-makai* oriented '*auwai* (SIHP # -7655)



To: Office of Hawaiian Affairs

Page 10

24 October 2014

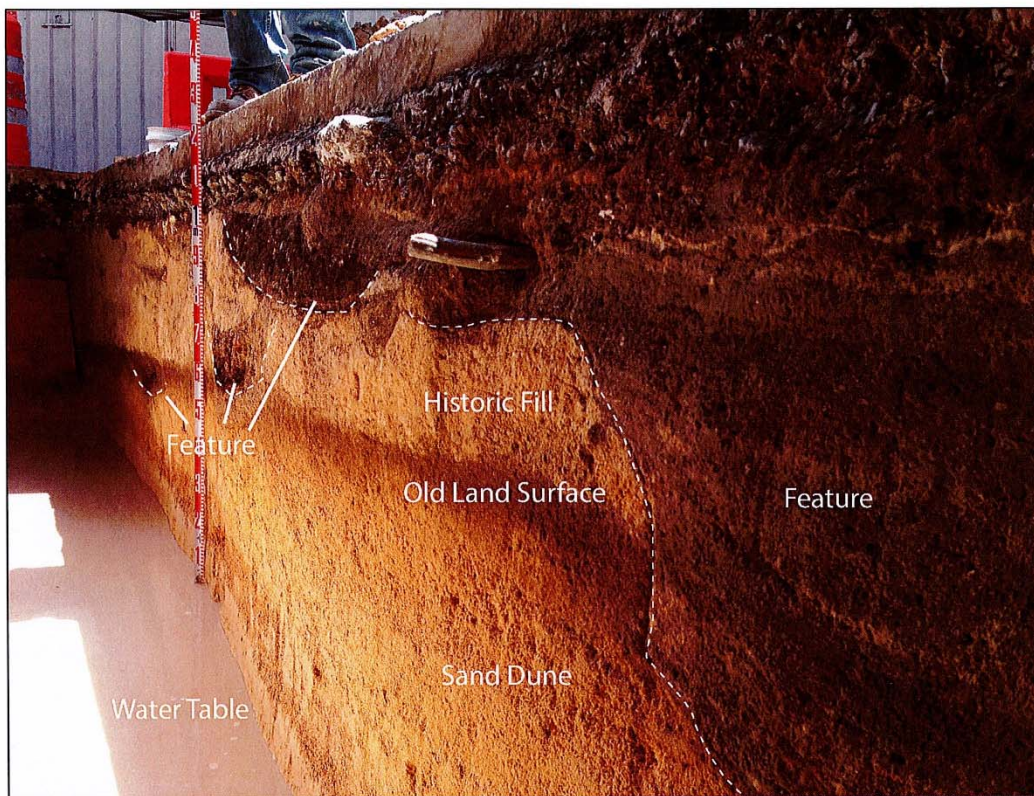


Figure 8. Photograph of *mauka* sand dune area within Block I, showing a historic fill deposit/living surface with associated features overlying a previous sand living surface with associated features (SIHP # -7429)