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BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621  
HONOLULU, HAWAII 96809

May 25, 1995

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95 MAY 26 11:42

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
DEPUTY DIRECTOR  
GILBERT S. COLOMA-AGARAN

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
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CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
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CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION PROGRAM  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

Ref. LM-GYT

Mr. Gary Gill  
Office of Environmental Quality Control  
220 S. King Street, 4th Floor  
Honolulu, HI 96813

Dear Mr. Gill:

Subject: **Negative Declaration for Proposed Direct Sale of Easement at Pu'u Anahulu, North Kona, Hawai'i - Tax Map Keys: 3rd/7-1-03:01 (portion) and 16 (portion)**  
Applicant: **U.S. Cellular, Inc.**

In accordance with the requirements of Chapter 343, Hawai'i Revised Statutes and Chapter 200 of Title 11, Administrative Rules, a Final Environmental Assessment has been prepared for the subject parcel.

Notice of availability of the Draft Environmental Assessment for the project was published in the March 8, 1995 OEQC Bulletin. No comments were received during the 30-day comment period.

As the proposing agency, we are forwarding herewith one copy of the OEQC Bulletin Publication Form and four copies of the Final Environmental Assessment. We have determined that there will be no significant impacts as a result of the project and, therefore, are filing the Final Environmental Assessment as a negative declaration. We respectfully request that public notice of the Final Environmental Assessment be published in the next scheduled OEQC Bulletin.

Very truly yours,

*Gilbert S. Coloma-Agaran*  
MICHAEL D. WILSON

c: Hawai'i Land Board Member  
Land Management Administrator  
Hawai'i District Land Office  
DOFAW  
Ron Terry

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1995-06-08-HI-PEA-Puu Anahulu U.S. Cellular Tower

JUN 8 1995

**FILE COPY**

**FINAL ENVIRONMENTAL ASSESSMENT**

**UNITED STATES CELLULAR  
DIRECT SALE OF STATE LAND FOR EASEMENT  
FOR CONSTRUCTION OF CELL SITE**

TMK 3RD/7-1-03:01 (PORTION)  
& 7-1-03:16 (PORTION)  
ANAHULU, NORTH KONA, HAWAII

**APPLICANT:**

United States Cellular  
Hilo Lagoon Center Annex  
99 Aupuni Street, Suite 118  
Hilo, Hawaii 96720

**CONSULTANTS:**

William L. Moore  
411 Haili Street  
Hilo, Hawaii 96720

and

Ron Terry Ph.D.  
HCR 9575  
Keaau, Hawaii 96749

**APPROVING AGENCY:**

Division of Land Management  
Department of Land and Natural Resources  
State of Hawaii  
P.O. Box 938  
Hilo Hawaii 96720-0938

**CLASS OF ACTION:**

Use of State Lands

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**PART 1: ACTION DESCRIPTION**

**1.1 Project Location**

The proposed project involves the direct sale of easement of a 10,000 square foot portion of TMK 7-1-03:01, which is owned by the State of Hawaii (Fig. 1). The parcel is located in the District of North Kona, Island of Hawaii, and contains 20,623 acres in its entirety. The site is located in an area named Kapaakea on United States Geological Survey (USGS) maps, at the summit of the cinder cone Pu'u Anahulu. The site is approximately 2.2 miles to the northwest of the village of Pu'u'anahulu.

The project will also make use of an existing four-wheel drive road that traverses approximately two miles of State Land and connects the site to Highway 190 (see Figure 1). The parcels crossed by the road are TMK 7-1-03:01 and 7-1-03:16, a 505.3 acre parcel currently leased to a private party for cattle ranching.

**1.2 Purpose and Objectives of Action**

The proposed action will provide a cell site for the expanding U.S. Cellular mobile communications network. U.S. Cellular has thirteen sites in existence or in the planning stages located throughout the island of Hawaii to enable optimum communications. The function of a cellular site is to receive, process and transmit cellular telephone calls.

The Pu'u Anahulu site provides an ideal microwave path between existing and planned cellular sites and thus will improve coverage and service for mobile communications in West Hawaii. The proposed cell will provide coverage to areas that presently have poor or no coverage. The public, state and county customers would be able to use their cellular phones over a much larger geographic area.



### 1.3 Project Description

A mobile communications cell consists of the following elements:

- o *Tower and Microwave Dishes.* The monopole tower will be between 40 and 80 feet in height and 4 to 6 feet in diameter. Suspended from the side of the monopole will be one to three microwave dishes 6 to 8 feet in diameter. The dishes consist of grids, which appear semi-transparent from a distance. The footing for the tower is planned to consist of concrete piers drilled to a depth of approximately 30 feet, in accordance with engineering analysis conducted for the project.
- o *Control Building.* A Fibrebond Corporation communications building will be installed. This one-story, prefabricated unit consists of monolithic walls, floor and roof for strength and security, and an aggregate outer finish colored in earth tones to blend in with the background. Expected dimensions of the building are 12 feet by 20 feet.
- o *Graded Pad with Security Fencing.* The 10,000 square foot site will undergo some grading and a security cyclone fence will be erected around the perimeter.
- o *Power Lines and Access Road.* Electrical power is necessary to operate the cell site. Therefore, an overhead line will be constructed from Highway 190 to the site. The transmission lines will follow the path of the existing four-wheel drive road.

The applicant will also perform minor improvements to the existing four-wheel drive road to the extent necessary for transporting the cell site building materials and creating a suitable utility easement access. This is expected to consist mainly of road scraping and light grading along certain stretches of the road which years of washouts have caused to deteriorate. U.S. Cellular will continue to maintain the road by periodic blade scraping.

In a 30 March 1993 letter concerning the project, the Director of the Hawaii State Civil Defense stated that "joint use site consolidation is a must. Radio site consolidation will require a larger building and a tower with higher wind and loading factor. The lease agreement should also include some space allotment for State and County departments ..." (see Appendix 1 for full text).

1.4 Ownership

The parcel proposed for the cell site and the majority of the utility easement/access road is owned in fee by the State of Hawaii and has no active leases. TMK 7-1-03:16 is owned by the State of Hawaii and is under lease to F. Newell Bohnett for cattle ranching.

1.5 Land Use Designation and Controls

The project area is zoned Unplanned by Hawaii County and is located in the State Land Use Agricultural District. Zoning in the surrounding area is identical. The project area is not within the Special Management Area, nor are there other special restrictions upon land use in the area. A direct sale of easement from the State of Hawaii is necessary. No federal or county permits or approvals are required.

1.6 Consultation with Government Agencies

As part of the application process for the proposed sale of easement, the Land Management Division of the Hawaii State Department of Land and Natural Resources (LMD-DLNR) solicited comments from the a number of county and state agencies. Several additional agencies were contacted as part of the preparation of this EA.

County:

Planning Department

Department of Public Works

State:

Department of Accounting and General Services  
Survey Division

Department of Defense

Office of the Director of Civil Defense

Department of Budget and Finance

Department of Land and Natural Resources

Division of Forestry and Wildlife

Office of Conservation and Environmental Affairs

State Historic Preservation Division

Department of Business, Economic Development and Tourism

Copies of replies from those agencies with substantive comments are provided as Appendix 1 and discussed in the appropriate sections of the Environmental Assessment.

Notice of the Draft Environmental Assessment (DEA) for this project was published in the OEQC Bulletin of March 8, 1995. No comment letters were received in response to the DEA.

## PART 2: ENVIRONMENTAL SETTING

### 2.1 Physical Environment Characteristics

#### 2.1.1 Geology, Soils and Hazards

The tower site is located near the summit of a 400-foot high bluff at elevation 1515 feet above mean sea level. The general region has a surface underlain by trachyte lavas from the Pu'u Wa'awa'a cone and is mid-Pleistocene in age. These flows were later covered by Pahala Ash and in some areas by single layers of basaltic flows from Hualalai and Mauna Loa (MacDonald et al 1983).

Soil in the area is classified in the Pu'u Pa Series, a stony, very fine sandy loam. Particularly in steep areas, runoff is rapid and erosion hazard may be severe (U.S. Soil Conservation Service 1973). The site is semi-arid in climate, with an annual rainfall of approximately 35 inches (Giambelluca et al 1986). Occasionally large storms may produce abundant rainfall that leads to high runoff. The site is not located in a floodplain, and the proposed action would not affect the drainage characteristics of the area.

A detailed analysis of the site's geological suitability was performed by South Pacific Geotechnical of Kailua-Kona, Hawaii. Four probe holes drilled to 30 feet revealed a substrate composed mainly of fine-grained volcanic ash soil. No groundwater was encountered. The site was found to be suitable for the construction of the tower and prefab control building. The primary concern on the site is the steep westerly-facing slope. Recommendations made in the report that at least twenty feet of separation exist between the outside bottom of the footing and the face of the slope will be followed.

Volcanic hazard as assessed by the United States Geological Survey is "4" on a scale of ascending risk 9 to 1 (Heliker 1990:23). The ranking is based on the fact that Hualalai is a dormant volcano that could possibly erupt at some time in the next several centuries.

Seismically the area shares with the entire island of Hawaii a Zone 3 rating on a scale of ascending risk 1 to 4 in the Seismic Probability Rating (Furumoto et al 1973:34). Major damage is possible. As noted in the geotechnical report, the project site is near the edge of a secondary, north-trending rift zone of Hualalai. The relevant design implications of this setting are to follow suitable specifications for lateral load according the Uniform Building Code.

## 2.1.2 Flora, Fauna and Ecosystems

### *Flora and Vegetation*

Botanical surveys of the cell site and access road were conducted by author Ron Terry, Ph.D., in August of 1993 and March of 1994.

The vegetation of both the access road and the cell site are almost completely dominated by alien species. The original native vegetation of the area probably consisted of a mixture of species common in lowland dry forests, shrublands and grasslands (Gagne and Cuddihy 1990). The spread of alien species, particularly fountain grass (Pennisetum setaceum), kiawe (Prosopis pallida) and lantana (Lantana camara) have utterly transformed this area along with large regions of Hawaii.

Plant cover on the cell site consists mainly of scattered shrubs of the native a'ali'i (Dodonea viscosa) along with fountain grass and other alien grasses. The sparse vegetation and droppings attest to heavy goat grazing.

The access road contains similar vegetation in its lower section, with additional species such as kiawe, lantana, and partridge pea (Chamaechrista nictitans) as well as some eucalyptus plantings. As elevation is gained the pasture vegetation becomes more lush and species such as sensitive plant (Mimosa pudica), the native ilima (Sida fallax), castor bean (Ricinus communis), Spanish clover (Desmodium spp.), kikuyu grass (Pennisetum clandestinum), bermuda grass (Cynodon dactylon), swollen fingergrass (Chloris barbata) and Guinea grass (Panicum maximum) are present.

A single grove of wiliwili trees (Erythrina sandwicensis) is present approximately midway along the access road (2.1 miles from the highway). This grove can and should be preserved from damage.

### *Fauna*

The site offers habitat for several mammals and birds used for hunting, including goats, occasional pigs, francolins (Francolinus spp.), and Kalij pheasants (Lophura leucomelana). Other birds include mynahs (Acridotheres tristis) and various doves.

The site does not appear to have significant habitat potential for native fauna. The native raptors, 'io (Buteo solitarius) and the Hawaiian owl or pueo (Asio flammeus sandwichensis) are extremely adaptable and may make occasional use of the area.

Sea birds, particularly the dark-rumped petrel or 'Ua'u (Pterodroma phaeopygia sandwichensis), may also fly over the site on their way to nesting grounds in the Saddle area. The State Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) has suggested that large towers be equipped with night lights in order to avoid injuries to birds from collision with the tower. However, in consideration of the relatively small size of the tower and possible adverse scenic impacts, U.S. Cellular proposes to leave the tower unlighted. U.S. Cellular will work with DOFAW to ensure that concerns about migratory bird safety are met.

#### Conservation Value

No listed, candidate or proposed endangered animal or plant species is found on the property. In terms of conservation value, no botanical or zoological resources requiring special protection occupy the site. Nevertheless, the grove of wiliwili trees should be protected from disturbance of damage.

## 2.2 Social and Economic Setting

### 2.2.1 Existing Land Uses: Overview

As illustrated on Figure 1, there are no settlements, agriculture or other intensive land uses in the vicinity of the cellular site. The closest settled area is the village of Pu'uauhulu, approximately 2.2 miles to the southeast. The village was traditionally a ranching center that has recently been added to by resort home subdivisions.

The Saiga Corporation is currently building a golf course/residential development just west and adjacent to the existing village.

The proposed sites will not be adversely impact views, interfere with or affect in any way the residential areas of Pu'u Anahulu.

### 2.2.2 State Survey Facilities

The proposed site lies within 300 feet of the government Survey Triangulation Station "ANAHULU". When the site was first proposed, the State Survey Division expressed concern that if the cellular site were located immediately adjacent to the trig station it might interfere with or degrade survey work. Subsequent communication with U.S. Cellular

engineers has cleared up misunderstandings about the location and characteristics of the cell site (Appendix 1).

The State Land Surveyor stated in a letter of 14 May 1993 that the "Survey has no objection to the construction of the proposed Cellular Site" (see Appendix 1).

#### 2.2.3 Hunting and Game Management Issues

According to game management specialists at the State Division of Forestry and Wildlife in Hilo (DOFAW), the general area surrounding Pu'u Anahulu is part of a game management area for hunting of goats and various gamebirds.

The access road passes through private lands proposed for a golf course near the highway, and a portion of the game management area which is presently a hunting safety zone. The road is not open to the general public or hunters. Access to the hunting area is via hiking.

The proposed cellular site will have little or no adverse impact on hunting. As determined in consultation with DOFAW, road improvements and maintenance would benefit game management efforts in the area by allowing better access for DOFAW officials and those they authorize to enter the area.

#### 2.2.4 Utilities and Road Access

Road access to the site is via State Highway 190, also known as the Upper Road between Waimea and Kona. This two-lane road has a 55 MPH speed limit at the access road turn-off. Sight distance in both directions along the highway is excellent.

The Hawaii Electric Light Company (HELCO) maintains transmission lines adjacent to Highway 190. A branch line from this main line would be the source of electrical power for the project.

#### 2.2.5 Scenic Resources

The Pu'u Anahulu area offers sweeping vistas of rolling grassland that include along the horizon impressive views of the stark peak of Mauna Kea, the green summits of Pu'u Wa'awa'a, Hualalai and the Kohala Mountains, and a wide expanse of coastline and open ocean. Unfortunately, the persistent vog (volcanic emissions) of the Kona Coast usually deteriorates viewing conditions.

The scenic characteristics of Pu'u Anahulu as viewed from immediately adjacent areas will be permanently transformed by the cellular site.

In order to provide a graphic exhibit of the actual impact of the tower on the local scenery, a rendering was commissioned by U.S. Cellular and performed by an architectural draftsman, Ed Clark of Keaau (Fig. 2).

The color for the tower and dishes will be selected in consultation with the Board of Land and Natural Resources. The objective is to minimize standout against the horizon while still blending in with the grass, scrub and rock outcrops on the site. Potential tones include buff brown, gray, light blue or some combination. The control building, which because of its position on the downslope and mauka side of the cone will essentially be hidden, will be colored in earth tones to blend with the soil and grass of the hill.

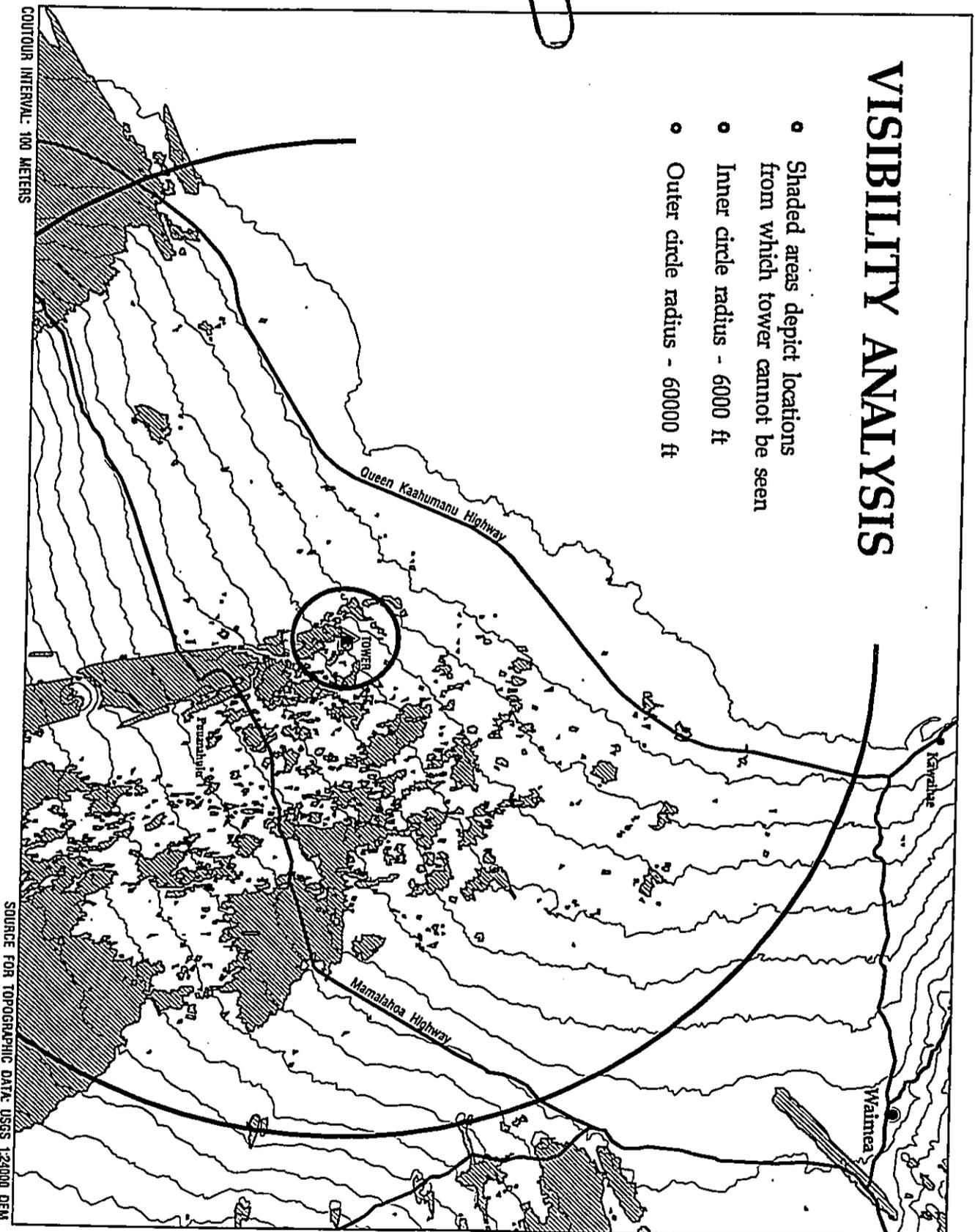
In order to precisely determine long-distance visual impacts, a three-dimensional computer view analysis was conducted using USGS data at the finest resolution possible. These were obtained from 1:24,000-scale digital maps, which have cells that are squares of approximately 100 feet on a side, and are generally accurate both vertically and horizontally within 30 feet or better. A tower of approximately 100 feet in height (higher than the projected maximum tower) was inserted in the data and a "viewshed" analysis conducted. This was accomplished using the ARC/INFO Geographic Information System. Figure 3 depicts all areas from which the tower will be seen as the unshaded areas on the map.

Because the tower consists of a monopole and grid dishes that blend in with the landscape, it will be increasingly difficult to discern with increasing distance. The two concentric circles on the map are placed to indicate the distance from which the tower will appear to be the same size as a large sewing needle held at arm's length (inner circle, radius 6000 feet) and a human hair held at arm's length (outer circle, radius 60,000 feet). From more than 10,000 feet the tower will be nearly invisible unless silhouetted against the horizon.

The viewplane from Queen Kaahumanu Highway will be thus be essentially unaffected. Views of Pu'u Anahulu from Highway 190 and adjacent properties from the village of Pu'u'anahulu north would to some extent be blocked by topography, and the tower may not be seen.

# VISIBILITY ANALYSIS

- Shaded areas depict locations from which tower cannot be seen
- Inner circle radius - 6000 ft
- Outer circle radius - 60000 ft

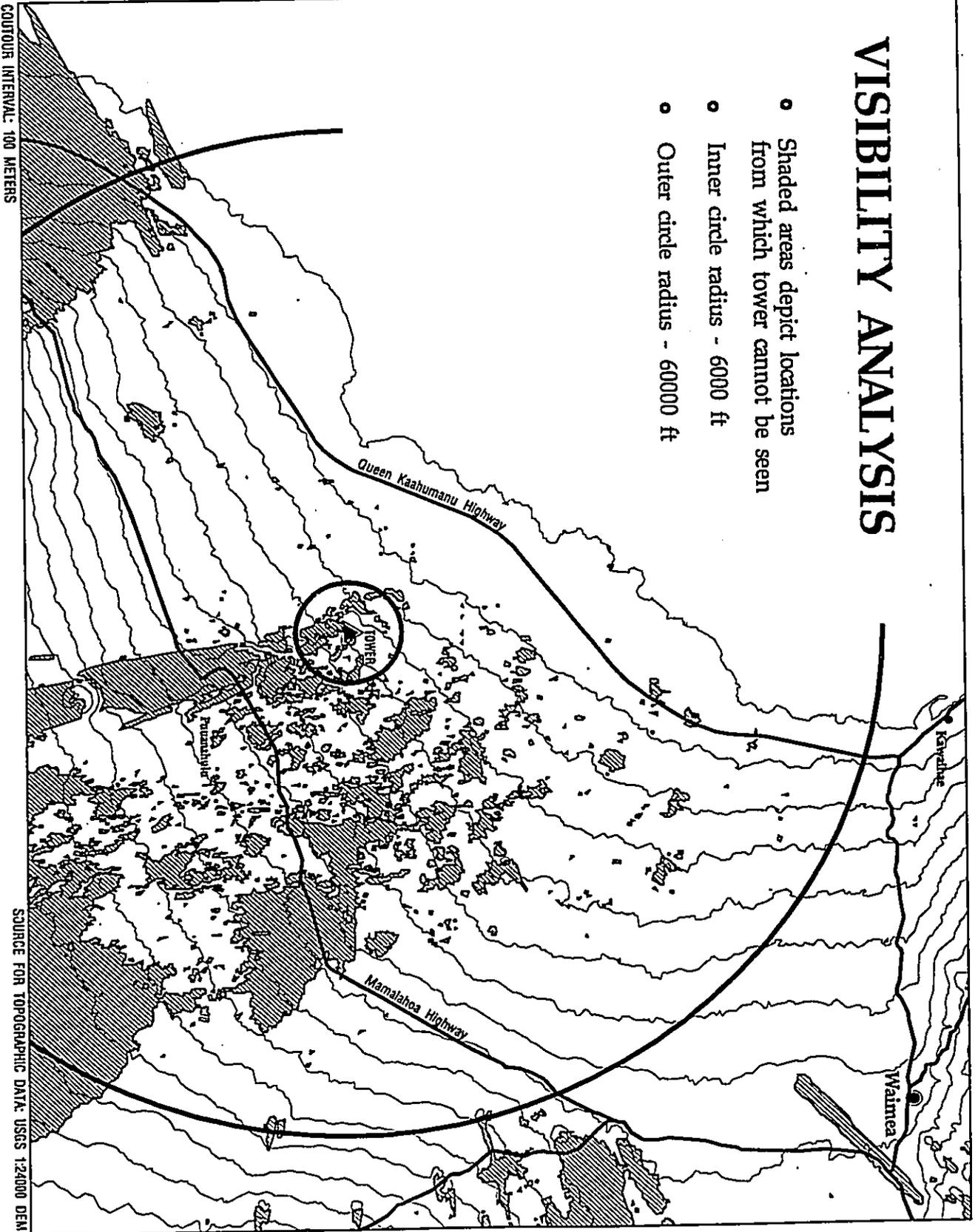


# CORRECTION

THE PRECEDING DOCUMENT(S) HAS  
BEEN REPHOTOGRAPHED TO ASSURE  
LEGIBILITY  
SEE FRAME(S)  
IMMEDIATELY FOLLOWING

# VISIBILITY ANALYSIS

- Shaded areas depict locations from which tower cannot be seen
- Inner circle radius - 6000 ft
- Outer circle radius - 60000 ft



Another element of the project with view implications is the electrical transmission line. The poles and lines will be particularly visible in the segment nearest the highway. After approximately one-half mile, the rolling topography along with the increasing distance between the line and adjacent accessible areas will be large enough to render the poles and lines barely discernible except through magnification.

### 2.3 Archaeology and Historic Sites

The site was inspected for archaeological remains by the authors accompanied by Marc Smith of the State Historic Preservation Division. No remains were discovered at the project site or along the proposed access/utility right of way. Based on this field observation, along with subsequent literature research and informant contact, Mr. Smith concluded that "the construction of the proposed cellular transmission site will have 'no effect' on significant historic sites" (see Appendix 1 for full text).

**PART 3: SUMMARY OF ENVIRONMENTAL IMPACTS  
AND PROPOSED MITIGATION MEASURES**

**3.1 Short Term Impacts**

*Impacts:* Short term impacts will result from landclearing and construction activities. The impacts will consist of temporary noise, dust and exhaust from machinery and heavy equipment. Exhaust and dust impacts will be mitigated by the dissipative effect of the winds, especially as construction will be remote from residences or other sensitive land uses.

*Mitigation:* All construction activity will maintain strict compliance with State Department of Health regulations regarding dust and erosion control.

**3.2 Long Term Impacts**

*Impacts:* The scenic characteristics of Pu'u Anahulu as seen from immediately adjacent areas will be permanently transformed by the cellular site. This impact will decline with increasing distance, and from most areas accessible to the general public and from all residential areas, the facility will be difficult to discern. The electrical lines supplying power to the cell site will be visible and will impose a permanent manmade element in the scenery of the area.

*Mitigation:* The monopole and grid dishes will be painted silver to blend in against the horizon and also with the dry grass, scrub and rock outcrops of the site. The control building, which because of its position on the downslope and mauka side of the cone will essentially be hidden, will be colored in earth tones to blend with the soil and grass of the hill.

**3.3 Permits, Approvals and Conditions**

Board of Land Natural Resources:  
Approval of Direct Sale of Easement  
Public Utility Commission Registration

**PART 4: ALTERNATIVES**

**4.1 No Action**

If no cell site is constructed in the general vicinity of Pu'u Anahulu, certain areas of the island will continue to have poor or no mobile phone coverage for U.S. Cellular customers.

**4.2 Alternative Site Locations**

Engineers conducted a site selection process before applying to the State for use of the proposed site. The location of existing and planned cell sites along with the topography of the island dictated that the cell site be located in the general vicinity of Pu'u Anahulu with direct line of transmission to various points in West Hawaii. In addition, sites were rated for visual impacts, construction suitability and accessibility.

Two promontories in addition to Pu'u Anahulu were considered in-depth: Pu'u Wa'awa'a and Pu'u Panini (see Figure 1). The transmission characteristics of Pu'u Wa'awa'a were less than ideal, and the visual impacts of a tower on the cone would also have been more adverse than the chosen alternative. Pu'u Panini had acceptable transmission characteristics, but visual impacts were somewhat problematic, although perhaps mitigable. However, the extremely steep slope in the area made access to this alternative all but impossible.

**PART 5: DETERMINATION**

The proposed project will not significantly alter the environment and impacts will be minimal. Therefore, the Department of Land and Natural Resources has determined that the preparation of an Environmental Impact Statement is not warranted.

**PART 6: FINDINGS AND REASONS**

1. The proposed project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.
2. The proposed project will not curtail the range of beneficial uses of the environment.
3. The proposed project will not conflict with the State's long-term environmental policies.
4. The proposed project will not substantially affect the economic or social welfare of the community or State.
5. The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.
6. The proposed project will not involve a substantial degradation of environmental quality.
7. The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat. No endangered species of flora or fauna are known to exist on the project site.
8. The proposed project will not detrimentally affect air or water quality or ambient noise levels.
9. Although the proposed project is located in an zone exposed to some earthquake and volcanic hazard, there are no reasonable alternatives. The proposed action would not expose any person to unreasonable risks.

For the reasons above, the proposed project will not have any significant effect in the context of Chapter 343, Hawaii Revised Statutes and section 11-200-12 of the State Administrative Rules.

#### REFERENCES

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University of Hawaii at Manoa, Dept. of Geography. 1983. *Atlas of Hawaii*. 2nd ed. Honolulu: University of Hawaii Press.

**APPENDIX 1**

**AGENCY COMMENTS**

Stephen K. Yamashiro  
Mayor



-W-A US CELLULAR  
7-1-03:por.0

Virginia Goldstein  
Director

Norman Olesen  
Deputy Director

## County of Hawaii

### PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252  
(808) 961-8288 • Fax (808) 961-9615

April 15, 1993

Mr. Glenn Y. Taguchi  
Hawaii District Land Agent  
State DLNR-Division of Land Management  
P. O. Box 936  
Hilo, HI 96721-0936

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
APR 21 1 17 PM '93

Dear Mr. Taguchi:

State Land Disposition  
Applicant: U.S. Cellular  
Proposed Cellular Transmission Site  
TMK: 7-1-3:1 (por.); Puanahulu, North Kona

We have reviewed the State Land Disposition request by U.S. Cellular to lease portion of the subject property for the proposed construction of a 60 foot high tower and equipment building. We provide you with the following comments:

1. Because the use of State lands would be involved, the requirement of Chapter 343, HRS, relating to Environmental Impact Statement (EIS) must be complied with.
2. We suggest that a view analysis from Queen Ka'ahumanu Highway and Mamalahoa Highway be conducted so as to ensure that there will be no visual impact.

Thank you for the opportunity to provide comments on the above-referenced request. Should you have any questions, please feel free to contact Alice Kawaha of this office.

Sincerely,

Handwritten signature of Virginia Goldstein in cursive.

VIRGINIA GOLDBSTEIN  
Planning Director

AK:mjs  
8717D

xc: West Hawaii Office

Handwritten initials, possibly "AK" or "mjs", in the bottom right corner.



# OFFICE OF STATE PLANNING

Office of the Governor

MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540  
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR  
TELEPHONE: (808) 587-2846, 587-2800

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DIVISION OF  
LAND MANAGEMENT  
HONOLULU, HAWAII

70-A 40  
Cellular

FAX: Director's Office 587-2848  
Planning Division 587-2824

APR 5 1 48 PM '93

March 31, 1993

## MEMORANDUM

TO: Mr. Glenn Y. Taguchi, Hawaii District Land Agent  
Division of Land Management  
Department of Land and Natural Resources

SUBJECT: Comments on State Land Disposition  
United States Cellular Site  
Puu Anahulu, North Kona, Hawaii

The applicant, United States Cellular, is proposing to lease 100 square feet of property on the ridge of Puu Anahulu at North Kona, Hawaii for the construction of a cellular transmission site. The proposed project would include the construction of an 8' wide x 10' high x 20' long building and a 60 foot high tower which would be enclosed by an 8 foot high fence.

The Office of State Planning (OSP) is concerned about visual impacts associated with the proposed project. Puu Anahulu is a prominent ridge in the South Kohala-North Kona region and the placement and construction of 60 ft. tower with dish antennas upon the ridge would be highly visible from the surrounding area. An assessment of visual impacts should be completed prior to further processing of this disposition request. The visual assessment should consider the view of the project site from the Queen Kaahumanu Highway and North Kona Belt Road and provide an exact location of the project. The assessment should utilize photographs and renderings to illustrate the prominence of the structures in relation to the surrounding landscape. Also, the applicant should evaluate other alternatives to the selected site, which may be more appropriate locations for the project.

OSP recommends that the applicant's proposal be put on hold pending the submittal of a visual resources assessment and the evaluation of site alternatives. When this additional information is submitted, we would appreciate the opportunity to review the new submittals and provide you with additional comments.

Thank you for the opportunity to comment. Should you have any questions please contact the Land Use Division at 587-2886.

Harold S. Masumoto  
Director

ACR  
hm  
lp

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
HAWAII  
March 18, 1993

MAR 24 9 34 AM '93

MEMORANDUM:

TO: Glenn Y. Taguchi, District Land Agent

FROM: Charles K. Wakida, Forestry and Wildlife Manager *CKW*

SUBJECT: Form 70-A - Request for Lease for Cellular Transmission Site, Puuanahulu, North Kona, Hawaii 3rd/7-1-03:01 (portion)

The Hawaii District, Division of Forestry and Wildlife, recommends against the lease for the requested purpose. Reasons include the following:

1. The facility would be a visual obtrusion to the open space quality of the area. Also, experience has been that once such a facility is permitted, it sets precedence for others to follow.
2. We are concerned with the potential impact of the facility on the game management use of the area. While the present request may be for 10,000 square feet, there is the possibility they may subsequently request a "safety zone" for security reasons in the future.
3. Nocturnal flights of sea birds, some of which are endangered, could be threatened through collision with the tower.

Should the Department decide to grant the request, at a minimum, the following mitigating requirements must be included as conditions.

1. The facility be painted to blend into the surrounding area.
2. There will be no "safety zones" around the facility.
3. The top of the tower must be marked with lights at night.
4. All birds found at the site as a result of having crushed into the tower must be reported to the Division of Forestry and Wildlife.

cc: Michael G. Buck

*mu*

JOHN WAIHEE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING  
AND GENERAL SERVICES  
SURVEY DIVISION  
P. O. BOX 119  
HONOLULU, HAWAII 96810

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DIVISION OF  
LAND MANAGEMENT  
HAWAII

ROBERT P. TAKUSHI  
COMPTROLLER

MAY 19 1 35 PM '93

FILE NO. \_\_\_\_\_

May 14, 1993

MEMORANDUM

TO: Mr. Glenn Y. Taguchi  
Hawaii District Land Agent

FROM: Paul T. Nuha, State Land Surveyor

SUBJECT: Proposed United States Cellular Puu Anahulu Cell Site,  
Tax Map Key: 3rd/7-1-03:01 (Portion)

This is in regards to your May 10, 1993 letter on the subject matter. Thank you for your fine effort in coordinating and providing me with the information which satisfactorily addresses Surveys' concerns.

Based on the proposed Cellular Site location and technical material assuring the surveyors safety from the high voltage and electro-magnetic field emitted by a cellular station, Survey has no objection to the construction of the proposed Cellular Site.

  
PAUL T. NUHA  
State Land Surveyor

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P

JOHN WAIHEE  
GOVERNOR



RECEIVED  
DIVISION OF  
LAND MANAGEMENT

MAR 22 12 30 PM '93

ROBERT P. TAKUSH  
COMPTROLLER

STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING  
AND GENERAL SERVICES

SURVEY DIVISION  
P. O. BOX 119  
HONOLULU, HAWAII 96810

FILE NO. \_\_\_\_\_

March 18, 1993

MEMORANDUM

TO: Mr. Glenn Y. Taguchi  
Hawaii District Land Agent  
Dept. of Land and Natural Resources

FROM: Paul T. Nuha, State Land Surveyor

SUBJECT: Proposed United States Cellular Site

This is in regards to your March 12, 1993 letter.

The proposed site appears to be in close proximity with the Government Survey Triangulation Station "ANAHULU". It is highly probable any construction activity close to the trig station will permanently disturb the station. Once it is disturbed, the station will be of no use to the surveyors. Also, the ten foot height of the proposed building will obstruct the surveyors' visual corridor and adversely impact any survey work.

Although unconfirmed, the high voltage and magnetic field emitted by the cellular station may endanger the health and safety of the surveyors occupying the trig station.

In view of the foregoing, Survey Office objects to the proposed cellular site.

Thank you for the opportunity to comment on this important matter.

Handwritten signature of Paul T. Nuha in cursive script.  
PAUL T. NUHA

43  
1/2

10/14/87

Mr. Paul T. Nahua  
State Land Surveyor

RE: UNITED STATES CELLULAR - PUU ANAHULU CELL SITE

Dear Mr. Nahua:

Thank you for voicing your concerns about our proposed cellular facility at Pu'u Anahulu. Please rest assured that United States Cellular will do everything in our power to make this facility compatible with the ongoing needs of the surveyors of the Big Island.

I have enclosed a 7.5 minute map of the area for discussion along with a few photos. As you can see from the map a site, the tower is located approximately 250 feet northwest of the VBM and is at least 10 feet lower in elevation than the VBM. We feel that this location will serve us well and remove the visual obstacle imposed by our fence and building leaving only the small face tower in the view plane. While the tower is intended to be as small as possible and still meet survivability requirements, the top will clear the top of the Pu'u by quite a bit.

Communications towers are quite often used by surveyors as nonverified markers because of their visibility and known location. I suspect that will be the case with this facility. United States Cellular is prepared to affix to the top of the tower a survey marker provided by the state. We will also provide the location of this marker and ask that your office verify its location. While not intended to supersede the existing VBM, this marker would provide a clear point for ALL surveyors in the area. Frankly, I see no reason why we can't do this at all of our upcoming locations.

Your concern for surveyor safety is understood and, with the current media blitz questioning the safety of cellular handheld units, somewhat expected. I will not be the one to blow smoke at you on this issue. I have enclosed some literature from the CTIA. Please note the exposure levels for handheld phones and portable radios. I for one think I will keep my cellular, but this is not the issue you have voiced as I understand it.

If I understand your concern, it centers around the RF energy emitted by the transmitters and microwave units at the site. I have included several exhibits for your review. Most notable is the sworn affidavit concerning the Augusta Maine project which includes the worksheet used by Mr. Biby. I will

Mr. Paul T. Nahua  
State Land Surveyor  
Page Two

let these documents speak for themselves, but I will recap the Augusta paper.

Basically Mr. Biby states that assuming a person is 180 ft. from the antennas and standing in their primary power pattern, they will receive .000042 mW/cm<sup>2</sup>. Compare that with the 3.6 watt (3600mw) for the handheld radio. Even if we had 100 transmitters on this site (not in our lifetimes) our surveyor would receive only .0042mW/cm<sup>2</sup>. I feel it is important to note that the permissible level for the cellular spectrum is 2.9 mW/cm<sup>2</sup>.

For our proposed Anahulu site we should expect about .015mw/cm<sup>2</sup>. This is due to the closer worst case proximity of 60 ft. to the antennas. At this level we would need 196 active radios all keyed at the same time to exceed the permissible level. Even this is not a real number because directly below the antennas is a low power point. We should expect a level 27 times lower than stated above. In any case, the levels to be expected are well below any existing or proposed guidelines.

I hope I have cleared up any concerns you may have about our proposal. I know you will find United States Cellular a quality neighbor at Pu'u Anahulu, as well as one of the Big Islands best corporate citizens. If I can be of any further help, please feel to call me at 935-7500 anytime.

Sincerely,

*Mike Bennett*  
Mike Bennett  
Senior Network Field Engineer  
Hawaii RSA #3

JOHN WAIHEE  
GOVERNOR



EMPLOYEES' RETIREMENT SYSTEM  
HAWAII INC  
HAWAII PUBLIC EMPLOYEES HEALTH FUND  
HOUSING FINANCE AND DEVELOPMENT  
CORPORATION  
OFFICE OF THE PUBLIC DEFENDER  
PUBLIC UTILITIES COMMISSION

STATE OF HAWAII  
DEPARTMENT OF BUDGET AND FINANCE  
STATE CAPITOL  
P.O. BOX 150  
HONOLULU, HAWAII 96810-0150

July 8, 1993

7-10-A US Cellular  
7-1-03:  
POY. 01  
RECEIVED  
DEPARTMENT OF  
LAND AND NATURAL RESOURCES  
JUL 14 1 15 PM '93  
YUKIO TAKEMOTO  
DIRECTOR  
EUGENE S. IMAI  
DEPUTY DIRECTOR  
DEPUTY DIRECTOR

BUDGET, PROGRAM PLANNING AND  
MANAGEMENT DIVISION  
FINANCIAL PLANNING AND POLICY  
DEVELOPMENT DIVISION  
INFORMATION AND COMMUNICATION  
SERVICES DIVISION  
TREASURY OPERATIONS DIVISION

TO: Mr. Glenn Y. Taguchi  
Hawaii District Land Agent  
Department of Land and Natural Resources

FROM: Lester Nakamura, Manager  
Systems Networking Branch  
Information and Communication Services Division

SUBJECT: United States Cellular's Proposed Cellular  
Transmission Site at Puuanahulu, North Kona, Hawaii  
Tax Map Key: 3rd/7-1-03:01 (portion)

We have completed our review of United States Cellular's application to lease a parcel of land at Puuwaawaa (see attached letter) which is referred to by you as Puuanahulu, to construct and operate a cellular telephone cell site. It is expected that the construction and operation of the proposed facility should not cause any interference to existing or proposed State of Hawaii telecommunications systems.

However, if interference is caused by the applicant, we will require that United States Cellular immediately ceases operation of that cellular cell site and be held accountable to eliminate the interference at no cost to the State.

Should you have questions, please call me at 586-1930.

Attachments

NETADM44

ME  
LWS

JOHN WAIHEE  
GOVERNOR  
MAJOR GENERAL EDWARD V. RICHARDSON  
DIRECTOR OF CIVIL DEFENSE  
ROY C. PRICE, SR.  
VICE DIRECTOR OF CIVIL DEFENSE



70-A  
RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
HONOLULU, HAWAII



APR 2 1 36 PM '93 (808) 734-2161

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

March 30, 1993

TO: Mr. Glenn Y. Taguchi  
Hawaii District Land Agent  
Department of Land and Natural Resources

FROM: Roy C. Price, Sr. *RP*  
Vice Director of Civil Defense

SUBJECT: STATE LAND DISPOSITION; PUUANAHULU, NORTH KONA, HAWAII

We appreciate this opportunity to comment on the "State Land Disposition" request by United States Cellular at Puuanahulu, North Kona, Hawaii, TMK: 7-1-03: por. 1.

While we do not have negative comments specifically directed at the petition requesting a lease agreement between the State of Hawaii and United States Cellular, we do have comments regarding specific inclusions in the lease rights section of the agreement. With more concerns being voiced by local organizations about electromagnetic radiation, the ecology, etc., a joint use site consolidation plan is a must. Radio site consolidation will require a larger building and a tower with a higher wind and loading factor. The lease agreement should also include some space allotment for State and County departments such as the Information and Communication Services Division, the Department of Land and Natural Resources, State Civil Defense, police and fire departments, as well as cellular air time provided by United States Cellular for the Executive Branch of State and County Governments.

Our State Civil Defense planners and technicians are available to discuss this further if there is a requirement. Please have your staff call Mr. Mel Nishihara at 734-2161.

*RP*  
*me*

JOHN WAIHEE  
GOVERNOR OF HAWAII



COPY

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION  
33 SOUTH KING STREET, 6TH FLOOR  
HONOLULU, HAWAII 96813

June 8, 1994

KETH AHUE, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

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HISTORIC PRESERVATION  
DIVISION

LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

LOG NO: 11781 ✓

DOC NO: 9406ms10

MEMORANDUM

TO: Glenn Taguchi, Hawaii District Land Agent  
Land Management Division

FROM: Don Hibbard, Administrator  
State Historic Preservation Division 

SUBJECT: State Land Disposition - Lease Application for United States Cellular  
Puuanahulu, North Kona, Hawaii Island  
TMK: 7-1-03:01 (portion)

HISTORIC PRESERVATION PROGRAM CONCERNS:

A site inspection was made by Historic Preservation Division staff archaeologist Marc Smith and planning consultant Ron Terry, on May 12, 1994.

The area is along the ridge of Puuanahulu, with sparse, short grass ground cover. The substrate is rhyolitic outcrops and ash soils. Much of the ridge top is void of vegetation. Access to the project area was along an existing ranch road.

Only one structure was observed near the project area. It appeared to be the remains of a military bunker, excavated below the crest of the ridge. Four posts were still present in the excavation, located generally in each corner of the pit (2 meters square). These appeared to be remaining roof supports. A sweeping view from this location from Kailua to Kawaihae and Waimea, is what suggests a World War II era military site. No artifacts or midden were found however, to support this claim.

No other structures or features were observed in the project area. As no significant historic sites are present at the proposed antennae site, and the construction access will be along an existing ranch road, it is felt that the construction of the proposed cellular transmission site will have "no effect" on significant historic sites.

If you should have any further questions, please contact Historic Preservation Division staff archaeologists Patrick C. McCoy at 587-0007 (Honolulu), or Marc Smith 933-4346 (Hilo).

MS:amk

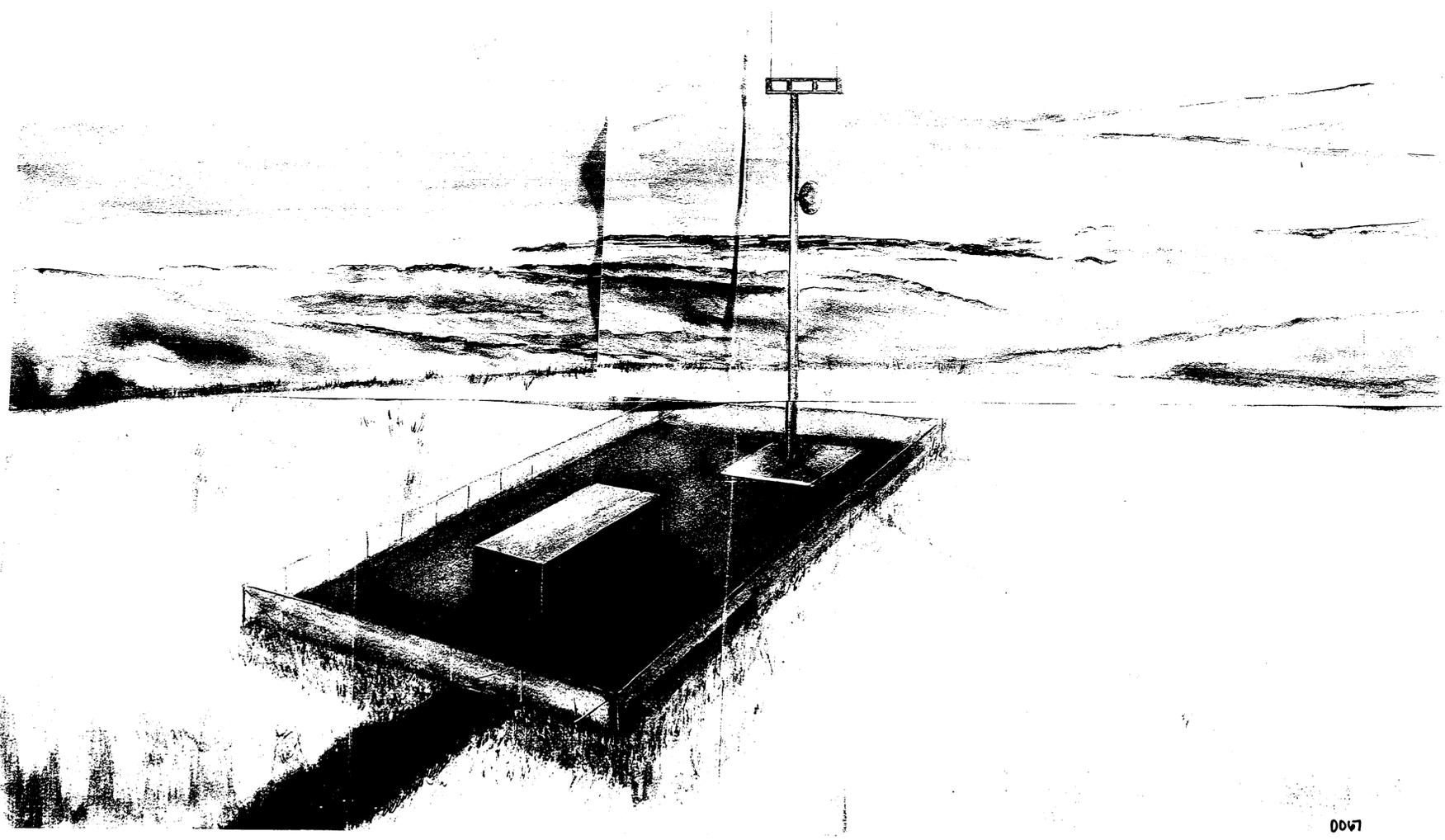
c: Mr. Ron Terry

**OVERSIZED  
DRAWING/MAP**

**PLEASE SEE  
35MM ROLL**

0067

RECEIVED AS  
FOLLOWS



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