G. SOCIO-CULTURAL ATTRIBUTES AND RECREATION RESOURCES

1.0 Historical/ Archaeological Sites

1.1 Historical Background

According to the Department of Land and Natural Resources Historic Preservation Office, based on current interpretations, the HOST/NELH area was probably settled in the A.D. 1400s. As stated in an attachment to their comments on the Notice of Preparation for this EIS (Part VIII):

> It (the area) had a small population prehistorically and an even smaller population in early historic times. A few permanent dwellings were along the shore with numerous temporary habitations (e.g., shelter caves and C-shaped shelters) just behind or along the shore. Trails led inland across the barren pahoehoe flows to the agricultural fields situated at about the 800 - 2200 foot elevations. Along these trails, there were shelters (caves, C-shaped enclosures, etc.) and cairns, the latter apparently marking the trails and shelters. Major trails crossing through these lands parallel to the shore were the prehistoric/historic coastal trail (the 20th Century jeep trail) and the historic period Mamalahoa Trail.

1.2 Existing Conditions

Eight archaeological surveys have been done in the HOST Park parcel, and 7 have been done in the NELH parcel. More surveys are listed in Appendix I. These surveys included intensive surveys and excavations. The HOST Park and NELH parcels contain archaeological sites along the coast and lower barren pahoehoe areas. Nearly all sites fitting permanent housing criteria along the coast have been carefully mapped, minimally excavated, and minimally dated. Smaller sites have been mapped in detail, excavated and dated only along the NELH access road. Deposits were generally shallow and limited. Most smaller sites have not been mapped in detail, nor have they been excavated in cases where deposits are present.

1.2.1 HOST Park Site

The most recent reconnaissance survey of the HOST Park site was conducted by Chiniago, Inc. in January 1985. Although the archaeologist reported locating 45 sites on the property, the number was corrected to 44 by DLNR. In addition, because DLNR was in the process of updating their site numbering system at the time of the survey, Chiniago, Inc. was not able to receive a block of permanent site numbers to assign to the sites. Since that time, DLNR has assigned permanent numbers to the sites as part of their review of the project. Figure IV-6 illustrates the location and original numbers of the sites identified in the Chiniago survey. Figure IV-6a illustrates the location of sites by their new numbers. Table 4-10 lists the sites by old and new numbers and primary features present.

The historic Mamalahoa Trail, also known as the King's Highway, bisects the park site from north to south (Figure II-2). The trail is currently impassable in many

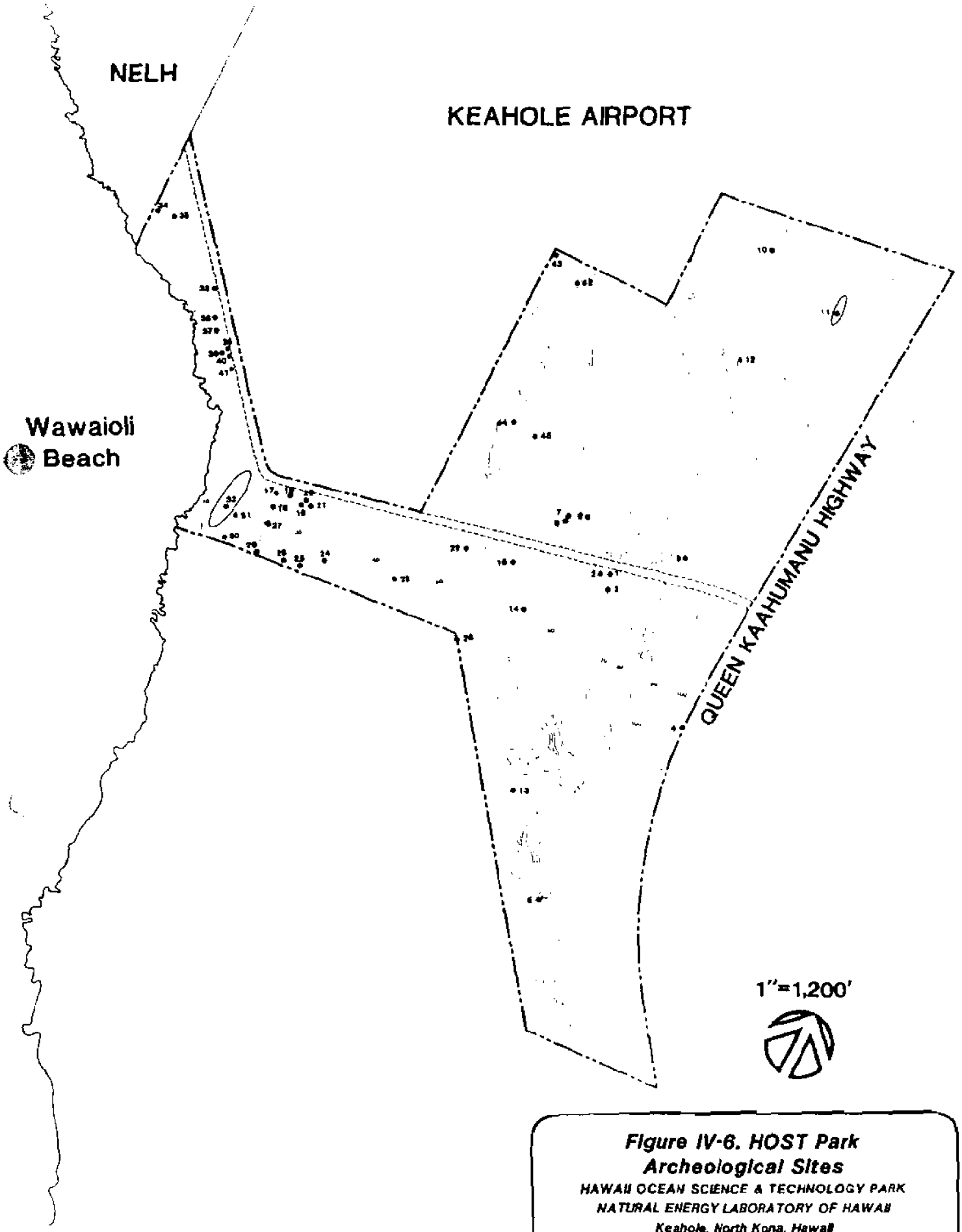

Figure IV-6. HOST Park Archeological Sites

HAWAII OCEAN SCIENCE & TECHNOLOGY PARK
NATURAL ENERGY LABORATORY OF HAWAII
Keahole, North Kona, Hawaii

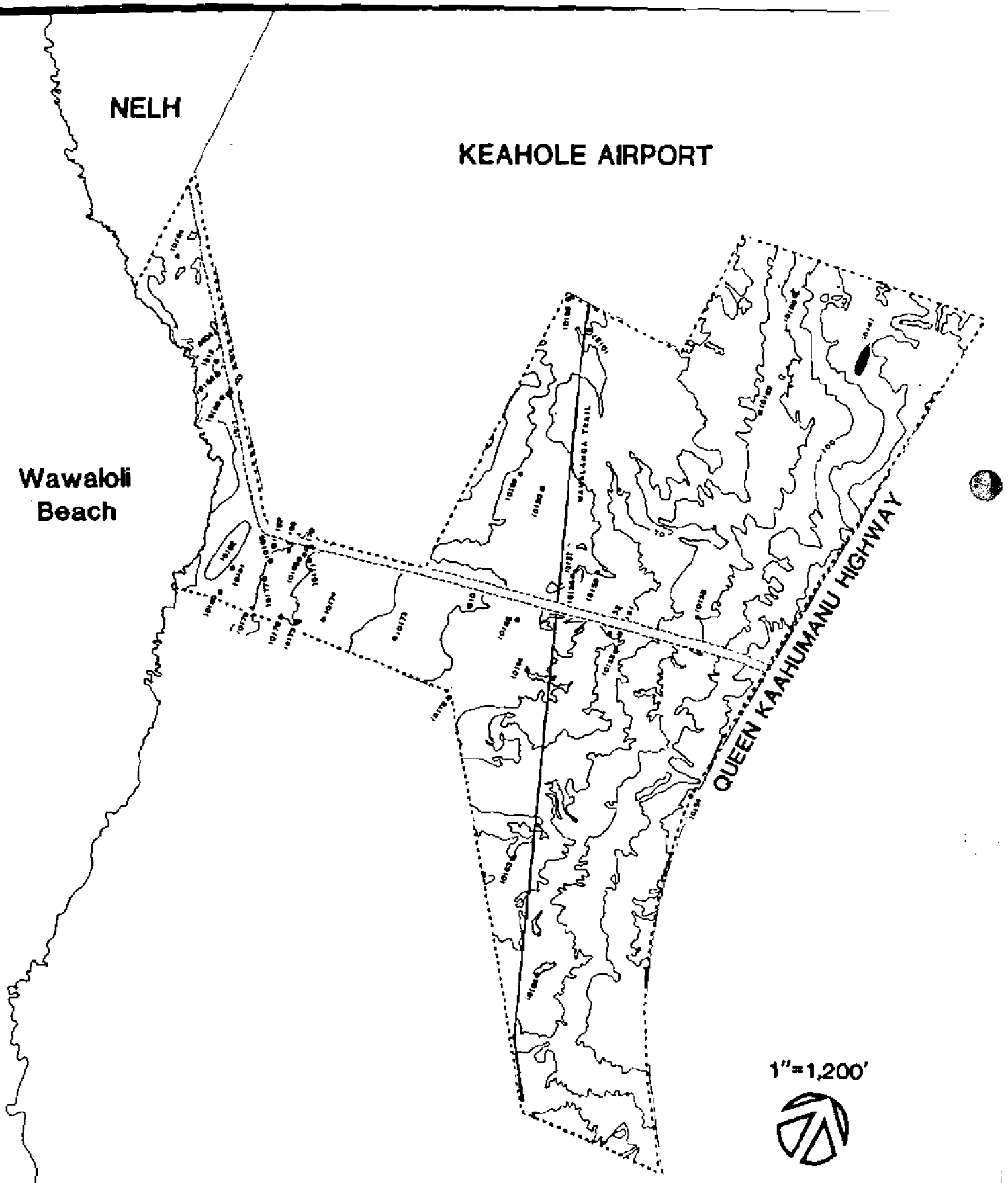

Figure IV-6A. HOST Park Archeological Sites (Official Site Numbers).
HAWAII OCEAN SCIENCE & TECHNOLOGY PARK
NATURAL ENERGY LABORATORY OF HAWAII
Keahole, North Kona, Hawaii

Table 4-10. Archaeological Sites at the HOST Park Site

Old Site #	New Site #	Description
T-1	10151	Midden Scatter
T-2	10152	Stone Mound
T-3	10153	Stone Mound
T-4	10154	Walled Habitation
T-5	10155	Habitation Cave
T-6	10156	Stone Mound
T-7	10157	Stone Mound
T-8	10158	Clearing
T-9	10159	4 Habitation Shelters
T-10	10160	Stone Mound
T-11	10161	Mounds & Shelter
T-12	10162	Stone Mound
T-13	10163	Habitation Shelter
T-14	10164	Clearing
T-15	10165	Habitation Shelter
T-16	10166	Habitation Shelter
T-17	10167	Stone Mound
T-18	10168	Habitation Shelter
T-19	10169	Stone Mound
T-20	10170	Habitation Shelter
T-21	10171	Habitation Shelter
T-22	10172	Habitation Shelter
T-23	10173	Habitation Shelter
T-24	10174	Stone Mound
T-25	10175	Habitation Shelter
T-26	10176	Stone Mound
T-27	10177	4 Habitation Shelters
T-28	10178	Petroglyphs
T-29	10179	Habitation Shelter
T-30	10180	Habitation Shelter
T-31	10181	2 Stone Mounds
T-32	10182	Various Features
T-33	5604	Shelter & 2 Mounds
T-35	10184	Lava Bubble
T-36	1919	Habitation Shelter
T-37	10185	Midden Scatter
T-38	5603	Habitation Shelter
T-39	10186	Stone Mound
T-40	1917	Shelter, Wall & Cave
T-41	1917	Habitation Shelter
T-42	10187	4 Stone Mounds
T-43	10188	2 Stone Mounds
T-44	10189	Stone Mound
T-45	10190	Habitation Shelter
	2	Mamalahoa Trail

areas and has been completely obliterated, in some places, by the Keahole Airport runway.

A copy of the complete revised archaeological report is available for public review at HTDC, OEQC, UH Environmental Center and selected libraries.

1.2.2 NELH Site

An archaeological reconnaissance of the NELH property was conducted from August 6 through August 10, 1984 by the Department of Anthropology, Bernice P. Bishop Museum, under contract to the Marine Sciences Group, Department of Paleontology, University of California, Berkeley. The purpose of the survey was to determine the presence or absence and general nature of surface archaeological remains with the project area.

Twenty-four sites were recorded during the survey (Figure IV-7). Bishop Museum reports that the majority of sites are concentrated along the coast, near brackish-water pools. The sites are composed of more than 60 individual features and include 8 platforms, 14 enclosures, 2 historic house sites, 4 trails, 5 ahu (cairns), 2 papamu, 5 brackish (anchialine) pools, 5 cave shelters, 9 rock-filled crevices, 1 petroglyph area, 2 C-shape shelters, 4 walls, and numerous rock alignments. Table 4-11 lists the sites by number and primary features present. The surface remains were reported to be in only fair condition and have been subjected to a number of destructive forces. The museum believes that site deterioration is caused primarily by natural forces, including high surf and winds, and vandalism. Sites located near the shoreline (and thus exposed to high surf) are in worse structural condition than coastal sites situated further inland. Bishop Museum's complete report is available for public review at HTDC, OEQC, UH Environmental Center and selected libraries.

1.3 Site Significance

The sites in the area are primarily significant for the information they contain on the prehistory and early history of the area. Despite looting, much informaton is still present in the sites. Architectural remains still stand, and archaeological excavations have shown that deposits with important information do exist in some sites.

1.4 Impact Producing Actions

The following actions, to be undertaken during the development and operation of the project areas, may directly or indirectly impact the archaeological sites in the area:

- Road grading and underground utility placement;
- Construction and placement of up to 10 pipes and associated pumping systems in the coastal area;
- Construction of seawater return flow disposal areas;
- Subdivision of parcels and construction of improvements on them;

1"=1,200'

Figure IV-7. NELH
Archeological Sites
HAWAII OCEAN SCIENCE & TECHNOLOGY PARK
NATURAL ENERGY LABORATORY OF HAWAII
Keahole, North Kona, Hawaii

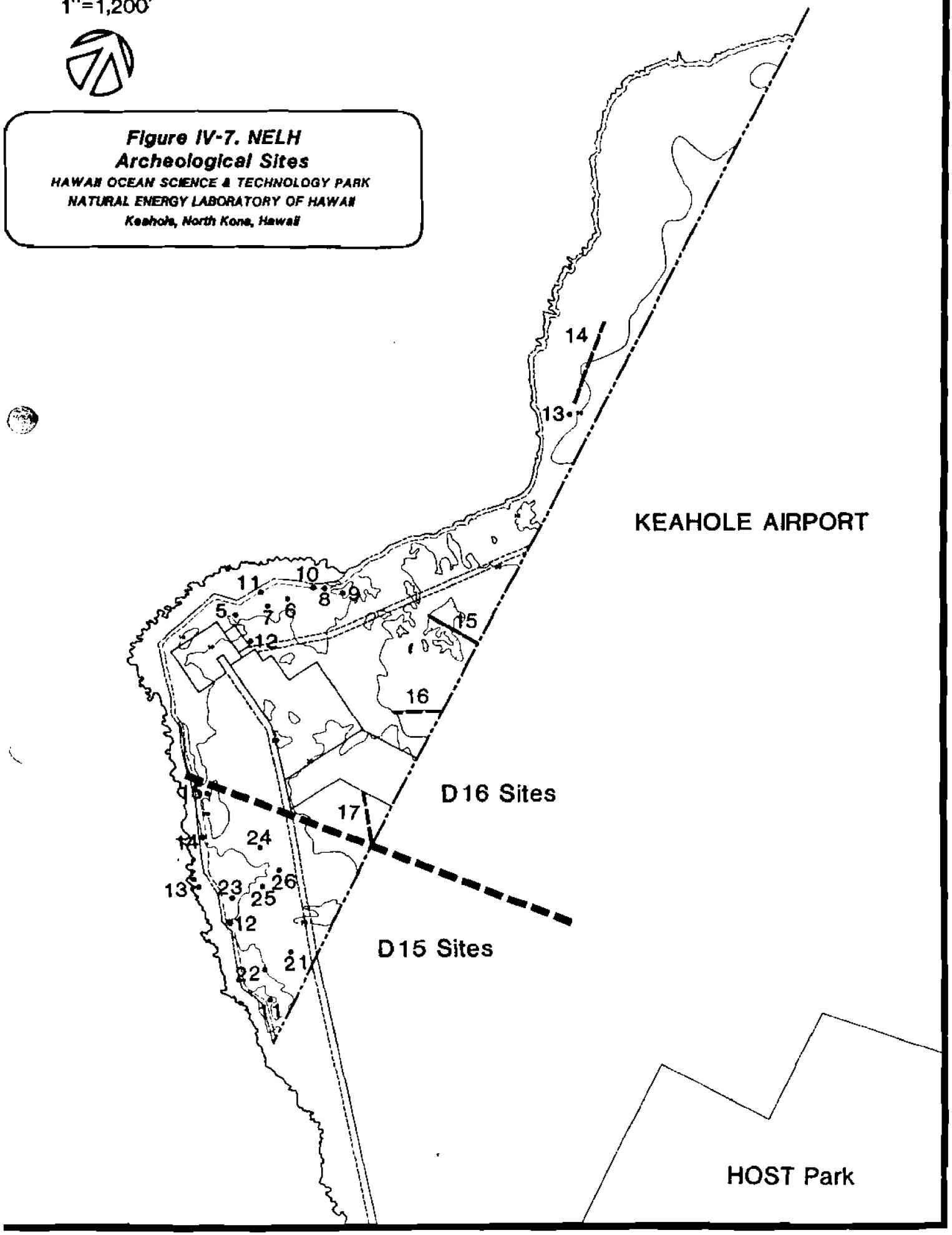

Table 4-11 -- Archaeological Sites at the Natural Energy Laboratory of Hawaii Site Keahole, Hawaii

Bishop Museum Site Numbers	Primary Features Present
D15-11(-1 to -3b)	Four enclosures.
D15-12(-1 to -4)	Enclosure, wall, two platforms.
D15-13	Platfrom.
D15-14(-1 to -3)	Platform, two enclosures.
D15-15(-1 to -10)	Two enclosures, platform, rock pile, two cave shelters, two ahu, petroglyph area, two walls, and two brackish pools.
D15-21*	Eight rock-filled crevices.
D15-22*	Rock-filled crevice.
D15-23(-1, -2)*	Platform, enclosure.
D15-24(-1, -2)*	Modified shelter cave, C-shape.
D15-25(-1, -2)(	Shelter cave, platform.
D15-26*	Ahu.
D16-5	Enclosure.
D16-6(-1, -2)	Platform and historic house site.
D16-7	Enclosure, two platforms.
D16-8	Historic house site.
D16-9(-1, -2)	Enclosure, C-shape shelter, two brackish pools.
D16-10	Enclosure.
D16-11	Enclosure.
D16-12(-1, -2)*	Enclosure, wall.
D16-13(-1, -2)*	Cave shelter, ahu.
D16-14*	'Opihi-shell trail.
D16-15*	'Opihi-shell trail.
D16-16*	Basalt stepping stone and coral.
D16-17*	'Opihi-shell trail.

*Museum site number assigned at completion of this survey. Remainder assigned by Cordy (1978).

Source: Department of Anthropology, Bernice Pauahi Bishop Museum, An Archaeological Reconnaissance of Natural Energy Laboratory Hawaii (NELH) Property, Keahole Point, North Kona, Hawai'i. October 1984.

- o Increased activity on the sites, including up to 3,190 employees; and,

- o Increased public access to the shoreline areas.

These impacts may destroy or damage historic sites, and they might inadvertntly increase looting through increased public access.

1.5 Potential Impacts and Mitigating Measures

Following the State Historic Preservation Office's recommendations, mitigation will focus on (1) preservation of excellent examples of different site types in the HOST and NELH areas, and (2) on archaeological data recovery at sites where significant information is still unrecorded and/or unrecovered. All the sites meriting preservation and data recovery will be placed in protected "no build" zones until preservation or archaeological data recovery is concluded. Based on the Historic Preservation Office's comments, a number of sites in the HOST and NELH areas have already had their significant information recorded and/or recovered, and these need no further consideration.

A historic preservation management plan is being prepared to include the details for preservation methods and the details for methods and interpretations needed in the archaeological data recovery work. This plan is to be reviewed and approved by the State Historic Preservation Office before any preservation and data recovery work occur.

The State Historic Preservation Office recommended the preservation of one site (the Mamalahoa Trail) and four examples of other site types (a historic period permanent dwelling site, a prehistoric period permanent dwelling site, a cave used as a prehistoric period temporary-use shelter, and a C-shaped enclosure also used as a shelter). These are sites that serve as examples of Hawaiian adaptation to the environment. They proposed that HOST and NELH jointly select one excellent example of each type from either parcel for preservation. Among the sites which have been selected, subject to concurrence by the State Historic Preservation Office, are:

- o The Mamalahoa Trail in the HOST Park.

- o D16-5 through D16-11, a set of historic period permanent dwelling sites, in the NELH area.

- o Site 1919, a prehistoric period permanent dwelling site, in the HOST Park.

- o Site 1917, a cave shelter in the HOST Park area.

- o One C-shaped shelter, in the HOST Park area. (Selected from sites 10159, 10161, 10163, 10172, 10173, or 10190)

Detailed preservation approaches will be presented in the management plan and will be reviewed and approved by the State Historic Preservation Office.

The State Historic Preservation Office recommended archaeological data recovery at all sites still containing unrecorded or unrecovered significant information. This work is feasible given the small size of the sites and their shallow deposits, and is

desirable given the possibility of increased looting and development. Table 4-11 lists the sites needing data recovery work in the HOST and NELH parcels. The needed work includes detailed mapping and excavation at those sites with deposits. The management plan will specify the minimum field and lab methods needed and the minimum interpretive analyses needed. Interpretations will include site-specific dating and functional interpretations and a general reassessment of the history of this area's land units (the Kalaoa and OOma ahupua'a) based on the site findings. The management plan and its scope of work for data recovery is to be approved by the State Historic Preservation Office before any data recovery work is conducted. The State Historic Preservation Office will also evaluate the archaeological fieldwork for adequacy and provide a statement of adequacy before construction can proceed, and the Office will evaluate the archaeological final report to ensure lab and interpretive analyses have been adequately covered. Only after this report is accepted by the State Historic Preservation Office as adequate will the archaeological data recovery work be complete. (Note: The archaeological data recvoery work may well proceed in increments in conjunction with development phases. The State Historic Preservation Office has indicated that this approach is acceptable and that adequacy review can be by increments.)

2.0 Recreational Resources

2.1 The Project Area

2.1.1 Existing Conditions

The Keahole region is one of the most important in the state for sport diving, as well as for commercial collecting of aquarium fish. In addition, the best board surfing site in the district of Kona is located nearby. The four miles of rocky shoreline from Kaloko to Keahole Point are backed by a long, sandy reach of storm beach that is frequented by beachcombers, campers, fishermen, sunbathers, picnickers, surfers, and scuba divers. The two most popular sites on this beach are "Pine Trees" and Wawaloli Beach.

The Keahole Point region is of high value for shoreline and ocean recreation on both a regional and island-wide scale. Although the entire area is undeveloped except for the NEHL facility, it receives high use as a wilderness beach park. In the entire district of Kona, which begins at Manuka to the south and extends to Anaehoomalu in the north, there is only one public beach park where camping is permitted--remote Milolii Beach Park. The proximity and security (the NEHL access road is locked from 8:00 p.m. to 6:00 a.m.) of the Keahole shoreline have made it a highly desirable site. In addition to camping, the area offers many excellent opportunities for a variety of ocean recreation, including one of the best surfing sites and one of the best scuba diving sites in the Kona district.

The four-and-one-half miles of rocky shoreline from Keahole Point to Mahaiula consist of low sea cliffs, some of them veneered by storm beaches of black sand. Makolea Beach is the only beach along this reach where the sand meets the ocean. This area is less accessible than the area immediately south of Keahole Point and it attracts primarily pole fishermen with four-wheel drive vehicles.

Discussion of recreational activities by location along the coastal areas of the project site are presented in Appendix F.