DRAFT ENVIRONMENTAL ASSESSMENT

Department of Accounting and General Services

Information & Communication Services Division
ICSD Round Top Radio Facility Building Addition and Other Improvements

Makiki & Tantalus, Oahu, Hawaii

Tax Map Key: (1) 2-5-019:003 (por.)
DAGS Job No. 12-10-0603

Prepared for:

State of Hawaii
Department of Accounting and General Services

Prepared by:

Wilson Okamoto Corporation

November 2010

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Prepared for:

State of Hawaii
Department of Accounting and General Services
Division of Public Works
1151 Punchbowl Street
Honolulu, Hawaii 96813

Prepared by:

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOC: 7682-01

November 2010

SUMMARY

Proposing Agency:	State of Hawaii Department of Accounting and General Services 1151 Punchbowl Street Honolulu, Hawaii 96813
Accepting Agency:	State of Hawaii Department of Accounting and General Services 1151 Punchbowl Street Honolulu, Hawaii 96813
EA Preparer:	Wilson Okamoto Corporation 1907 South Beretania Street, Suite 400 Honolulu, Hawaii 96826 Contact: John L. Sakaguchi, AICP, Senior Planner Tel: 808.946.2277; Fax: 808.946.2253
Project Location:	Honolulu District, Makiki & Tantalus, Oahu, Hawaii
Recorded Fee Owner:	State of Hawaii
Tax Map Key:	(1) 2-5-019:003(por.)
Area:	Project site: 2,067.5 square feet (0.047 acres); existing facility 792 square feet (0.018 acres); Total parcel: 119.889 acres
State Land Use Classification:	Conservation (Round Top Forest Reserve)
County Zoning:	P-1 Restricted Preservation
Proposed Action:	Construction of 1) an approximately 484-square foot by 12-foot high building to include a power and equipment room and an emergency generator room; and 2) other related improvements, including a retaining wall with security fencing, a block wall fence with simulated masonry veneer, an above-ground diesel fuel tank, and drainage improvements for the State of Hawaii Department of Accounting and General Services (DAGS) Information and Communication Service Division to support the Hawaiian Digital Microwave Radio System.
Impacts:	No significant impacts are anticipated from construction and operation of the proposed building addition and related improvements to the Round Top Radio Facility.
Parties Consulted During Pre-Assessment:	U.S. Army Corps of Engineers U.S. Fish and Wildlife Service

State of Hawaii (State) Department of Business, Economic Development & Tourism (DBEDT) Land Use Commission
State DBEDT Office of Planning
State Department of Defense
State Department of Hawaiian Home Lands
State Department of Health
State Department of Land and Natural Resources (DLNR)
State DLNR Historic Preservation Division
State DLNR Division of State Parks
State DLNR Office of Conservation and Coastal Lands
State Department of Transportation
State Office of Hawaiian Affairs

City and County of Honolulu (City) Department of Design and Construction
City Department of Emergency Management
City Department of Emergency Services
City Department of Facility Maintenance
City Department of Planning and Permitting
City Department of Transportation Services
City Fire Department
City Police Department

Honolulu City Councilmember Ann H. Kobayashi
Honolulu City Councilmember Rod Tam
Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10
Oahu Island Burial Council
University of Hawaii Environmental Center

Hawaiian Electric Company
Oceanic Time Warner Cable

Ms. Nancy Sylvia
Ms. Charlotte "Coco" Needham

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PREFACE

Chapter 343, Hawaii Revised Statues (HRS), as amended, Environmental Impact Statements, requires that a government agency or a private developer proposing to undertake a project consider the potential environmental impacts of the proposed project by preparing an assessment. Use of public lands and funds for a project is among the criteria set forth in Chapter 343, HRS which requires preparation of an environmental assessment. The Round Top Radio Facility Building Addition and Other Improvements project will be constructed and operated with funds provided by the State of Hawaii Department of Accounting and General Services (DAGS) on land owned by the State of Hawaii Department of Land and Natural Resources.

This Environmental Assessment (EA) has been prepared to meet the requirements of Chapter 343, HRS, as amended, and Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 200, Environmental Impact Statement Rules. Based on Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 200, Environmental Impact Statement Rules, Subchapter 6, Section 11-200-9 (4), construction and operation of the proposed project does not warrant the preparation of an Environmental Impact Statement preparation notice. Further, based on the findings and the assessment of potential impacts from the proposed project, a Finding of No Significant Impact (FONSI) is anticipated.

The project site is located within the Conservation District as designated by the State Land Use Commission. On April 26, 1985, the Board of Land and Natural Resources approved a Conservation District Use Application, CDUA, (OA-1724A) for the existing facilities. A Conservation District Use Application (CDUA) approved by the Board of Land and Natural Resources will be required to construct and operate the building addition and other improvements.

The improvements will be completely funded by the State of Hawaii. No Federal funds, permits, or approvals will be required for construction of the improvements.

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1. INTRODUCTION

The State of Hawaii (State) Department of Accounting and General Services (DAGS) is proposing to construct a building addition and related improvements at the DAGS Information & Communication Services Division (ICSD) Round Top Radio Facility located in the Makiki area of Honolulu, Oahu, Hawaii. The proposed addition will provide a power and equipment room and an emergency generator room sited adjacent to the existing ICSD tower and support building. There will be no changes to the existing radio tower or antennas. No State employees will be assigned to the facility on a daily basis.

The proposed project includes the construction of: 1) an approximately 484-square foot (SF) by 12-foot high building to include a power and equipment room and an emergency generator room; and 2) other related improvements, including a retaining wall with security fencing, a block wall fence with simulated masonry veneer, an above-ground diesel fuel tank, and drainage improvements. The project site will encompass approximately 2,067.5 SF (0.0475 acre) immediately adjacent to the eastern perimeter of the existing ICSD support building. Upon completion of construction, the existing facility and the project site combined will occupy a total land area of approximately 2,829 SF (0.065 acre). Since the land is owned by the State Department of Land and Natural Resources (DLNR), ICSD will request an Executive Order be issued to cover the land area of the improvements and the existing facilities.

1.1 Project Background

Through ICSD, DAGS carries out the responsibilities for statewide telecommunications for the State of Hawaii. The ICSD owns and operates microwave radio transmission systems, antennas, towers, buildings, and related communications facilities and infrastructure throughout the islands. The ICSD also plans, coordinates, organizes, directs, and administers services to ensure the efficient and effective development of communications systems. Over the years, public safety, emergency response, and law enforcement agencies have benefited from the significant advances in communications technology. To fulfill their public service missions, these government agencies rely on telecommunications systems to communicate and transmit information and data between offices and facilities as well as with personnel in the field.

On April 26, 1985, the Board of Land and Natural Resources approved a Conservation District Use Application (OA-1724A) for the existing communication facility subject to eight conditions. Further, at that time, the Board recommended to the Governor of Hawaii issuance of an Executive Order setting aside approximately 200 SF of land to be under the management and jurisdiction of the State Department of Accounting and General Services to establish the Oahu-Kauai Microwave System. However, the 200 SF area was not subdivided nor withdrawn from the Round Top Forest Reserve.

At that time, the existing 100-foot tower held two microwave grid antennas, one used for the State of Hawaii's emergency voice microwave link to Kauai, and one vertical antenna then utilized by the Hawaii Interactive Television System (HITS) Instructional Television Fixed Service (ITFS) system, which broadcasts college credit courses. The second microwave grid antenna relayed signals from the University of Hawaii, Manoa campus. The equipment building that housed the ITFS transmitter is located under the tower.

In July 1988, the Department of Budget and Finance-Telecommunications Division strengthened the existing tower to accommodate the installation of solid reflector microwave antennas. The Land Board approved this use within the area covered by CDUA OA-1724. The strengthening of the tower was required to ensure it could withstand 100 mph wind loads as the tower was not originally designed to carry the solid "dish" antenna required for the UH and ICSD's microwave systems. An adjoining 150 SF equipment building was also constructed by DAGS, as the existing equipment building was considered too small to house the new microwave transmitter/receiver equipment. An outdoor back-up power emergency generator and an LPG fuel tank was also requested.

The July 1988 amendment also requested the land area of the State's Oahu-Kauai Microwave System Tower Site at Tantalus (Round Top), Oahu be increased from 200 SF (as identified in CDUA OA-1724) to 792 SF. An error had occurred in the construction of the existing facility such that an area 792 SF, rather than the Board approved 200 SF, was developed.

1.2 Purpose and Need

The primary purpose of the proposed ICSD Round Top Radio Facility Building Addition and Other Improvements project will be to support the modernization and continued

operation of the ICSD-owned Hawaiian Digital Microwave Radio System. The existing Round Top Radio Facility is a DAGS ICSD facility that is part of the Hawaiian Digital Microwave Radio System. It is a public facility to be used only by public agencies for public purposes. The building addition and related improvements to the Round Top facility will be administered by ICSD. Other agencies supported within the ICSD Round Top Radio facility include State Civil Defense, the State Department of Health, the State Department of Public Safety, and the University of Hawaii. Circuits that pass through the equipment in the existing facility also support the shared State and Federal Anuenue statewide microwave communication system.

The DAGS HAWAIIAN microwave system its public safety counterpart, and the UH Information Technology Services digital microwave system share the large microwave antennas on the tower and use space and power in the existing buildings under an agreement between the agencies.

The improvements to the existing State Radio Facility will allow it to accommodate equipment required for the Anuenue microwave communication system, which services the emergency communications network for the entire State. The two existing buildings are filled with radio equipment and leave no room for additional equipment, or storage of additional critical parts. In addition, the stand-by emergency generator is not protected by a building which subjects it to damage from corrosion and rain. Without these improvements, if an emergency such as a natural disaster occurs, and commercial electrical power is lost at the site, communication between the islands will not be possible. To ensure operability during an emergency, ICSD must expand the radio site by constructing a new building for primary electrical power and for the emergency generator and an above ground fuel tank.

The improvements will be completely funded by the State of Hawaii. No Federal funds, permits, or approvals will be required for the improvements.

1.3 Project Location and Conditions

1.3.1 Project Location

The project site is located adjacent to the existing ICSD Round Top Radio Facility, off Round Top Drive within the boundaries of Puu Ualakaa State Wayside in Makiki, Honolulu, Oahu. Puu Ualakaa Wayside is one of three waysides (the other two Laie

Point and Nuuanu Pali) under the control of the Department of Land and Natural Resources Division of State Parks. The ICSD Round Top Radio Facility is situated on a portion of Tax Map Key (TMK) 2-5-19:003, a 119.889-acre parcel. The project site is generally characterized by a forested setting and outdoor facilities and landscaping on the Round Top ridgeline, a prominent, elongated outcrop close to the center of urban Honolulu. Nearby neighborhoods include lower Round Top, Makiki and Makiki Heights, lower Punchbowl, Manoa Valley, and Moiliili.

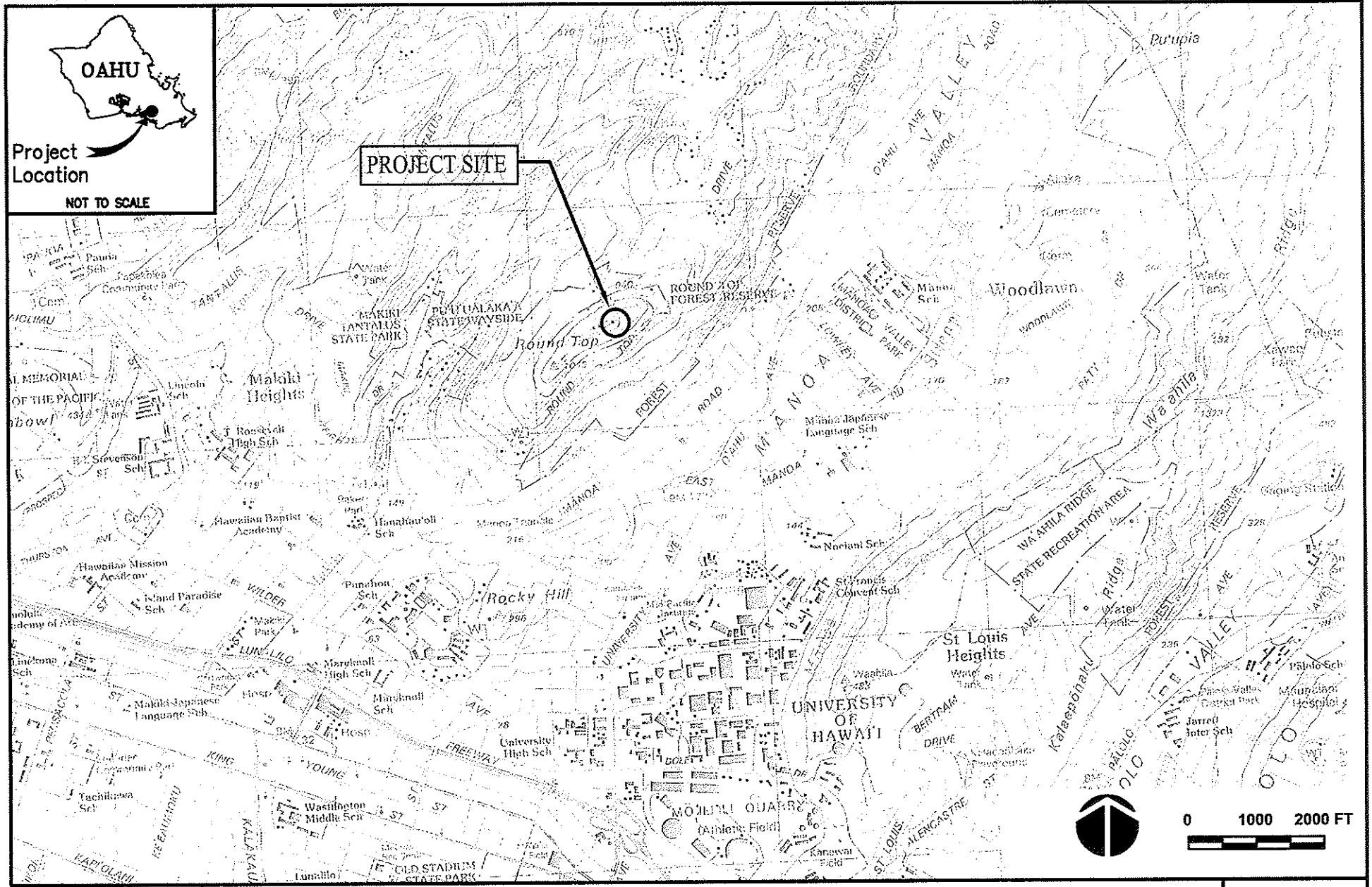
The project site is accessible from Round Top Drive, a roadway owned by the City and County of Honolulu, and an existing access driveway and paved parking area. The project site is surrounded by the Round Top Forest Reserve to the north, a paved parking lot to the east, the comfort station and access walkway to the south, and the existing ICSD tower facility to the west. Beyond the boundaries of the Wayside are undeveloped forested State lands to the north, a few private homes makai of Round Top Drive to the south, and a City and County of Honolulu Board of Water Supply (BWS) reservoir located on Round Top Drive at about 700 feet msl.

The existing ICSD Round Top Radio Facility occupies approximately 792 SF and includes a 100-foot 3-sided tower, constructed to straddle a 90-SF equipment building, and a separate a 170-SF transmitter building. The existing site is surrounded by security fencing.

The building addition, related improvements, and fenced area project site will include approximately 2,067.5 SF immediately adjacent to the eastern perimeter of the existing 170 SF ICSD building. The project site is at an elevation of about 1075 feet mean sea level (msl) along the northwestern edge of the Wayside. With the completion of the project, the ICSD Round Top Radio Facility will occupy a total of approximately 2,831 SF (0.065 acre).

Another existing 100-foot tall communication tower and support building owned by the City and County of Honolulu is located along the southwestern boundary of the ICSD facility. The City facility is located on a 0.09 acre parcel (TMK 2-5-19:011) and operates independently of the ICSD facility. Both existing communication facilities are located in the area behind the comfort station. Figure 1.1 shows the project location map. Figure 1.2 shows the project site map. Figure 1.3 shows the tax map. Figure 1.4 shows the project site topographic map. Figure 1.5 shows site photographs.

Path: Q:\WOC\7682-10 DAGS, Roundtop\planning\Figures\D Filename: Proj Site Map Plot date: Nov 04, 2010-11:49:07am CAD User: jsakaguchi. Xref Filename: | WOC-BOR8.5x11L | AUTODATE Fig |



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Project Location Map

FIGURE 1.1

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ENGINEERS | PLANNERS | CONSULTANTS

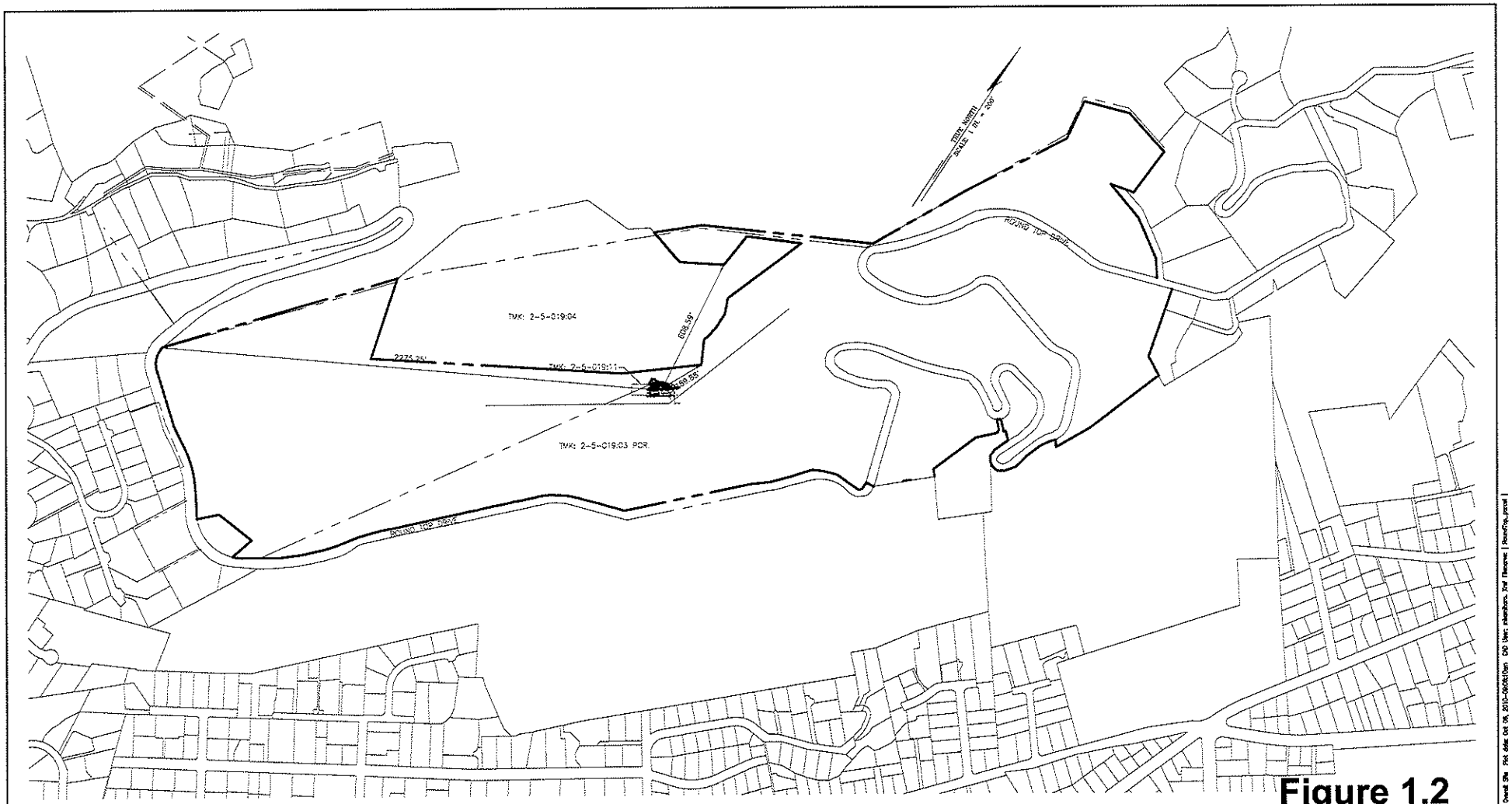

Figure 1.2

LEGEND:

LEASE LINE

OVERALL SITE PLAN
SCALE: 1"=200'

GRAPHIC SCALE
200 100 0 200 400
SCALE: 1"=200'

DEPT. OF ACCOUNTING & GENERAL SERVICES

ICBD ROUND TOP RADIO FACILITY
BUILDING ADDITION AND OTHER IMPROVEMENTS

OVERALL SITE PLAN

12-10-0863

C-2

AS NOTED

APRIL 2010

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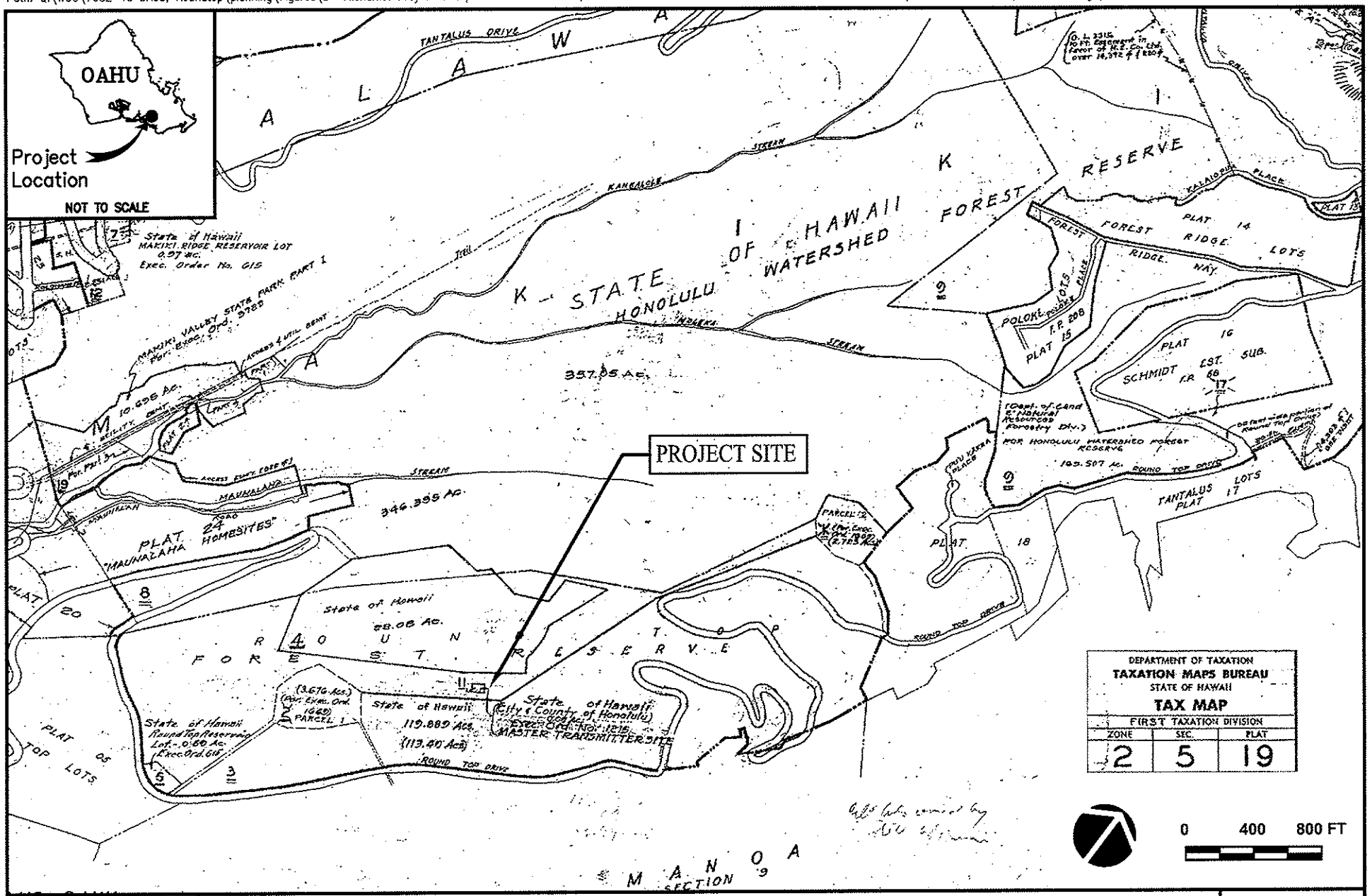

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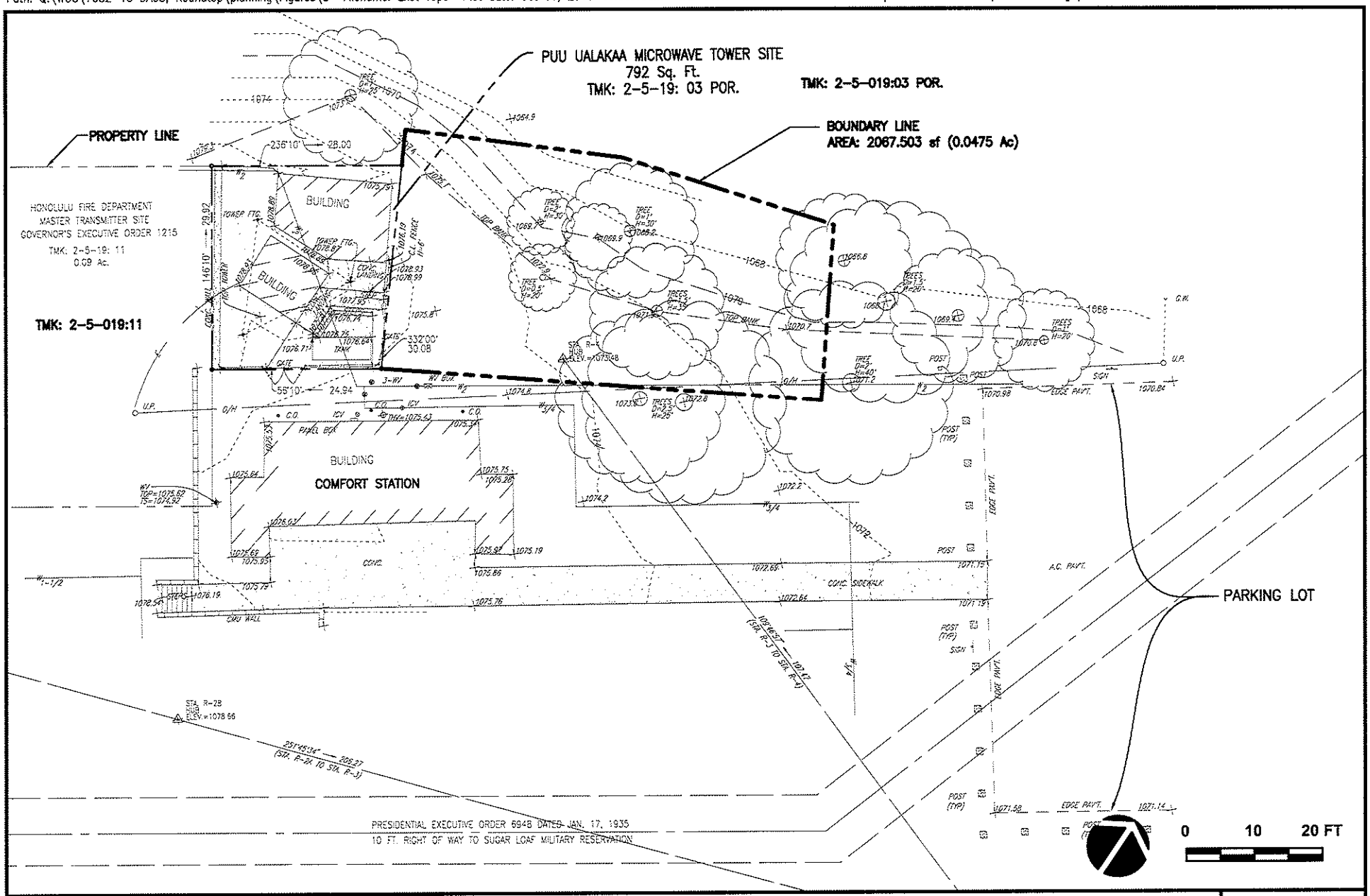
Project T.M.K. Map

FIGURE 1.3



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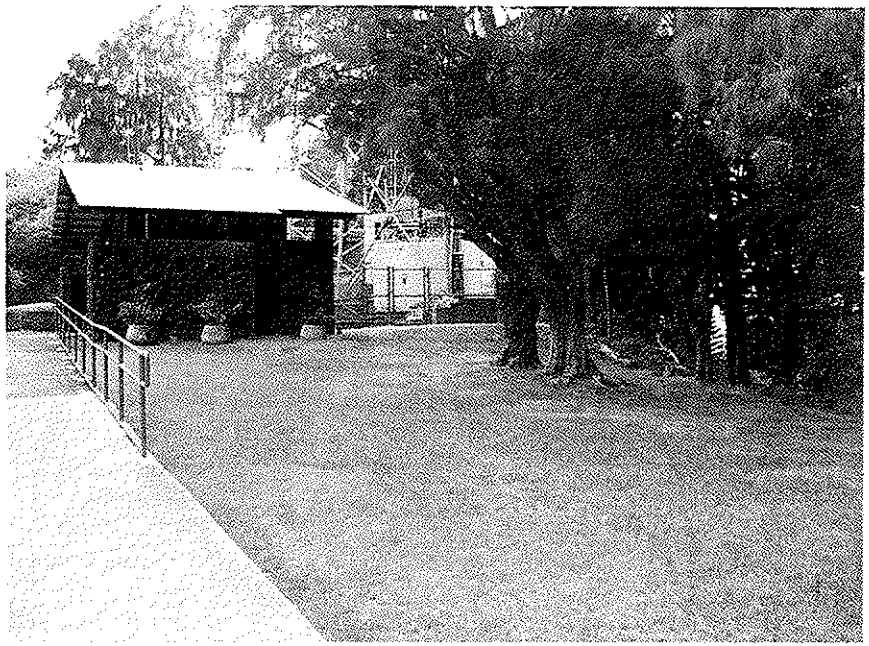
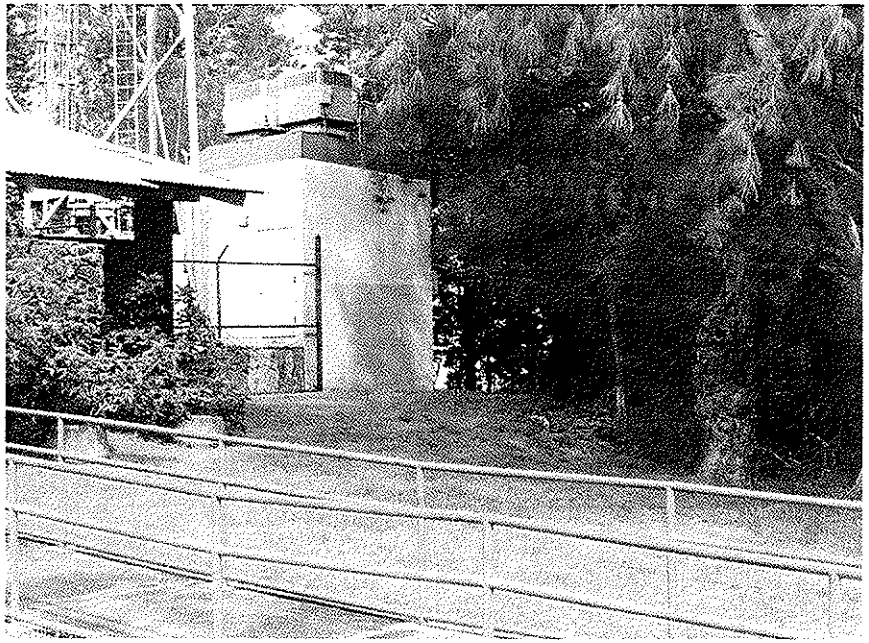
Existing Topography

FIGURE
1.4

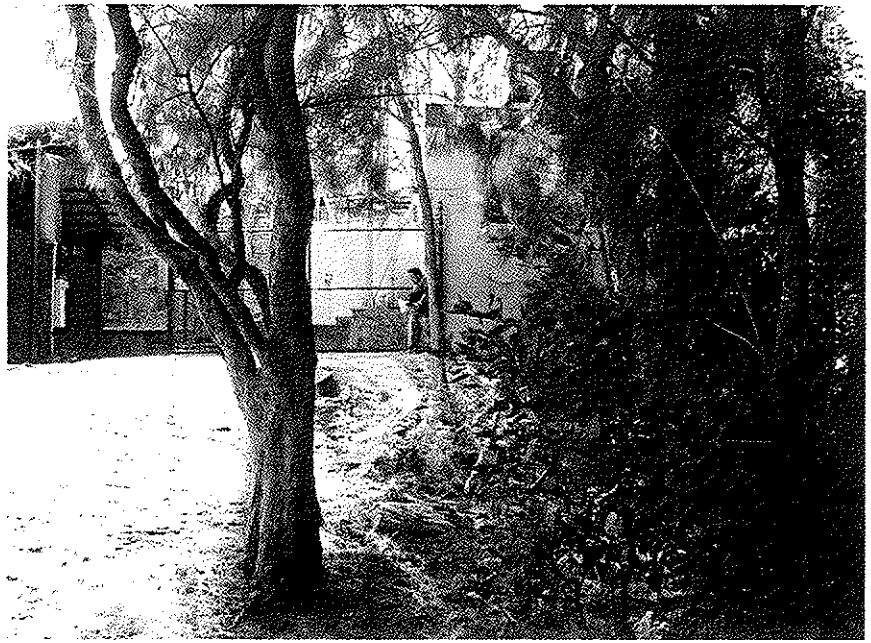
Looking west at the project site



Project site looking south – comfort station on left



Looking west at project site



Project site looking south at existing radio room

PROJECT SITE PHOTOGRAPHS FIGURE 1.5

1.3.2 Existing ICSD Facilities

The ICSD Round Top Radio Facility has the following:

- One 100-foot tall 3-sided self supported tower with 6 microwave antennas and other land mobile radio antennas, including those operated by ICSD, State Civil Defense, State Department of Health, State Department of Public Safety, and the University of Hawaii Interactive Television Services (UHITS);
- One 90-SF equipment building;
- One 170-SF transmitter building;
- An emergency generator with built-in fuel tank;
- Underground conduits for electrical and fiber optic lines; and
- Security fencing.

1.3.3 Existing Project Site Conditions

The project site is located adjacent to the existing ICSD Round Top Radio Facility on a portion of TMK 2-5-19:003. The parcel is owned by the State of Hawaii and managed by DLNR Division of State Parks. The 2,067.5-square foot project site is currently undeveloped, and vegetation cover includes non-native trees, undergrowth, and grass. No buildings or other structures are located within the project site. The site slopes from south to north, with an elevation change of about 3 to 10 feet. The elevation on the southern boundary is about 1075 feet msl and about 1065 feet msl at northern end (see Figure 1.4).

1.3.4 Other Project Site Data

The project site is in the Conservation District as designated by the State Land Use Commission. A Conservation District Use Application (CDUA) permit approved by the State Board of Land and Natural Resources will be required to construct and operate the proposed project.

The project site is designated Preservation on the City's Primary Urban Center Development Plan Land Use Map [June 2004]. The project site City zoning district is P-1 Restricted Preservation. The project site is not located within the City's Special Management Area (SMA). The proposed project will be a public facility to be used by public agencies for public purposes.

1.4 Project Description

1.4.1 Project Access

Access to the project site will be off Round Top Drive and via an existing paved driveway to the parking area for Puu Ualakaa State Wayside facilities. The security fencing for the project will not affect vehicle and pedestrian use of the Wayside entrance driveway and parking lot.

1.4.2 Project Site Plan

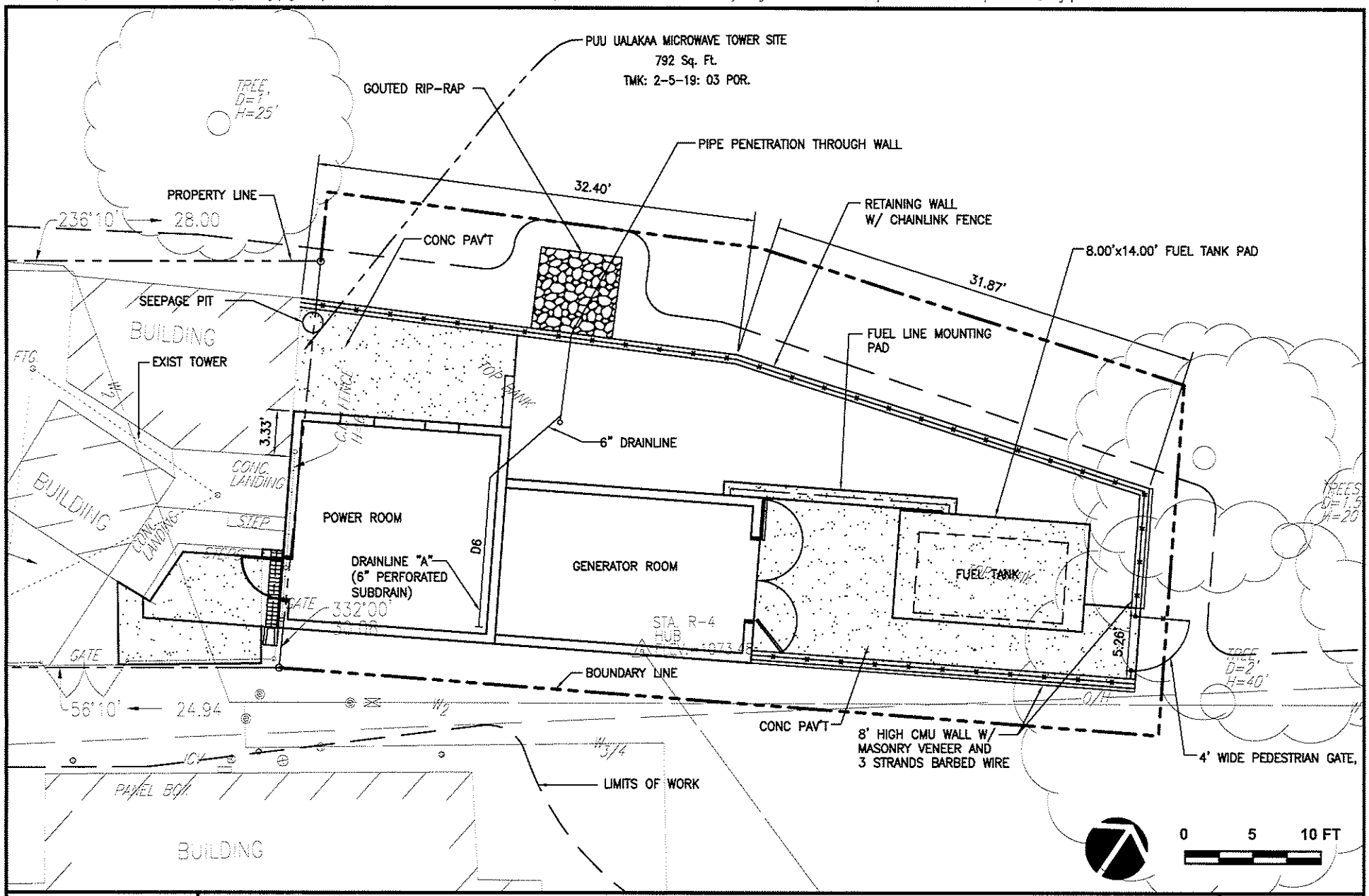
The project site will encompass approximately 1,342 SF (0.031 acre) immediately adjacent to and northwest of the existing ICSD Round Top Radio Facility. The land affected by the proposed project and the existing ICSD facility, an approximate total area of 2,831 SF (0.065 acre), will be subdivided into a separate parcel. As previously discussed, DAGS will use the project site under an executive order

The project will include:

1. An approximately 484-SF by 12-foot high, single story building with two rooms, a power and equipment room (approximately 256 SF) and separate emergency generator room (approximately 228 SF) for a 50 kilowatt (KW) generator; and
2. Related site improvements, including a retaining wall with 8-foot high security fencing, a concrete-masonry unit (CMU) block wall with simulated masonry veneer topped with barbed wire and pedestrian gate, a concrete tank pad for a 1,000-gallon double walled above-ground diesel fuel tank, concrete pavement connecting the new building to the existing ICSD facility, drainage improvements, and underground conduits for electrical and fiber optic lines.

The simulated masonry veneer wall will have a similar appearance as the walls of the adjacent comfort station. Figure 1.6 shows the site plan and Figure 1.7 shows security fence details. Building elevations are shown in Figure 1.8.

Meetings and coordination of the improvement plans have conducted between DAGS and the Department of Land and Natural Resources Division of State Parks to ensure the improvements will not conflict the activities and facilities at the Wayside. See Appendix A.



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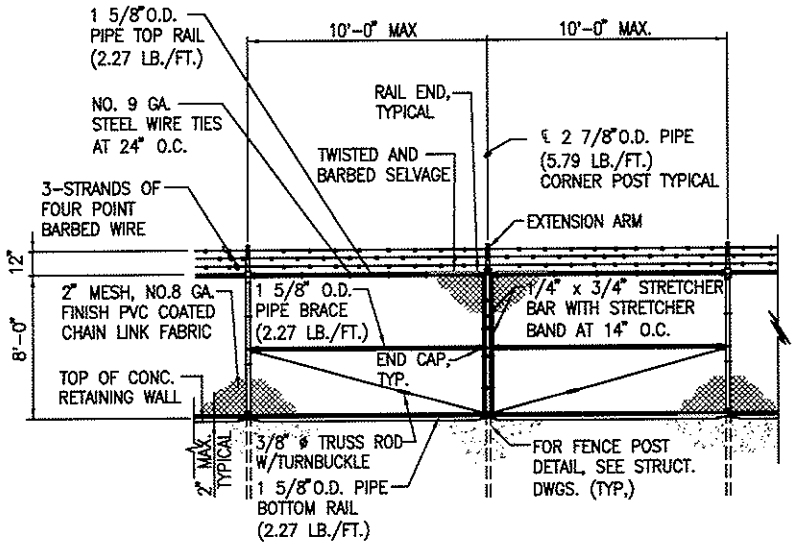
Site Plan

FIGURE
1.6

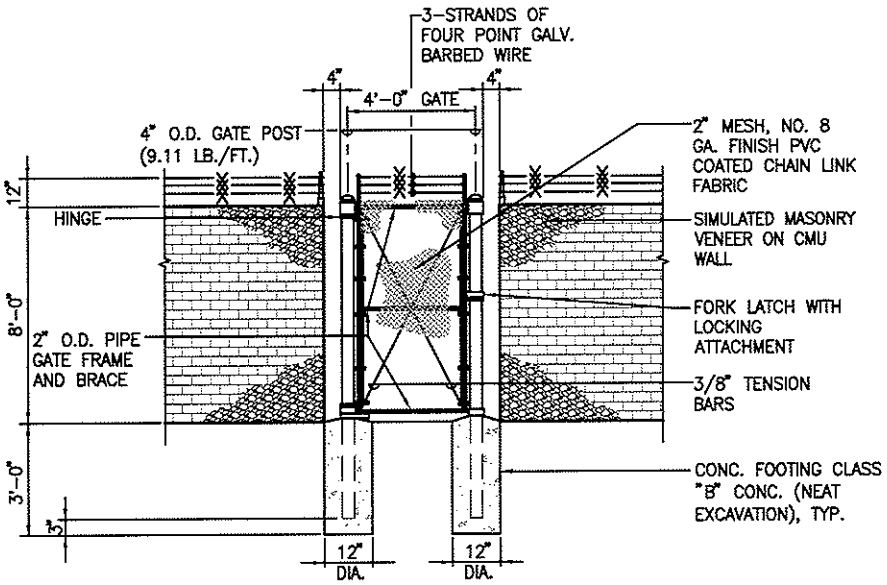


ON CONCRETE RETAINING WALL

NOTES:
1. FENCING MATERIAL SHALL BE PVC COATED GALVANIZED STEEL, UNLESS OTHERWISE NOTED.
2. TOP AND BOTTOM RAIL COUPLINGS SHALL BE LOCATED WITHIN 6" OF LINE POST.
3. TOP OF CONCRETE FOOTING SHALL BE CROWNED TO SHED WATER.

8' HIGH CHAIN LINK FENCE WITH 3 STRANDS BARBED WIRE

NOT TO SCALE



4' WIDE PEDESTRIAN SWING GATE WITH 3 STRANDS BARBED WIRE

NOT TO SCALE

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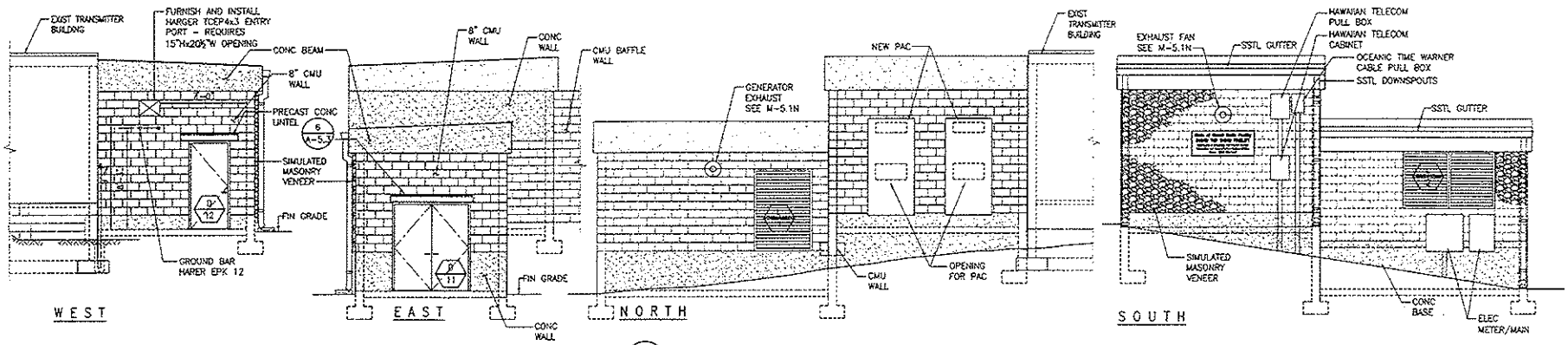
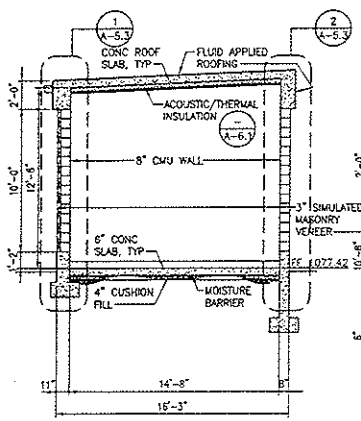
Fence Details

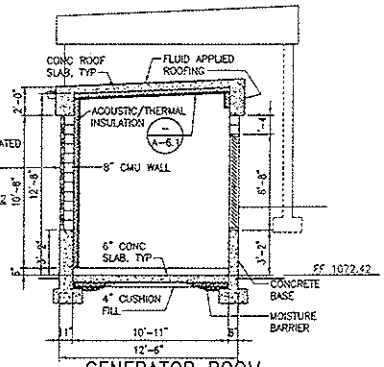
FIGURE 1.7



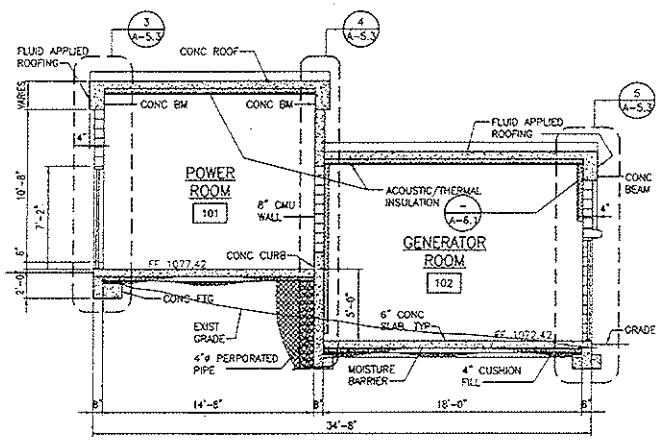
1 A-5.2 BUILDING EXTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"



2 A-5.2 POWER ROOM CROSS SECTION
SCALE: 1/4"=1'-0"



3 A-5.2 GENERATOR ROOM CROSS SECTION
SCALE: 1/4"=1'-0"



4 A-5.2 LONGITUDINAL SECTION
SCALE: 1/4"=1'-0"

GRAPHIC SCALE:
SCALE: 1/4"=1'-0"

DEPT. OF ACCOUNTING & GENERAL SERVICES
DIVISION OF PUBLIC WORKS
STATE OF HAWAII

ICSD ROUND TOP RADIO FACILITY
BUILDING ADDITION AND OTHER IMPROVEMENTS
OAHU, HAWAII T.M.K. 2-3-10: PORTION 3

NEW BUILDING EXTERIOR ELEVATIONS AND SECTIONS

DESIGNED BY: WL | CHECKED BY: WL | DATE JOB NO. 12-10-0603 | DRAWING NO. A-5.2
DRAWN BY: CW | APPROVED BY: WL | DATE APRIL 2010
SCALE: AS NOTED | SHEET NO. 38 OF 74

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

FIGURE 1.8

The project site will be graded to direct surface runoff away from the building addition and above-ground fuel tank. The proposed building addition will be designed and constructed to survive wind speeds of up to 155 mph, or the top wind speed expected in a Category 4 hurricane.

Electrical power will be supplied via connection to the overhead commercial power line that services the existing ICSD facility. The power line connection will be rerouted through a new underground conduit to be installed as a part of this project. Electrical power will be purchased from Hawaiian Electric Company.

No water service will required for the project site. No toilet facilities will be provided at the project site.

No State employees will be assigned to the facility on a daily basis.

1.4.3 Building Floor Plan

A two-room, single-story, approximately 484-SF building with 8-inch thick reinforced CMU walls and concrete slab floors will be constructed on the project site to provide an approximately 256-SF power and equipment room and a 228-SF emergency generator room. The western corner of the new building will overlap the existing ICSD transmitter building so that cables and electrical service can be routed between the new building and the two existing buildings. Access to the power and equipment room will be from paved area on the existing facility. The power and equipment room will initially be used for batteries used to provide power to the radio equipment. However, the room has been designed to permit it to house radio equipment and reconfiguration of the power systems.

Access to the generator room will be via double doors opening on to a concrete pad on the north end of room. There will be no internal doorways or windows connecting the generator room to the power and equipment room. The elevation of the generator room will offset from the elevation of the power and equipment room by approximately 5 feet to accommodate the natural slope of the site. Louvered openings will be provided on the south and north walls of the generator room, as needed. A concrete fuel tank pad will be constructed on the northeast end of the generator room.

The building will have a sloped concrete slab roof. The entry doors will have a raised threshold to prevent water from flowing into interior spaces.

A combination of fencing and wall structures will be constructed to secure the project site. An 8-foot high CMU wall with simulated masonry veneer will be constructed from the east end of the building, around the southern and eastern extent of the concrete pad, to the north corner of the project site. The east side of the wall will include a 4-foot wide pedestrian gate. The entire length of the wall and pedestrian gate will be topped with three strands of barbed wire. Security fencing along the northwest perimeter will be provided by a low concrete retaining wall topped with 8-foot high chain link fencing and three strands of barbed wire. This retaining wall and fencing will be installed from the north end of the 8-foot high CMU wall to the north corner of the existing ICSD facility.

Drainage improvements will include a 6-inch perforated subdrain from the building that connects to a 6-inch drainline installed beneath the northwest portion of the project site. The drainline will penetrate the retaining wall to convey flows to gouted rip-rap material installed immediately outside the retaining wall.

The 256-SF power and equipment room will be designed with 11-foot high clear height ceiling to accommodate overhead cable trays, and the future installation of microwave waveguide and LMR coaxial cables as well as cable and waveguide support hardware.

An integrated approach will be taken to protect the facility from the damage caused by lightning strikes. An internal ground halo will be provided in the power and equipment room for connection of non-active metallic items such as door frames and other equipment. The building ground systems will be connected to the existing buried ground halos.

The 256 SF power and equipment room will house several independent battery systems, with at least one system to support State equipment and another to support other systems. These battery systems are comprised of strings of valve regulated lead acid (VRLA) battery cells which are an improved version of the lead acid batteries found in most vehicles. However, the VRLA batteries are supplied with a gelled electrolyte, do not require water, and have been designed not to leak. The VRLA batteries will be equipped with flame arresting safety vents.

Batteries installed at similar facilities elsewhere by the State have used 48 individual cells weighing 88 pounds to make a battery that will support the site equipment for 15 hours. Such a battery contains about 920 pounds of gelled electrolyte and 3,360 pounds of lead plates. The VRLA cells are not classified as hazardous materials.

The batteries are kept under constant charge by rectifiers that also normally provide direct current (DC) power to the critical radio equipment. The rectifiers will operate from commercial power that is backed up by an autostart generator. The use of the commercial/battery/generator redundancy is standard procedure in the telecommunications industry and at public safety facilities.

Although VRLA batteries have a projected service life of about 20 years, experience to date indicates that replacement should be scheduled at 10-year intervals. It is ICSD policy that all removed batteries be recycled, not disposed, in accordance with all federal and State environmental regulations.

The VRLA batteries will be tested, cleaned, and serviced semi-annually by contractor personnel.

The 228-SF generator room will house a 50-kilowatt (kW) diesel generator to provide emergency power in the event of a power outage to the commercial system. DAGS specifications require an emergency power system capable of servicing the facility in the event of a 7-day electrical power outage. The emergency generator will be sized to provide sufficient power for running the air conditioning in the power and equipment room and the other existing buildings.

The 50-KW emergency generator will be a diesel-fuel generator. The diesel fuel will be stored in a double-walled Convault style above-ground tank to be located immediately east of the building. It is expected that at least a 1,000-gallon total fuel capacity will be required to provide for the desired 7-day supply of fuel. The above-ground double-walled tank will not require a spill containment system around its base. The interstitial space between the walls of the tank contains a leak detection system. The tank fill openings contain an overfill protection system to contain any spills when the tank is being filled with fuel. The City has permitted the use of double-walled above-ground fuel tanks.

The emergency generator will be tested by operating it about once or twice a month for a period of no more than about 3 to 4 hours under load test to ensure that it is operational during emergency situations. Contractor personnel will conduct the tests and maintain the emergency power system.

The building will be equipped with a building alarm system to telemeter door entry, high temperature conditions, and fire alarms. The power and equipment room will be equipped with a FM-200 fire suppression system designed for electronic equipment. In addition, the power and equipment room will be equipped with hand-held fire extinguishers suitable for use in rooms with electronic equipment. The fire suppression system will use a compound of carbon, fluorine, and hydrogen as the suppressant that is non-ozone depleting and safe for use in occupied spaces. City Fire Department fire protection will be needed at the project site to safely enter the building in the event of a fire and/or the discharge of the fire suppression system.

The security lighting for the building will meet the City code for exterior lighting and will be downshielded to reduce the attraction of the facility to birds which might be in the area. The project site will not be lighted at night, unless required for night work.

The mechanical and electrical design drawings have been stamped to meet City and County of Honolulu Revised Ordinances Chapter 32 which conforms with the Building Energy Conservation Code.

The project will not require potable water service for domestic use or for fire protection. Fire protection for the building will include a FM-200 fire suppression system and hand-held fire extinguishers in the power and equipment room.

DAGS contract specifications do not specifically include a requirement for green architecture for this project given its scope and estimated construction cost.

1.4.4 Building Design Criteria

The DAGS specifications require the building to remain operational at wind speeds up to 110 miles per hour (mph) and the facilities survive wind speeds up to 155 mph. Wind speeds of 110 mph are the highest sustained winds expected in a Safir-Simpson Category 2 hurricane. Wind speeds of 155 mph are the highest reached in a Safir-Simpson Category 4 hurricane.

1.5 Project Operation

1.5.1 Personnel

No government or contractor personnel will be assigned to daily operation of the proposed project. However, contractor personnel will visit the project site on a periodic basis to conduct tests and to perform maintenance service on air-conditioning and power systems and to clean the building and surrounding area. Technician visits typically would not exceed twenty man-days per year per system (or agency). In total, about 10 to 20 trips/month will be made by contractor personnel to the proposed project. This is consistent with the frequency of personnel visits to the existing ICSD facility in the past.

1.5.2 Hours of Operation

The radio equipment will operate continuously on a 24 hours per day, 7 days per week basis.

1.6 Preliminary Cost Estimate

The budgeted construction cost, excluding the equipment, for the project is approximately $1,100,000.00, which will be funded by DAGS. No Federal funds will be used for construction of the improvements.

1.7 Project Schedule

Construction is expected to start in the first quarter of 2011and should require 11months to complete. The facility should be in operation by mid 2011.

1.8 Other Project Considerations

During the pre-assessment consultation for this EA with federal, state and county agencies, the State Office of Civil Defense indicated it strongly endorses the need for the proposed project. The Office of Civil Defense also noted the project will resolve long-standing shortfalls in existing public safety communications support to federal, State, and local users in the Honolulu vicinity. The September 16, 2010 comment letter is included in Appendix A.

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2. DESCRIPTION OF EXISTING ENVIRONMENT, IMPACTS AND MITIGATION MEASURES

2.1 Geology and Soils

2.1.1 Existing Environment

The project site is located atop Puu Ualakaa, or Round Top, a prominent elongated outcrop on the ridgeline trending northeast-southwest between Manoa Valley and Makiki Valley on the leeward side of the Koolau Mountains, the eastern of two major mountain ranges on the island of Oahu. Puu Ualakaa, like other Honolulu landmarks including Punchbowl and Diamond Head, was created from volcanic ash and cinders during the geologically recent post-erosional eruptions of the Honolulu volcanic series. The Honolulu volcanic overlie the older Koolau lava flows at Round Top. Slopes on Puu Ualakaa are moderate to steep, with a summit elevation of approximately 1075 feet msl. Soils are mostly shallow, rocky, and well drained.

In most areas of the world, earthquakes are caused by shift in the tectonic plates. In contrast, earthquakes in Hawaii are primarily linked to volcanic activity. Earthquake activity in Hawaii generally occurs before or during volcanic eruptions or from underground movement of magma that comes close to the surface without an actual eruption to the surface.

The City and County of Honolulu has adopted the 2003 International Building Code (IBC) as the applicable code for the construction of buildings, structures, and facilities. The purpose of the seismic provisions in the IBC is primarily to safeguard against major structural failures and loss of life, not to limit damage or maintain functions. Structures are to be designed and constructed at a minimum to resist the effects of ground motions from seismic events. The site seismic hazard characteristics in the IBC are based on the seismic zone and proximity of the site to active seismic sources.

The Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, prepared by the U.S. Department of Agriculture Soil Conservation Service (now Natural Resources Conservation Service) shows the soil type at the project site to be Cinder Land (rCI) . This soil consists of areas of bedded material erupted from cinder cones and is described as "a mixture of cinders, pumice, and ash. These materials are black, red, yellow, brown, or variegated in color. They have jagged edges and a glassy appearance and show little or no evidence of soil development." Cinder land supports some vegetation, but its loose nature disallows grazing and it is used for wildlife habitat

and recreational areas. On Oahu, Cinder land occurs mainly at elevations between 200 and 2,000 feet, near Mount Tantalus.

2.1.2 Impacts and Mitigation Measures

Construction of the proposed building and related improvements will require subsurface excavation for placement of the foundations, footings and retaining wall. This will disturb surface and subsurface soils and displace the soils with on-grade slab foundations. However, this disturbance will not adversely affect the soils and geology of the project site and surrounding area.

Temporary erosion control measures will be used during construction to prevent soil loss. These mitigation measures may include placement of aggregate filled pouches or erection of a silt fence to minimize surface runoff into adjacent areas. These measures will contain loose soil material within the project site to the extent possible during the construction period.

The proposed project will be designed and constructed to meet the requirements of the 2003 IBC and comply with seismic loadings established for Oahu. This will ensure that the geological conditions at the project site do not adversely affect the building and facilities.

2.2 Water Resources and Flood Hazard

2.2.1 Existing Environment

The project site is located near the summit of Puu Ualakaa at an elevation of about 1075 feet msl. According to the U.S. Geological Survey (USGS) topographic map, no surface water resources are present on or near the project site. Median annual rainfall at Puu Ualakaa is approximately 70 inches.

The Federal Emergency Management Flood Insurance Rate Map Community Panel 15003C0360F, revised September 30, 2004 shows the project site area is in Zone X, an area determined to be outside the 2% annual chance floodplain.

The State of Hawaii Department of Land and Natural Resources Engineering Division has indicated the National Flood Insurance Program does not have any regulations for developments in Zone X. See Appendix A.

2.2.2 Impacts and Mitigation Measures

There are no surface water sources on the project site. There will be no discharges from the project site directed to waters of the U.S. or waters of the State of Hawaii. The proposed project does not involve placement of dredged and/or fill material into waters of the U.S. In a letter dated September 1, 2010, the Regulatory Branch of the U.S. Army Engineer District, Honolulu confirmed that a Department of the Army (DA) permit will not be required under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, 33 USC 1344. See Appendix A.

The project site will be graded to construct the proposed building and related improvements. The project site will be sloped to direct surface flow from rainfall away from the entrances to the building.

The construction plans and specifications for the project will include best management practices (BMPs) to minimize erosion on the project site during and after construction and will also include measures to contain runoff on-site during the construction period. Temporary erosion control measures will be used during construction to prevent soil loss. These mitigation measures may include the placement of aggregate filled pouches and the erection of a silt fence to minimize surface runoff into adjacent areas. These measures will contain runoff within the project site to the extent possible during the construction period.

The design drawings, and contract specifications set forth the applicable codes and rules related to pollution prevention during construction, including to surface water sources.

2.3 Biological Resources

2.3.1 Existing Environment

No listed or candidate threatened or endangered species or intact native ecosystems are known to be located on or near the project site, or are known to use the project site. Flora and Fauna in the area consist of common introduced species, as is typical of areas in close proximity to urban Honolulu.

The prehistoric native forest and grasslands which once covered Round Top and Makiki Valley have been completely destroyed by fires, land clearing for farming, sandalwood

harvesting, wood harvesting for fuel and lumber, livestock grazing, feral animals, and the spread of introduced plant species. Loss of habitat, avian malaria, and predation by rats and feral animals have eliminated most native bird species in the area. Loss of habitat and predation by introduced insect species have eliminated most native insects in the area. Mosquitoes, which are not native to Hawaii, are a common nuisance in parks and forested areas.

Vegetation at Round Top and throughout the surrounding vicinity primarily results from a territorial government reforestation program with non-native trees that began in the early 1900s, public and private landscaping improvements, or invasion of aggressive introduced species. Common introduced botanical species are prevalent throughout the area, including hale koa, Christmas berry, guava, albizzia, bamboo, African tulip, octopus tree, kukui, Chinese banyan, Norfolk Island pine, Guinea grass, hau, and ironwood. Puu Ualakaa State Wayside is vegetated with mature trees and undergrowth, with cleared areas maintained as grassy open spaces. The Wayside also includes an abandoned, overgrown macadamia nut orchard and areas reforested with Norfolk Island pine.

During a visual survey, vegetation observed within the project site boundaries include:

- A total of seven (7) ironwood trees;
- Various shrubs and underbrush; and
- Portion of grass area.

Mamalian species in the project area consist of common animals, including rats, mice, mongooses, feral cats, and feral pigs, none of which are native to Hawaii.

Avian species found in the area include introduced species such as the Shama Thrush, White Eye, two species of Bulbuls, to species of Cardinals, two species of Sparrows, and two species of Mynah. The endemic Oahu Amakihi (Hemignaths chloris) and the migratory, indigenous Kolea (Pluviatis dominica) are also common in the area. The endemic Pueo (Asio flammeus sandwichensis) and the endemic Oahu Elepaio (chasiempis sandwichensis gavi) have been occasionally seen in the vicinity of Puu Ualakaa.

2.3.2 Impacts and Mitigation Measures

The project site contains no listed or candidate threatened or endangered botanical or faunal species. Thus, construction of the proposed project will not adversely impact any threatened or endangered species.

Grading for the construction of the proposed project will require removal of surface vegetation at the project site, including seven ironwood trees, shrubs and undergrowth, and grass. Consultation with DLNR Division of State Parks during the planning stage confirmed that the trees and vegetation to be removed are not unique or rare and do not contribute to botanical resources at Puu Ualakaa State Wayside.

In the long-term, modification of the project site for the proposed project is not expected to result in significant impacts to any botanical, mammalian, or avian species currently listed as threatened, endangered or proposed for listing by the U.S. Fish and Wildlife Service or DLNR. The small scale of the proposed project and the limited intensity of the proposed use is unlikely to affect any habitat, or impact the types or abundance of biological resources of the area.

2.4 Agricultural Lands

2.4.1 Existing Conditions

In 1975, the U.S. Department of Agriculture Soil Conservation Service (now Natural Resources Conservation Service) initiated a nationwide inventory of important farmlands. When completed, the inventory included three categories "prime", "unique", and "other farmlands of state-wide and local importance". This classification was later adopted by the State of Hawaii Department of Agriculture under the title "Agricultural Lands of Importance to the State of Hawaii" (ALISH).

The ALISH system defines "prime agricultural land" as the best suited for food, forage, and timber crops. "Unique agricultural land" is defined as land other than prime, used for the production of high-value food crops. "Other agricultural land" is defined as land used for the production of food, feed, fiber and forage crops, but not classified as "prime" or "unique".

According to the ALISH system, the project site is unclassified, indicating that the lands are not suitable for agriculture.

2.4.2 Impacts and Mitigation Measures

The project site occupies an approximate land area of 1,342 SF, which is currently undeveloped and not used for agricultural production. Use of this land in support of the proposed project will not affect important agricultural lands in the State of Hawaii.

2.5 Air Quality

2.5.1 Existing Environment

The project site is located within Puu Ualakaa State Wayside, adjacent to the Round Top Forest Reserve on a ridge near urban Honolulu. Although in close proximity to residential suburbs, in general, the elevation of Round Top and the surrounding forest reserve provide for a setting removed from urban areas. The low level of development generally eliminates stationary and mobile sources of emissions, which could affect ambient air quality. Ambient air quality in the project vicinity is generally good, and sources of emissions in the area include vehicles accessing the Wayside for recreational purposes.

2.5.2 Impacts and Mitigation Measures

Potential short-term adverse air-quality impacts during the construction phase include: 1) generation of fugitive dust from vehicle movement and soil excavation; and 2) exhaust emissions from on-site construction equipment and from construction workers' vehicles traveling to and from the project site. These adverse impacts will be short-term during the construction period.

Construction activities must comply with provisions of Chapter 11-60.1, Hawaii Administrative Rules (DOH), "Air Pollution Control" and, with respect to fugitive dust, Section 11-60.1-33. In addition, the entire project site is approximately 1,342 SF (0.031 acre), which will mean a relatively small area of disturbance. The DAGS Contract Specifications Section 01577 includes a standard Environmental Controls section with specific reference to Chapter 11-60. Under air pollution control, the Environmental Controls specifications provide that the contractor must maintain the areas within and without the project limits free from dust which would cause hazards to the work and to other persons or property. The specifications also state that the contractor will be permitted to use accepted methods for dust control such as enclosure and filtering. It is expected that the contractor will comply with State regulations and provide adequate means to control dust during the various phases of construction.

Once construction has been completed, operation of the proposed project will involve contractor visits to the site to perform periodic maintenance and testing of equipment and systems. This level of activity will not generate sufficient traffic to adversely affect air quality in the area.

The 50 KW standby emergency generator will be tested once or twice per month to ensure proper operation in the event of an outage of the commercial power system. The testing will involve starting the generator, testing the switching systems, and placing the system under load conditions to ensure proper operation. This testing should require operation of the generator for about 3 to 4 hours per month, or less than 50 hours per year. This level of testing of the emergency generator should not create adverse impacts to the air quality in the area.

2.6 Noise

2.6.1 Existing Environment

The project site is located within Puu Ualakaa State Wayside adjacent to the existing ICSD Round Top Radio Facility on Round Top, a prominent, elongated outcrop near the center of urban Honolulu. Noise levels at the project site are generally low, as expected with the Wayside and Round Top Forest Reserve dominating the land uses in the project vicinity. Nearby neighborhoods, including lower Round Top, Makiki and Makiki Heights, lower Punchbowl, Manoa Valley, and Moiliili, may contribute to ambient noise levels at the site. In general, noise at the site is generally low and associated with vehicle traffic related to daytime hikers or Wayside users at the nearby comfort station or picnic shelter.

2.6.2 Impacts and Mitigation Measures

Construction activities such as grading, digging for footings and foundations, and erecting the building will create noise. The equipment used for these activities typically include pick-up trucks, excavators, graders, rollers, backhoes, concrete delivery trucks, water tank trucks, and forklifts. Noise generated by this will be short-term during the period of construction. Once construction has been completed, the noise impact will no longer occur.

Once constructed has been completed, noise will be generated by vehicles used by contractors and others visiting the facility for testing and other purposes. An average

total of about 10 to 20 trips per month will be made to the project site. This level of traffic should not create an adverse affect to the noise environment in the area of the project site.

The City zoning designation for the project site is Restricted Preservation (P-1). Title 11 Hawaii Administrative Rule State of Hawaii Department of Health Chapter 46, Community Noise Control identifies maximum permissible sound levels for the zoning districts established by counties. According to Chapter 46, for zoning district Class A, areas equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar, the maximum permissible daytime (7 a.m. to 10 p.m.) sound level at any point at or beyond the property line is 55 dBA. The maximum permissible nighttime (10p.m. to 7a.m.) sound level is 45 dBA. The maximum permissible sound level shall apply in a manner deemed appropriate by Director of the Department of Health.

The emergency generator will be placed within the proposed building and will be designed to suppress noise during testing and operation. The project site is about 0.3 miles north and upslope from the nearest private residences located makai of Round Top Drive. In the long-term, operation of the emergency generator should not adversely affect any surrounding properties.

2.7 Traffic

2.7.1 Existing Environment

The two-lane, two-way City-maintained Round Top Drive provides vehicular access to Puu Ualakaa State Wayside. Vehicle traffic tends to be relatively light as the lands mauka of the Wayside are not extensively developed with residential uses. It would be expected that peak makai-bound traffic occurs on weekday mornings between 7:15 and 8:15 a.m., with relatively little mauka-bound traffic during this hour. Peak mauka-bound traffic would b expected to occur on weekday afternoons between 4:30 and 5:30 p.m. City bus service is not provided to Puu Ualakaa State Wayside .

2.7.2 Impacts and Mitigation Measures

Traffic impacts related to construction activities will occur while equipment and materials are moved to the project site. However, this traffic will be short-term occurring during the 11-month construction period. This should not create an adverse effect to traffic on

Round Top Drive Highway as it will represent a very small proportion of the total traffic volume on this roadway.

No personnel will be assigned on a daily basis to the proposed project. Contract personnel will visit the project site to conduct tests and to perform maintenance service on the emergency generator and on other building systems. A total of about 10 to 20 trips per month will occur to conduct the necessary tests and perform maintenance on the equipment at the facility. This level of activity will not create an adverse affect to traffic on Round Top Drive.

As part of the pre-assessment for this Draft EA, on October 7, 2010, the State of Hawaii Department of Transportation noted, no significant adverse impacts are anticipated to State transportation facilities as a result of the construction and operation of the proposed project. The DOT also noted that the transportation of oversized and overweight equipment/loads within any State highway facility requires a permit from the Department of Transportation's Highways Division. The design specifications and construction contract documents will require the contractor to obtain such a permit, if necessary. See Appendix A.

2.8 Visual Considerations

2.8.1 Existing Conditions

The project site is located within Puu Ualakaa State Wayside, in proximity to several popular Round Top Drive lookouts, including the one located lower and makai of the project site. This lookout provides excellent views of leeward Oahu and downtown Honolulu. Additionally, the landscaped entrance to the Wayside is a scenic amenity for drivers and bicyclists traveling along Round Top Drive. From distant viewpoints on public roads toward Round Top, the tree canopy and brush blends into the surrounding forest reserve with the State and City towers the visible structures.

Views of the project site are obstructed by the existing comfort station, the Round Top Forest Reserve, and the existing City and State microwave transmitter support buildings.

2.8.2 Impacts and Mitigation Measures

The view planes across leeward Oahu and downtown Honolulu from Puu Ualakaa State Wayside are not oriented in the direction of the project site, which is located at the edge

of the northern tree canopy. The project site will be located adjacent to the existing ICSD facility, behind the comfort station. Public views of the existing facility are confined to distant glimpses of the upper portion of the tower from distant viewpoints on public roadways.

The visual impact of the project site within the Wayside will be mitigated by design considerations, including a site plan that utilizes the natural slope of the site and the application of simulated masonry veneer on perimeter walls that will be visible by from the parking lot and picnic shelter. The masonry veneer will appear similar to the existing comfort station.

2.9 Recreational Resources

2.9.1 Existing Environment

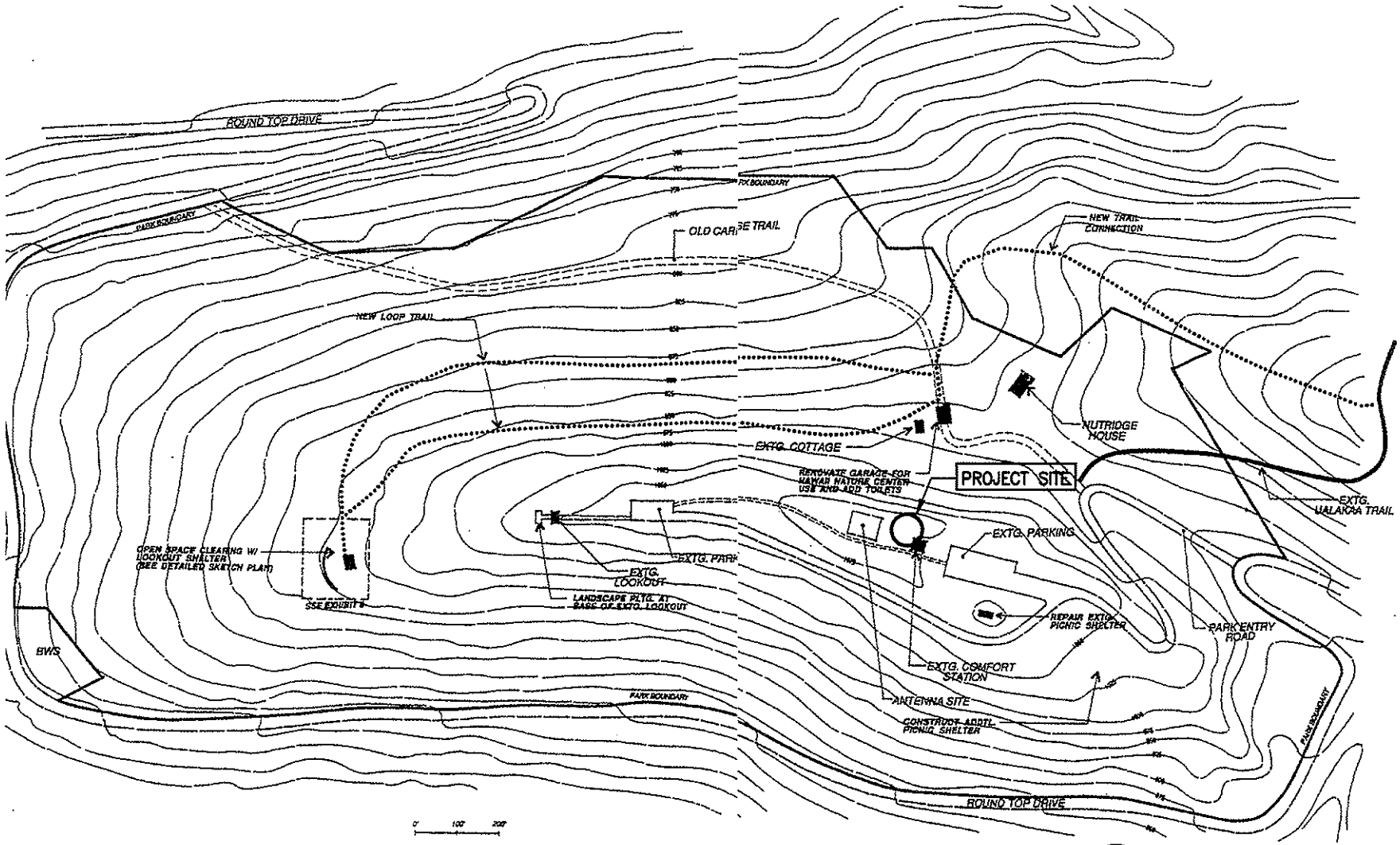
The project site is surrounded by Puu Ualakaa State Wayside and undeveloped forested State Lands of the Round Top Forest Reserve (see Figure 2.1). Improvements at Puu Ualakaa include:

- Paved access road and two parking lots within the landscaped grounds;
- Comfort station, picnic shelter, lookout pavilion, and water tank; and
- Trail head for Ualakaa Trail and an unnamed connecting trail from the lookout pavilion.

The Wayside is popular with locals and tourists primarily as a wayside rest or a quiet peaceful place close to densely developed areas of Honolulu. The Wayside is within a 10-miute drive from the Makiki area and provides wayside space to escape the activities of the urban area. Although the picnic shelter provides the only sheltered area, visitors can park in the upper parking lot and walk the surrounding area or use the location to park before hiking onto nearby trails.

The project site and existing City and State microwave transmitters are located near this upper parking lot, behind the comfort station along the edge of the grass area.

The lower parking and lookout area provide clear views of almost all of urban Honolulu. The lower parking lot and lookout are not visible from the project site.



SOURCE: FINAL EIS MAKIKI-TANTALUS STATE PARK MASTER PLAN AND MAKIKI FORESTRY FACILITIES, SEPT 1994.

WILSON OKAMOTO CORPORATION
ENGINEERS | PLANNERS | CONSULTANTS

INFORMATION AND COMMUNICATIONS SERVICES DIVISION ROUND TOP RADIO FACILITY, PROJ NO. 12-10-0603

Puu Ualakaa Wayside

FIGURE 2.1

2.9.2 Impacts and Mitigation Measures

In the short term, construction activities such as grading, digging for footings and foundations, and erecting the building addition will create noise, dust, and traffic related to project development. As described earlier, best management practices will be employed to mitigate impacts to ambient noise levels, air quality, and local traffic. Upon project completion, construction-related impacts will no longer occur. In correspondence dated September 30, 2010, DLNR Division of State Parks noted that DAGS has been coordinating with the Division of State Parks on this project (see Appendix A).

In the long term, as the project is an addition to the existing ICDS facility located behind the comfort station, the project is not anticipated to impact recreational uses at Puu Ualakaa State Wayside. The project site occupies an approximate land area of 2,067.5 SF along the perimeter of the grass area, away from the existing picnic shelter adjacent to the comfort station. Use of the project site will not cause long-term negative impacts to recreational resources within the Wayside. According to DLNR's 1994 Final Environmental Impact Statement for the Makiki-Tantalus State Park Master Plan and Makiki Forestry Facilities, there are no master plan improvements sited at the project site. Therefore, the proposed project is not in conflict with the master plan.

2.10 Archaeological and Cultural Resources

2.10.1 Existing Environment

In October 2010, an archaeological literature review and field inspection was conducted for the project site. The purpose of the archaeological study was to determine if there are any major archaeological concerns within the project site and to support the project's historic preservation review compliance, pursuant to the requirements of the State DLNR Historic Preservation Division (SHPD). Appendix B shows the archeological literature review and field inspection report

The literature review component of the study included historic research to develop a history of land use and to determine if archaeological sites have been recorded near the project site. Historic and archival research included information obtained from the University of Hawaii Hamilton Library, the SHPD Library, the Hawaii State Archives, the State Land Survey Division, and the Archives of the Bishop Museum. Previous

archaeological reports for the area were reviewed, as were historic maps and primary and secondary historical sources. Information on Land Commission Awards was accessed through Waihona Aina Corporation's Mahele Data Base.

The results of the literature review indicate that, based on background research, archaeological sites related to pre- and post-contact habitation and agriculture are not likely to be present within the project site. This is due to successive land modifications conducted within the area of the project site associated with the development of the Puu Ualakaa State Wayside and the construction of the existing ICSD Round Top Radio Facility. Although Puu Ualakaa (Round Top) was famous for having been the sweet potato plantation of Kamehameha I, disturbances (i.e., grading and leveling) associated with existing developments would likely have destroyed any evidence of pre- and post-contact land use that may have been present.

Previous archaeological research has documented numerous human burials at the lower elevations of Puu Ualakaa (Round Top). A number of burials have also been inadvertently found within Makiki Valley, including skeletons in burial caves (McCoy 1971), at least seven burials found under roads and houses on the west side of Round Top (Bath and Smith 1988; Bath 1989; Kawachi 1991; Pietrusewsky 1992a, b), and two from Makiki Park (Sinoto 1979). However, a 1994 archaeological survey of Puu Ualakaa State Wayside by DLNR Division of State Parks identified no historic properties, further increasing the likelihood that no archaeological sites are located within the project site.

The fieldwork component of the archaeological literature review and field inspection was conducted on October 12, 2010 by Cultural Surveys Hawaii. Fieldwork consisted of a 100 percent pedestrian inspection of the project site to identify any surface archaeological features and any sensitive areas that might require further investigation or mitigation for potential impacts. The ground survey was accomplished through systematic sweeps with the surveyors walking transects at one- to two-meter intervals. Surface visibility was excellent, as the entire project site was clear of vegetation with the exception the grass and ornamental trees. Pedestrian inspection of the project site confirmed that there were no surface historic properties present. The pedestrian inspection also noted that the project site and surrounding area had been subjected to surface disturbances in the form of grading and leveling, likely via bulldozer during the

construction of Puu Ualakaa State Wayside and the existing ICSD Round Top Radio Facility.

These findings are largely in keeping with expectations, based on background research. While background research indicates that lands in the vicinity of the project site were utilized by traditional Hawaiians for agriculture and burial, the successive land modifications within the project area associated with the development of the Puu Ualakaa State Wayside and the construction of the existing ICSD Round Top Radio Facility have caused extensive land disturbances (i.e. grading, leveling, etc.) which would have removed any evidence of pre- and post-contact land use that may have been present.

Based on the results of the literature review and field inspection, the report recommends no further archaeological work for the project.

2.10.2 Impacts and Mitigation Measures

The findings of the literature review and the 100 percent coverage field inspection showed no archeological resources are present on the project site. In addition, the field inspection the previous ground disturbance related to construction of the Wayside and ICSD facility would have removed archeological resources which might have been present in the area and on the project site. Based on these considerations, no significant adverse impacts are anticipated on archaeological resources from construction of the building addition and other improvements.

Although the project is not anticipated to encounter any historic resources, the general notes in the contract drawings will state that, should archaeological sites such as walls, platforms, pavements or mounds, or remains such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, construction work shall cease immediately and the find shall be protected from further damage. The contractor shall immediately contact SHPD's Oahu Office (Tel. (808)692-8015), and the agency will assess the significance of the find and recommend appropriate mitigation measures, if necessary.

2.11 Cultural Impact Assessment

2.11.1 Existing Environment

The project site is located approximately 3.8 km (2.4 mi.) *mauka* (inland) of the southern coast of Oahu. Maunalaha Stream is located approximately 400 m to the northwest. Elevation within the project site is approximately 1060 ft above mean sea level (AMSL). The project site is situated atop Puu Ualakaa (Round Top), a cinder cone crater relating to the formation of the Ko'olau Range characterized by tholeiitic and olivine basalts. Soils in the area are reported as Cinder Land (rCI). The project site receives approximately 2000 mm (78 in.) of annual rainfall (Giambelluca et al. 1986). Vegetation within the project site consists of Ironwood trees and a grass.

Wahi Pana of Puu Ualakaa

The literal meaning of Puu 'Ualakaa is "rolling sweet potato hill," and it is named for the story of a rat that bit a sweet potato, causing it to roll downhill and sprout. The name may also have originated when Kamehameha I planted many sweet potatoes in this area, which on being dug, rolled downhill. In order to meet foreigners demands for potatoes and yams Kamehameha himself ... "accordingly went into the cultivation of these foods, and grew potatoes on the hill of 'Ualaka'a between Manoa and Makiki, and yams at Ka'akopua, and sold them to the foreigners [Kamakau 1992:190]. This has been traditionally understood as an example of Kamehameha's strong work ethic and willingness to be engaged in humble tasks. Puu Ualakaa (Round Top) was "famous in the annals of Hawaiian agriculture because here Kamehameha I established his own plantation [of sweet potatoes] on the steep slopes above Mānoa" (Handy 1940:156). The account of Kamehameha's industry there and other legendary traditions have made Puu Ualakaa a storied place (*wahi pana*) for the Hawaiian people.

Traditional Uses of Pu'u 'Ualaka'a

A *hōlua* slide may also have once been located on 'Ualaka'a. According to an 1869 Makiki Boundary Certificate, the Makiki/Mānoa boundary began at King Street, went past Punahou School, then past John Ī'ī's land called Anapuni, which was the beginning of the *hōlua* slide on the slopes of 'Ualaka'a. Fitzpatrick (1989:45) believes that this slide must have been on the side of the hill above Punahou School. This *hōlua* slide appears to have been well below the elevation of the project site.

The traditional Hawaiian pattern of land use may be inferred from the Land Commission Award (LCA) documentation for Makiki Valley (north of King Street). The pattern is of a concentration of awards in the lower valley areas primarily along Kānealole and Moleka Streams where taro and sweet potato were grown. Notably there were no LCAs near the summit of Puu Ualakaa and the project site. The nearest LCAs were along Maunalaha Stream. It seems likely that most forest resources would have been more conveniently available closer to areas of permanent residence and agriculture (typically on the edges of streams). The steepness of the ascent/descent would have discouraged gathering in the vicinity of the project site.

Gathering

It seems a certainty that there has been gathering of forest resources (including bananas, ti, bamboo) in an unbroken continuum from pre-Contact times. However, it seems likely that these resources were typically found along streams and in areas less exposed to wind than the project site.

Trails

Of note was the presence of a trail head located immediately west of the project site. This trail is likely a component of the State of Hawaii Trail and Access Program's (Na Ala Hele's) 'Ualaka'a Trail. The trail was most likely developed after 1957 when the Makiki-Tantalus State Park was established. It does seem likely that there were traditional trails to the summit of Puu Ualakaa (particularly from the west, south, and east sides where the population was). Access to the vicinity of the project site is provided by Round Top Drive and the DLNR's 'Ualaka'a Trail system.

2.11.2 Impacts and Mitigation Measures

Evidence of traditional cultural practices in the area of the project site per se would be unlikely due to successive land modifications associated with the development of the Ualakaa State Wayside and the construction of the existing ICSD Round Top Radio facility. Disturbances (i.e., grading and leveling) associated within these land modifications would likely have destroyed any evidence of pre- and post-contact land use that may have been present. No evidence of traditional cultural practices in the project site have been identified. The construction of the building addition and other improvements project will not adversely impact any gathering practices as may be on-going in the surrounding forest.

2.12 Infrastructure

2.12.1 Water

Existing Conditions

DLNR pumps water from the BWS system to Puu Ualakaa State Wayside to service the comfort station.

Impacts and Mitigation Measures

The building addition will not require water service. The improvements will not cause adverse impacts to the BWS water system, including sources of water.

Fire protection for the building will include a fire suppression system and hand-held fire extinguishers.

2.12.2 Sewer

Existing Conditions

The improvements will not include toilet facilities.

Impacts and Mitigation Measures

The improvements will not require wastewater services from the City or utilize an on-site system for treatment or disposal. The project will not adversely affect the City's wastewater system nor create adverse affects due to on-site disposal of wastewater.

2.12.3 Electrical

Existing Conditions

Hawaii Electric Company (HECO) provides commercial electrical power via overhead electrical lines to Puu Ualakaa State Wayside and the existing ICSD Round Top Radio Facility. Power is provided by an overhead line located at the west end of the nearby parking lot.

Impacts and Mitigation Measures

Electrical service to the project site will be provided from existing HECO pole and a new underground conduit to be installed as a part of the project improvements. A new service meter would be located on generator building. The proposed project will have a maximum design peak electrical load of about 50 kilowatts to service the air conditioning and other systems. Thus, the proposed project will not adversely impact the HECO system, as the existing system has the capacity to accommodate the electrical loads.

2.12.4 Telecommunications

Existing Conditions

The improvements are sited adjacent to the existing ICSD Round Top Radio Facility, described earlier in Section 1.3.2, that supports interagency microwave and communications systems for the State.

Oceanic Time Warner Cable maintains CATV and fiber optic facilities serving the ICSD facility and the City's facility. Two existing aerial fiber cables extend from a nearby utility pole to the State and City buildings.

Impacts and Mitigation Measures

The proposed project is an addition to the existing ICSD Round Top Radio Facility. As described earlier in Section 1.2, the primary purpose of the proposed project is to support the modernization and continued operation of the ICSD-owned portion of the Hawaiian Digital Microwave Radio System. The existing ICSD Round Top Radio Facility is a DAGS facility that is part of the Hawaiian Digital Microwave Radio System. It is a public facility to be used only by public agencies for public purposes. In a letter dated September 16, 2010, the State Office of Civil Defense indicated that the proposed project will resolve long-standing shortfalls in existing public safety communications support to federal, State, and local users in the Honolulu vicinity.

The proposed project will require modifications to the Oceanic Time Warner Cable CATV fibers serving the State and City facilities near the project site. In a letter dated September 17, 2010, Oceanic Time Warner Cable stated that both fiber cables must remain intact during construction of the project. The design specifications and construction contract documents will require the contractor to coordinate construction activities with Oceanic Time Warner Cable for any work related to the fiber cables at the site. Installation of a new underground fiber cable to serve the proposed project and switching of service from the old aerial fiber cable to the new underground cable will likewise be coordinated with Oceanic Time Warner Cable. Following construction, one of the existing aerial fiber cables will remain to service the City building.

2.13 Hazardous Materials

2.13.1 Existing Environment

The lands surrounding the project site have been used for recreation and forest reserve purposes since 1916. A visual survey of the undeveloped project site shows no evidence of previous structures, buildings, facilities, or underground storage tanks (USTs) which might contain hazardous materials.

2.13.2 Impacts and Mitigation Measures

The proposed project will contain valve regulated lead acid (VRLA) batteries which will generate a direct current (DC) power source for the microwave repeaters and the land mobile repeaters. The batteries will not require water and will be equipped with flame arresting safety vents. The VRLA batteries are not classified as hazardous materials and will be mounted over a spill containment system. Thus, the VRLA batteries should not adversely affect the environment of the project site and nearby areas.

The emergency generator will use diesel fuel which will be stored in an above-ground, double-walled concrete encased tank such as those manufactured by Convault. A leak from the inner tanks would be contained in the interstitial space between the walls of the tank. These types of tanks are equipped with a monitor system to detect leaks in the interstitial space between the walls of the tank. It is expected that at least a 1000-gallon total fuel capacity will be required to provide for the desired 7-day supply of fuel. According to the U.S. Environmental Protection Agency (EPA), an above-ground, double-walled concrete tank will not require a secondary spill containment system around its base. The City Fire Department has allowed use of above-ground, double-walled fuel storage tanks.

The fill pipe for the tank will be provided with two or more of the following methods to protect them against overfill: a) direct reading level gauge at the tank which is visible from fill pipe location; b) valve located within fill-pipe access to close automatically at a specified fill level; and c) audible high level alarm activated by a float switch at a specified fill level. These measures will protect against spills from overfilling when the tank is being filled with fuel.

The Honolulu Fire Department has allowed use of above-ground, double-walled fuel storage tanks. In a letter dated September 14, 2010, the Fire Department indicated that it has no objections to the proposed project. See Appendix A.

3. RELATIONSHIP TO PLANS, POLICIES AND CONTROLS

3.1 Hawaii State Plan

The Hawaii State Plan, adopted in 1978 and revised in 1988, establishes the overall theme, goals, objectives, and priority guidelines to guide the future long-range development of the State. The proposed project supports and is consistent with the following State Plan objectives and policies:

Section 226-6 Objectives and policies for the economy - in general.

> *(b) (6) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.*

The proposed project will involve construction of a building addition at an existing facility. The project will increase the level of construction activity on Oahu during the period of construction, which will enhance the State's growth objectives.

Section 226-10.5 Objectives and policies for the economy – information industry

> *(b) (1) Encourage the continued development and expansion of the telecommunications infrastructure serving Hawaii to accommodate future growth in the information industry.*

The project will enhance the voice communication and data transmission capabilities of public agencies to provide information to all areas of the public sector. The project supports the future needs of public agencies using the system.

Section 226-11 Objectives and policies for the physical environment - land-based, shoreline, and marine resources.

> *(b) (3) Take into account the physical attributes of areas when planning and designing activities and facilities.*

The project site is located adjacent to an existing ICSD facility and in close proximity to a similar facility used by the City. The co-location of telecommunications facilities minimizes the visual impact on the surrounding area and allows shared use of the

overhead electrical system. The project has also been designed to take into account the topographic conditions at the project site to minimize excavation or grading.

Section 226-14 Objectives and policies for facility systems – general.

> *(b) (1) Accommodate the needs of Hawaii's people through the coordination of facility systems and capital improvement priorities in consonance with the state and county plans.*

The project has been planned to be jointly used by federal, State and City public agencies to provide vital transmission of voice and data communications. The project is an addition to a single facility that accommodates the needs of various public agencies.

3.2 Land Use Plans and Policies

3.2.1 State Land Use District

The Hawaii Land Use Law of Chapter 205, Hawaii Revised Statutes, classifies all land in the State into four land use districts: Urban, Agricultural, Conservation, and Rural. The proposed project is located in the Conservation District.

The Conservation District has five subzones: Protective, Limited, Resource, General and Special. Omitting the Special subzone, the four subzones are arranged in a hierarchy of environmental sensitivity, ranging from the most environmentally sensitive (Protective) to the least sensitive (General). The Special subzone is applied in special cases specifically to allow a unique land use on a specific site. The project site is located in the "Resource" subzone.

In a letter dated September 15, 2010, the State Department of Land and Natural Resources, Office of Conservation and Coastal Lands (OCCL) confirmed that the use is an identified land use in the Protective subzone of the Conservation District according to Hawaii Administrative Rules, Section 13-5-22, Identified land uses in the Protective subzone, P-6, PUBLIC PURPOSE USES, D-1, "land uses undertaken by the State of Hawaii or the counties to fulfill a mandated governmental function, activity, or service for public benefit and in accordance with public policy and the purpose of Conservation District. Such land uses may include transportation systems, water systems, communication systems, and recreational facilities."

3.2.2 City and County of Honolulu Primary Urban Center Development Plan

The City and County of Honolulu General Plan sets forth basic objectives and policies pursuant to the City Charter, which mandates preparation of a General Plan and area development plans to guide "the development and improvement of the city." The General Plan and development plans provide a policy context for the land use and budgetary actions of the City across eight geographic regions, including the Primary Urban Center, Central Oahu, Ewa, Waianae, North Shore, Koolauloa, Koolaupoko and East Honolulu.

The project site is located within the region covered by the 2004 Primary Urban Center Development Plan. The project site is designated "Preservation" on the plan's Land Use Map. Section 4.4 of the Primary Urban Center Development Plan lists policies and guidelines for telecommunications facilities. In general, the City's policy is to minimize visual impacts and potential health hazards that may be associated with communications towers. Guidelines support this policy by describing visual mitigation and siting recommendations for towers and antennae.

The proposed project is consistent with the policies and guidelines of the Primary Urban Center Development Plan, as it is a public facility designed to serve multiple agencies and does not propose to erect any new tower structure that may be visually obtrusive. The scale of the project is minimal, and the proposed building addition will be sited immediately adjacent to the existing ICSD tower and support building.

3.2.3 City and County of Honolulu Zoning

The City Land Use Ordinance (LUO) regulates land use in accordance with land use policies including the Oahu General Plan and the Development Plans. The City's zoning designation for the project site is Restricted Preservation (P-1).

The project site is located within the State Conservation District, where land use and activities are regulated by the State Department of Land and Natural Resources.

3.2.4 City and County of Honolulu Special Management Area

The Coastal Zone Management Act contains the general objectives and policies upon which all counties within the State have structured specific legislation which created Special Management Areas (SMAs). Any development within the City's designated SMA requires approval of an SMA Use permit, administered by the City Department of

Planning and Permitting pursuant to Section 205A, HRS, and Chapter 25 Revised Ordinances of Honolulu. The objectives, policies and SMA guidelines, as set forth in Chapter 205A, HRS, are intended to ensure that adequate shoreline access is provided, public recreation and wildlife preserves are reserved, and that minimum adverse effects to water, visual and natural resources are assured.

The project site is not located within the City's SMA.

4. ALTERNATIVES TO THE PROPOSED ACTION

4.1 No Action Alternative

Under the No Action alternative, resources in the form of financial capital, construction materials, fossil fuels, and human labor required for planning, engineering, construction, and operation/maintenance of the new facility would not be expended. The approximately 2,067.5 square-foot project site would remain as a grassy, sloped portion of Puu Ualakaa State Wayside.

Although the No Action alternative would use no resources, there are a number reasons to proceed with the proposed project. Without the improvements, public safety radio users would be limited to the use of existing voice and data communication systems which have limited capabilities and a questionable amount of service lifetime remaining. Also, the various public agency users would have to rely on dated facilities for transmitting data and voice communications. Although there would be no disturbance to the project site, use of the limited and dated systems would not be in the public interest. The long-standing shortfalls in existing public safety communications support to Federal, State, and local users in the Honolulu vicinity would remain unaddressed. Based on these considerations, the No Action alternative is not considered a feasible alternative.

4.2 Use of Existing Facilities

As previously discussed, the project site is adjacent to the existing ICSD Round Top Radio Facility and the improvements will allow additional space for required support equipment. The existing facility is currently over crowded and has insufficient space to accommodate necessary equipment. Further, the existing facility does not have space to expand the two buildings currently used for the radio equipment and batteries. Lastly, the existing emergency generator is an outdoor cabinet which exposes the unit to rain and corrosion which could affect its reliability to proper operate when needed. Given the space limitations, installation of required equipment within the footprint of the existing facility is not a feasible alternative to construction of the proposed project.

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5. ANTICIPATED DETERMINATION

Short-term construction impacts include disruption to the project site and surrounding areas during construction, decline in air quality from construction activities, and increase in noise levels. Once construction has been completed, the short-term adverse impacts will no longer occur.

Based on analysis of the anticipated impacts, a Finding of No Significant Impact (FONSI) is anticipated for the proposed project. The significance criteria to make this determination are set forth below and in Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 200, Environmental Impact Statement Rules.

1) *Involve an irrevocable commitment to loss or destruction of any natural or cultural resources*;

The project site does not provide habitat for Federal or State of Hawaii listed or candidate threatened or endangered species of flora or fauna. The project site consists primarily of a grassy, sloped area on the fringe of the landscaped portion of Puu Ualakaa State Wayside, adjacent to the existing ICSD Round Top Radio Facility and comfort station. Use of the project site will not result in the loss or destruction of natural or cultural resources.

2) *Curtail the range of beneficial uses of the environment*;

The project site is located within the State Conservation District and Puu Ualakaa State Wayside. The proposed use is an identified land use permitted in the Protective subzone of the State Conservation District. The project site will occupy an area of 2,067.5 square feet appropriately sited adjacent to the existing ICSD Round Top Radio Facility. Thus, the project will not curtail beneficial uses of the environment.

3) *Conflict with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders*;

The proposed project will not involve actions or activities that would adversely affect natural resources in the area. The project will be consistent with the guidelines of Chapter 344, HRS, as it will provide a public facility to support the critical functions

assigned to the State of Hawaii. As such, the project will not conflict with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS.

4) *Substantially affect the economic or social welfare of the community or state*;

The proposed project will be a public facility to be used by public agencies for public purposes. The project is an integral part of the infrastructure needed to maintain the health and welfare of the community. The project will not have an adverse effect on the economic or social welfare of the community.

5) *Substantially affect public health*;

An efficient and well-maintained voice and data communication system is needed to protect the public health of residents and visitors to Hawaii. The proposed project will resolve long-standing shortfalls in existing public safety communications support to Federal, State, and local users in the Honolulu vicinity. Thus, the project will not have an adverse effect on public health.

6) *Involve substantial secondary impacts, such as population changes or effects on public facilities*;

The proposed project will be a public facility which will be used by the State of Hawaii to support its mission critical applications. No government or contractor personnel will be assigned to daily operation of the Round Top facility. Contract personnel will visit the project site to conduct tests and to perform maintenance service on the air conditioning and power systems and to clean the building and surrounding area. The contractor personnel are expected to be residents from Hawaii. Thus, construction of the project will not create secondary impacts, such as population changes or effects on public facilities.

7) *Involve a substantial degradation of environmental quality*;

The proposed project is anticipated to result in short-term impacts to noise, air quality and traffic in the immediate vicinity of the project site during construction. However, due to the project site location and distance from residential uses, these impacts will not be significant. The project site does not contain Federal or State listed or candidate

threatened or endangered species of flora or fauna. Construction will not impact historic sites.

8) *Have a cumulative effect upon the environment or involves a commitment for larger actions*;

The project does not involve a commitment to further actions to other State of Hawaii related projects in Hawaii. As a result, the project will not have any negative cumulative effects upon the environment or involve a commitment by the State to larger actions.

9) Affect a rare, threatened or endangered species;

The project site does not contain Federal or State listed or candidate threatened or endangered species of flora or fauna. The surrounding area has been in use as a wayside since the early 1900s and does not provide unique habitat. Thus, the project should not result in adverse affects to threatened or endangered species.

10) *Detrimentally affect air or water quality or ambient noise levels*;

Operation of construction equipment would increase noise and exhaust emission levels in the immediate vicinity of the project site. Once operational, the facility will contribute almost no additional noise or air emissions to the local area. There are no groundwater or surface water resources on or near the project site that will be affected by the construction and operation of the facility.

11) *Affects or likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geographically hazardous land, estuary, fresh water or coastal water*;

According to the Flood Insurance Rate Map (FIRM), the project site is located in area not subject to flood hazards, a hazardous floodplain or a tsunami zone. The project site is not located within the City and County of Honolulu Special Management Area. Thus, the project site is not located in an environmentally sensitive area.

12) *Substantially affect scenic vistas and viewplanes identified in county or state plans or studies;*

The view planes across leeward Oahu and downtown Honolulu from Puu Ualakaa State Wayside are not oriented in the direction of the project site, which is located at the edge of the northern tree canopy. The project site is located adjacent to the existing ICSD facility, behind the comfort station. Public views of the existing facility are confined to distant glimpses of the upper portion of the tower from distant viewpoints on public roadways. Thus, the project will not substantially affect scenic vistas or viewplanes.

13) *Require substantial energy consumption.*

The proposed project is a public facility to be used by public agencies for public purposes. It is an addition to an existing facility and will be planned and designed to minimize use of electrical power. Thus, the project will not create a substantial increase in energy consumption.

Based on Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 200, Environmental Impact Statement Rules, Subchapter 6, Section 11-200-9 (4), construction and operation of the proposed project does not warrant the preparation of an environmental impact statement preparation notice. Further, based on the findings and the assessment of potential impacts from the proposed project, a Finding of No Significant Impact (FONSI) is anticipated.

6. LIST OF PERMITS AND APPROVALS

- Conservation District Use Application
- Building Permit

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7. CONSULTATION

7.1 Pre-Assessment Consultation

The following parties were consulted during the pre-assessment phase of the Draft Environmental Assessment. Each party was sent a copy of a project summary and a request for their written comments on the project. Those who formally replied are indicated with a ✓. All written comments and responses are reproduced in Appendix A.

Federal Agencies
- ✓ U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service

State Agencies
- State of Hawaii (State) Department of Business, Economic Development & Tourism (DBEDT) Land Use Commission
- State DBEDT Office of Planning
- ✓ State Department of Defense
- State Department of Hawaiian Home Lands
- ✓ State Department of Health
- ✓ State Department of Land and Natural Resources (DLNR)
- State DLNR Historic Preservation Division
- ✓ State DLNR Division of State Parks
- ✓ State DLNR Office of Conservation and Coastal Lands
- ✓ State Department of Transportation
- ✓ State Office of Hawaiian Affairs
- University of Hawaii Environmental Center

City and County of Honolulu Agencies
- City and County of Honolulu (City) Department of Design and Construction
- ✓ City Department of Emergency Management
- City Department of Emergency Services
- ✓ City Department of Facility Maintenance
- City Department of Planning and Permitting
- ✓ City Department of Transportation Services
- ✓ City Fire Department
- ✓ City Police Department

Elected Officials
- Honolulu City Councilmember Ann H. Kobayashi
- Honolulu City Councilmember Rod Tam

Organizations

Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10
Oahu Island Burial Council

Utilities

Hawaiian Electric Company
✓ Oceanic Time Warner Cable

Individuals

Ms. Nancy Sylvia
Ms. Charlotte "Coco" Needham

7.2 Parties to be Consulted on the Draft EA

The following is a list of parties that will be consulted during the preparation of the Draft Environmental Assessment.

Federal Agencies

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. Coast Guard

State Agencies

State Department of Business, Economic Development & Tourism (DBEDT)
State DBEDT Land Use Commission
State DBEDT Office of Planning
State Department of Defense
State Department of Hawaiian Home Lands
State Department of Health (DOH)
State DOH Office of Environmental Quality Control
State Department of Land and Natural Resources (DLNR)
State DLNR Historic Preservation Division
State DLNR Division of State Parks
State DLNR Office of Conservation and Coastal Lands
State Department of Transportation
State Office of Hawaiian Affairs
University of Hawaii Environmental Center

City and County of Honolulu Agencies

Department of Design and Construction
Department of Emergency Management
Department of Emergency Services
Department of Information Technology

City and County of Honolulu Agencies (continued)
- Department of Parks and Recreation
- Department of Planning and Permitting
- Fire Department
- Police Department
- Board of Water Supply

Elected Officials
- State Senator Carol Fukunaga
- State Representative Della Au Belatti
- Honolulu City Councilmember Ann H. Kobayashi
- Honolulu City Councilmember Tulsi Gabbard Tamayo

Organizations
- Makiki/Lower Punchbowl/Tantalus Neighborhood Board No. 10
- Oahu Island Burial Council

Utilities
- Hawaiian Electric Company
- Hawaiian Telcom
- Oceanic Time Warner Cable

Individuals
- Ms. Nancy Sylvia
- Ms. Charlotte "Coco" Needham
- Mr. Rick Ralston

Libraries and Repositories
- Hawaii State Library
- Manoa Public Library
- Makiki Community Library
- Legislative Reference Bureau
- University of Hawaii Hamilton Library
- Municipal Reference and Records Center

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8. REFERENCES

Federal Emergency Management Flood Insurance Rate Map Community Panel Number 15003C0360F, revised September 30, 2004.

Primary Urban Center Development Plan. City and County of Honolulu, Department of Planning and Permitting. June 2004.

State of Hawaii Department of Accounting and General Services. *Final Environmental Assessment, Anuenue (formerly Rainbow) Radio Facilities and Towers Statewide, Koko Head Site, Maunalua District, Island of Oahu.* Prepared by Wilson Okamoto Corporation, September 2004.

State of Hawaii Department of Accounting and General Services. *Final Environmental Assessment, Department of Accounting and General Services, Information & Communication Services Division Kaupulehu Radio Site and Tower, Kaupulehu, North Kona District, Island of Hawaii.* Prepared by Wilson Okamoto Corporation, July 2009.

State of Hawaii Department of Land and Natural Resources. *Final Environmental Impact Statement, Makiki-Tantalus State Park Master Plan & Makiki Forestry Facilities.* September 1994.

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US Department of Agriculture Soil Conservation Service. *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* December 1973.

U.S. Department of Agriculture Soil Conservation Service. *Agricultural Lands of Importance to the State of Hawaii.* January 1977.

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APPENDIX A

Pre-Assessment Consultation

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
FORT SHAFTER, HAWAII 96858-5440

REPLY TO ATTENTION OF:

September 1, 2010

7682-10 JS
9/20/10
cc: DAGS) bn

Regulatory Branch

File Number POH-2010-0227

Wilson Okamoto Corporation
Attention: John L. Sakaguchi
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 07 2010
WILSON OKAMOTO CORPORATION

Dear Mr. Hart,

We have received your request dated August 30, 2010 for the Department of the Army to review and comment on the proposed Round Top Radio Facility Building Addition and other improvements at TMK (1) 2-5-019:003, Honolulu, Island of Oahu, Hawaii. We have assigned the project the reference number **POH-2010-0227**. Please cite the reference number in any future correspondence concerning this project. We completed our review of the submitted document pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and Section 404 of the Clean Water Act (Section 404).

Section 10 requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging and other activities occurring in, over, or under navigable waters of the U.S. The line of jurisdiction extends to the Mean High Water Mark (MHWM) for tidal waters. Section 404 requires that a DA permit be obtained for the discharge (placement) of dredge and/or fill material into waters of the U.S., including wetlands. The line of jurisdiction extends to the Mean Higher High Water Mark (MHHWM) for tidally influenced waters, the Ordinary High Water Mark (OHWM) for non-tidal waters and the approved delineated boundary for wetlands.

Based on the information you submitted, it appears the review area consists entirely of uplands and is absent of waters of the U.S., including adjacent wetlands, subject to Corps jurisdiction. We anticipate any proposed development activities will not involve the placement or discharge of dredged and/or fill material into waters of the U.S.; therefore, it appears a **DA permit will not be required.** This determination does not relieve you of the responsibility to obtain any other permits, licenses, or approvals that may be required under County, State, or Federal law for your proposed work

Thank you for contacting us regarding this project and providing us with the opportunity to comment. Should you have any questions, please contact Ms. Jessie Pa'ahana at *808.438.0391* or via e-mail at *Jessie.K.Paahana@usace.army.mil*. Please be advised you can provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at *http://per2.nwp.usace.army.mil/survey.html*.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. George Young, Chief
Regulatory Branch
U.S. Army Corps of Engineers
Building 230, Room 205
Fort Shafter, HI 96858

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Young:

Thank you for your September 1, 2010 comments (File No. POH-2010-0227) regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that it is anticipated that proposed development activities will not involve the placement or discharge of dredged and/or fill material into waters of the U.S., and a Department of the Army permit will not be required.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR

MAJOR GENERAL ROBERT G. F. LEE
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA
VICE DIRECTOR OF CIVIL DEFENSE

7682-10
9/24/10

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

PHONE (808) 733-4300
FAX (808) 733-4287

cc: DAGS Jen

JS

September 16, 2010

Mr. John L. Sakaguchi, AICP, Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Draft Environmental Assessment, Pre-Assessment Consultation;
Information and Communications Services Division - Round Top
Radio Facility Building Addition and Other Improvements
Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603;
Tax Map Key: (1) 2-5-019:003 (por)

Thank you for the opportunity to comment on this development. We strongly endorse the need for the Information and Communication Services Division Radio Facility building addition at the Round Top site. These facilities support interagency and inter-jurisdictional microwaves and communications systems for the State.

This will resolve long-standing shortfalls in existing public safety communications support to federal, State, and local users in the Honolulu vicinity. We have no other comments to provide.

If you have any questions, please call Ms. Fay Alailima-Rose, State Civil Defense (SCD) Assistant Telecommunications Officer, at (808) 733-4300, ext. 531.

Sincerely,

EDWARD T. TEIXEIRA
Vice Director of Civil Defense

c: Russ K. Saito, Comptroller, Department of Accounting and General Services
SCD Radio Shop
Department of Emergency Management, City and County of Honolulu

WILSON OKAMOTO CORPORATION
ENGINEERS • PLANNERS • CONSULTANTS

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FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Edward T. Teixeira, Vice Director of Civil Defense
Department of Defense
State of Hawaii
3949 Diamond Head Road
Honolulu, HI 96816-4495

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Teixeira:

Thank you for your September 16, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that the State Department of Defense strongly endorses the project and that the facilities support interagency and inter-jurisdictional microwaves and communication systems for the State. The Draft EA will also note that the proposed project will resolve long-standing shortfalls in existing public safety communications support to Federal, State, and local users in the Honolulu vicinity.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

9/22/10

cc: DAGS/Jen

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 20, 2010

Wilson Okamoto Corporation
1907 South Bertania Street Suite 400
Honolulu, Hawaii 96826

Attention: Mr. John L. Sakaguchi, AICP

Ladies and Gentlemen:

Subject: Pre-Assessment Consultation for Draft Environmental Assessment for Round Top Radio Facility Building Addition and Other Improvements

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Office of Conservation & Coastal Lands, Commission on Water Resource Management, Land Division-Oahu District, Engineering Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Historic Preservation will be submitting comments through a separate letter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Charlene Unoki

for Morris M. Atta
Acting Administrator

1/8

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RECEIVED
LAND DIVISION
2010 SEP -9 A 8:09
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2010

2010 SEP -9 PM 2:27
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
x Div. of Forestry & Wildlife
x Div. of State Parks
x Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division –Oahu District

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment for Radio Round Top Radio Facility Building Addition and Other Improvements
LOCATION: Island of Oahu
APPLICANT: Wilson Okamoto Corporation on behalf of Department of Accounting & General Services

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by September 18, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

(✓) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: W. Ray Foudy
Date: 9/17/10

WILSON OKAMOTO CORPORATION
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Honolulu, Hawaii, 96826 USA
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www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Morris M. Atta, Acting Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii .
PO Box 621
Honolulu, HI 96809

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division -- Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments; Commission on Water Resources Management

Dear Mr. Atta:

Thank you for your September 20, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that the Commission on Water Resource Management has no objections or comments regarding the proposed project.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2010

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
Div. of Boating & Ocean Recreation
x Engineering Division
x Div. of Forestry & Wildlife
x Div. of State Parks
x Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division -Oahu District

RECEIVED
LAND DIVISION
2010 SEP 13 A 11:25
DEPT OF LAND & NATURAL RESOURCES STATE OF HAWAII

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment for Radio Round Top Radio Facility Building Addition and Other Improvements
LOCATION: Island of Oahu
APPLICANT: Wilson Okamoto Corporation on behalf of Department of Accounting & General Services

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by September 18, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed:
Date: 9/10/10

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/CharleneUnoki
RE:PreConDEARadioRoundFacilityBldgAddition
Oahu.790

COMMENTS

( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone ___.

(X) **Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zones X. The Flood Insurance Program does not have any regulations for developments within Flood Zones X.**

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

( ) Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include water demands and infrastructure required to meet project needs. Please note that projects within State lands requiring water service from the Honolulu Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Ms. Suzie S. Agraan of the Planning Branch at 587-0258.

Signed: _____
CARTY S. CHANG, ACTING CHIEF ENGINEER

Date: 9/16/10

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Honolulu, Hawaii, 96826 USA
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www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Morris M. Atta, Acting Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
PO Box 621
Honolulu, HI 96809

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.) Response to Comments; Engineering Division.

Dear Mr. Atta:

Thank you for your September 20, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that the Engineering Division has stated the project site is located in Zone X of the Flood Insurance Rate Map.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2010

MEMORANDUM

TO: ~~TO~~ TO:

DLNR Agencies:
x Div. of Aquatic Resources
_ Div. of Boating & Ocean Recreation
x Engineering Division
x Div. of Forestry & Wildlife
x Div. of State Parks
x Commission on Water Resource Management
~~x Office of Conservation & Coastal Lands~~
x Land Division –Oahu District

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment for Radio Round Top Radio Facility Building Addition and Other Improvements
LOCATION: Island of Oahu
APPLICANT: Wilson Okamoto Corporation on behalf of Department of Accounting & General Services

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by September 18, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
(x) We have no comments.
(x) Comments are attached.

Signed: Barry Cheung
Date: 9/10/10

The mode of disposition should be by a Governor's Executive Order, rather than a lease in para. 2.

WILSON OKAMOTO CORPORATION
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Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Morris M. Atta, Acting Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
PO Box 621
Honolulu, HI 96809

Subject: Draft Environmental Assessment, Pre-Assessment Consultation: Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.) Response to Comments; Land Division-Oahu District

Dear Mr. Atta:

Thank you for your September 20, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that use of the project site by the Department of Accounting and General Services will be by a Governor's Executive Order.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

KB

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

OCCL
CONSERVATION
& LANDS

2010 SEP -9 P 3:39

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

September 8, 2010

MEMORANDUM

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
x Div. of Forestry & Wildlife
x Div. of State Parks
x ~~Commission on Water Resource Management~~
x Office of Conservation & Coastal Lands
x ~~Land Division –Oahu District~~

RECEIVED
LAND DIVISION
2010 SEP 15 P 5:53
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment for Radio Round Top Radio Facility Building Addition and Other Improvements
LOCATION: Island of Oahu
APPLICANT: Wilson Okamoto Corporation on behalf of Department of Accounting & General Services

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by September 18, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached. Please see COM OA-11-37

Signed: Dawn Hegger
Date: 9/15/2010

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
ACTING FIRST DEPUTY

LENORE N. OHYE
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
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF:OCCL:DH

Correspondence: OA-11-37

SEP 15 2010

John L. Sakaguchi, AICP Senior Planner
Wilson Okamoto Corporation
1907 South Beratania Street
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi,

SUBJECT: Regarding Pre-Draft Environmental Assessment and Consultation for the State of Hawaii, Department of Accounting and General Services (DAGS), Information and Communications Services Division (ICSD) - Round Top Radio Facility Building Addition and Other Improvements, Puu Ualakaa State Wayside Park, Tantalus, Island of Oahu, Subject Parcel TMK: (1) 2-5-019:003.

The Department of Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL) is in receipt of your letter, dated August 30, 2010, Regarding your Pre-Draft Environmental Assessment and Consultation for ICSD - Round Top Radio Facility Building Addition and Other Improvements, located within Puu Ualakaa State Wayside Park, Tantalus, Island of Oahu, Subject Parcel TMK: (1) 2-5-019:003.

According to your information, DAGS ICSD proposes to construct the following adjacent to the eastern perimeter of the existing ICSD building: 1) 490 square foot building (radio, power equipment, emergency generator; 2) retaining wall; 3) security fencing; 4) simulated masonary veneer block wall fence; 5) above ground fuel tank; 6) drainage improvements; and 7) underground conduit.

The OCCL notes it appears that the proposed project area is located in the State Land Use Commission (LUC) Conservation District, Resource subzone.

The OCCL notes that a Conservation District Use Application (CDUA) will need to be submitted and processed, pursuant to Hawaii Administrative Rules (HAR), and Chapter 183, Hawaii Revised Statutes (HRS), Section 13-5-22, Identified land uses in the Protective subzone, P-6, PUBLIC PURPOSE USES, D-1, "land uses undertaken by the State of Hawaii or the counties to fulfill a mandated governmental function, activity, or service for public benefit and in accordance with public policy and the purpose of Conservation District. Such land uses may include transportation systems, water systems, communication systems, and recreational facilities."

Should you have any questions, please feel free to contact Dawn Hegger, Senior Planner of our Office of Conservation and Coastal Lands at 587-0380.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

c: DAGS ICSD R. Hivlack
ODLO
City and County of Honolulu
Department of Planning and Permitting

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Morris M. Atta, Acting Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
PO Box 621
Honolulu, HI 96809

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments; Office of Conservation and Coastal Lands

Dear Mr. Atta:

Thank you for your September 20, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that the Office of Conservation and Coastal Lands, OCCL, (Correspondence:OA-11-37) confirmed the project site is located in the Conservation District, Resource subzone and that the proposed use is an identified land use within the Protective subzone. We will work with OCCL to obtain the necessary approvals.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

1687-10
10/7/10
JS
cc: DAGS/CM

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 30, 2010

Wilson Okamoto Corporation
1907 South Beretania Street Suite 400
Honolulu, Hawaii 96826

Attention: Mr. John L. Sakaguchi, AICP

Ladies and Gentlemen:

Subject: Pre-Assessment Consultation for Draft Environmental Assessment for Round Top Radio Facility Building Addition and Other Improvements

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to Division of State Parks for their review and comment.

The Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

Charlene Unoki
Assistant Administrator

3428

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

September 8, 2010

MEMORANDUM

RECEIVED
2010 SEP 28 P 2:36
DEPT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

TO: **DLNR Agencies:**
x Div. of Aquatic Resources
__Div. of Boating & Ocean Recreation
x Engineering Division
x Div. of Forestry & Wildlife
x Div. of State Parks
x Commission on Water Resource Management
x Office of Conservation & Coastal Lands
x Land Division –Oahu District

FROM: Charlene Unoki, Assistant Administrator
SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment for Radio Round Top Radio Facility Building Addition and Other Improvements
LOCATION: Island of Oahu
APPLICANT: Wilson Okamoto Corporation on behalf of Department of Accounting & General Services

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by September 18, 2010.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact my office at 587-0433. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed:
Date: 10/3/10

The consultant and DAGS have been coordinating with State Parks on this project

WILSON OKAMOTO CORPORATION
ENGINEERS | PLANNERS | CONSULTANTS
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
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FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
November 3, 2010

Mr. Morris M. Atta, Acting Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, HI 96809

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments – Division of State Parks

Dear Mr. Atta:

Thank you for your September 30, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that the State Department of Accounting and General Services has been coordinating with the Division of State Parks on this project.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

7682-10
9/22/10
CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH
cc: DAGS) em
In reply, please refer to:
EPO-I-3328

September 15, 2010

Mr. John L. Sakaguchi, AICP, Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

SUBJECT: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS
JOB No. 12-10-0603
TMK: (1)2-5-019:003 (por)

Thank you for allowing us to review and comment on the subject document. The document was routed to the various branches of the Environmental Health Administration. We have no comments at this time, but reserve the right to future comments. We strongly recommend that you review all of the Standard Comments on our website: www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

The same website also features a Healthy Community Design Smart Growth Checklist (Checklist). The Hawaii State Department of Health, Built Environment Working Group, recommends that State and county planning departments, developers, planners, engineers and other interested parties apply the healthy built environment principles in the Checklist whenever they plan or review new developments or redevelopments projects. We also ask you to share this list with others to increase community awareness on healthy community design.

If there are any questions about these comments please contact the Environmental Planning Office at 586-4337.

Sincerely,

GENEVIEVE SALMONSON, Acting Manager
Environmental Planning Office

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Ms. Genevieve Salmonson, Acting Manager
Environmental Planning Office
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, HI 96801

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Ms. Salmonson:

Thank you for your September 1, 2010 comments (EPO-I-3328) regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that you have no comments at this time, but reserve the right to future comments.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

RECEIVED
OCT 13 2010
WILSON OKAMOTO CORPORATION

MICHAEL D. FORMBY
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
JIRO A. SUMADA

IN REPLY REFER TO:
STP 8.0249

7682-10
10/14/10

cc: DAGS/Jem

October 7, 2010

Mr. John L. Sakaguchi, AICP
Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Round Top Radio Facility Building Addition and Other Improvements
Pre-Consultation for Draft Environmental Assessment (DEA), Oahu

Thank you for requesting the State Department of Transportation's (DOT) review of the subject project.

DOT understands that the State Department of Accounting and General Services (DAGS) proposes a building addition and related improvements that will be integrated with the existing facility. DAGS proposes to construct a 490-square foot by 12-foot high building, retaining wall, block wall, an above-ground diesel fuel tank and drainage improvements. Access to the project site is off Round Top Drive and Nutridge Street.

DOT does not anticipate any significant adverse impacts to the state transportation facilities. However, the applicant should be informed that a permit is required from DOT Highways Division, to transport oversized and overweight equipment/loads within any State highway facilities.

DOT appreciates the opportunity to provide comments. If there are any other questions, please contact Mr. David Shimokawa of the DOT Statewide Transportation Planning Office at telephone number (808) 831-7976.

Very truly yours,

Francis Paul Keeno

for MICHAEL D. FORMBY
Interim Director of Transportation

WILSON OKAMOTO CORPORATION
ENGINEERS PLANNERS CONSULTANTS
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
October 22, 2010

Mr. Michael D. Formby, Interim Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813-5097

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.) Response to Comments

Dear Mr. Formby:

Thank you for your October 7, 2010 comments (STP 8.0249) regarding the Round Top Radio Facility Building Addition project. Potential project-related traffic impacts will be discussed in the Draft EA. As noted in your letter, no significant adverse impacts are anticipated to State transportation facilities as a result of the construction and operation of the proposed project. The Draft EA will note that the transportation of oversized and overweight equipment/loads within any State highway facility requires a permit from the Department of Transportation's Highways Division. The design specifications and construction contract documents will require the contractor to obtain such a permit, if necessary.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

LINDA LINGLE
GOVERNOR
STATE OF HAWAII

STATE OF HAWAI'I
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAI'I 96805

KAULANA H. R. PARK
CHAIRMAN
HAWAIIAN HOMES COMMISSION

ANITA S. WONG
DEPUTY TO THE CHAIRMAN

ROBERT J. HALL
EXECUTIVE ASSISTANT

7682-10 JS
10/15

cc: DAGS Jan

RECEIVED
OCT 12 2010
WILSON OKAMOTO CORPORATION

October 8, 2010

Wilson Okamoto Corporation
Attn: Mr. John L. Sakaguchi, AICP, Senior Planner
Artesian Plaza
Suite 400
1907 South Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Information and Communications Services Division - Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu;
DAGS JOB No. 12-10-0603;
Tax Map Key: (1) 2-5-019:003 (por.)

Thank you for the opportunity to review the subject proposal.

The Department of Hawaiian Home Lands has no comment to offer at this time. If you have any questions, please contact our Planning Office at (808) 620-9480.

Aloha and mahalo,

Kaulana H.R. Park, Chairman
Hawaiian Homes Commission

WILSON OKAMOTO CORPORATION
ENGINEERS PLANNERS CONSULTANTS
1907 South Beretania Street
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Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
October 22, 2010

Mr. Kaulana Park, Chairman
Department of Hawaiian Homelands
State of Hawaii
P.O. Box 1879
Honolulu, HI 96805

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.) Response to Comments

Dear Mr. Park:

Thank you for your October 8, 2010 letter regarding the Round Top Radio Facility Building Addition project. The Draft EA will note the Department of Hawaiian Home Lands has no comments to offer at this time.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

7682-10
9/24/10
cc: DAGS Jan

PHONE (808) 594-1888
FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD10/5224

September 13, 2010

John L. Sakaguchi, Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street
Artesian plaza, Suite 400
Honolulu, Hawai'i 96826

SEP 21 2010

RE: Pre-draft Environmental Assessment consultation
Round Top Radio Facility Building Addition and Improvements
Honolulu, Island of O'ahu

Aloha e John L. Sakaguchi,

The Office of Hawaiian Affairs (OHA) is in receipt of an August 30, 2010 letter initiating consultation ahead of a draft environmental assessment (DEA) for the proposed Round Top Radio Facility Addition and Improvements Project (project). It is our understanding this project will support the modernization of the Hawaiian Digital Microwave Radio System.

We have no specific comments at this time. We look forward to the opportunity to review the DEA. Should you have any questions, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Chief Executive Officer

WILSON OKAMOTO CORPORATION
ENGINEERS • PLANNERS • ECONOMISTS
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Clyde W. Namuo, Chief Executive Officer
Office of Hawaiian Affairs
State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Namuo:

Thank you for your September 13, 2010 letter (HRD10/5224) regarding the Round Top Radio Facility Building Addition project. The Draft EA will note the Office of Hawaiian Affairs has no specific comments at this time and will review the Draft EA upon publication.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

7682-10
9/27/10
cc: DAGS) lm

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK W. CALDWELL
ACTING MAYOR

DIRECTOR
COLLINS D. LAM, P.E.
DEPUTY DIRECTOR

September 20, 2010

Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Attn: Mr. John Sakaguchi, AICP

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment, Pre- Assessment Consultation; Information and Communications Services Divisions- Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)

Thank you for inviting us to review the above Draft Environmental Assessment, Pre-Assessment Consultation. The Department of Design and Construction does not have any comments to offer at this time.

Should you have any questions, please contact me at 768-8481.

Very truly yours,

Collins D. Lam, P.E.
Deputy Director

CL:pg(381940)

WILSON OKAMOTO CORPORATION
ENGINEERS | PLANNERS | CONSULTANTS
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
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FAX: 808-946-2253
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7682-01
September 30, 2010

Mr. Collins D. Lam, P.E., Deputy Director
Department of Design and Construction
City and County of Honolulu
650 S. King Street, 11th Floor
Honolulu, HI 96813

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Lam:

Thank you for your September 20, 2010 letter regarding the Round Top Radio Facility Building Addition project. The Draft EA will note the Department of Design and Construction has no comments at this time.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK W. CALDWELL
ACTING MAYOR

WAYNE Y. YOSHIOKA
DIRECTOR

SHARON ANN THOM
DEPUTY DIRECTOR

KENNETH TORU HAMAYASU, P.E.
DEPUTY DIRECTOR

7682-10 JS
9/27/10
SEP 2? 2010
cc: DAGS) em

TP8/10-381873R

September 22, 2010

Mr. John L. Sakaguchi, AICP
Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS Job No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)

This responds to your letter of August 30, 2010, requesting our comments concerning this proposed project.

Our Traffic Engineering Division recommends that the area Neighborhood Board, as well as the area residents, businesses, etc. are kept apprised about the proposed project and its impacts on the adjoining local streets.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Wayne Yoshioka, Director
Department of Transportation Services
City and County of Honolulu
650 S. King Street, 3rd Floor
Honolulu, HI 96813

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Yoshioka:

Thank you for your September 22, 2010 comments (TP8/10-381873R) regarding the Round Top Radio Facility Building Addition project. Potential project-related traffic impacts will be discussed in Section 2 of the forthcoming Draft EA. The Draft EA will indicate the parties consulted during the pre-assessment consultation, including the Neighborhood Board, City Council members, and utilities. The Draft EA will also list parties to be consulted during the public comment period of the Draft EA, including the Neighborhood Board, City Council members, State legislators, utilities, and the media. The document will also list libraries and repositories where the Draft EA will be available for review by the public.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

PETER B. CARLISLE
MAYOR

WAYNE Y. YOSHIOKA
ACTING DIRECTOR

SHARON ANN THOM
DEPUTY DIRECTOR

KENNETH TORU HAMAYASU, P.E.
SECOND DEPUTY DIRECTOR

7682-01
10/26/10
cc: DAGS)em

TP10/10-381873R

October 20, 2010

RECEIVED
OCT 22 2010
WILSON OKAMOTO CORPORATION

Mr. John L. Sakaguchi, AICP
Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment (DEA), Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS Job No. 12-10-0603; Tax Map Key: (1)2-5-019:003 (por.)

This replies to your letter of September 30, 2010, which responded to our comments concerning this proposed project.

Our Traffic Engineering Division (TED) acknowledges that their previous comments would be fully addressed in the DEA.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

WAYNE Y. YOSHIOKA
Acting Director

DEPARTMENT OF EMERGENCY MANAGEMENT

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET 1BASEMENT • HONOLULU, HAWAII 96813
TELEPHONE: (808) 723-8960 • FAX: (808) 524-3439 • INTERNET: www.honolulu.gov

7682-10
9/20/10
cc: DAGS Sen

KIRK W. CALDWELL
ACTING MAYOR

MELVIN N. KAKU
DIRECTOR

September 10, 2010

John L. Sakaguchi, AICP, Senior Planner
Wilson Okamoto Corporation
Artesian Plaza, Suite 400
1907 South Beretania Street
Honolulu, HI 96826

Subject: Review of Draft Environmental Assessment, Pre-Assessment Consultation for Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)

This is to acknowledge receipt of your letter dated August 30, 2010 which requested comments that the Department of Emergency Management, City and County of Honolulu may have on the subject project.

We have reviewed your project summary and location map and have no comment to offer at this time. We look forward to reviewing your Draft Environmental Assessment for this project when available.

I understand that should we have any additional questions that you are the Project's designated Point of Contact. We look forward to working with you on this project.

Sincerely,

MELVIN N. KAKU

CC: DIT Gordon Bruce
DIT Alvin Sunahara

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Melvin N. Kaku, Director
City and County of Honolulu
Department of Emergency Management
650 S. King Street, Basement
Honolulu, HI 96813

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Kaku:

Thank you for your September 10, 2010 letter regarding the Round Top Radio Facility Building Addition project. The Draft EA will note the Department of Emergency Management has no comments at this time and will review the Draft EA upon publication.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

KIRK W. CALDWELL
ACTING MAYOR

JEOFFREY S. CUDIAMAT, P.E.
DIRECTOR AND CHIEF ENGINEER

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

7682-10
9/20/10 JS
cc: DAGS) ka

IN REPLY REFER TO:
DRM 10-697

September 16, 2010

RECEIVED
SEP 15 2010
WILSON OKAMOTO CORPORATION

Mr. John L. Sakaguchi, AICP
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment (DEA), Pre-Assessment Consultation Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu DAGS Job No. 12-10-0603 Tax Map Key: (1) 2-5-019:003 (por.)

Thank you for the opportunity to provide comments on the pre-assessment consultation for the DEA for the proposed building addition and other improvements to the Round Top Radio Facility.

We have no comments to offer as the proposed improvements will be within property under the jurisdiction of the State of Hawaii, Department of Land and Natural Resources and will have negligible impact on our facilities and operations.

Since the proposed improvements will not affect our facilities or operations, we request the Department of Facility Maintenance (DFM) be removed from the environmental assessment process for this project.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

Sincerely,

Jeoffrey S. Cudiamat, P.E.
Director and Chief Engineer

WILSON OKAMOTO CORPORATION

1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Jeoffrey S. Cudiamat, P.E., Director & Chief Engineer
Department of Facility Maintenance
City and County of Honolulu
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Cudiamat:

Thank you for your September 16, 2010 letter (DRM 10-697) regarding the Round Top Radio Facility Building Addition project. The Draft EA will note the Department of Facility Maintenance has no comments and the proposed project will not affect Department facilities or operations. As requested, we will remove the Department from the list of parties to be consulted during the remainder of the Environmental Assessment process.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK W. CALDWELL
ACTING MAYOR

KENNETH G. SILVA
FIRE CHIEF

ROLLAND J. HARVEST
DEPUTY FIRE CHIEF

7682-10
9/24/10
cc: DAGS

September 14, 2010

Mr. John Sakaguchi, AICP
Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

SEP 17 2010
WILSON OKAMOTO CORPORATION

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment
Preassessment Consultation
Information and Communications Services Division - Round Top
Radio Facility Building Addition and Other Improvements
DAGS Job No. 12-10-0603
Tax Map Key: 2-5-019: 003 (Portion)

In response to your letter of August 30, 2010, regarding the above-mentioned subject, the Honolulu Fire Department reviewed the material provided and has no objections to the proposed project.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS/SY:jl

WILSON OKAMOTO CORPORATION
1907 South Beretania Street
Artesian Plaza, Suite 400
Honolulu, Hawaii, 96826 USA
Phone: 808-946-2277
FAX: 808-946-2253
www.wilsonokamoto.com

7682-01
September 30, 2010

Mr. Kenneth G. Silva, Fire Chief
City and County of Honolulu
Fire Department, Honolulu
636 South Street
Honolulu, HI 96813

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Information and Communications Services Division – Round Top
Radio Facility Building Addition and Other Improvements,
Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603;
Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Chief Silva:

Thank you for your September 14, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that the Honolulu Fire Department has no objections to the proposed project.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

7682-10
9/20/10
cc: DAGS/Jan

LOUIS M. KEALOHA
CHIEF

DELBERT T. TATSUYAMA
RANDAL K. MACADANGDANG
DEPUTY CHIEFS

OUR REFERENCE DMK-DK

September 8, 2010

Mr. John L. Sakaguchi, AICP
Senior Planner
Wilson Okamoto Corporation
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
SEP 10 2010
WILSON OKAMOTO CORPORATION

Dear Mr. Sakaguchi:

This is in response to your letter of August 30, 2010, requesting comments on a Pre-Assessment Consultation, Draft Environmental Assessment, for the Information and Communications Services Division's Round Top Radio Facility Building Addition and Other Improvements project. This division is part of the State Department of Accounting and General Services.

This project may have a negative impact on calls for police services in the area because of dust and noise complaints during its construction. However, once completed, there should be no impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Major Marie McCauley of District 4 at 529-3386.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
DAVE M. KAJIHIRO
Assistant Chief of Police
Support Services Bureau

Serving and Protecting With Aloha

WILSON OKAMOTO CORPORATION
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7682-01
September 30, 2010

Mr. Louis M. Kealoha, Police Chief
City and County of Honolulu
Police Department, Honolulu
801 S. Beretania Street
Honolulu, HI 96813

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Chief Kealoha:

Thank you for your September 14, 2010 comments (Reference: DMK-DK) regarding the Round Top Radio Facility Building Addition project. The Draft EA will note the Police Department anticipates that the project may have temporary, construction-related impacts on calls for police services in the area related to construction noise and dust complaints. The Draft EA will note that impacts from construction noise at the project site will be mitigated by compliance with the provisions of Hawaii Administrative Rules (HAR) Chapter 11-46 on Community Noise Control. The Draft EA will also note that impacts from construction dust will be mitigated by compliance with the provisions of HAR Chapter 11-60.1-33 on Fugitive Dust. The measures to control noise and dust will be included in the contract specifications for the construction contract.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

200 Akamainui Street
Mililani, Hawaii 96789-3999
Tel 808-625-2100
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7682-40
9/21/10
cc: DAGS/em

OCEANIC TIME WARNER CABLE

September 17, 2010

Wilson Okamoto Corp.
1907 South Beretania St. Suite 400
Honolulu, Hawaii 96826

Attention: John Sakaguchi

Project: Round Top Radio Facility Building

Subject: CATV Requirements

SEP 20 2010

Dear Mr. Sakaguchi,

Thank you for the set of drawings for your project. At present Oceanic Time Warner Cable has two fibers on the pole line to the city and state buildings. AS discus in our phone conversation Both existing fiber cables will have to remain in tack while the new building is being built. Great care must be taken to insure the integrity of both fiber cables while construction of the new building is in progress.

Once the new underground facilities are completed into the building Oceanic Time Warner Cable will be able to place a new fiber cable underground to the new building and make the necessary switch from old to new fiber. Since the city side is not going to go underground the one existing aerial fiber cable will remain in place (aerial). It is difficult to determine if the existing fiber cable to the city will come in contact with the roof of the new building. Our cables are usually 20 feet high at the pole but with the sag it will be lower than 20 ft.

I will need to be informed of any changes to this project and the scheduled date of the start of Construction as well as the proposed completion date. Any damages to the existing fibers will be billed to the contractor. Is there going to be a pre construction meeting? If you have any questions, contact me at #625-8576

Sincerely,

Lionel Aguiar
OSP Engineer

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7682-01
September 30, 2010

Mr. Lionel Aguiar, OSP Engineer
Oceanic Time Warner Cable
200 Akamainui Street
Mililani, HI 96789

Subject: Draft Environmental Assessment, Pre-Assessment Consultation; Information and Communications Services Division – Round Top Radio Facility Building Addition and Other Improvements, Honolulu District, Island of Oahu; DAGS JOB No. 12-10-0603; Tax Map Key: (1) 2-5-019:003 (por.)
Response to Comments

Dear Mr. Aguiar:

Thank you for your September 17, 2010 comments regarding the Round Top Radio Facility Building Addition project. The Draft EA will note that Oceanic Time Warner Cable has existing CATV facilities at the project site which need to remain intact and in service, including to the adjacent City facilities, during project construction.

The design specifications and construction contract documents will require the contractor to coordinate construction activities with Oceanic Time Warner Cable for any work related to the fiber cables at the site.

We appreciate your participation in the Draft EA pre-assessment consultation process. If you have any questions, please call me at (808) 946-2277.

Sincerely,

John L. Sakaguchi, AICP, Senior Planner

cc: D. Jandoc, DAGS
R. Hlivak, DAGS
C. Kubo, DAGS

APPENDIX B

Archaeological Literature Review and Field Inspection Report

Archaeological Literature Review and Field Inspection Report for the Round Top Radio Facility Building Addition and Other Improvements (DAGS JOB No. 12-10-0603), Makiki Ahupua'a, Honolulu (Kona) District, O'ahu Island TMK: [1] 2-5-019:003 por.

Prepared for
Wilson Okamoto Corporation

Prepared by
Hallett H. Hammatt, Ph.D.

Cultural Surveys Hawai'i, Inc.
Kailua, Hawai'i
(Job Code: MAKIKI 3)

October 2010

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Management Summary

Reference	Archaeological Literature Review and Field Inspection Report for the Round Top Radio Facility Building Addition and Other Improvements (DAGS JOB No. 12-10-0603), Makiki Ahupua'a, Honolulu (Kona) District, O'ahu Island TMK: [1] 2-5-019:003 por.
Date	October 2010
Project Number (s)	State of Hawai'i Department of Accounting and General Services (DAGS) JOB No. 12-10-0603; Cultural Surveys Hawai'i, Inc. (CSH) Job Code: MAKIKI 3
Investigation Permit Number	The fieldwork component of the archaeological literature review and field inspection study was carried out under archaeological permit number 10-10, issued by the Hawai'i State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR), per Hawai'i Administrative Rules (HAR) Chapter 13-282.
Project Location	The project area is located at the DAGS Information and Communication Services Division (ICSD) Round Top Radio Facility, off Round Top Drive at Pu'u 'Ualaka'a State Wayside in Makiki, Honolulu, O'ahu. The ICSD Round Top Radio Facility is situated on a portion of Tax Map Key (TMK) 2-5-019:003.
Land Jurisdiction	State of Hawaii Department of Land and Natural Resources
Agencies	SHPD/DLNR
Project Description	The Round Top Radio Facility Improvements Project will involve the construction of a new building adjacent to the existing ICSD Round Top Radio Facility. The building addition, related improvements, and fenced area will include approximately 1,342 square feet immediately adjacent to the eastern perimeter of the existing ICSD building. DAGS is proposing to construct: 1) an approximately 490-square foot by 12-foot high building to support radio equipment and an emergency generator; and 2) other related improvements, including a retaining wall with security fencing, a block wall with simulated masonry veneer, an above ground diesel fuel tank, and drainage improvements. Electrical power will be supplied via connection to the commercial power line that services the existing ICSD facility.
Project Acreage	0.065 acres

Document Purpose	CSH completed this archaeological literature review and field inspection to support an environmental assessment for the proposed Round Top Radio Facility Building Addition and Other Improvements. The purpose of the archaeological study was to determine if there are any major archaeological concerns within the study area and to develop data on the general nature, density and distribution of archaeological resources. This document is intended to facilitate the project's planning and to support the project's historic preservation review compliance.
Fieldwork Effort	The fieldwork component of the archaeological literature review and field inspection was conducted on October 12th, 2010 by two CSH archaeologists, Jon Tulchin, B.A., and David Shideler, M.A., under the general supervision of Hallett H. Hammatt, Ph.D. (principal investigator). Fieldwork consisted of a 100% pedestrian inspection of the project area.
Results Summary	A 100 percent pedestrian inspection of the project area's surface confirmed that there were no surface historic properties present. The pedestrian inspection also noted that the project area had been subjected to surface disturbances, as evidenced by surface grading and leveling associated with prior development of the immediate area for 'Ualaka'a State Wayside and the existing ICSD Round Top Radio facility.
Recommendations	Based on the results of the literature review and field inspection, Cultural Surveys Hawai'i recommends no further archaeological work for the proposed project.

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Section 1 Introduction

1.1 Project Background

1.1.1 Introduction

The State of Hawai'i Department of Accounting and General Services (DAGS) through its Information and Communication Services Division (ICSD) carries out the responsibilities for statewide telecommunications for the Executive Branch of the Hawai'i State Government. ICSD owns and operates microwave radios, antenna systems, towers, buildings and related facilities and infrastructure throughout the islands. The proposed building addition and related improvements at the ICSD Round Top Radio Facility will support the modernization and continued operation of the ICSD-owned portion of the Hawaiian Digital Microwave Radio System. Grants that pass through the existing facility also support the shared State and Federal statewide microwave communication system. Other agencies supported by ICSD's Round Top Radio Facility include the State Civil Defense, the State Department of Health, the State Department of Public Safety, and the University of Hawai'i Interactive Television Services (UHITS). The building addition will provide a site adjacent to the existing ICSD tower and support building. There will be no changes to the existing tower or antennas.

1.1.2 Project Location and Description

The project site is located at the ICSD Round Top Radio Facility, off Round Top Drive at Pu'u 'Ualaka'a State Wayside in Makiki, Honolulu, O'ahu (Figure 1 to Figure 3). The ICSD Round Top Radio Facility is situated on a portion of Tax Map Key (TMK) 2-5-019:003. The existing site and building addition area is approximately 0.065 acres. Sine the land is owned by the State of Hawai'i Department of Land and Natural Resources, ICSD will request an Executive Order be issued to cover the land area of the improvements and the existing facilities. The building addition, related improvements, and fenced area will include approximately 2067.5 square feet immediately adjacent to the eastern perimeter of the existing ICSD building. The project site is currently undeveloped and is surrounded by the Round Top Forrest Reserve to the north, the State parking lot to the east, the comfort station and access walkway to the south, and the existing ICSD tower facility to the west (Figure 4). Access to the project site is via the driveway and parking lot for Pu'u 'Ualaka'a State Wayside, off Round Top Drive and Nutridge Street.

The project site is designated Preservation on the City and County of Honolulu (City) Primary Urban Center Development Plan Land Use Map. The City's zoning designation is Preservation (P-1). The State Land Use Commission designates the project site in the Conservation district. The project site is not located within the City's Special Management Area.

The building addition and related improvements will be integrated with the existing facility and natural topography. DAGS is proposing to construct: 1) an approximately 484-square foot by 12-foot high building to include a power room and emergency generator room; and 2) other related improvements, including a retaining wall with security fencing, a block wall with simulated masonry veneer, an above ground diesel fuel tank, and drainage improvements.

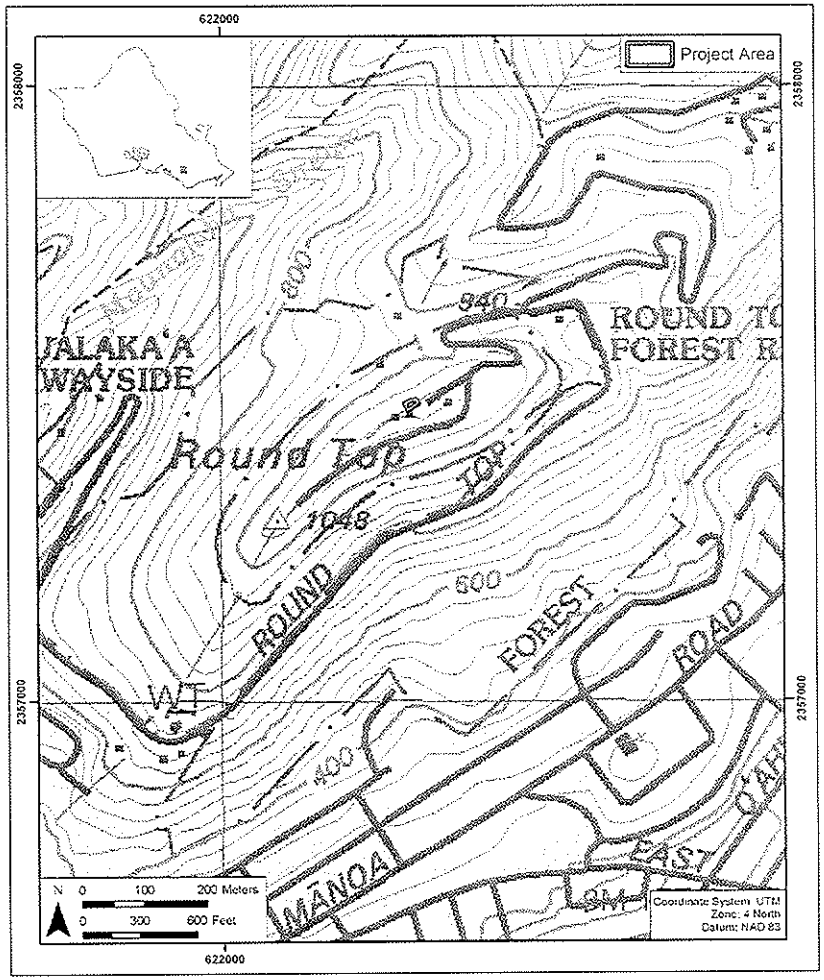

Figure 1. U.S. Geological Survey 7.5-Minute Series Topographic Map, Honolulu Quadrangle (1998), showing the location of the project area

Figure 3. Aerial photograph (U.S. Geological Survey orthoimagery 2005) showing the project area

Figure 2. Tax Map Key (TMK) plat 2-5-019 map showing project area

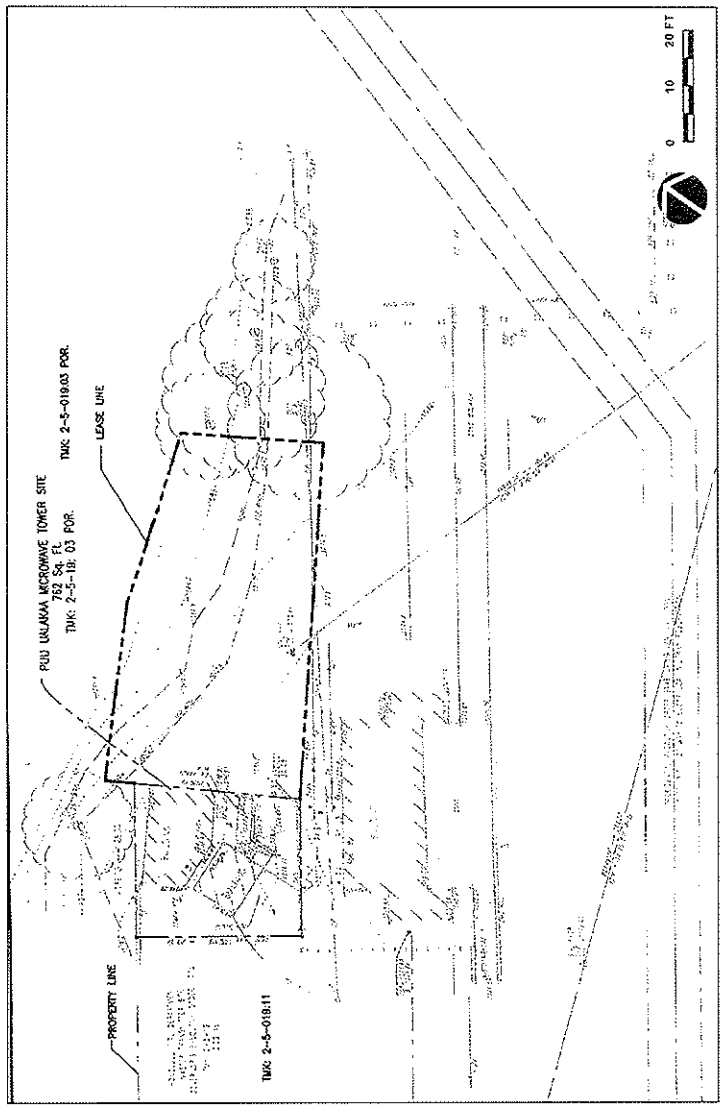

Figure 4 Topographic map of project area

Electrical power will be supplied via connection to the commercial power line that services the existing ICSD facility (Figure 5).

1.1.3 Anticipated Impacts

Since the project consists of an addition to an existing facility, construction activities will include construction of the building addition, retaining wall and security fencing, block wall with simulated masonry veneer, and the concrete pad for the above-ground fuel tank.

1.2 Scope of Work

1. Historical research to include study of archival sources, historic maps, Land Commission Awards and previous archaeological reports to construct a history of land use and to determine if archaeological sites have been recorded on or near this property.
2. Limited field inspection of the project area to identify any surface archaeological features and to investigate and assess the potential for impact to such sites. This assessment was to identify any sensitive areas that might require further investigation or mitigation before the project proceeds.
3. Preparation of a report to include the results of the historical research and the limited fieldwork with an assessment of archaeological potential based on that research, with recommendations for further archaeological work, if appropriate. The report was also to provide mitigation recommendations should there be archaeologically sensitive areas that need to be taken into consideration.

1.3 Environmental Setting

1.3.1 Natural Setting

The project area is located approximately 3.8 km (2.4 mi.) *mauka* (inland) of the southern coast of O'ahu. Maunalaha Stream is located approximately 400 m to the northwest. Elevation within the project area is approximately 1060 ft above mean sea level (AMSL).

The project area is situated atop Pu'u 'Ualaka'a (Round Top), a cinder cone crater relating to the formation of the Ko'olau Range and are characterized by tholeiitic and olivine basalts. Soils in the survey area are reported as Cinder Land (rCI) (Foote et al. 1972) (Figure 6). Foote et al. (1978) provides the following description for Cinder Land (rCI):

> Cinder land (rCI) consists of areas of bedded magmatic ejecta associated with cinder cones. It is a mixture of cinders, pumice, and ash. These materials are black, red, yellow, brown, or variegated in color. They have jagged edges and a glassy appearance and show little or no evidence of soil development.
>
> Although Cinder land commonly supports some vegetation, it has no value for grazing, because of its loose nature and poor trafficability. It is used for wildlife habitat and recreational areas. (Foote et al. 1972: 29)

The project area receives approximately 2000 mm (78 in.) of annual rainfall (Giambelluca et al. 1986). Vegetation within the project area consists of Ironwood trees and a manicured lawn.

Figure 6. Overlay of Soil Survey of the State of Hawai'i (Foote et al. 1972), indicating sediment types within the project area (indicated in red)

Figure 5. Site/ Utility Layout Plan for project area

1.3.2 Built Environment

The project area has been leveled and graded, and consists of an area containing a manicured lawn and a few Ironwood trees. The existing ICSD tower facility and a restroom facility border the southwestern portion of the project area. A large asphalt parking lot is located immediately to the east.

Section 2 Methods

2.1 Field Methods

The fieldwork component of the archaeological literature review and field inspection was conducted on October 12th, 2010 by two CSH archaeologists, Jon Tulchin, B.A., and David Shideler, M.A., under the general supervision of Hallett Hammatt, Ph.D. (principal investigator). The fieldwork was carried out under archaeological permit number 10-10, issued by the Hawai'i State Historic Preservation Division/Department of Land and Natural Resources (SHPD/DLNR), per Hawai'i Administrative Rules (HAR) Chapter 13-282.

A complete ground survey of the project area was undertaken for the purpose of historic property identification and documentation. The ground survey of the project area was accomplished through systematic sweeps. The interval between the archaeologists was generally between 1 to 2 m. Surface visibility was excellent as the entire project area was clear of vegetation, with the exception of a manicured lawn and ornamental trees.

If historic properties were encountered, they would have been recorded with Garmin GPS survey technology (accuracy 3-5 m), and given brief written descriptions and representative photographs.

2.2 Document Review

Historic and archival research included information obtained from the UH Hamilton Library, the SHPD Library, the Hawai'i State Archives, the State Land Survey Division, and the Archives of the Bishop Museum. Previous archaeological reports for the area were reviewed, as were historic maps and primary and secondary historical sources. Information on Land Commission Awards was accessed through Waihona Aina Corporation's Mahele Data Base (www.waihona.com).

Section 3 Background Research

3.1 Makiki Place Names and Legendary Sites

3.1.1 Makiki Valley

Makiki Valley is bounded by Pauoa Valley to the west, following the borders of the *'ili* called Kalāwahine, Kewalo, and Kaiwiokaihu. Mānoa Valley is to the east; the two *ahupua'a* are separated by a ridge which extends from the base of **Pu'u 'Ōhi'a (Tantalus)** to the top of **Pu'u Kākea (Sugarloaf)** and then to the top of **Pu'u 'Ualaka'a (Round Top)** (Figure 7).

Makiki Stream is fed by four tributary streams, **Kanahā** (*lit.* shattered), **Kānealole, Moleka**, and **Maunalaha** (*lit.* flat mountain), from west to east (Pukui et al. 1974:142, 149). The name of the valley, *makiki,* is named for a type of stone used as weights for octopus lures (Malo 1976:19) and for adzes (Pukui and Elbert 1986:229).

3.1.2 Legendary *Pōhaku* of Makiki

In the legends of Makiki, a place, and sometimes a *pōhaku* (stone), called Anianikū, is often mentioned. According to *Place Names of Hawai'i,* the name Anianikū literally means "stand beckoning," from the legend of a Papa-kolea girl who stood at this place beckoning to a girl in Mānoa who was chanting (Pukui et al. 1974:12). In the Makiki land records there is a small land unit in Makiki Valley called Keaniani or Kaniani, which may be related to the legend of Anianikū (Fitzpatrick 1989:16). Anianikū also seems to have been used as a marker for the post-contact boundary of Makiki Ahupua'a. This marker acted as the dividing point between Makiki and Pauoa, and also as the dividing line between the larger land units of Honolulu and Waikīkī.

Pukui recounts the legend of Anianikū thus:

> A girl lived near there and would go up onto this place from where you can look into Manoa. In Manoa lived a girl who chanted beautifully. This girl was entranced by it and would go up there and wave. The girl in Manoa said, "If that is a girl waving she will be my friend; if it is a man, he shall be my husband." She found out it was a girl. The place where she used to stand is called Aniani-ku, meaning "Beckoning" [Mrs. M.K. Pukui, 3/16/54, cited in Sterling and Summers 1978:290].

The name Anianikū is associated with a famous *pōhaku.* In one legend, the stone is called Pohaku-o-Papakolea.

> *Huli aku au nana ia Pauoa e kilohi i ka nani o ka aina ike aku la au i ka waiho kahelahela mai a ka Pohaku o Papakolea ma ke kae maluna o ka owawa o Pauoa me ka aina Leialii ma ka aoao mauka aku o Puowaina a oia pohaku ka'u i makemake ai no ka mea he moolelo maikai a kaulana ko keia Pōhaku o Papakolea* [Makanikeoe 1908].
>
> Translation:
>
> Turn to look at Pauoa. Gaze on the beauty of the land and you will see laying in full view Pohaku-o-Papakolea on the edge of Pauoa and the crown land back of

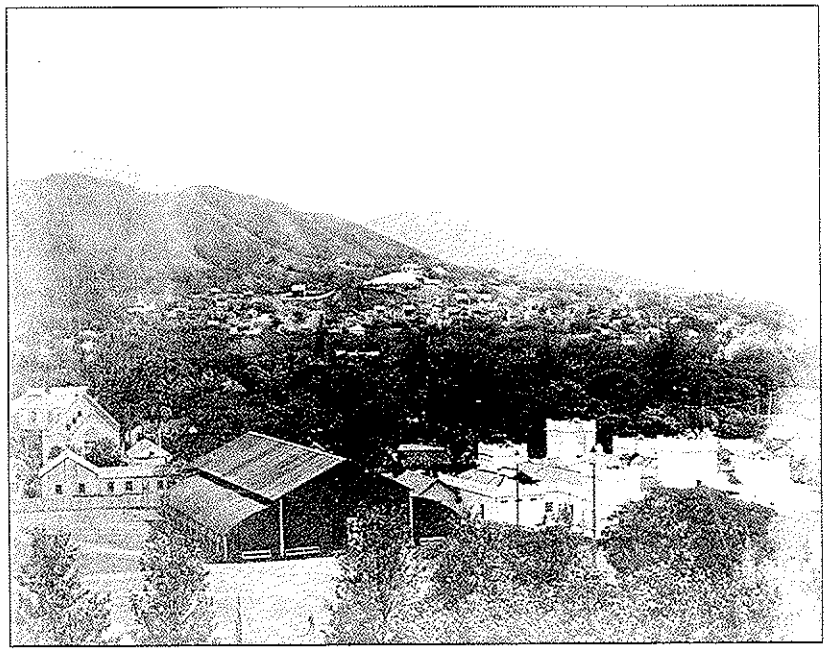

Figure 7. 1899 photograph of Makiki Valley taken from the top of 'Iolani Palace, showing, from left to right, Pūowaina (Punchbowl), Pu'u 'Ualaka'a (Round Top), and Pu'u 'Ōhi'a (Tantalus) (original photograph at the Library of Congress; reprinted in Scott 1968:569)

Punchbowl. That is the stone that I like for it has a fine and famous legend [translation from Sterling and Summers 1978:290].

Another legend ties the Anianikū *pōhaku* to the tales of the Hawaiian pig-god, Kamapua'a.

Above Makiki is Mauna-laha. There is a stone there called Aniani-ku (Stand-beckoning) where Kamapua'a was tied [Pukui, M.K. 9/15/53, cited in Sterling and Summers 1978:290]. Anianikū was located by Mary Kawena Pukui as the place now called Papakōlea. Papakōlea or *kapapakōlea*, meaning "the plover flats" (Pukui et al. 1974:180) is associated with a saying concerning the planting of sweet potatoes.

> *Ua ka ua i Papakōlea, ihea 'oe* When it rained in Papakōlea, where were you?
>
> The reply of a sweet-potato grower on Papakōlea to one who asks for some of his crop. If one answered that he had been there when the rain fell to soak the earth for planting, and had not planted, then he was lazy and would be given no potatoes [Pukui 1983:308].

Anianikū is also the name of one of the ancestors of the Hawaiian race.

> According to the legend of Hawaii-loa, the first man was Kumu-honua (k) and the first woman was Lalo-honua. . . . the so-called genealogy from the first man Kumu-honua (k) down, proceeded with 12 generations as the measure of time between each name. . . . At this time Aniani-ku (k) was born in a chieftain family and became the ruler of the people. Whether the whole or only part of the Polynesian race was under his rule is not clear. . . . The race under Aniani-ku (k) was known as Lahuia-kua, while those who worshipped images were called Lahui-laa-luau. Aniani-ku (k) and Ke-kai-lani (k) and Ka-mee-nui-hikina (w) had Hawaii-loa (k) also known as Ke-kowa-i-Hawaii. Aniani-ka-lani (k) . . . "is quoted by both Tahitian and Hawaiian legends as the progenitor *kupuna* of their nations" [Cartwright 1929:106-107].

3.1.3 Legends Concerning Cinder Cones

The eastern boundary of Makiki Ahupua'a is defined by a line of three cinder cones: Pu'u 'Ōhi'a (Tantalus); Pu'u Kākea (Sugarloaf); and, Pu'u 'Ualaka'a (Round Top).

3.1.3.1 Pu'u 'Ōhi'a (Tantalus)

The literal meaning of Pu'u 'Ōhi'a (Figure 8) is "the *'ōhi'a* tree hill" (Pukui et al. 1974:203). On the top of Pu'u 'Ōhi'a was a *heiau* called Pepeiaoohikiau or Pepeiao o Hikiea, one of the *heiau* associated with human sacrifices at Pūowaina (Boundary Commissioners' Record Book, Makiki Boundary Certificate, p. 60-62, cited in Fitzpatrick 1989:22, 46).

3.1.3.2 Pu'u Kākea (Sugarloaf)

Pu'u Kākea is named for a storm wind associated with Mānoa (Pukui et al. 1974:197). It is also associated with the saying "*He Kākea ka makani kulakula'i kauhale o Mānoa,*" which means "the Kākea wind that pushes over the houses of Mānoa," said of one who is excessively aggressive (Pukui and Elbert 1986:119).

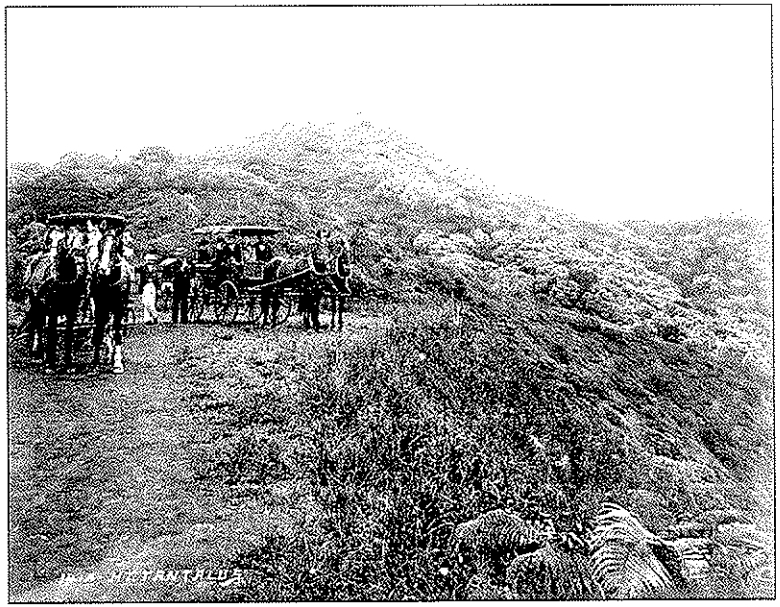

Figure 8. 1889 photograph of carriage road summit on Pu'u 'Ō'hia (Mount Tantalus) made by member of excursion party and cameraman Joaquin Augusto Gonsalves (Original photograph in Hawai'i State Archives; reprinted in Scott 1968:580)

3.1.3.3 Pu'u 'Ualaka'a (Round Top)

The literal meaning of Pu'u 'Ualaka'a (Figure 9) is "rolling sweet potato hill," and it is named for the story of a rat that bit a sweet potato, causing it to roll downhill and sprout. The name may also have originated when Kamehameha I planted many sweet potatoes in this area (Fornander 1919, Vol. V:692), which on being dug, rolled downhill (Pukui et al. 1974:214).

> *Ma hope iho o ka pau ana o ka mai ahulau, (Okuu) o ka mahi ai ka hana nui loa. Mahi ai o ia ma Waikiki, Honolulu, Kapalama a me na wahi ae o Kona, a nui ka ai, a laila, haawi i ka ai i na alii a me na kanaka. Hele no o Kamehameha i ka lawaia, a nui ka ia, haawi no i na alii a me na kanaka, no laila, ua maopopo loa kona malama i na alii a me na kanaka.*
>
> *I ka wa o Kamehameha e noho ana ma Oahu, he nui loa na moku haole i ku mai ma ke awa o Honolulu; o na moku kalepa, na moku imi 'āina a me na moku manua. O ka pu ka mea i makemake nui ia e na alii a me na kanaka, no laila, ua kuai nui aku na alii i ka pu a me ka pauda. O na hale waiho pu o Kamehameha, aole o kana mai a ka nui launa ole.*
>
> *Ua lako loa o Kamehameha i na mea kaua haole, a pela no hoi i na alii a pau. Aohe makemake nui ia o ke dala a me ka lole. A ike o Kamehameha, o ka uala ka ai i makemake nui ia e ka haole, a o ka uhi kahi, no laila, mahi ihola o Kamehameha i ka uala a nui, o ia hoi o Ualakaaa ma Manoa a ma Makiki. A mahi ihola i ka uhi ma Kaakopua, a ma Honolulu, o ia hoi o Kapauhi, a kuai akula me na haole* [Kamakau, *Ka Nūpepa Kū'oka'a*, July 27, 1867].
>
> Translation:
>
> After the pestilence had subsided the chiefs again took up farming, and Kamehameha cultivated land at Waikiki, Honolulu, and Kapālama, and fed the people. He fished, made huge hauls, and gave food to the chiefs and people. Thus he cared for both chiefs and commoners. In those days ships were coming into the harbor at Honolulu--merchant vessels, war ships and ships out to discover new lands. Of these the chiefs and people bought arms and gunpowder. Kamehameha had several storehouses well stocked with foreign arms, but nobody wanted money or clothing. On the part of the foreigners potatoes and yams were in great demand. The chief accordingly went into the cultivation of these foods, and grew potatoes on the hill of 'Ualaka'a between Manoa and Makiki, and yams at Ka'akopua, and sold them to the foreigners [Kamakau 1992:190].

There are several alternate legends of the origin of the place name Pu'u 'Ualaka'a. In "A Story of Ualakaa" (Fornander 1919), there were two potato fields planted on the slope of 'Ualaka'a in Mānoa.

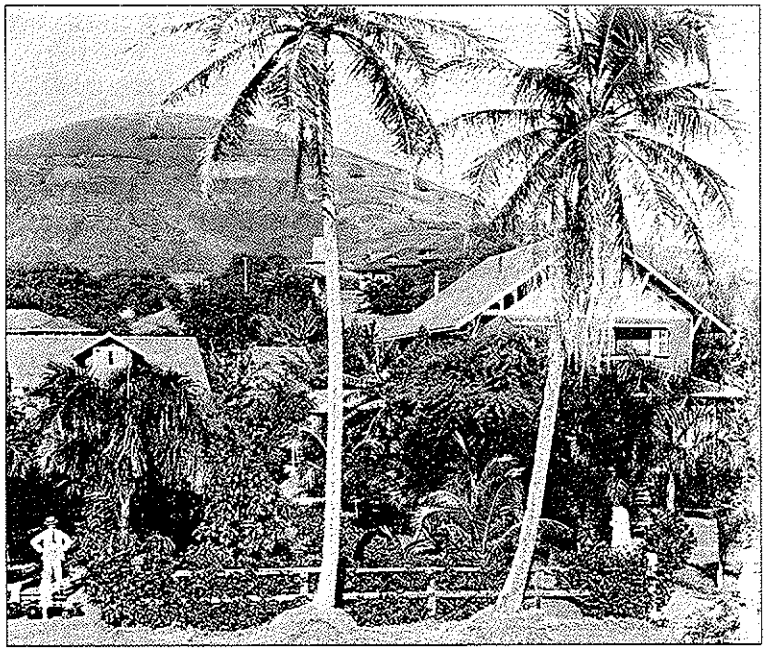

Figure 9. 1920s photograph of Pu'u 'Ualaka'a (Round Top), showing farmlands growing sweet potatoes, melons, bananas, and breadfruit on the slopes (photograph reprinted in Scott 1968:584)

Ua kanu ia keia uala ma Manoa, Oahu, aia ma ka pali komohana akau e pili la ia Manoa. He elua nae mala uala, na Kupihe kekahi, a na Kapanaia kekahi. O ka Kupihe mala uala, ua kanu ia maluna o ka pali, o ka Kapanaia hoi, ua kanu ia maluna o kahi honua palahalaha, i ko laua wa i mahiai ai, hookahi no uala i loaa i ka Kapanaia mala, ua hoomaka oia e puepue a hoomaka nohoi ua uala nei e nui a ahuwale aku mawahoo ka pue i kanu ia ai, o ka mala hoi a kela kanaka, aohe uala iki iloko o kana mala.

Translation:

This potato was planted at Manoa, Oahu, on the northwestern slope of Manoa. There were two potato fields, one for Kupihe and the other for Kapanaia. Kupihe planted his potato on the side hill while Kapanaia planted his on the flat. When they were cultivating only one potato was found in Kapanaia's field, so he hilled it up. But the potato grew large and became exposed from the hill in which it was planted; the field of the other man, however did not contain any potato.

One day Kapanaia went to check on his potato, but it was gone. He went up to Kupihe's field and noticed a potato causing a lump in his field. He asked "Whose potato is this?" The other answered: "It is mine, for it is growing in my potato-hill." The two quarreled, and then returned to their home. That night the potato rolled down hill and made a deep hole where it struck; it then bounced and reattached itself to its parent vine [Fornander 1919:Vol. V:532-533].

Fornander (1919, Vol. V:532-533) also records two other versions of this story:

Ua olelo ia ma keia moolelo a'u i lohe ai, ua oki maoli ia no ke anakiu o ua uala nei e ka iole, a hoomaka mai ua uala nei e kaa a paa i ka mala a Kapanaia, a malaila kahi i waiho ai a ulu haupuupu, oai ka mea e ulu haupuupu nei ka uala a kakou e ike nei. Oia ka mea i kapa ia ai kela puu mauka o Makiki o Ualakaa, no ka kaa ana o ua uala la. A kekahi inoa a'u i lohe ai o Iolekaa. O kekahi hoi, na Kaauhelemoa i kiko ke anakiu o ua uala la, a haule i ka mala a Kapanaia, no ke alualu ia ana mai e Pupuulima.

Translation:

That is one version of the story. But in the story which I heard, it is stated that the stem of this potato was bitten by a rat and the potato rolled down until it landed in Kapanaia's field, and it was left there until new sprouts commenced to grow from it. That is why new sprouts come from potatoes as we see them now. That was why this potato at Makiki was called Ualakaa, because it rolled [down hill]. Another name which I heard [applied to it] was Iolekaa (rolling rat). Another has it that Kaauhelemoa pecked at the stem of this potato and it rolled to Kapanaia's field, because Pupuulima chased after it.

A fourth explanation for the name of this hill was given by George P. Mossman (1934) in an article in the *Honolulu Star-Bulletin*.

In the district of Ualakaa were grown some of the finest sweet potatoes in the islands. One day a famous bow and arrow expert, resting on Punchbowl, a mile or so away from the potato field, looked over that way and spied a mouse eating one of the potatoes. He shot his arrow, and the mouse fell dead. But the potato which it had been eating rolled down the hill. In commemoration of the feat, the Hawaiians gave the name of "rolling potato" to the district.

These legends led to the origin of the saying *Aia i luna o 'Ualaka'a*, meaning "He is up on 'Ualaka'a," said of one who, like a rolling potato, has nothing to hold fast to (Pukui 1983:8).

A *hōlua* slide may also have once been located on 'Ualaka'a. According to an 1869 Makiki Boundary Certificate, the Makiki/Mānoa boundary began at King Street, went past Punahou School, then past John Ī'ī's land called Anapuni, which was the beginning of the *hōlua* slide on the slopes of 'Ualaka'a. Fitzgerald (1989:45) believes that this slide must have been on the side of the hill above Punahou School.

3.2 Makiki Background History

3.2.1 Early Visitor's Description of Makiki Valley

The earliest description of Makiki was made by a visitor to the islands in the early nineteenth century. In 1831, the Prussian explorer vessel, *Prinzess Louis*, anchored in the harbor of Honolulu. On board was Dr. Franz Julius Ferdinand Meyen, a 27 year old botanist, who during the next six days toured the southern coast of O'ahu from Diamond Head to Pearl Harbor, collecting plant and animal species and making notes on the scenes of Hawaiian life that he observed.

After making a successful trek up Nu'uanu Valley, Meyer next planned an expedition to Pu'u Kākea (Sugarloaf). Meyen observed:

> The excursion which we had planned for today, July 27th, took us by the foot of the extinct volcano which lies on the eastern end of the city and is called Puwaina [Pūowaina]. This old cone rises to a height of 400 feet and is completely round. . . . Since the mountain has at present been converted into a fortification, not everyone has access to it but it is not supposed to be difficult to obtain permission. . . . The fortifications consist almost solely of ten or twelve cannons of high but unequal caliber which range over the harbor but cannot be aimed. Every time the current ruler leaves the island of Oahu and again when he returns, he is saluted with these cannons [Pultz 1981:39].

Meyen observed the barren and arid nature of the area along the plain and lower slopes of Punchbowl:

> The flat valley of Honolulu through which we hiked on the excursion as well as the entire slope of Puowaina and the ridge which we had just climbed were completely barren up to an elevation of 600 to 700 feet-covered only by low herbage scorched by the sun. . . .

> On our way we also saw a little piece of land which was covered with dry taro. It was a damp place. Nearby we came across a spring. They had formed the earth around the root of each plant into a little hollow so that moisture could collect there.
>
> . . . The top of Mount Kakea, [now known as Sugarloaf], which we reached right after noon time, is bare of all arboraceous vegetation. Bushes six to seven feet in height and connected by an extremely dense grown of *Dracaena* and *Convolvulus* cover the whole area. The last stretch of the way to the summit was so densely covered with plants that we first had to cut a path through them [Pultz 1981:39-43].
>
> After resting and breaking for lunch, the excursion party decided to return to Honolulu by a different route, traveling on the west side of the ridge that they had followed to Pu'u Kākea. The slopes of this ridge were thickly forested, as described by Meyen:
>
> Nowhere again, neither on Oahu nor in Brazil nor in Manila, did we see such a charming picture of nature. We saw here the greatest profusion of the gayest tropical vegetation complemented by the picturesque forms of the mountains. Numerous *Musaceae*, some casually planted, other wild, covered the slope of the mountain. Among them were the fragrant and aromatic *Scitamineae* which were already mentioned above, and also the short, shrub-like ferns intertwined and covered with vines which had blossoms of the most wonderful colors. Beneath that were the various greens of the *Cyperaceae*, which cover the lowest parts of the transversal valley, as well as the loveliest arrangement of the individual clusters of shrub-like and arboraceous vegetation on the slope of the mountain ridge and on the top of the mountain close by. All this taken together made such a glorious and friendly impression that we were often not capable of going on. Had it only been possible to have a view of this region - even if only a small portion of it – copied by a talented artist! [Pultz 1981:44].

Meyen also observed the natives gathering the stone called *makiki*, used to make the stone portion of an octopus lure. The name of the *ahupua'a* comes from this special type of stone.

> As soon as the valley became wider the beautiful vegetation disappeared. The slopes of the mountains were covered only with low grasses, the huts of the Indians became more numerous and here and there large boulders appeared again. The end of a low ridge which runs through the center of this transversal valley had been artificially cleared of vegetation and of the cover of humus. The rock which came to light here is a very attractively colored basalt conglomerate. The Indians were just then busy chipping flat pieces from this rock which they wanted to use to hunt octopus. The rock on the sides of the valley, however, is the usually porous basalt which is found all around Honolulu. Here and there one can find caves in this rock, some of which are inhabited [Pultz 1981:46].

Meyen also noted that many formerly forested areas were being turned into pastures, either intentionally cleared by man or eaten away by the roaming cattle. Meyen reported:

> In the course of our excursion we saw the mountains everywhere covered with grazing horses and horned cattle. . . . The island of Oahu has more than 2000 head of horned cattle of which 1000 head belong to the Spaniard Don Francisco Marin. . . . There is also a great number of horses on these islands and already every reasonably well-to-do person, man or woman, keeps a riding horse. Yet, as welcome as the increase in this most useful domestic animal is, the joy in it will soon disappear when it is realized that this increase, as well as the expanded cultivation of meadows, is in exact proportion to the decrease in true agriculture.
>
> Everywhere one hears the complaint that in former times a far greater quantity of field-produce was cultivated than now. . . . Many and very extensive fields through which we have just wandered and which are presently being used as pasture land were formerly covered with sweet potatoes. Today one can still see the remaining traces of their cultivation. They say that in the days of Kamehameha a great part of the Honolulu Valley was used for the cultivation of field-produce. Now there are meadows there and the valley is far less productive that in former times [Pultz 1981:46-47].

3.2.2 Agriculture in Makiki Valley

In 1940, E. Craighill Handy noted that taro cultivation was practiced in the swampy lands of Makiki south of King Street (now within the modern boundary of Makiki Ahupua'a), but the inland areas were known for the growing of sweet potatoes.

> **Makiki**. Between Kalakaua Avenue and Kakaako there were extensive terrace areas in the swampy land. A few terraces are now planted in rice, and others are filled in and used as house sites, right of way for streets, etc.
>
> Punchbowl Crater (Puowaina), on both the inner and outer slopes, was also famous in ancient times as a sweet potato locality. The planting was especially good on the inland side near the present Hawaiian homestead of Papakolea [Handy 1940:156].
>
> The cinder slopes of what are now called Round Top and Makiki Heights did not support taro, but have always been famous for sweet potatoes [Handy 1940:78].
>
> The region around Makiki and Round Top, between Makiki and Manoa Valley, is perhaps the most favorable locality on Oahu for sweet potato cultivation; here Hawaiians still have many small plantations, mostly for domestic use, though occasionally they market their products. The volcanic cinder mixed with humus in this locality seems to be ideal for sweet potato cultivation and normally the amount of rainfall is about right [Handy 1940:156].
>
> Kamehameha revived the use of this locality for sweet-potato cultivation. The place is ideal, because all the year round there is enough rain for *'uala*, and even in rainy winter months the drainage on the cinder slopes is complete. Sweet potatoes flourish in volcanic cinders, with a little infiltration of humus, and in crumbling lava. Kamehameha is said to have had the whole hillside planted . . . [Handy and Handy 1972:478].

3.2.3 Mid-1800s and the Māhele

Land Commission Award documentation for Makiki Valley (north of King Street) indicates a concentration of awards in the lower valley areas primarily along Kānealole and Moleka Streams (Figure 10; Table 1). In terms of land use, the two dominant dry and wet agriculture crops in Makiki seem to have been taro and sweet potato. Pu'u 'Ualaka'a (Round Top) was "famous in the annals of Hawaiian agriculture because here Kamehameha I established his own plantation [of sweet potatoes] on the steep slopes above Mānoa" (Handy 1940:156). Dr. F. J. F. Meyen, a German botanist, visited the Makiki Valley area in 1831 and described habitation and agricultural features in the valleys along streams. The largest awards in Makiki were for the *'ili 'āina* of Opu in Pawa'a, which was part of the large ca. 253-acre Pawa'a award (LCA 8241) to John Papa 'Ī'ī, the ca. 120-acre *'ili* of Poloke ("fresh poi") to Keawehano (LCA 11), and the ca. 74-acre award to Kaihiwa in the *'ili* of Kauhikio (meaning perhaps "the cistern cover"). Other *'ili 'āina* and *'ili kū* of Makiki were Anapuni ("boundary"), Ka'ai'ama'ama ("the mullet food"), Ka'aihe'e ("the octopus food"), Kulaokahu'a, Kanahā, Kaneahaka, Kanealole, Kumu'ulu ("breadfruit tree"), Kūpahu (to brace oneself"), Loko ("pond"), Manu ("bird"), Maunalaha, Miki ("active"), Moho, Palai (native fern, *Microlepia setosa*), and Pohukini.

About 1830, Queen Ka'ahumanu ordered that a wall should be built in the Makiki area to keep cattle from the inland residential areas. The stone wall also marked a path across Makiki which was first called Stonewall Street; presently this former path is covered by Wilder Avenue. The Queen wished to form a gateway at Punahou through this wall, and wanted two large stones on each side of the gate. The workers tried to move a large rock called Pōhakuloa, which was either on Rocky Hill in Mānoa or on the side of Round Top ('Ualaka'a) at the boundary of Makiki and Mānoa Ahupua'a. The stone would not move at first, so a *kahuna* was consulted. The *kahuna* suggested that a *luau*, or feast, be prepared with certain foods. After the *luau*, the stone was moved easily to its new spot. This stone was worshipped "in the old days by Hawaiian women, who prayed for the endowment of their children with wisdom and strength" (Sterling and Summers 1978:283). It was shaped like a "mammoth taro leaf" and was used to bless pregnant women and their unborn children (Alexander and Dodge 1941:45). This rock was broken up later, sometime between 1854 and 1859, when the road to Mānoa was widened. The wall along Wilder Avenue still remains (Fitzpatrick 1989:316).

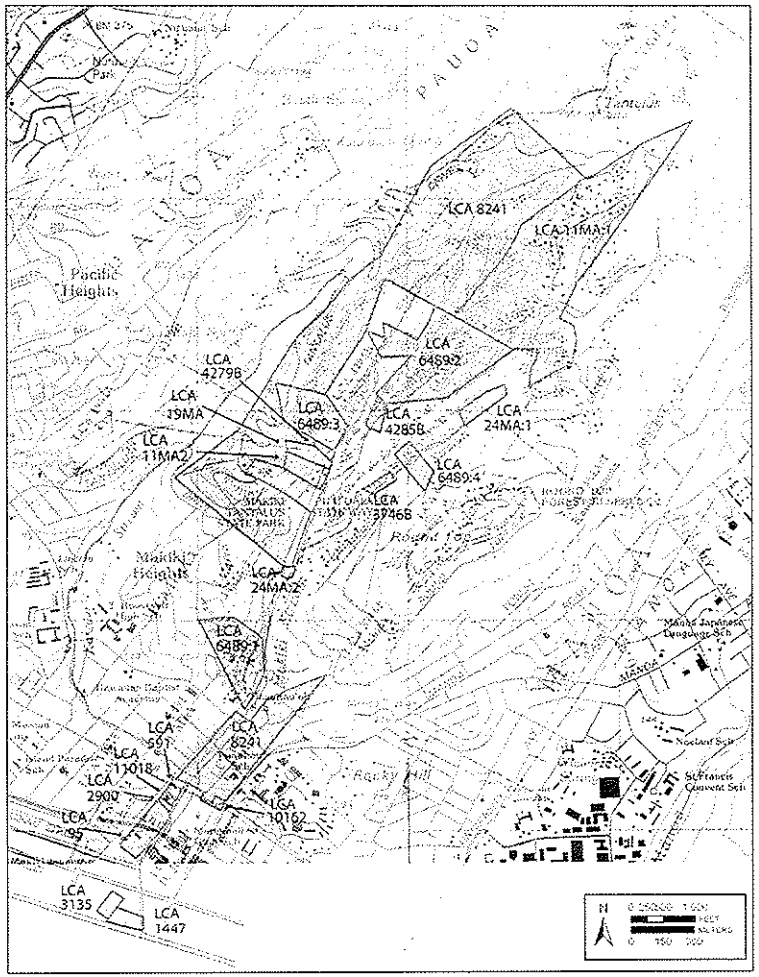

Figure 10. Land Commission Award (LCA) overlay map (from information on Registered map 1071, Hawai'i Land Survey Division) of Makiki over modern U.S. Geological Survey topographic map (Honolulu Quad 1998)

Table 1. Land Commission Awards and Royal Patents for Makiki Ahupua'a

LCA #	Royal Patent #	Claimant	Land came from:	Land Name	Land Claimed	Acres
MA 11	6715	Keawehano		*'Ili* of Polokē	2 *'āpana*; an *'ili 'āina*	119.99
MA 19	5584	Kanehiwa		Half of Kahaumaka'awe *'Ili*	1 *'āpana*	3.25
MA 24		Kauliokamoa		Kaiwiokaihu; one along upper Maunalaha Stream, one along Makiki Stream	2 *'āpana*	
95	6305	Hannah A. Holmes Jones	From husband J.C. Jones, who received it in 1825 from Kalaimoku	Makiki	1 *kula*	8.02
591	2387	John Meek	Houselot from Boki in 1817; From Kamehameha III in 1840	Makiki	Cattle Pen; *kula*; area enclosed by a wall; inside were two houses built in 1826	1.73
1423		Z. Kaauwai	From Kamehameha III	Kauhikio	*'Ili kūpono, mo'o āina; kalo*, fishpond	5.72
1447	4432	Kahue	From Kane in 1843	Hamohamo	2 *'āpana*; houselot and 1 *lo'i*	0.39
2900	4310	T. Kaoi		Pāwa'a	Houselot	0.42
3135	6924	James Walker	From Nauia, in 1829	Pāwa'a	1 *'āpana*, three houses on *kula* land	1.15

LCA #	Royal Patent #	Claimant	Land came from:	Land Name	Land Claimed	Acres
3746B	3863	Nahina	From La'au, got from 'Ī'ī in time of Ka'ahumanu	Kupahe'e (Maunalaha Stream)	1 *'āpana; mo'o' āina; kalo*	0.66
4263B		Kaaiahua (or Kaahanahua)	From 'Ī'ī during the time of Kīna'u	Kānealole	Entire valley, *kalo*	0.61
4279B	5463	Ia		Pāwa'a (along Kānealole Stream)	1 *'āpana*	0.40
4283C	7410	Moo	Got land from 'Ī'ī	Po'ohukini	*'Ili 'āina, mo'o 'āina; kalo*	0.56
4285B	3830	Mokuhanui	Land from father; land from 'Ī'ī in time of Kīna'u	Manu, Makiki (lower Moleka Stream)	'houselot and taro land; *Ili 'aina, mo'o 'aina; kalo*	0.67
6486		Keohoaeae	Given to Maalo by Kīna'u in time of Kaomi	Pāwa'a-kai	*Lo'i*, kula	0.77
6489	4519	M. Kaihiwa	Land received from the king	Kauhikio	Four *'āpana; kalo, kula; 'ili kūpono*	73.80
8241		John 'Ī'ī		Pāwa'a	1 *'āpana*	2.59
8241	5704	John 'Ī'ī	From Kamehameha after battle of Nu'uanu	*'ili* of Pāwa'a	5 *'āpana*	250.80
10162	2270	Moku	Wife's 1st husband who got it from his parent	Makiki	Houselot (*kula*) and *kalo*	0.56
11018	3690	Wahine	From M. Kekuanaoa in the time of Kaoma's disturbance	Pāwa'a	Houselot with two houses	0.42

3.2.4 Late Nineteenth Century to Present

During the late nineteenth century several large grants were awarded to foreigners (Table 2), especially lands south of King Street. One large land grant was awarded in the back of Makiki Valley to H.W. Schmidt, who attempted to grow coffee trees, but was unsuccessful (Carpenter and Yent 1994:17).

Table 2. Original Government land owners in Makiki Ahupua'a

Grant #	Grantee	Locality	Date
153	E.W. Clark	Pāwa'a, west of Punahou	1849
177	P.J. Gulick	Pāwa'a, King & Beretania Sts.	1849
387	John Cummins	Pāwa'a, King St.	1850
500	H.M. Whitney	Kulaokau'a, Beretania St.	1851
1290	W. Miller	Malo'okohana & Pa'aweuweu	1854
1676	C.R. Bishop	Ka'aihe'e	1855
2011	R Kelly	Pāwa'a	1856
2057	R. Keanui	Kaiwiokaihu, Pāwa'a, King St.	1856
2341	W. Miller	Malo'okohana, King St.	1857
2364	John 'Ī'ī	Pāwa'a (same as LCA #8441), Waikīkī St.	1857
2365	G.P. Judd	Pāwa'a (same as LCA#8534), King St.	1857
2609	Kahula	Pāwa'a o Ma'alo, King St.	1859
2616	John 'Ī'ī	Pāwa'a o Ma'alo, Waikīkī St.	1859
2745	Thomas Cummins	Pāwa'a o Ma'alo, King St.	1861
2788	L. Kamehameha	Kaihuokapu'a (the snout of the pig) (31 acres), Makiki Valley	1861
2790	L. Kamehameha	Kālia (seashore)	1961
2870	L. McCully	Pāwa'a, King St.	1862
3106	W.R. Seal	Kīna'u St.	1872

Another attempt at coffee cultivation was made by J.M. Herring, who purchased several acres (portions of Royal Patents 3216, 3830, 3863, 4519, and 7410) along Kānealole and Moleka Streams between 1864 and 1876. Mr. Herring built a house in the lower valley on the Maunalaha side of Moleka Stream, and a carriage road to his house, and modified some of the original Hawaiian agricultural terraces for his planting areas.

On an 1887 map of Honolulu by W. A. Wall (Figure 11), houses are still widely scattered over the few lower streets from Beretania to Wilder. The only prominent structures Wall noted were the Makiki Reservoir, the Makiki Church, the C. Judd home, the Makiki Cemetery, the Lunalio Asylum, and Thomas Square.

The city of Honolulu's water supply in the late nineteenth century was still primitive. In 1875, there was a brick reservoir at the corner of Nu'uanu and Judd, fed by streams and spring water. Fortunately, during the reign of King Kalākaua, artesian water was discovered, and small wells were drilled to supply local needs.

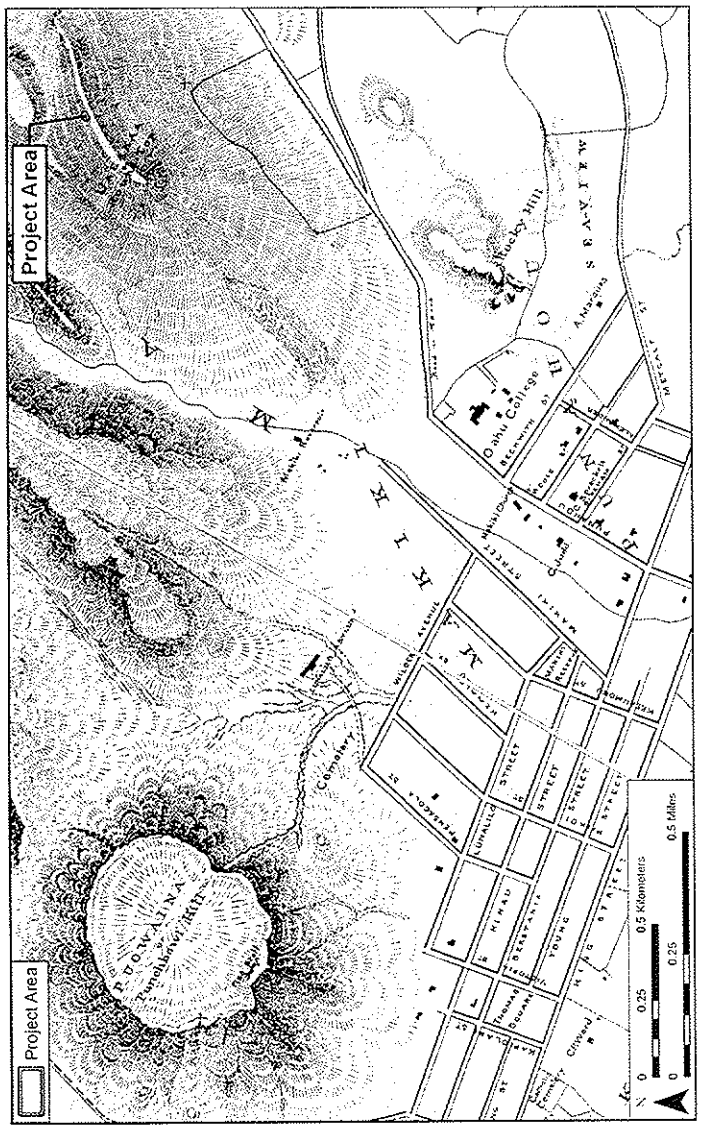

Figure 11. 1887 map of Honolulu and Vicinity, by W. A. Wall, showing small residential area of the late twentieth century (Map on file at Library of Congress)

An improvement of city water was possible when five new masonry reservoirs were built, one in Makiki in 1880 and four in Nu'uanu Valley. Kuykendall (1967:III:95) notes that "Twice, in periods of drought during the years 1888-91, water was pumped by a fire engine from an artesian well in Thomas Square into the Makiki reservoir, this being the first use of artesian water in the city water system."

The Makiki Church was an *'āpana* (branch) of the Kawaiaha'o Church, established by the first missionaries who came to the islands in 1920. In the early years, travelling was difficult, and 10 branch churches were established from Kalihi to Waikiki, usually managed by Hawaiian converts, with occasional visits from one of the missionaries assigned to the O'ahu section of the American Board of Foreign Missions. In the late nineteenth and early twentieth century, roads were improved, and the missionaries began to close the branch churches and encourage the church members to travel to the main church in Honolulu for services (Damon 1945:123). This church does not appear on a 1919 War Department map (Figure 12), so it was probably closed sometime between 1887 and 1919.

The C. Judd on the 1897 map refers to Chares Sheldon Judd, grandson of Gerrit P. Judd. C.S. Judd was the commissioner of public lands and president of the Board of Agriculture and Forestry for the Territory of Hawai'i from 1911 to 1915.

In 1874, Lunalilo the sixth Hawaiian monarch, died and bequeathed his lands, approximately 70,000 acres, for a trust to fund a care home for aged Hawaiians. The home, called the Lunalilo Asylum or the Lunalilo Home for the Aged (Figure 13), was established in 1883 on a 21-acre land section in Kewalo, Makiki, an area now occupied by Roosevelt High School. This facility closed in 1927 due to the increasing urbanization of the area, and the home was reopened in the Hawai'i Kai area (Smith 1905:12).

In 1901, the U.S. Congress passed an appropriation to establish an agricultural station on O'ahu for the study of agricultural produce (excluding sugar cane). A plot in the tract called Kewalo uka was originally chosen, but was later instead used for a Marine Hospital. The next tract chosen was 154 acres on the eastern slope of Punchbowl to the southern slopes of Tantalus. Sixty-two acres were reserved for a stone quarry and a public park. This park later became Makiki Cemetery. In 1904, upper Makiki Valley was acquired by the Division of Forestry for their reforestation program. They built a concrete dam midway along Kānealole Stream, which reated a small reservoir and constructed a plant nursery at the *mauka* end of the access road.

The Makiki State Recreation Area was established in 1957 as part of the Makiki-Tantalus State Park. This recreation area includes a wayside park along Makiki Street and the upper valley area from the wayside park on the *makai* end to Pu'u 'Ōhi'a (Tantalus) on the *mauka* border. 'Ualaka'a State Park, located on the Maunalaha side of Makiki Valley, is also part of the Makiki-Tantalus State Park.

A 1919 U.S. War Dept. topographic map (see Figure 12) shows the development of roads and residential areas in the early twentieth century. By 1927-28 (Figure 14), the old road alignment along the eastern slope of Punchbowl was gone, and construction of the *makai* portion of 'Auwaiolimu Street has started. In 1932, Roosevelt High School was opened, and 'Auwaiolimu Street was completed to Anianikū Street.

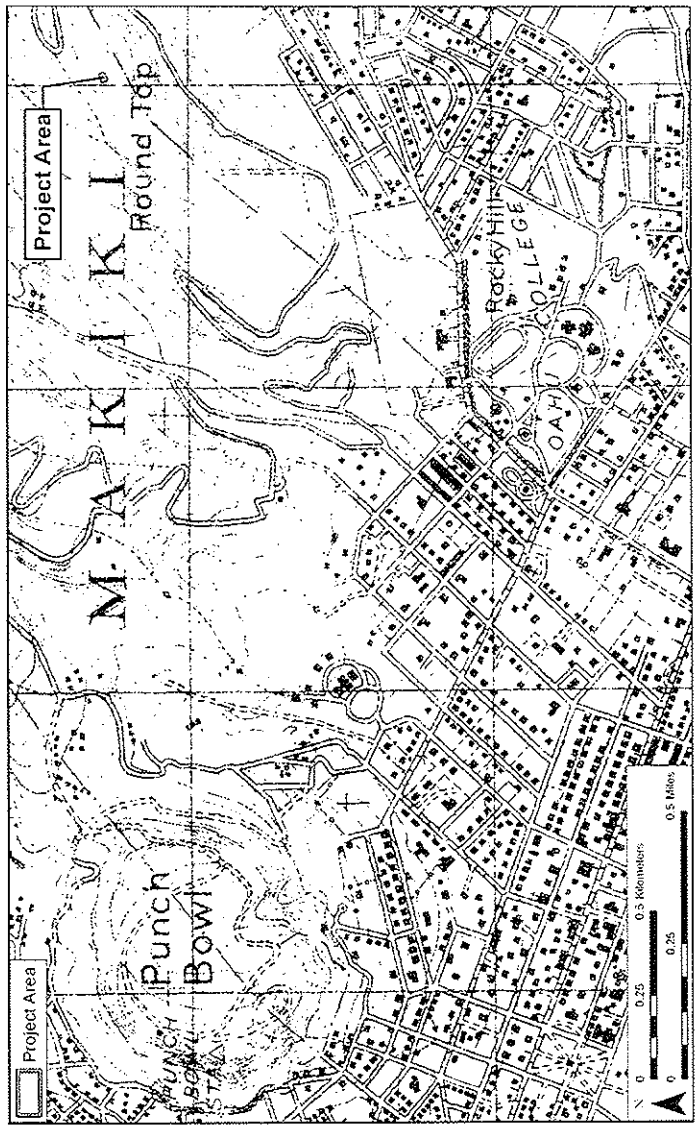

Figure 12. 1919 War Department topographic map, Honolulu Quadrangle

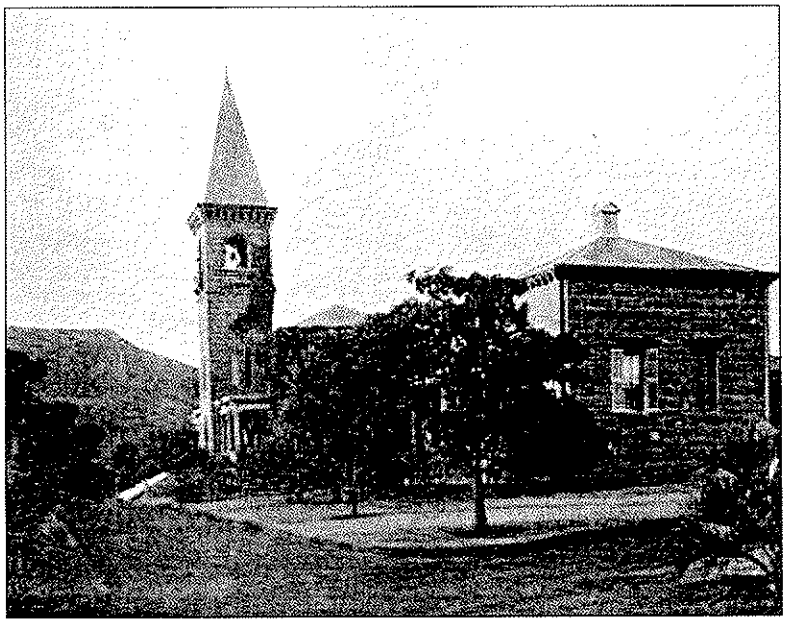

Figure 13. Lunalilo Asylum, or Home for the Aged ca. 1900 (photograph printed in Twombley 1900:291)

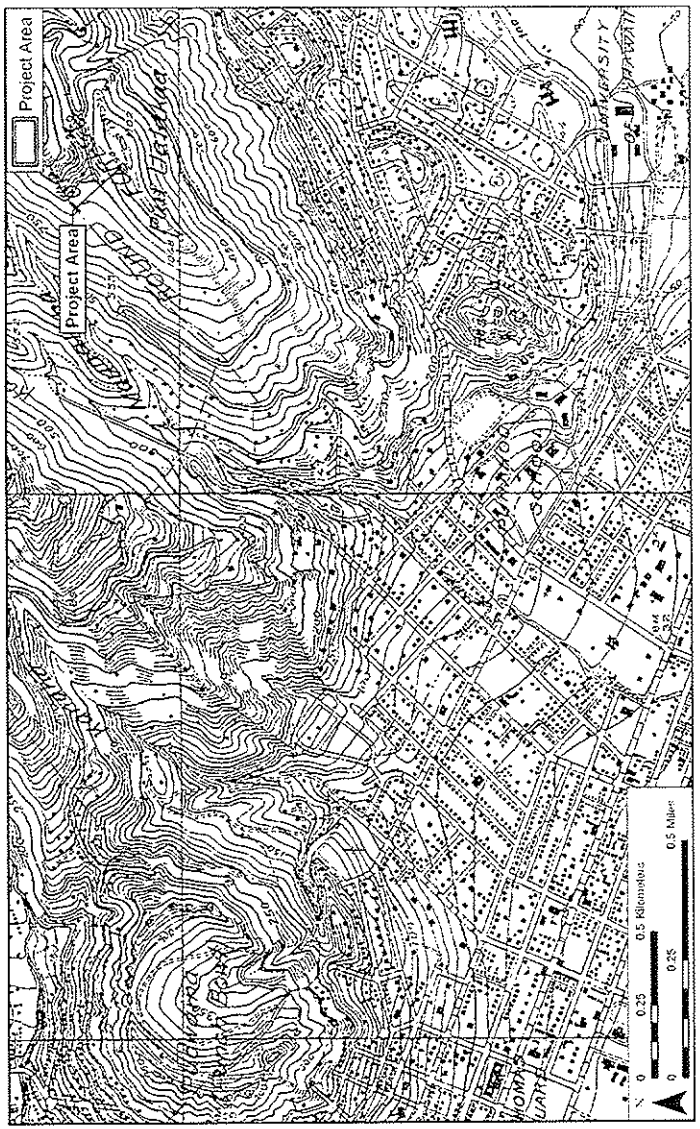

Figure 14. 1927 U.S. Geological Survey map (Honolulu Quadrangle), showing project area

A 1943 U.S. War Dept. map (Figure 15) indicates that 'Auwaiolimu Street had been completed to the Pūowaina-Tantalus junction. The major difference shown 1922 and 1945 maps is the density of residences on both old and new roads. After World War II, there was substantial development of Punchbowl and in the valley east of the crater to 'Auwaiolimu Street. The National Memorial Cemetery of the Pacific opened at Punchbowl in 1949. In 1952, Stevenson Middle School opened, while Lincoln Elementary School opened in 1956. In 2000, the population of the area encompassing Makiki, Lower Punchbowl, and Tantalus was 30,145 people (City and Co. of Honolulu 2000).

3.3 Makiki Previous Archaeological Research

3.3.1 Previous Archaeological Projects

Previous archaeological research in the Makiki Valley-Tantalus area (Figure 16; Table 3; Table 4) has been concentrated in the valley areas along Kānealole and Moleka Streams. The only systematic archaeological survey in the Makiki Valley area was conducted by Martha Yent and Jason Ota (1980). Five areas along Kānealole and Moleka Streams were surveyed, identifying a variety of pre-contact and historic sites including agricultural terraces, rock walls, rock shelters, a walled enclosure, a historic house site and carriage road, and retaining walls. Twenty-seven features were identified during this survey, all subsumed under one site number.

Martha Yent (1982) carried out an archaeological inspection of a short nature trail along Kānealole Stream for the Makiki Environmental Education Center, noting an old carriage road, an associated retaining wall and a c. 1950s pig pen, and a historic series of terraces and planting holes associated with a former residence.

Carol Kawachi (1988) investigated terrace facings/retaining walls in a hairpin turn of Round Top Drive, concluding they were primarily modern modifications.

Kolb et al. (1993) conducted an archaeological inventory survey of Kalāwahine *'ili* on the lower slopes of Tantalus ridge, between Tantalus Drive and Kalāwahine Place. This pedestrian survey of the 12-acre Kalāwahine parcel led to the identification of five different sites comprised of 38 features. Site 50-80-14-4434 is a terrace cluster with multiple features. Site -4443 is a double-faced terrace and -4444 is a nearby paved oval area. Site -4445 is a modern dump area with an historic terrace, Site -4446.

In 1994, the DLNR Division of State Parks carried out an archaeological survey of ca. 90 acres of Pu'u 'Ualaka'a State Wayside and a discrete 3,000-foot long strip of Makiki Valley State Recreation Area (Carpenter and Yent 1994). A rock shelter (SIHP #50-80-14-4668) above an agricultural field system near Moleka Stream, and a series of at least nine terraces (SIHP #50-80-14-4866) were recorded in Makiki Valley.

No archaeological sites were located on Pu'u 'Ualaka'a. While historic research indicated a high likelihood of encountering archaeological site on the *pu'u*, Carpenter and Yent (1994) noted that the "area [Pu'u 'Ualaka'a] has been altered for agricultural production and recreational use in this century, which appears to have destroyed any archaeological site which may have formerly existed on the slopes or summit of the *pu'u*." (Carpenter and Yent 1994: 39).

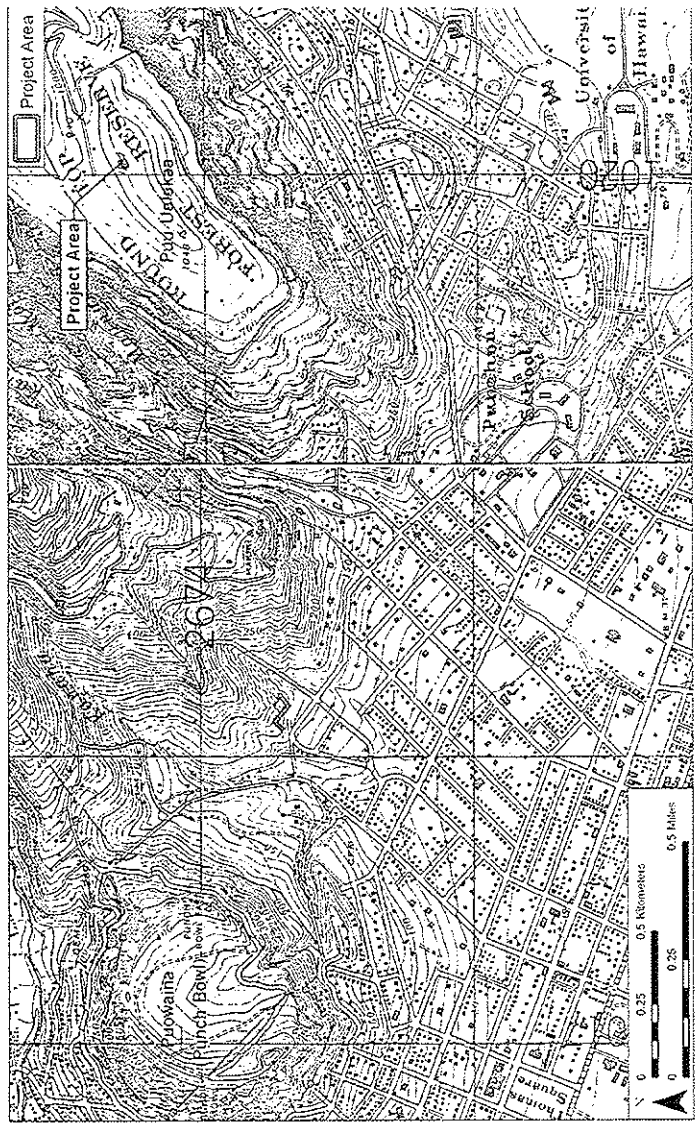

Figure 15. 1943 U.S. War Department topographic map (Honolulu and Diamond Head Quadrangles), showing project area

Figure 16. U.S. Geological Survey topographic map (Honolulu Quad 1998), showing previously identified sites in Makiki Ahupua'a

Table 3. Previous archaeological investigations in Makiki Ahupua'a

Reference	Type of Investigation	General Location	Site 50-8-14-	Findings
McCoy 1971	Memo: Burial Report	Makiki Valley Burial Shelter	2297	Letter report on field inspection of Makiki Valley burial shelter.
Sinoto 1979	Burial Report	Makiki	2998	Two burials found at Makiki Hawaiian Sugar Planters Association Experiment Station.
Yent and Ola 1980	Archaeological Field Survey	Makiki Valley, the Kāmaʻoleʻole Stream and Moleka Stream systems	3985	Sites reflect traditional settlement/subsistence pattern; agricultural fields along streams; rock-shelter habitation. Further testing and mapping recommended for features associated with 1800s Herring occupation on Moleka stream. 37 features recorded at one site (Site -3985).
Yent 1982	Archaeological Inspection	Makiki-Tantalus State Park		No findings during inspection of a short nature trail for the Makiki Environmental Education Center.
Bath and Smith 1988	Burial Removal Report	2034 Round Top Terrace	3743	Inadvertent discovery of human remains
Kawachi 1988	Field check	2182 Round Top Drive		No sites found.
Bath 1989	Burial Call Report	2030A Makiki St.	4134	Inadvertent discovery of at least three individual burials
Kawachi 1991	Unmarked Burial Under House	2123 Round Top Drive	1603	Unmarked burial found under house; skeletal remains were left in place (June 1991).
Hurst and Cleghorn 1992a	Historical Literature Search	Proposed Pāwaʻa Redevelopment Project		Backhoe trenches recommended in *ewa* and Diamond Head sections to determine archaeological resources.
Hurst and Cleghorn 1992b	Addendum to Historical Literature	Proposed Pāwaʻa Redevelopment Project		Archaeological testing recommended in interior of southern area, potential cultural deposits from housing developments from mid-1800s to turn of century.

Reference	Type of Investigation	General Location	Site 50-8-14-	Findings
Kawachi 1992 Pietrusewsky 1992a	Burial Recovery Report	'Āina Lani Place, Round Top	4530	Human skeletal remains found Osteology Report
Pietrusewsky 1992b	Osteology Report	Round Top: 2316 Maunalaha Road	4648	A human skeleton found. No archaeology report found (Nov. 4, 1993).
Kolb et al. 1993	Inventory Survey	Kalāwahine 'Ili	4434 - 4446	Very limited or no habitation prior to A.D. 1900 within the project area. A total of five sites and 38 features, mainly agricultural, were recorded.
Carpenter and Yent 1994	Archaeological Survey	Proposed state park areas in Makiki valley and Pu'u 'Ualaka'a	4688, 4866	Remnant agricultural terraces (Site -4866) should be preserved, 2 test trenches dug, no pond soils in Makiki State Rec. Area, no sites in Pu'u 'Ualaka'a area. C14 dates. A rock shelter (Site -4688) was tested.
Chiogioji 1997	Archaeological Assessment, Map	5 Zones, Zone 1 is Makiki *makai* of Punahou school		Post-1850 urban expansion area, historic-era subsurface layers and possible scattered burials could be encountered.
Hammatt and Chiogioji 1998	Archaeological Assessment	2.4 km portion of H-1- from Punahou St. to Vineyard Blvd.		No further archaeological investigation is recommended.
Cleghorn 1999	New Site Report	Kalāwahine Stream		Newly discovered cave at the Kalāwahine Stream; contained recent historic material; possibility of buried cultural deposits. Cave was sealed. No site no. assigned.
Masterson and Hammatt 1999	Inventory Survey	Kalāwahine Reservoir Site	5732	One retaining wall, twentieth century, of large boulders in SE corner of project area; no longer significant.
Nagata 1999	Evaluation, Mapping and Site Description	Carriage road within Honolulu Watershed Forest Reserve	5759	Recommend that Na Ala Hele's proposal to utilize existing historic carriage road, constructed circa 1870, for trail use be approved.
Hammatt et al. 2002	Archaeological Assessment	Tantalus: Kala'i'ōpua Place		Concluded no permanent habitation in traditional Hawaiian times.

Reference	Type of Investigation	General Location	Site 50-8-14-	Findings
Rohrer et al. 2003	Archaeological Assessment	Makiki Reservoir Site	6529	One historic road alignment and house foundation was recorded; no further archaeological work recommended.
Chiogioji & Hammatt 2005	Literature Search/Field Inspection	1426 Young Street		No surface features were found on the lot during the field inspection.
Cordy & Hammatt 2006	Monitoring Report	South slope of Punchbowl Crater		No subsurface features or cultural deposits were noted during the monitoring project.

Table 4. List of previously documented archaeological sites in Makiki Ahupua'a

Site 50-80 -14-#	Brief Description	TMK #	Source
No site #	Cave site with modern use	2-4-34	Cleghorn (1999)
0000*	Series of terraces, and 2 stone-lined planting holes	2-5-19:08	Yent (1982)
1603	Unmarked burial under house	2-5-07:39	Kawachi (1991)
2297	Burial shelter, with flexed, historic burial	2-5-19:08	McCoy (1971)
2298	2 early historic period burials	2-4-22:01	Sinoto (1979)
3743	Ancient Hawaiian burial	2-5-07:43	Bath & Smith (1988)
4134	At least 3 ancient Hawaiian burials	2-5-07:07	Bath (1989)
4434	Contains 19 terraces, 2 rock shelters, 3 depressions, 5 alignments, 2 stone mounds, and 1 dump	2-4-34:08	Kolb et al. (1993)
4443	Contains 3 poorly constructed terraces	2-4-34:08	Kolb et al. (1993)
4444	Oval shaped paved area with alignment	2-4-34:08	Kolb et al. (1993)
4445	Modern dump	2-4-34:08	Kolb et al. (1993)
4446	Terrace	2-4-34:08	Kolb et al. (1993)
4530	Hawaiian burial	2-5-05:08	Kawachi (1992) Pietrusewsky (1992)
4648	Historic Hawaiian burial	2-5-24:24	Pietrusewsky (1992b)
4668	Rock Shelter	2-5-19:08	Carpenter & Yent (1994)
4866	Series of large terraces, at least 9	2-5-20:07	Carpenter & Yent (1994)
5732	Boulder wall with 3 segments	2-4-22:01	Masterson & Hammatt (1999)
5759	Old carriage road and bridge remnants	2-5-19:08	Yent (1982); Nagata (1999)
6529	Historic road alignment and house foundation	2-2-05:35	Roher et al. (2003)
3985	27 individual features, see list below	2-5-19:08	Yent & Ota (1980)
Fea. 1A	T-shaped retaining wall, 50 meters long	2-5-19:08	Yent & Ota (1980)
Fea. 1B	Agricultural complex of at least 3 low terraces	2-5-19:08	Yent & Ota (1980)
Fea. 1C	A complex of at least 7 terraces 70-80cm high and an associated semi-circular walled feature	2-5-19:08	Yent & Ota (1980)
Fea. 1D	Wooden water tank	2-5-19:08	Yent & Ota (1980)
Fea. 1E	Complex of at least 4 terraces & a rockshelter	2-5-19:08	Yent & Ota (1980)
Fea. 1F	Historic retaining wall	2-5-19:08	Yent & Ota (1980)

Site 50-80 -14-#	Brief Description	TMK #	Source
Fea. 1G	Agricultural complex of terraces and ditches	2-5-19:08	Yent & Ota (1980)
Fea. 2A	2 terraces	2-5-19:08	Yent & Ota (1980)
Fea. 2B	2 parallel rock walls	2-5-19:08	Yent & Ota (1980)
Fea. 2C	Rockshelter	2-5-19:08	Yent & Ota (1980)
Fea. 3A, same as – 0000*	2 low retaining walls	2-5-19:08	Yent & Ota (1980)
Fea. 3B, same as – 0000*	2 rock-lined planting holes	2-5-19:08	Yent & Ota (1980)
Fea. 5A	Complex of 3 terraces	2-5-19:08	Yent & Ota (1980)
Fea. 5B, same as - 5759	Old carriage road	2-5-19:08	Yent & Ota (1980)
Fea. 5C, same as – 5759	Old carriage road continued	2-5-19:08	Yent & Ota (1980)
Fea. 5D	2 parallel terraces	2-5-19:08	Yent & Ota (1980)
Fea. 5E	Rock-lined pit	2-5-19:08	Yent & Ota (1980)
Fea. 5F	Taro lo'i (terrace)	2-5-19:08	Yent & Ota (1980)
Fea. 5G	Coffee grove	2-5-19:08	Yent & Ota (1980)
Fea. 5H	Series of at least 5 stairs, or very steep terraces	2-5-19:08	Yent & Ota (1980)
Fea. 5I	Circular platform	2-5-19:08	Yent & Ota (1980)
Fea. 5J	4 terraces	2-5-19:08	Yent & Ota (1980)
Fea. 5K	Walled enclosure	2-5-19:08	Yent & Ota (1980)
Fea. 5L	2 walled depressions	2-5-19:08	Yent & Ota (1980)
Fea. 5M	Dump site	2-5-19:08	Yent & Ota (1980)
Fea. 5N	Proposed Herring Residence	2-5-19:08	Yent & Ota (1980)
Fea. 5O	Complex of terraces	2-5-19:08	Yent & Ota (1980)

*No site # listed in report, but listed as 50-80-14-0000 in SHPD database

Paul Cleghorn (1999) discovered a cave near Kalāwahine Stream, which contained recent historic material. He suggested that there could be buried cultural deposits in the cave. No site number was assigned to the cave, which was then sealed.

Ian Masterson and Hallett H. Hammatt (1999) conducted an archaeological inventory survey of the Kalāwahine reservoir site on the hillside east of the dry streambed known as Kahawai o ka Po'opo'o. One site was recorded during the survey. Site 50-80-14-5732 is a retaining wall of twentieth century construction, used for historic agriculture and erosion control.

Ralston Nagata (1999) conducted a field investigation of a cart road remnant in the Forest Reserve near the Makiki Valley State Recreation Area down near Kānealole Stream. The cart road and associated features were related to J. M. Herring, who purchased several parcels in the vicinity between 1864 and 1876 and established a coffee plantation.

Hammatt et al. (2002a) conducted a field investigation of Kala'i'ōpua Place located on the north-facing slope near the junction of Tantalus Drive and Round Top Drive. No significant artifacts, features, or sites were observed.

Rohrer et al. (2003) carried out a pedestrian inspection of the entire slope area extending below Pūowaina Drive on the northeast slope of Punchbowl. A single site (50-80-14-6529) consisting of two features was located within the project area. Site 50-80-14-6529 includes an historic roadbed and associated retaining wall segments as well as the remains of the foundation of an early twentieth century residence.

Chiogioji and Hammatt (2005) conducted a literature search and field inspection of a 0.34-acre lot at 1426 Young Street in 2005. No surface features were noted.

Archaeological monitoring was conducted during the the Board of Water Supply Punchbowl Water System Improvements Project in 2004 (Cordy and Hammatt 2006). No cultural subsurface features or deposits were noted. Most of the soil excavated for the sewer improvements consisted of fill material.

A number of burials have also been inadvertently found within Makiki Valley, including skeletons in burial caves (McCoy 1971), at least seven burials found under roads and houses on the west side of Round Top (Bath and Smith 1988; Bath 1989; Kawachi 1991; Pietrusewsky 1992a, b), and two from Makiki Park (Sinoto 1979). Historic sites, such as an old carriage road (Nagata 1999), and an historic road (Rohrer et al. 2003) have also been recorded.

3.4 Summary and Predictive Model

3.4.1 Pre-Contact and Early Post-Contact Habitation and Agriculture

Makiki Valley was utilized for the cultivation of taro and sweet potato during both pre-Contact and historic times. Pu'u 'Ualaka'a (Round Top) was famous for having been the sweet potato plantation of Kamehameha I. During the *Māhele* (1848-1852) large-scale crop cultivation land use was transformed into small-scale residential agriculture with associated habitation dwellings. Land Commission Award (LCA) documentation provides evidence of dry and wet agriculture of taro and sweet potato cultivation in the area with associated house lots. In 1940, E. Craighill Handy noted that taro cultivation was practiced in the swampy lands of Makiki south of

King Street (now within the modern boundary of Makiki Ahupua'a), but the inland areas were known for the growing of sweet potatoes.

3.4.2 Mid Eighteenth Century to Present

Land Commission Awards documentation (see Figure 10 and Table 1) for the Makiki Valley (north of King Street) indicates a concentration of awards in the lower valley areas primarily along Kānealole and Moleka Streams. In terms of land use, the two dominant dry and wet agriculture crops in Makiki seem to have been taro and sweet potato. One typical Land Commission Award (LCA 3746B, Grant 3863) was awarded to Nahina on Maunalaha Stream. This 67 acre property contained a house lot and a taro *lo'i* (irrigated garden plot).

Large land grants in the valley were sold in the later nineteenth century, some of them to foreigners. An attempt at coffee cultivation was made by J.M. Herring, who purchased several acres (portions of Royal Patents 3216, 3830, 3863, 4519, and 7410) along Kānealole and Moleka Streams between 1864 and 1876. Note that one of these properties (Grant 3863) was the same as the LCA awarded to Nahina in the Great *Māhele*. Mr. Herring built a house in the lower valley on the Maunalaha side of Moleka Stream, and a carriage road to his house, and modified some of the original Hawaiian agricultural terraces for his planting areas.

An 1897 map indicates extensive residential development in the lower part of Nu'uanu valley, and around the base of Punchbowl to Makiki valley. In 1904, upper Makiki Valley was acquired by the Division of Forestry for their reforestation program. They built a concrete dam midway along Kānealole Stream, which created a small reservoir and constructed a plant nursery at the *mauka* (inland) end of the access road. The Makiki State Recreation Area was established in 1957 as part of the Makiki-Tantalus State Park. This recreation area includes a wayside park along Makiki Street and the upper valley area from the wayside park on the *makai* end to Pu'u 'Ōhi'a (Tantalus) on the *mauka* border. 'Ualaka'a State Wayside, located on the Maunalaha side of Makiki Valley, is also part of the Makiki-Tantalus State Park.

3.4.3 Previous Archaeological Research

Previous archaeological research in the Makiki Valley-Tantalus area has been concentrated in the valley areas along Kānealole and Moleka Streams. The only systematic archaeological survey in the Makiki Valley area was conducted by Martha Yent and Jason Ota (1980). Five areas along Kānealole and Moleka Streams were surveyed, identifying a variety of pre-contact and historic sites including agricultural terraces, rock walls, rock shelters, a walled enclosure, a historic house site and carriage road, and retaining walls. Twenty-seven features were identified during this survey, all subsumed under one site number.

Of note are numerous burials that have been found around the base of Pu'u 'Ualaka'a (Round Top) (Bath and Smith 1988; Kawachui 1991; Kawachi 1992; Pietrusewsky 1992b). However an archaeological survey by DLNR Division of State Parks identified no historic properties atop Pu'u Ualaka'a, the location of the current project area (Carpenter and Yent 1994).

3.4.4 Summary

In summary, Makiki Valley was utilized for the cultivation of taro and sweet potato during both pre-contact and historic times. Pu'u 'Ualaka'a (Round Top) was famous for having been the

sweet potato plantation of Kamehameha I. During the *Māhele* (1848-1852) large-scale crop cultivation land use was transformed into small-scale residential agriculture with associated habitation dwellings. Land Commission Award (LCA) documentation provides evidence of dry and wet agriculture of taro and sweet potato cultivation in the area with associated house lots. Much of the upper valley later became part of a park and forest preserve, which may have preserved many of the pre-contact and post-contact agricultural features.

Based on background research, archaeological sites related to pre- and post-contact habitation and agriculture are not likely to be present within the project area. This is due to successive land modifications conducted within the project area associated with the development of the Ualaka'a State Wayside and the construction of the existing ICSD Round Top Radio facility. Disturbances (i.e., grading and leveling) associated within these land modifications would likely have destroyed any evidence of pre- and post-contact land use that may have been present. Additionally, a 1994 archaeological survey of 'Ualaka'a State Wayside by DLNR Division of State Parks identified no historic properties (Carpenter and Yent 1994), further increasing the likelihood that no archaeological sites are located within the project area.

Section 4 Results of Fieldwork

4.1 Survey Findings

Pedestrian inspection of the project area determined that the entire area had been previously disturbed, likely during the construction of 'Ualaka'a State Wayside and the existing ICSD Round Top Radio facility. No historic properties were observed.

Observed disturbance consisted of leveling and grading of the natural slopping topography. The project area currently consists of an open grassy lawn that abuts a restroom facility and the existing ICSD Round Top Radio facility (Figure 17 and Figure 18). The northern edge of the project area slopes to the north and is covered by bulldozer push (i.e., concrete, asphalt, etc.) that is likely associated with the modern development of the immediate area. Of note was the presence of a trail head located immediately west of the project area (Figure 19 and Figure 20). This trail is likely a component of the State of Hawaii Trail and Access Program's (Na Ala Hele's) 'Ualaka'a Trail (Figure 21). The trail was most likely developed after 1957 when the Makiki-Tantalus State Park was established.

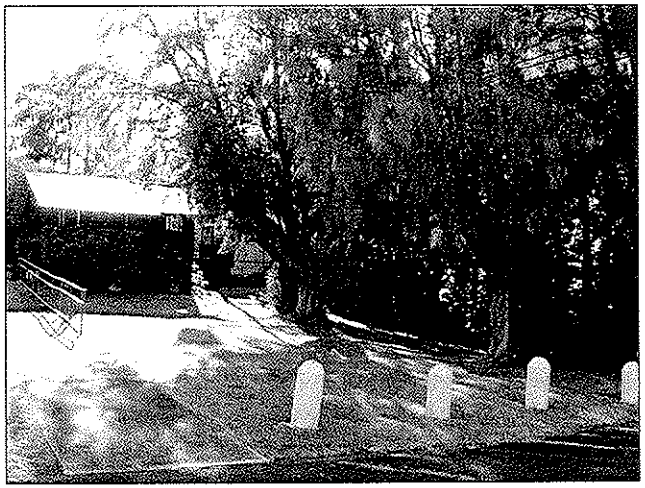

Figure 17. Photograph of the project area, view to west

Figure 18. Photograph of the project area, view to east

Figure 19. Photograph of trail segment just west of project area, view to south

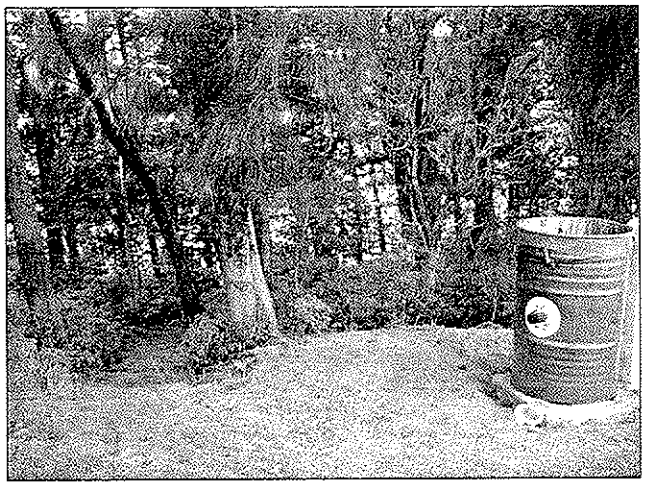

Figure 20. Photograph of trail segment just west of project area, view to north

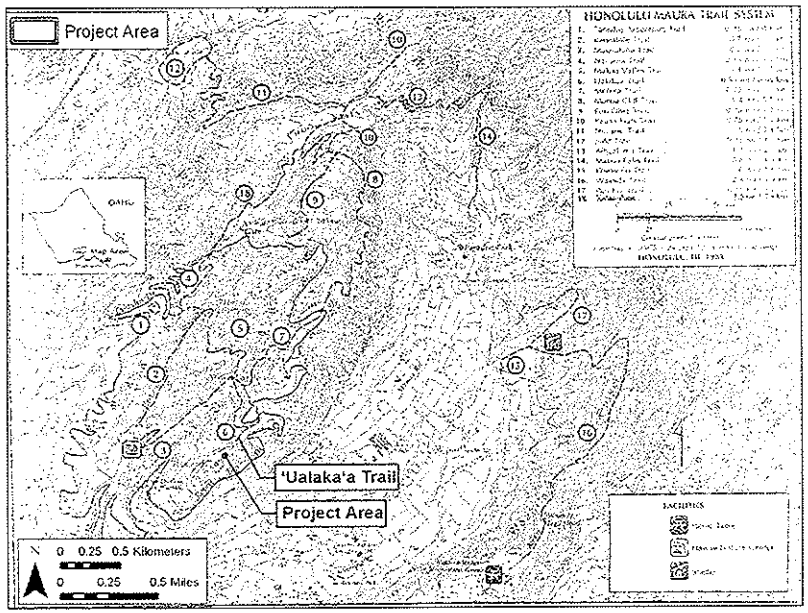

Figure 21. Topographic map of the Honolulu Mauka Trail System (source: Na Ala Hele; http://www.state.hi.us/dlnr/dofaw/nahh/HonoluluMaukaTrailsSystem.pdf) showing the location of the project area in relation to 'Ualaka'a Trail

Section 5 Summary and Recommendations

5.1 Summary

In compliance with and to fulfill applicable Hawai'i state historic preservation legislation, CSH completed this archaeological literature review and field inspection to support an environmental assessment for the proposed Round Top Radio Facility Building Addition and Other Improvements. The purpose of the archaeological study was to determine if there are any major archaeological concerns within the study area and to develop data on the general nature, density and distribution of archaeological resources.

Background research has indicated that Makiki Valley was utilized for the cultivation of taro and sweet potato during both pre-contact and historic times. Pu'u 'Ualaka'a (Round Top), the location of the current project area, was famous for having been the sweet potato plantation of Kamehameha I. Additionally, previous archaeological research has documented numerous human burials at the lower elevations of Pu'u 'Ualaka'a (Round Top) (Bath and Smith 1988; Kawachui 1991; Kawachi 1992; Pietrusewsky 1992b). However, an archaeological survey of 'Ualaka'a State Park, the location of the current project area, by DLNR Division of State Parks identified no historic properties (Carpenter and Yent 1994).

A 100 percent pedestrian inspection of the project area's surface confirmed that there were no surface historic properties present. The pedestrian inspection also noted that the project area had been subjected to surface disturbances in the form of grading and leveling likely via bulldozer.

These findings are largely in keeping with expectations, based on background research. While background research indicates that lands in the vicinity of the project area were utilized by traditional Hawaiians for agriculture and burial, the successive land modifications within the project area associated with the development of the Ualaka'a State Wayside and the construction of the existing ICSD Round Top Radio facility have caused extensive land disturbances (i.e. grading, leveling, etc.) which would have destroyed any evidence of pre- and post-contact land use that may have been present.

5.2 Recommendations

Based on the results of the current investigation, Cultural Surveys Hawai'i recommends no further archaeological work for the proposed project.

In the unlikely event that previously unidentified subsurface historic properties are encountered by project construction, the project proponents should immediately stop work in the vicinity and contact SHPD's O'ahu Office [Tel. (808) 692-8015].

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