UNIVERSITY OF HAWAI'I AT MĀNOA

OFFICE OF THE CHANCELLOR

February 24, 2005

Ms. Genevieve Salmonson
Director
Office of Environmental Quality Control
State of Hawai'i
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

Dear Ms. Salmonson:

Subject: Notice of Determination – Finding of No Significant Impact
Telecommunications Facility, University of Hawai'i at Mānoa
Hamilton Library Annex Rooftop, Honolulu, O'ahu, Hawai'i
TMK: (1) 2-8-023:003

The University of Hawai'i at Mānoa has reviewed the responses to comments related to the Draft Environmental Assessment received during the 30-day public comment period that began on November 23, 2004. The agency has determined that this project will not have significant environmental effects and has issued a Finding of No Significant Impact. Please publish this notice in the March 8, 2005 edition of *The Environmental Notice*.

We have enclosed the following items for your review:

(1) One copy of the OEQC Environmental Notice Publication Form;
(2) Four copies of the Final EA.

The following information is provided in accordance with the requirements for a Notice of Determination:

Identification of Applicant
Nextel Partners, Inc.

Identification of Accepting Agency
University of Hawai'i at Mānoa, State of Hawai'i

Determination
Finding of No Significant Impact (FONSI)

2500 CAMPUS ROAD • HAWAI'I HALL • HONOLULU HAWAI'I 96822 • TEL (808) 956-9130 • FAX (808) 956-5136

Reasons Supporting Determination
This determination is based on the significance criteria listed in Section 11-200-12 of the Environmental Impact Statement Rules:

Reasons Supporting Determination
This determination is based on the significance criteria listed in Section 11-200-12 of the Environmental Impact Statement Rules:

1. The proposed project will not involve an irrevocable commitment to loss or destruction of any natural or cultural resources.

2. The proposed project will not curtail the range of beneficial uses of the environment. The project will be located within the University of Hawai'i parcel and easements, designated for institutional facilities.

3. The proposed project will not conflict with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

4. The proposed project is will not have a substantial negative effect on the economic or social welfare of the community or state. The project will not have a long-term impact on employment or economics. The impact on social welfare will be positive since the proposed project will enhance telecommunication service for the community.

5. The proposed project will not substantially affect public health (in a negative manner). Rather, the project will provide a means to minimize emergency response time by providing efficient, quality telecommunication service on the university campus and its surrounding area.

6. The proposed project does not involve substantial secondary impacts, such as effects on public facilities (in a negative manner). Rather, it will increase capacity of the existing communication system to serve the university campus and its neighboring parcels in conformance with the County General Plan and the Primary Urban Center Development Plan.

7. The proposed project does not involve a substantial degradation of environmental quality. Antenna facilities are clean, unmanned facilities that do not generate additional vehicular traffic or degrade noise or air quality.

8. The proposed project does not have a considerable cumulative effect upon the environment, and no larger commitments are required for the proposed antenna site.

9. The proposed project will not substantially affect rare, threatened, or endangered species, or their habitat since there are none present within the project site.

10. The proposed project will not detrimentally affect air or water quality or ambient noise levels. These potential impacts and mitigation measures have been addressed in the appropriate sections of the EA.

11. The proposed project will not affect, nor is it likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

12. The proposed project will not substantially affect scenic vistas or viewplanes identified in county or state plans or studies. The antennas will be painted the same color as the existing building and will not exceed the existing height of the structure.

13. The proposed antenna facility will not require substantial additional energy.

Should you have any questions, please contact Ms. Colette Sakoda of Environmental Planning Solutions, LLC at 732-8602.

Sincerely,

Rodney Sakaguchi
Vice Chancellor for Administration, Finance
and Operations

cc: Colette Sakoda (Consultant)

2005-03-08 FONSI
NEXTEL PARTNERS, INC, UH-HAMILTON ANNEX
ANTENNA FACILITY

MAR - 8 2005

FINAL ENVIRONMENTAL ASSESSMENT FOR

NEXTEL PARTNERS, INC. (NPI)
TELECOMMUNICATIONS FACILITY
ON THE UNIVERSITY OF HAWAII AT MANOA CAMPUS
HAMILTON LIBRARY ANNEX ROOFTOP
Tax Map Key No.: (1) 2-8-023:003 (por)

Honolulu, Oahu, Hawaii

Submitted Pursuant to Chapter 343, Hawaii Revised Statutes (HRS)

February 2005

Final Environmental Assessment

Proposed Nextel Partners, Inc. Telecommunications Antenna Facility
Hamilton Library Annex III
University of Hawaii at Manoa
Tax Map Key No. 2-8-023:003

Applicant:
Nextel Partners, Inc.
3375 Koapaka Street, #D-155
Honolulu, HI 96819

Approving Agency:
University of Hawaii at Manoa
2444 Dole Street
Honolulu, HI 96822

Prepared by:
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, HI 96816

February 2005

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SUMMARY INFORMATION

CHAPTER 343, HAWAII REVISED STATUTES (HRS)
FINAL ENVIRONMENTAL ASSESSMENT

Project Name:	Proposed Telecommunications Facility University of Hawaii at Manoa (UHM) Hamilton Library (Phase III) Annex , Honolulu, Hawaii
Applicant:	Nextel Partners, Inc. (NPI) 3375 Koapaka Street, D-155 Honolulu, Hawaii 96819
Approving Agency:	University of Hawaii at Manoa 2444 Dole Street Honolulu, Hawaii 96822
Prepared by:	Colette M. Sakoda Environmental Planning Solutions LLC 945 Makaiwa Street Honolulu, Hawaii 96816
Anticipated Determination:	Finding of No Significant Impact (FONSI)
Project Description:	12 panel antennas are to be mounted vertically on the exterior walls of the machine room located on the building rooftop. Equipment in a 10'x20' room within the machine room.
Land Owner:	State of Hawaii 2444 Dole Street Honoluiu, Hawaii 96822
Location:	Hamilton Library Annex III, UHM upper central campus, bordered on the north by Maile Way, to the south by Edmondson Hall, and on the west by Spalding Hall; Manoa, Honolulu District, Oahu

Site Address:	Hamilton Library Annex III 2550 McCarthy Mall Honolulu, Hawaii 96822-2275
Tax Map Key No.:	2-8-023:003
Land Use Classifications:	State Land Use District: Urban County Development Plan: Institutional County Zoning: R-5 Residential
Lot Area:	88,760,400 square feet (103.482 acres)
Height Limit:	25-30 feet
Special Management Area:	No
Flood Zone:	AE & X
Existing Use:	Hamilton Library Annex III is UHM's Hamilton Library graduate student library expansion located immediately west of the original Library. Locations for antennas and equipment are vacant and unused.
Surrounding Land Uses:	Hamilton Library Annex III is located in the interior of the UHM campus. It is surrounded by the original Hamilton Library to the east, Maile Way to the north, Edmondson Hall to the south, and Spalding Hall to the west.

I. INTRODUCTION

Nextel Partners, Inc., a mobile telecommunications provider, is proposing to upgrade its wireless communications service throughout the University of Hawaii at Manoa campus by installing a transmitter/antenna facility on the rooftop of the six-story Hamilton Library Annex III building in the upper/central part of the campus. Besides coverage of the entire campus, in-building coverage is in need of significant improvement. Increasingly, PCS systems are being used to transmit data allowing callers to communicate with other telephones, computers, faxes and pagers around the world. This has greatly increased usage and demand for efficient coverage.

This Draft Environmental Assessment (DEA) has been prepared to identify and evaluate the existing conditions and potential impacts of the installation of an antenna facility at the top of Hamilton Library Annex III on the natural and human environment. This DEA has been prepared in accordance with the provisions of Chapter 343, HRS and Title 11, Chapter 200 of the State Department of Health's Administrative Rules, as the proposed action involves the use of State land.

1.1 IDENTIFICATION OF APPLICANT

Nextel Partners, Inc. (referred to hereon as NPI) is a mobile telecommunications service provider proposing to implement this project.

1.2 IDENTIFICATION OF APPROVING AGENCY

The University of Hawaii is the designated approving agency because it is the landowner. A minor modification to the University's Plan Review Use (PRU) File No. 88/PRU-3 is required by the City and County of Honolulu. Thus, the DEA prepared in accordance with Chapter 343, HRS, is a supplemental document to the minor modification to the PRU application.

1.3 IDENTIFICATION OF AGENCIES AND ORGANIZATIONS CONSULTED IN MAKING THE ASSESSMENT

Listed below are the agencies and organizations consulted in the preparation of the DEA. Agency responses are included in Appendix B.

Federal Government:

1. U.S. Army Corps of Engineers Pacific Ocean Division
   Regulatory Branch
2. U.S. Department of Interior U.S. Fish & Wildlife Service
3. Environmental Protection Agency—PICO
4. Directorate of Facilities Engineer U.S. Army Support Command Hawaii

State of Hawaii:
5. Department of Education
6. State Department of Land and Natural Resources
   Historic Preservation Division
7. State Department of Land and Natural Resources Land Division
8. Office of Hawaiian Affairs
9. Office of Planning
10. UHM Environmental Center
11. University of Hawaii Manoa Facilities Planning and Management Office
12. State Department of Health Environmental Management Division
13. State Department of Transportation Highways Division

City and County of Honolulu:
14. Board of Water Supply
15. Department of Parks and Recreation
16. Department of Planning and Permitting
17. Department of Environmental Services
18. Department of Transportation Services
19. Fire Department
20. Police Department

Utilities:
21. Verizon Hawaii Inc.
22. Hawaiian Electric Company
23. Oceanic Time Warner Cable of Hawaii
24. The Gas Company

Other Organizations:
25. Nature Conservancy
26. Sierra Club
27. Manoa Neighborhood Board No. 7
28. Ann Kobayashi, Councilmember, District 5

1.4 SUMMARY OF MAJOR IMPACTS AND MITIGATING MEASURES

A. SHORT TERM IMPACTS

TRAFFIC AND PARKING. Minor traffic impacts will occur as a result of construction related traffic and the operation of construction equipment which may, on occasion, impede traffic in the immediate vicinity of Hamilton Library Annex III. In addition, the proposed project may inhibit the use of a few parking stalls on the Maile Way side of the building while a boom truck is parked to unload the bulk of the panel antenna hardware. This is expected to be up to a 3-day period.

NOISE. Construction activities will result in an increase in noise levels during the up to six-week installation period. However, disruption to existing activities is anticipated to be minimal as the proposed project will be predominately interior work and will not involve major earthmoving, pile driving or heavy demolition work.

AIR QUALITY. During construction, fugitive dust generation and on-site emission from construction and installation activities may affect air quality in the immediate vicinity of the project. However, these impacts are anticipated to be minor due to the short construction period and confined rooftop area of the actual exterior equipment installation.

To mitigate potential short-term impacts associated with construction activities, the installation of the equipment should be coordinated with the university to minimize disruption of classes, preferably when the university is not in session.

B. LONG TERM IMPACTS

TRAFFIC AND PARKING. The proposed project will not result in any loss of parking spaces. Neither will it result in an increase in parking demand. The antenna facility will be unmanned and monitored from an offsite location. It will be visited once a month by a maintenance engineer whose normal length of stay on the site will be one hour. The project will not result in an increase in traffic volumes because it will be unmanned.

NOISE. The operations of electrical switching equipment in the machine room and 12 panel antennas are not expected to result in any significant increase in noise levels at the rooftop or in the Hamilton Library Annex III complex. Adding to the library's existing air conditioning condensers and other mechanical equipment would result in a minimal increase in the noise environment on the rooftop's exterior.

VISUAL RESOURCES. The placement of 12 panel antennas on the north, south, east and west sides of the building on the elevator machine room will have limited impact on ground level views in the vicinity of the building as the view angle from the ground limits views to the outer portions of the roof. In addition, there are numerous mature trees

surrounding the building, which further mitigates visibility. Visual impacts will mainly occur to view from the upper floors of adjacent buildings or from distant ground level viewpoints. These impacts will be minimal as: (1) the visual quality of the existing environment is already impacted by existing structures and mature trees; (2) the overall size of the antennas in comparison to the building itself will result in changes to portions of the building roof, but will not result in a significant alteration to the overall form. The antennas and related accessories will be painted to match the building paint color. Refer to photo simulations in the Appendix.

The installation of the electrical equipment inside the rooftop machine room will not impact ground level views because it will be inside the building.

ELECTROMAGNETIC RADIATION (EMF). A total of twelve (12) antennae will be mounted on all four (4) sides (3 on each side) of the mechanical machine room and will not exceed the height of its roof. The bottom of the antennae on the west face will be mounted 9' 7" above the main roof level. The radiating pattern will emit from the center of the 4' long antenna, therefore the rad center will be 11' 7" from the roof level.

The rooftop of the Hamilton Annex is restricted to public access. Only campus maintenance, contractors and NPI personnel will have access to the rooftop. These personnel will be aware of the facility and knowledgeable of the potential for exposure and can exercise control over their exposure. In the event that UH workers will be in close proximity to the antennas for prolonged periods, UH personnel will make prior arrangements with Nextel. Nextel will work with the UH personnel to mitigate any concerns including education of RF safely and use of RF monitor devices. If it is determined that work will be unsafe, Nextel will work with UH on reducing the power level of the antennas possibly remotely powering down the antennas. UH personnel are aware that powering down the antennas will affect service and will be possible for rare and short periods of time. Caution or warning signs related to radiation safety will be posted on the locked roof access door and padlocked roof scuttle and the exteriors of the west facing wall.

Nextel Partners, Inc. is licensed by the Federal Communications Commission (FCC) and complies with very strict emission guidelines. NPI radio engineers have certified that the Effective Radiated Power (ERP) of the antennas proposed for Hamilton Library Annex III will be no more than 200 watts and within .56733mW/cm² as per FCC guidelines for MPE at the lower rooftop level. See Certificate for Telecommunications Antenna, DPP form 0166L.6.13.88, and Certification of Categorical Exclusion for Antenna Installations, DPP form 56153 dated 10/12/04) as well as Nextel Partners, Inc. prepared document on MPE, SAR and Compliance Exhibit in the Appendix. In addition, analysis of the proposed installation at Hamilton concluded that the site will not exceed FCC MPE and SAR Regulations for the General Public.

Professor Vincent Z. Petersen, an expert in the field of radiation and radio transmission at the UHM Department of Physics, was asked by the Associated Students of the University of Hawaii (ASUH), to determine whether a higher intensity KTUH antenna on Saunders Hall would result in a radiation hazard to occupants of the building. Dr. Petersen prepared a paper entitled, "Statement Regarding Electromagnetic Radiation Levels Associated with Proposed KTUH FM Radio Transmission" in 1995. Calculations prepared by Dr. Petersen concluded that the FM radiation from the KTUH antenna with 3000 watt total radiated power, does not constitute a radiation hazard to occupants at the top floor (or any floor) of the Social Sciences Building. The maximum intensity on the rooftop was projected as 30 times lower than FCC-acceptable radiation levels of 1.0 mW/cm^2. Please refer to a copy of Dr. Petersen's paper in the Appendix.

NPI's antenna would be radiating at a significantly lower level than the KTUH site.

SOCIO-ECONOMIC. Wireless technology provides high quality, safe and secure communication services to the community. To be effective, the necessary infrastructure must be built so that the convenience, mobility and connectivity of wireless phones are easily and readily available to all residents. In addition to improving public safety and providing new jobs, NPI is helping build a communications infrastructure that will support economic growth and additional tax revenues. Efficient and reliable communication is an essential requirement for people in any community. This installation is a part of a cellular telecommunications system that will help fulfill this need.

1.5 SUMMARY OF ALTERNATIVES CONSIDERED

Other buildings on campus that have existing facilities were considered but were ruled out because they were not suitable for RF purposes or lacked adequate infrastructure for additional antenna facilities, such as Saunders Building where there are existing antennas. Off campus, the buildings that met RF criteria were the Mid Pac Institute and Hawaii Pacific Baptist Convention. Both candidates showed some interest, but decided to terminate further negotiations due to construction projects at both sites.

1.6 DETERMINATION

Based upon the findings presented in the DEA and supporting technical analysis, the potential impacts of the installation and operation of the NPI antenna facility have been sufficiently examined and discussed. After reviewing the significance criteria outlined in Section 11-200-12, EIS Rules, Contents of Environmental Assessments, it was determined that the action is not expected to result in significant adverse effects on the natural environment. The DEA was circulated for public review and comment for a period of 30 days between November 23 and December 22, 2004. As the approving

agency the UH Facilities and Management Office reviewed written comments received at the end of the review period .

2.0 PROJECT DESCRIPTION

2.1 PURPOSE AND NEED FOR THE PROJECT

NPI is seeking to improve and expand telecommunication service to its customers in University of Hawaii Manoa, Manoa Valley, and upper Moiliili areas. The purpose of the transmitter/antenna facility is to provide in building coverage on the University of Hawaii campus and in lower Manoa. Increasingly, PCS systems are being used to transmit data allowing callers to communicate with other telephones, computers, faxes and pagers around the world. This has greatly increased usage and demand for efficient coverage. PCS uses "cells" or geographic areas that resemble a honeycomb pattern. Located within each cell area, an antenna and a base station comprised of switching equipment. The signal travels from the wireless phone to the base station and is relayed to the switching equipment. The call is then connected to the local phone network or to other wireless users on the system.

Wireless technology provides high quality, safe and secure communication services to the community. To be effective, the necessary infrastructure must be built so that the convenience, mobility and connectivity of wireless phones are easily and readily available to commuters, faculty, students, service providers and security. In addition to improving public safety and providing new jobs, NPI is helping build a communications infrastructure that will support economic growth and additional tax revenues. Efficient and reliable communication is an essential requirement for people in any community. This installation is a part of a cellular telecommunications system that will help fulfill this need.

2.2 LOCATION, OWNERSHIP AND SURROUNDING LAND USES

The site for the proposed NPI antenna facility is located on the University of Hawaii, Manoa (UHM) campus in Honolulu on the island of Oahu. See Figures 1 and 2. The University of Hawaii is a multi-campus system of post-secondary educational institutions serving the State of Hawaii. The UHM is the system's major comprehensive graduate and research campus with more than 18,700 students and is commonly referred to as the Manoa Campus.

The University of Hawaii Long Range Development Plan (UHLRDP) divides the Manoa campus into four subareas: the Central campus, the Upper/Central campus, the Mauka campus, and the Makai campus. The Hamilton Library Annex III is a part of the Central campus on less than an acre of land. The building occupies a portion of Tax Map Key: 2-8-023:003 which is owned by the University of Hawaii.

Hamilton Library Annex III which is part of the third phase expansion of the original Hamilton Library, is bordered by Maile Way to the north, the original Hamilton Library on

the east, Edmondson Hall the south, and Spalding Hall to the west. Hamilton Library Annex III(Phase III) functions as the graduate library's storage facility.

2.3 EXISTING FACILITY

Hamilton Library Annex III was constructed to provide much needed storage room for the Manoa campus graduate library's growing inventory of resource materials. It is a 6-story concrete building. The rooftop of Hamilton Library Annex III houses air conditioning exhaust shafts, Verizon Hawaii telco facilities, and building's machine room.

2.4 PROPOSED PROJECT

The PCS base Hamilton Library Annex III transceiver station (BTS) will consist of an equipment room located inside the machine room located at the southeastern end of the building rooftop. The equipment room will occupy approximately 200 s.f. of vacant unused space in the machine room on the opposite side of the stairwell. Fire safety design measures will involve the installation of FM-200 which is a fire suppression system to discharge a gas within 10 to 20 second to protect equipement, data or files. It is clean odorless, colorless gas, leaving no residue, and non-ozone depleting.

The installation, which will operate 24 hours a day, 7 days a week, is unmanned, and requires only monthly maintenance by NPI's personnel.

NPI panel antennas measure 48 inches long, 12 inches wide and 5 inches deep. They will be flush-mounted and equally distributed on the exterior walls of the machine room on top of the building. The tops of these panels will not extend above the roof height of the machine room. Equipment specifications are included as Exhibits in this application. See Exhibit A zoning drawings.

NPI must look carefully for sites where transmitters can overcome natural and man-made barriers, chiefly hills and buildings. In rural areas, transmitters can be located up to seven miles apart; in urban areas, they must be situated closer together. When there is increased usage in an area, it is necessary to add additional transmission sites to avoid dropped calls and decrease in call quality. Presently, NPI's existing transmission facility south of the proposed UH site is at King Terrace. The NPI transmission facility to the north is located at Manoa Market Place. The proposed UH facility will help to bridge the gap in coverage between these sites and improve the quality of service in the surrounding areas thereby meeting community demands for better coverage.

2.5 PROJECT SCHEDULE AND COSTS

The construction of the project will take approximately 4 to 6 weeks. It is scheduled to start upon receipt of all zoning and building permit approvals. The estimated construction cost of the installation of the antenna facility is $190,000.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT, ANTICIPATED IMPACTS AND MITIGATIVE MEASURES

3.1 CLIMATE

A. Existing Conditions

Average daily minimum and maximum temperatures range from the low 70's (degrees Fahrenheit) to the low 90's, depending on the time of day and the season. Average daily temperatures vary by about 6.5 degrees between winter and summer seasons, and 15 to 20 degrees between day and night.

Precipitation is seasonal, with most rainfall occurring between the months of December through April. The adjusted median annual rainfall for this location is approximately 30 inches.

B. Anticipated Impacts and Mitigative Measures

The proposed project will have no effect on climatic conditions.

3.2 TOPOGRAPHY

A. Existing Conditions

The site is essentially flat. The elevation is approximately 70 feet above mean sea level (msl). The proposed project will not require alterations to existing grades as the project involves primarily installation of new fixtures to an existing structure without ground alterations or grading activities.

B. Anticipated Impacts and Mitigative Measures

The proposed project will have no effect on topographic conditions.

3.3 SOILS

A. Existing Conditions

According to the U.S. Soil Conservation Service, the soils on the property are comprised of Makiki Stony Clay Loam (MIA). This series consists of well-drained soil, and this particular soil type is found on slopes of 0 to 3 percent. Stones make up about 15 percent of this soil type by volume. The depth of the underlying bedrock or ash varies from 20 to 60 inches.

B. Anticipated Impacts and Mitigative Measures

The proposed project will have no effect on soil character as the site is entirely urban in character and the proposed improvements (which are concentrated on the rooftop of the Hamilton Library Annex III building) will not involve earthwork.

3.4 SURFACE WATER AND DRAINAGE

A. Existing Conditions

The proposed project is designated as Zone X, defined as "areas determined to be outside the 500-year flood plain" by the National Flood Insurance Program, Flood Insurance Rate Map (FIRM). The site is urban in character with concrete pavement and landscaping. The bulk of work on the proposed project will be concentrated on the upper roof of the existing building.

Manoa Stream is located in the vicinity of the project area.

B. Anticipated Impacts and Mitigative Measures

The proposed project is not anticipated to have any impacts on existing drainage patterns or volumes because the site is already highly urban. Ground level activity will involve trucking in and lifting antennas and associated facility hardware with hydraulic lift machinery, and little to no impact is expected even during construction.

Since construction activities associated with the facility will not result in discharges into the nearby Manoa Stream or any other streams or wetland areas in the vicinity that may be considered waters of the United States, no Department of the Army or State of Hawaii permit will be required.

3.5 FLORA AND FAUNA

A. Existing Conditions

The vegetation and wildlife on the project site are entirely urban in character. No federally listed or proposed species, or proposed or designated critical habitat, wildlife sanctuaries, preserves, refuges, wilderness areas, forests, and national parks or endangered species are known to occur on the project site (USFWS correspondence dated Sept. 13, 2004). Existing vegetation in the vicinity of the ground floor improvements include ornamental trees, shrubs, and flowers including hibiscus and Japanese nanten, as well as groundcover landscaping along the Maile Way frontage of the building. Other vegetation includes crown flower trees between the rear of Hamilton Library and Edmondson Hall. Some birds observed at the site include the Barred Dove, the Common English Sparrow, and the Mynah. Other animal species likely to occur are feral cats and mice.

B. Anticipated Impacts and Mitigative Measures

Neither construction activity nor operation of the proposed antenna facility will result in disturbance or removal of existing vegetation in the vicinity of the ground floor improvements. Wildlife species currently utilizing the site will most likely be displaced into adjacent areas during facility hardware installation.

3.6 ARCHAEOLOGICAL /HISTORICAL RESOURCES

A. Existing Conditions

There are no known archaeological, historic sites, or cultural resources on the project site. Hamilton Library Annex III is not on the National or State Historic Register.

B. Anticipated Impacts and Mitigative Measures

Because the proposed project does not require earthwork, no archaeological or historically significant resources are anticipated to be encountered during the construction and installation period. The Office of Hawaiian Affairs has indicated that there is no apparent impact on the viewplane, nor on any natural or cultural resources (OHA letter dated Sept. 9, 2004). If, however, any archaeological or historic remains are encountered during the construction period, the contractor will be expected to contact the State Historic Preservation Division immediately in order to determine proper handling of discovered remains. SHPD is a consulted party throughout the Chapter 343 Environmental Assessment process. As long as the antennas are positioned to not protrude from the existing structure and are painted to match the building colors, the proposed project should not have an adverse affect on the project site.

Official determination of the project's impact with respect to historic or archaeological resources is expected to be issued by the SHPD following the agency's review of the Draft Environmental Assessment (DEA).

3.7 TRAFFIC AND PARKING

A. Existing Conditions

Students, faculty and employees access the project site in a variety of ways: ride-sharing, motorcycles, mopeds, bicycles, City bus service, shuttle service, private vehicles, and on foot. Parking on campus nearest the project site is allowed by permit only. There are open areas where trucks can park for short periods at a time, in the loading dock driveway and the driveway fronting Maile Way on either side of the Annex building, and the Annex and the parking lot west (ewa) of the Annex.

B. Anticipated Impacts and Mitigative Measures

Short-term impacts on parking between Hamilton Library Annex III and the Spalding Hall parking lot will probably occur as a result of construction related traffic entering and exiting the project site. Traffic generated by construction workers will occur during normal working hours and between 7:30 a.m. and 4:30 p.m. However, construction activity will have very little impact on traffic entering and leaving the campus because the number of project workers is expected to be small. Operation of construction/installation equipment and trucks may, on occasion, impede traffic in the immediate area of Hamilton Library Annex III during construction which is expected to occur for about a 4 to 6 week period. During construction, the proposed project may inhibit the use of Diamond Head end of the parking area in the driveway between Hamilton Library Annex III and the Spalding Hall parking lot fronting Maile Way.

No long-term impacts on traffic or parking are expected because the proposed project is an unmanned facility that will operate 24 hours a day 7 days a week, with a once-per-month, 1 hour, visit by NPI's maintenance technician.

While the proposed project will have minimal impact on the existing traffic and parking conditions on the Manoa campus, the contractor should be expected to do pro-active planning to avoid any short-term delays or parking problems during construction. Such measures would include notifying the UHM facilities planning and management office, Hamilton Library Annex III administrative staff, and the security office of its construction schedule well in advance prior to commencement of activities, and to have a worker monitoring traffic and parking in the immediate vicinity of Hamilton Library Annex III during the peak construction/installation period.

3.8 UTILITIES

A. Water and Wastewater

UHM Water and wastewater infrastructure systems are owned, operated and maintained by City and County of Honolulu agencies. Like the other buildings on the campus, Hamilton Library Annex III is served by these existing systems. The proposed project will not require water or wastewater system services because it is an unmanned facility. Therefore, this section does not include further discussion of water and wastewater systems.

B. Electrical and Telephone Systems

a. Existing Conditions

Electrical power for Hamilton Library Annex III is provided by Hawaiian Electric Company (HECO) and telephone service is provided by Verizon Hawaii. The proposed project will require electrical power and telephone service for its operations on the Hamilton Library Annex III rooftop.

b. Anticipated Impacts and Mitigative Measures

According to past demand charts from the UHM Facilities Planning and Management office, the capacity required for the antenna facility would be available from the existing electrical power and telecommunications systems.

3.9 NOISE

A. Existing Conditions

Noise levels in the vicinity of the project site's ground floor through the upper floors are affected by student and employee voices and vehicular noise. The top floor of Hamilton Library Annex III is occupied by machine room equipment. Air conditioning equipment is also contained on the fifth floor. Mechanical and exhaust systems already operating on the building's rooftop contribute to the ambient noise level of the project area. Traffic noise from Maile Way and the parking area fronting Spalding Hall as well as the driveway leading to Edmondson Hall are generally not disruptive because vehicle speeds are low.

B. Anticipated Impacts and Mitigative Measures

The construction activities of the NPI antenna facility will result in an increase in noise levels during the 4 to 6 week installation period. Construction related noise may affect faculty and staff offices and Hamilton Library. However, disruption to these activities is anticipated to be minor as the proposed project will not involve major activities such as earthmoving, pile driving or demolition work. At most, disruption may be limited to approximately 1 to 2 weeks. Construction will be coordinated with the library so that related noise will not affect the teaching and learning processes in the neighboring Edmondson or Spalding Hall or the graduate library. In addition, these buildings are enclosed and will be further insulated from noise. Because the rooftop machine room houses the building's mechanical equipment as well as air conditioning compressors and elevator equipment, this entire floor would acoustically buffer the rooftop activities from classroom and studying activities in neighboring structures during construction. All in all, the anticipated increase in noise level will be limited to the contractor's allowed work hours of weekdays, 7:30 a.m. to 4:30 p.m.

There will be a 3- to 4-day period during which an equipment truck will deliver supporting steel beams, reels of coax cable, BTS equipment cabinets, and other small accessory pieces of equipment to the rooftop via the building's freight elevator. The truck will likely be positioned within the Maile Way loading dock

area between the original library and its Annex, the project site. Equipment delivery tasks can be performed on a weekend, if necessary, to minimize impact to the school.

No long-term noise impacts are anticipated by the operations of the unmanned antenna facility. After installation of the panel antennas and equipment cabinets is complete, noise generated from the rooftop will be practically unchanged from the current situation due to the fact that the proposed project is not a noise-generating facility.

A generator plug will be located on the ground level of the makai or south side of the building. A portable generator will be deployed only in the event of an emergency. The generator will be a quiet WhisperWatt Ultra-Silent Series generator and will emit a maximum of 57 dB from 23 feet. It features an upgraded environmental package with an integrated fuel tank and fluid containment system.

NPI will be using up to 3 Mitsubishi Split System residential grade air conditioning units on the roof mounted on the west (Ewa) exterior wall of the elevator mechanical room. NPI anticipates using only 2 units and has added the provision of an additional unit if needed. In the 2 unit configuration, the units will alternate operation and only one will be in operation at a time. As the units are designed for residential use, noise levels are acceptable within 10' and will have no impact on their surroundings.

3.10 AIR QUALITY

A. Existing Conditions

Overall the air quality in the vicinity of the project area is generally good. There are no major sources of pollution near the project site. The site is upwind from all major transportation corridors. Present air quality in the project area is mostly affected by air pollutants from motor vehicles, with carbon monoxide being the most abundant of the air pollutants emitted.

B. Anticipated Impacts and Mitigative Measures

1. Short-Term Impacts

There will be two types of short-term air quality impacts that will result from the proposed project: 1) fugitive dust generation and 2) on-site emissions from construction equipment. Fugitive dust emissions may arise from exterior site preparations and construction activity while mounting antennas and air conditioning units, however, these activities will only require the drilling of small holes and will be relatively minor in their impact. On-site mobile and stationary construction equipment will emit some air pollutants in the form of engine exhausts. However,

these impacts are anticipated to be minimal due to the short construction period and the small size and scale of the proposed project.

Contractor construction equipment will be required to comply with State and County standards with respect to maintaining equipment so that trucks and heavy equipment will be operating in good condition. Best management practices such as this will help minimize any on-site emissions of air pollutants during the brief construction period. Additionally, if the most disruptive phase of the installation involves a boom truck lifting supporting beams, coax cable and BTS equipment cabinets to the rooftop can be accomplished over a single weekend, air quality impacts would be substantially minimized.

2. Long-Term Impacts

Long-term air quality impacts will remain at current levels from normal, day-to-day operations after the construction of the proposed project since, 1) the capacity of the parking lot next to Hamilton Library Annex III will remain unchanged. As stated in Section 3.7 Traffic and Parking, this facility will be unmanned with an NPI technician expected to visit the project site for 1 hour once a month to maintain the equipment and antennas.

3.11 VISUAL RESOURCES

A. Existing Conditions

The Koolau mountains, Waahila Ridge and Tantalus (Puu Ohia) serve as a backdrop for views in the vicinity of Hamilton Library Annex III. Opportunities for experiencing unobstructed views are limited due to a number of multi-story structures surrounding Hamilton Library . For example, St. Johns Hall is located across from Hamilton Library mauka of Maile Way, and is not only eight stories and on a slightly higher elevation, making it at least 20 feet taller than Hamilton Annex. There are numerous exhaust vents, mechanical and large air conditioning units, storage boxes and pipes, and telephone system facilities currently located on the roof of Hamilton Library Annex III.

B. Anticipated Impacts and Mitigative Measures

The addition of 12 panel antennas to the exterior walls of the machine room will alter the appearance of the current condition on the rooftop. However, the proposed project will not significantly impact the existing massing or already urban appearance of the rooftop condition. The installation of the proposed antennas will have limited impacts on ground level views as the view angle from the ground limits views to the outer portion of the roof. Visual impacts will mainly occur to views from the upper floors of adjacent buildings looking toward Hamilton Library Annex III. However, these impacts are anticipated to be minimal because: (1) views are urban in character and are already impacted by the existing

built environment; and (2) the overall size of the antennas in comparison to the building will result in changes to a portion of the building roof, but will not result in a significant alteration to the overall form.

Mitigation Measures: The planned placement of the three panel antennas at the lower sector of the steel lattice structure such that the tops of the antennas will be well below the upper limits of the existing structure. This strategy will help minimize any potential impact to the existing view. Additionally, the panel antennas will be painted to match the color of the rooftop structure to which they are being attached to blend the facilities.

3.12 LAND USE DESIGNATIONS

A. Existing Conditions

The project site is located within the State's Urban land use district, as is all of the surrounding area. The project site is comprised of lands that are designated as R-5 single-family residential. There is a height limit of 25 feet for R-5 districts, but this limit is amended by City Council-approved Plan Review Use/Long Range Development Plan (PRU-LRDP) which sets different heights in different locations. Although no specific height is set for Hamilton Library Annex III, the general rule of thumb used in the UH LRDP is the relationship to surrounding facilities.

B. Anticipated Impacts and Mitigative Measures

No changes in land use classification or zoning are required to implement the proposed action.

3.13 SOCIO-ECONOMIC CHARACTERISTICS

A. Existing Conditions

The Manoa community surrounding the UH Manoa campus is an older, stable neighborhood of predominantly single family residences. Most homes were built in the first quarter of the twentieth century, and are still maintained in good condition. The neighborhood gets its name from the valley formed by two mountain ridges of the Koolau mountain chain. Waahila Ridge borders UHM on the east, and residential properties and private educational institutions border much of the rest of the perimeter. Manoa is generally regarded as a very desirable place to live, and hence, home values are high. Many University students, faculty and staff live in the surrounding community.

Built in the year 2000, the Annex is an extension to the original Hamilton Library, and is bordered by Maile Way on the north, Edmondson Hall to the south, the original Hamilton Library to the east, and Spalding Hall to the west. Hamilton Library Annex III provides

much needed expanded student study areas and resource material storage for the campus' graduate library.

B. Potential Impacts and Mitigation Measures

In the short-term, construction of the proposed facility will create a slight increase in employment opportunities for construction related jobs. In the long-term, the new telecommunications facility would be expected to not only improve the quality of NPI Wireless on-air service but could increase the customer base. In addition to improving public safety and providing new jobs, NPI is creating a communications infrastructure that will support economic growth and additional tax revenues. Efficient and reliable communication is an essential requirement for people in any community. This installation is a part of a cellular telecommunications system that will help fulfill this need.

3.14 Police and Fire

The proposed project is not expected to result in increased demand for police and fire protection. The antenna facility will not require employees except for one technician who would need to visit the Hamilton Library Annex III rooftop facility on a monthly basis to check equipment and maintain the hardware.

The radio equipment room will be retrofitted with FM-200 which is a fire suppression system to discharge a gas within 10 to 20 seconds to protect equipment, data or files. It is clean odorless, colorless gas, leaving no residue, and non-ozone depleting. Additionally, on-site fire protection requirements are being coordinated with the Honolulu Fire Department. Nextel Partners equipment room's is equipped with an alarm system connected to their main switch, which is monitored 24 hours a day 7 days a week. This alarm system will also be connected to the University of Hawaii fire alert system. Specifically, construction drawings will be reviewed by both police and fire departments during the building permit phase.

3.15 EMF

A. Existing Conditions

Electromagnetic fields exist wherever electricity is used. Hamilton Library Annex III has existing equipment and antennas that produce various levels of EMF at the present time.

The antenna facility is a pulsed transmission because it is only active when transmitting. Most antenna facilities are not continuously transmitting, which means that they operate at a much lower power output.

B. Anticipated Impacts and Mitigative Measures

The Effective Radiated Power (ERP) of the antennas proposed for Hamilton Library Annex III will be no more than 200 watts and within .56733mW/cm² as per FCC guidelines for MPE at the lower rooftop level. In addition, analysis of the proposed installation at Hamilton concluded that the site will not exceed FCC MPE and SAR Regulations for the General Public. As mentioned earlier, Professor Vincent Z. Petersen, an expert in the field of radiation and radio transmission at the UHM Department of Physics, at the request of the ASUH analyzed and concluded that the FM radiation from the KTUH 4-bay antenna with 3000 watt total radiated power, did not constitute a radiation hazard to occupants at the top floor (or any floor) of the Social Sciences Building, which is radiating at significantly higher levels than NPI's proposed antenna installation. Thus, the project will not result in increased radiation hazard to building *occupants of Hamilton Library Annex III Addition.*

NPI engineers have certified that the Effective Radiated Power (ERP) of the antennas proposed for Hamilton Library Annex III Addition will be 200 watts, which is lower than FCC-acceptable levels of 1.0 mW/cm². See Certificate for Telecommunications Antenna, DPP form 0166L.6.13.88, and Certification of Categorical Exclusion for Antenna Installations, DPP form 56153 dated 10/12/04) Exhibit in the Appendix.

Safety Statement: RF Emissions Test Conclusions by NPI provide a summary of a report completed for the project. The complete report can be found in the Appendix:

The antenna exclusion distance is 13 feet, and this contour will be inaccessible to the public due to the height of the antenna installation. The proposed facility will conform to all applicable State and FCC regulations.

NPI will provide signage as illustrated below at eye level by Nextel AC units.

** Notice **

Radio Frequency (RF) Cell Site Antennas above.

If standing on the roof and you will be working within four (4) feet under or to the side of the above antennas you must limit your time to 4 hours or less.

If you will be working at the same height as AND within four (4) feet of the front of the antennas you must limit your time to 15 minutes or less.

If your work will exceed the times listed above coordination with Nextel is required
808 837-4225

4.0 UNAVOIDABLE ADVERSE IMPACTS

The construction of the antenna facility will have only minimal adverse environmental impacts which cannot be fully mitigated by the measures planned to be implemented. The following list includes those short-term and long-term impacts that are expected to be unavoidable.

1. Negligible releases of air contaminants will occur from construction equipment. Emissions of fugitive dust may occur during dry periods as a result of construction operations despite efforts to control dust per State Department of Health (DOH) regulations.

2. In the short-term, the visual character of the area will be affected by construction activities and by the presence and operation of construction equipment.

3. Short-term increases in noise levels will result from construction activities. Noise and construction may cause minor disruptions to floors directly below the proposed activity.

5.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The construction and operation of the NPI antenna facility will involve the irretrievable commitment of certain physical and fiscal resources. The major resource commitment will be the potential loss of utility infrastructure space on the roof of Hamilton Library Annex III for the development of the project. Financial resources, construction materials, manpower, and energy will be expended by the carrier (NPI) to construct and operate the facility.

The impact of utilizing these resources should, however, be weighed against the benefits of providing upgraded, expanded, and improved NPI service in the broader Manoa area which includes the UH Manoa campus.

6.0 ALTERNATIVES

Alternative sites that were considered are discussed in Section 1.6 of this DEA.

The no-action alternative would result in NPI not proceeding with necessary physical upgrades of its existing service level for the Manoa area. This alternative would result in no change to the present environmental characteristics of the project site; to employment, to government expenditures, to infrastructure services, and to traffic conditions. However, the existing capacity is diminishing and continued operations without

improvements will make it difficult for NPI to maintain expected quality service to its present customers in the Manoa area. A potential scenario that may result from the no-action alternative is: For any customer who is in need of emergency assistance or able to respond to an emergency situation, lack of reliable cell phone service at a critical moment could mean a lost opportunity to save a life.

7.0 RELATIONSHIP TO EXISTING PLANS, POLICIES AND REGULATIONS

This section includes a discussion of the relationship of the project to the following policies and plans: Hawaii State Plan, State Land Use Law, University of Hawaii, Manoa Campus Long Range Development Plan (LRDP), the County Development Plan, and the Land Use Ordinance.

7.1 The Hawaii State Plan

This section includes an assessment of the proposed facility to the applicable goals, objectives, and policies of the Hawaii State Plan, Chapter 226, HRS.

Section 6(a): Objectives and policies for the economy-general:
Section 6(b): Applicable policies:

"(9): Foster greater cooperation and coordination between the public and private sectors in developing Hawaii's employment and economic growth opportunities."

Discussion: By working out an amenable leasing arrangement with NPI, both NPI and the UH Manoa administration are an example of public and private sector partnerships which are beneficial to the State's economic growth and diversification. The facility will be under lease from the State of Hawaii and will provide a source of revenue to the State.

Section 18(a): Objectives and policies for facility systems—energy/telecommunications:
Section 18(b): Applicable policies:
Section 18(d): Applicable telecommunication objectives:

"(2): Encourage public and private sector efforts to develop means for adequate, ongoing telecommunication planning."

Discussion: By working with NPI, the UH Manoa offices of Facilities Planning and Management and Procurement Real Estate and Risk Management are actively participating in the planning process to help achieve the State's objectives of gaining dependable, efficient, and economical statewide telecommunication systems capable of supporting the needs of residents and businesses. By facilitating NPI' plans to expand and improve its

telecommunication system, this action should spur this carrier's competitors to either improve or expand their services in this area as well.

7.2 STATE LAND USE LAW

The proposed project is presently classified within the State Land Use Urban District. Public and private utility system facilities and research institutions are compatible in the Urban District. Thus, the project is consistent with the State Land Use District classification.

7.3 UNIVERSITY OF HAWAII, MANOA CAMPUS LONG RANGE DEVELOPMENT PLAN (LRDP)

In 1987, the University of Hawaii Board of Regents adopted the LRDP for the University of Hawaii Manoa Campus, to guide campus development through the year 2010. The Hamilton Library Annex III complex functions as storage space for the graduate library as part of the Upper/Central Campus layout. Hamilton Library Annex III was built as a part of the LRDP's Hamilton Library third phase of development, according to the LRDP. Because the upper roof level of Hamilton Library Annex III houses numerous mechanical and electrical systems and other equipment appurtenant to the graduate library's technical and operational requirements, the proposed use is similar and compatible with current uses. The proposed project is consistent with the University of Hawaii, Manoa Campus LRDP.

7.4 CITY AND COUNTY OF HONOLULU GENERAL PLAN

The 1992 edition of the General Plan is a statement of the long-range social, economic, environmental, and design objectives for the general welfare and prosperity of Oahu's citizens. These objectives contain both statements of desirable conditions to be sought over the long run and statements of desirable conditions which can be achieved within an approximate 20-year time horizon. The General Plan is also a statement of broad policies which facilitate the attainment of the objectives of the Plan. The following discussion provides an assessment of how the proposed project implements the objectives and policies for Education in the General Plan.

Objective C To make Honolulu the center of higher education in the Pacific.

Discussion: The proposed project is located at the Manoa campus of the University of Hawaii thereby facilitating the objective to focus on Honolulu as the center of higher education.

Policy 1
Encourage continuing improvement in the quality of higher education in Hawaii.

Discussion: The project proposes to improve the quality of higher education locally by helping to upgrade wireless communication systems on the Manoa campus.

Policy 2
Encourage the development of diverse opportunities in higher education.

Discussion: By enabling the upgrade of the University's telecommunications system, the project proposes to strengthen the physical infrastructure that can facilitate diversification and expansion of opportunities to faculty, students and administration.

The proposed facility is appropriately located on the Hamilton Library Annex III rooftop because the hardware is proposed to be non-intrusive on existing views while expanding and improving the quality of high tech communications services to NPI customers. Equally important to note, antenna facilities such as the proposed project are clean and nonpolluting state-of-the-art installations.

7.5 THE CITY AND COUNTY OF HONOLULU PRIMARY URBAN CENTER DEVELOPMENT PLAN

The City and County of Honolulu Primary Urban Center Development Plan (PUC DP), approved on June 21, 2004 (Ordinance No. 04-14), presents a vision for the PUC's future development consisting of policies, guidelines and conceptual schemes that will serve as a policy guide for more detailed zoning maps and regulations and for public and private sector investment decisions. The PUC-East Land Use Map designates the University of Hawaii parcel as Institutional. Since the proposed project is accessory to the university's infrastructure as a technical, non-intrusive improvement to the existing telecommunication system, it would be consistent with the existing Institutional land use designation.

7.6 LAND USE ORDINANCE – ZONING

The existing zoning is R-5 Residential. University uses are permitted in the R-5 Residential District with an approved Plan Review Use (PRU). An antenna installation such as this is defined by the Land Use Ordinance (LUO) as a Utility Installation Type B which is an allowed use in residential zoning districts, subject to conditions. However, the University of Hawaii at Manoa is operating under a Plan Review Use (PRU) File No. 88/PRU-3 (City and County of Honolulu Department of Planning and Permitting (DPP)). According to the DPP (December 2004) instead of a Conditional Use Permit-minor (CUPm) for a utility installation, a minor modification to the PRU will be required. Section 7.7 Plan Review Use below contains a detailed discussion. Development standards related to permitted uses and the maximum height of structures for the university are regulated under the PRU. A building permit is also required.

7.7 PLAN REVIEW USE

Plan Review Use (PRU) approval is required for a number of public and private uses including colleges and universities. In December 1989, a PRU was approved for the Five-Year master plan 1988-1993 University of Hawaii, Manoa Campus. As a result, the University of Hawaii at Manoa is operating under a Plan Review Use File No. 88/PRU-3.

On December 13, 1989, a PRU File No. 88/PRU-3 (Resolution No. 89-411, CD-2) was approved by the Honolulu City Council to expand the University of Hawaii Manoa campus. A major modification to the PRU was approved on March 10, 1993 (Resolution No. 92-286) to increase the seating capacity of the Physical Education Facilities Phase II and to redesignate the facility as the Special Events Arena (DPP, December 2004). The proposed NPI antenna facility necessary to improve wireless communication service for the University campus. The proposed project is consistent with the uses approved in the PRU, and therefore can be reviewed as a minor modification to the PRU.

8.0 FINDINGS AND REASONS FOR SUPPORTING THE DETERMINATION

This Environmental Assessment is part of the environmental review process meeting requirements of Chapter 343, Hawaii Revised Statutes. The potential effects of the proposed project evaluated in this document are based on the significance criteria in Section 11-200-12, Hawaii Administrative Rules (revised in 1996). The potential environmental effects of the proposed project and consultation with government agencies and community organizations have resulted in an anticipated Finding of No Significant Impact (FONSI). The following is a summary of the potential effects of the action.

1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resources.
Development of the proposed project is not expected to impact natural or cultural resources, as the project site is located in a developed, urbanized area and the rooftop is already populated with similar mechanical and electrical facility hardware. Consultation with SHPD was conducted during the DEA comment period, and the State Historic Preservation Officer (SHPO) concurred that no historic properties would be affected December 8, 2004). Correspondence from SHPO is included in the Appendix.

2. Curtails the range of beneficial uses of the environment.
The proposed project will be compatible with the existing uses of the surrounding area and will have minimal disturbance to the UHM campus and surrounding community as it is located on the Hamilton Library Annex III roof with other similar mechanical and electrical facilities.

3. Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in chapter 344 HRS.

The proposed project is consistent with the State's long-term environmental policies as well as the State's Land Use Plan because the proposed location is in an urban, developed part of campus designated for academic research activity.

4. Substantially affects the economic or social welfare of the community or State.
Short-term construction related activities may result in negative impacts, as well as positive economic impact through increased work for a selected contractor and design engineers during implementation of the project. Long-term adverse effects are not foreseeable, as the economic and social welfare of the community should not be affected.

5. Substantially affects public health.
Short-term construction related activities will not impact public health as they are temporary in nature. In addition, construction activities will be regulated by State and County standards to minimize noise, dust, and exhaust emissions.

6. Involves substantial secondary impacts, such as population changes or effects on public facilities.
The proposed project does not directly result in secondary impacts, and will only increase capacity of the communications systems to serve Oahu's citizens in conformance with the County General Plan.

7. Involves a substantial degradation of environmental quality.
The proposed project is located on a rooftop of a 5-story concrete building, therefore the environmental quality of the surrounding campus will be essentially unaffected.

8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.
The proposed project does not have any cumulative effect upon the environment, and no larger commitments are required for the proposed antenna facility.

9. Substantially affects a rare, threatened, or endangered species, or its habitat.
There are no known rare, endangered, or threatened species or habitat associated with the project site. The area has been urbanized and the ground on which Hamilton Library Annex III is located has undergone a relatively sufficient level of disturbance over the years with the development of the original Hamilton Library and its subsequent additions. Also, see letter from USFWS dated September 13, 2004 in Appendix.

10. Detrimentally affects air or water quality or ambient noise levels.
Negative effects on environmental quality will be short-term due to construction and be limited to the areas adjacent to the project. These short-term impacts will be mitigated to meet project plans approvals and specification regulations.

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.
The project site is not located in an environmentally sensitive area that would be vulnerable to flooding because it is outside the 500-year flood plain. It is far removed from the tsunami zone, coast, erosion-prone area, geologically hazardous land, estuary, fresh water or coastal waters. Therefore, the project will not affect environmentally sensitive areas.

12. Substantially affects scenic vistas and view planes identified in county or states plans or studies.
The 12 panel antennas are being installed on the exterior walls of the rooftop machine room without exceeding the height of the building in order to avoid causing any disruption to existing vistas and view planes. The panel antennas, accessories and air conditioning units are also being painted to match the color of the building's exterior. Therefore, the proposed project is not expected to having an adverse affect on existing views on campus or surrounding areas.

13. Requires substantial energy consumption.
Energy consumption will consist of short-term construction activities, in which diesel or gas powered equipment will be used. Once completed, the antenna facility will require electrical power and telephone service at levels that UHM infrastructure and utilities systems have capacity enough to supply. Thus, the proposed project would not be a burden on the existing facilities in terms of energy requirements.

9.0PUBLIC INVOLVEMENT AND AGENCY CONSULTATION

The project DEA was published in the November 23, 2004 edition of the OEQC Environmental Notice for a 30-day public review period. The comment period ended December 22, 2004. Comment letters, applicant response letters are included in the Appendix, while a summary of comments received are included in Table 1 below.

Pre-assessment consultation letters were sent to Federal, State, and County agencies as well as local organizations for review. A summary of consultation with agencies and the Manoa Neighborhood Board are provided in the Appendix.

9.1 Draft Environmental Assessment Public Review Summary

TABLE 1

Federal Agencies

Agency or Organization	Comments or Questions	Response
Department of the Army, Corps of Engineers	No response received as of 1/19/05	
Department of the Interior, Fish & Wildlife Service	No response received as of 1/19/05	

State Agencies

Agency or Organization	Comments or Questions	Response
Department of Education	No response received as of 1/19/05	
Department of Land and Natural Resources, Historic Preservation Division	Comment letters dated 12/8/04, 1/10/05 regarding concurrence of "no historic properties affected".	
Office of Hawaiian Affairs	No response received as of 1/19/05	
University of Hawaii at Manoa Facilities Planning & Mgmt.	Fax dated 12/21/04 received regarding edits to pgs. 1, 3, 6-8, 21, 22 and 25. Also regarding educating campus maintenance staff on EMF safety and fire safety design details relative to electrical room.	Pages specified were edited in final EA.
Department of Transportation, Highways Division	Comment letter dated 12/2/04 regarding "no impact to State facilities".	

City and County of Honolulu Agencies

Agency or Organization	Comments or Questions	Response
Board of Water Supply	Letter dated 12/6/04 regarding "no comments"	
Fire Department	Letter dated 12/8/04 regarding "no	

	objections	
Police Department	Letter dated 11/30/04 regarding possible impact on the C&C radio system	Coordination between NPI and City & County will continue in order to ensure minimal impact on C&C radio system.
Department of Planning and Permitting	Letter dated 12/22/04 regarding UH as the approving agency; PRU vs. CUPm; project relationship with General Plan, PUC DP ; need to minimize classroom disruption during construction.	Appropriate sections in accordance with comments have been revised in the final EA.

Hamilton Library Annex III

9.2 PRE-CONSULTATION - CONSULTED PARTIES

A. PRE-CONSULTATION PHASE. Twenty-nine (29) agencies and organizations were consulted in the preparation of the DEA. As of September 20, 2004, ten (10) written responses were received. Responding parties are identified below by a check mark (√) in the right column in Table 2 below.

TABLE 2

	Response received
<u>Federal Government</u>:	
U.S. Army Corps of Engineers Regulatory Branch	√
U.S. Department of Interior U.S. Fish & Wildlife Service	√
Environmental Protection Agency—PICO	
Directorate of Facilities Engineer U.S. Army Support Command Hawaii	
<u>State of Hawaii</u>: Department of Education	√
State Department of Land and Natural Resources Historic Preservation Division	

State Department of Land and Natural Resources
Land Division

Office of Hawaiian Affairs √

Office of Planning

UHM Environmental Center

University of Hawaii Manoa
Facilities Planning and Management Office

State Department of Health
Environmental Management Division

State Department of Transportation
Highways Division √

City and County of Honolulu:
Board of Water Supply

Department of Parks and Recreation √

Department of Planning and Permitting √

Department of Environmental Services

Department of Transportation Services √

Fire Department √

Police Department √

Utilities:
Verizon Hawaii Inc.

Hawaiian Electric Company

Oceanic Time Warner Cable of Hawaii

The Gas Company √

Other Organizations:

Nature Conservancy

Sierra Club

Manoa Neighborhood Board No. 7

Councilmember, District 5

C. PRESENTATION TO MANOA NEIGHBORHOOD BOARD NO. 7.
In conjunction with the City and County of Honolulu DPP permit application and approval process, a project presentation was made to the Manoa Neighborhood Board No. 7 on Wednesday, October 6, 2004 at the Board's regularly scheduled meeting. Property owners of abutting properties to the project parcel were notified via postal service of the presentation. Please see letter and mailing list as well as meeting agenda in the Appendix. A copy of the presentation can also be found in the Appendix.

Questions from the Neighborhood Board members focused on EMF issues and the nature of Nextel Partners, Inc.'s business. NPI's Radio Engineers' analysis of the projected frequencies anticipated from the proposed antenna facility as well as comparative analysis between the existing Saunders Hall KTUH rooftop antenna was part of the response to the Board's question. The RF engineers' analysis and completed certification forms required by DPP for this submittal are included in the Appendix. In response to the question regarding the nature of NPI's business, it was explained that Nextel is a cellular phone service provider. The Board passed a Resolution that night which indicates that it has no objections to NPI's proposed facility. Of the 17 Board members, the votes were: 12 voting in favor of the Resolution, and 4 abstentions. One member was absent that night. A copy of the Resolution is included in the Appendix.

9.3 REFERENCES

Broadcast Communication Authority. May 18, 1995. *Environmental Assessment, Proposed KTUH College Radio Power Increase from 100 Watts to 3000 Watts Transmitting Power Porteus Hall, University of Hawaii at Manoa.* Honolulu, Hawaii.

FCC Office of Engineering and Technology. August 1997. *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Frequency. OET Bulletin 65.* Washington, D.C.

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AD2 International Architects, September 2004. *Preliminary Zoning Drawings. UH Manoa Campus Hamilton Library Annex III.* Honolulu, Hawaii.

Nextel Partners, Inc., October 2004. *RF Compliance Report, Hamilton Library Site, University of Hawaii at Manoa.* Mikel Nakamoto, RF Engineer.

Petersen, Professor Vincent Z. Department of Physics, UHM. May 1995. Statement Regarding Electromagnetic Radiation Levels Associated with Proposed KTUH FM Radio Transmission. Honolulu, Hawaii.

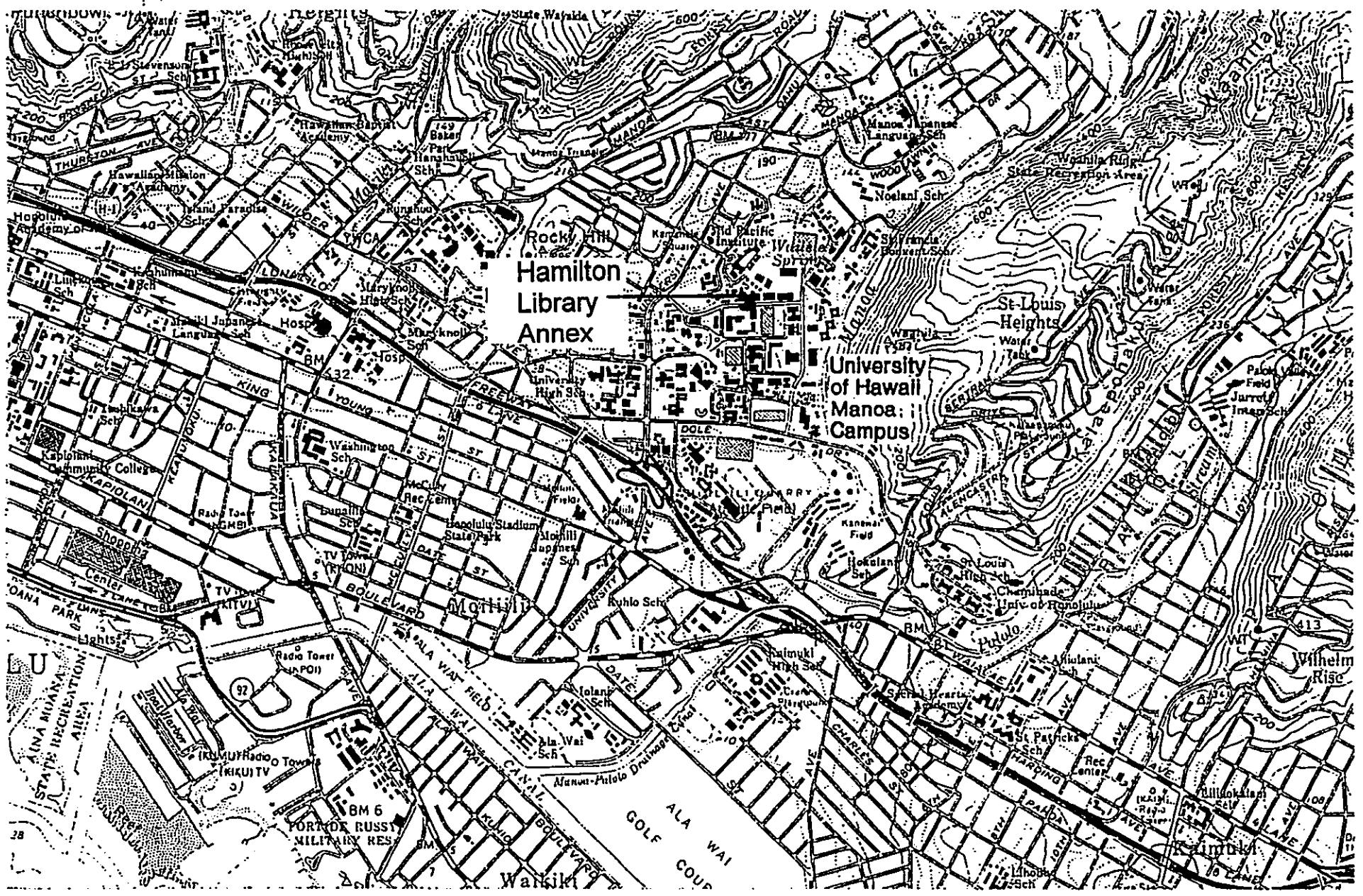
U.S. Department of Agriculture. August 1972. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai; State of Hawaii*; Soil Conservation Service, in cooperation with the University of Hawaii Agricultural Experiment Station. Washington, D.C.

APPENDIX A:

LOCATION MAP, SITE PLAN AND ELEVATIONS

PHOTOS

FIGURES



Source: USGS, 1983

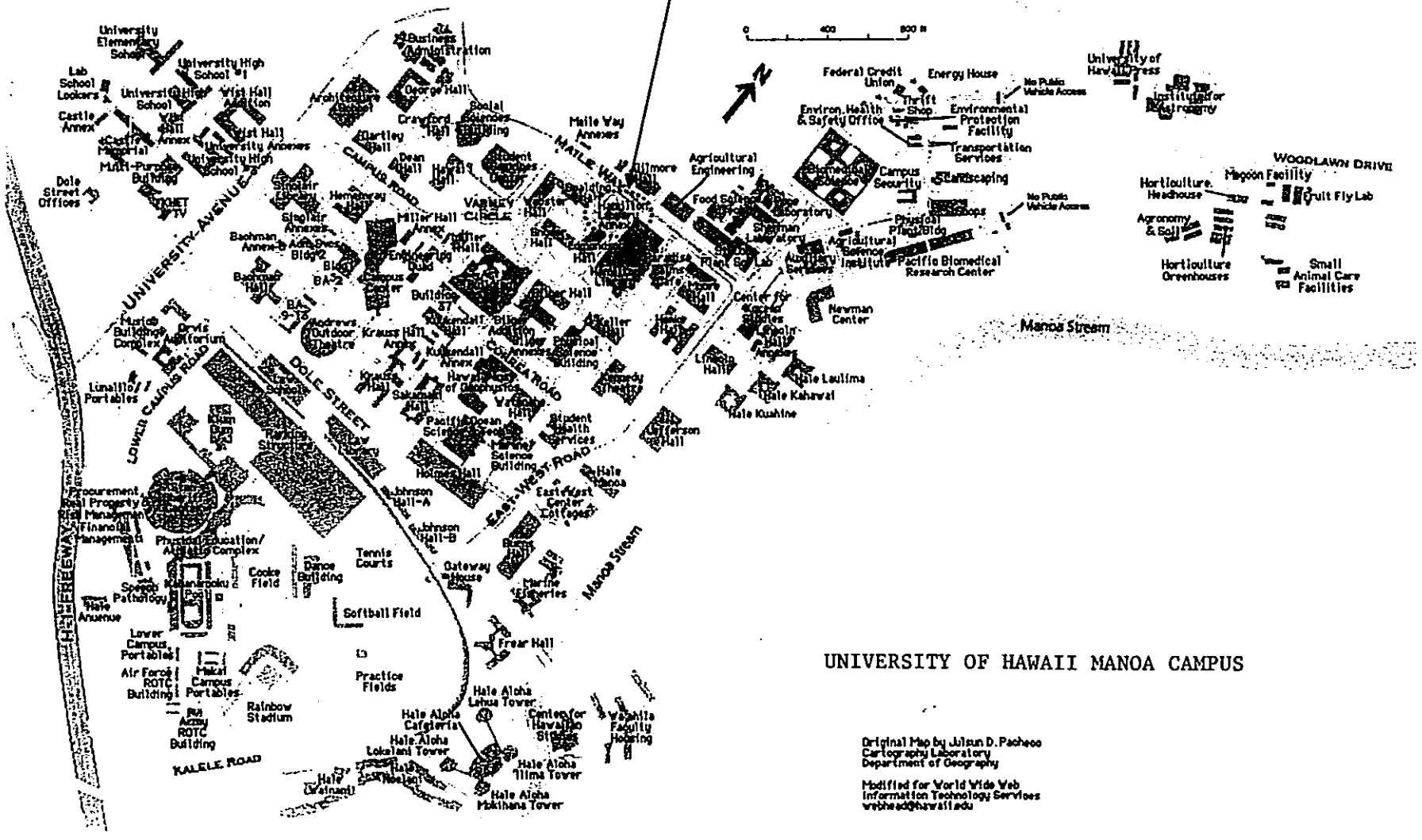
LOCATION MAP

NEXTEL PARTNERS, INC. HAMILTON LIBRARY ANNEX ANTENNA FACILITY, UNIVERSITY OF HAWAII AT MANOA
ENVIRONMENTAL ASSESSMENT

Honolulu, Island of Oahu

FIGURE 1

Hamilton Library Annex



UNIVERSITY OF HAWAII MANOA CAMPUS

Original Map by Julsun D. Pacheco
Cartography Laboratory
Department of Geography

Modified for World Wide Web
Information Technology Services
webhead@hawaii.edu

NEXTEL
PARTNERS INC.

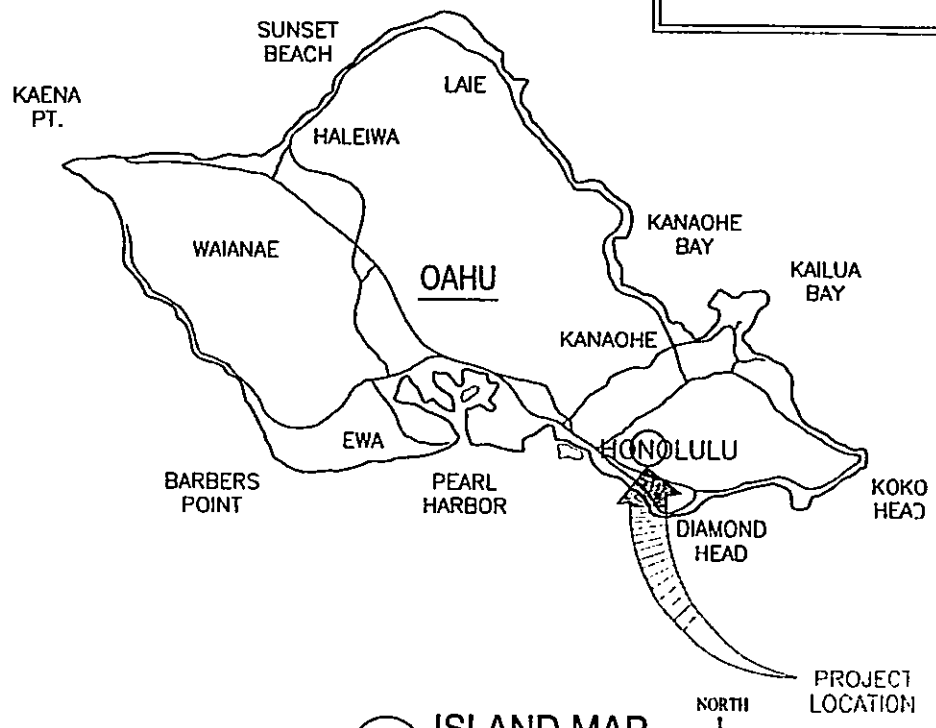
SITE NAME:
UNIVERSITY OF HAWAII
HAMILTON LIBRARY
ANNEX

SITE NUMBER:
HI172P

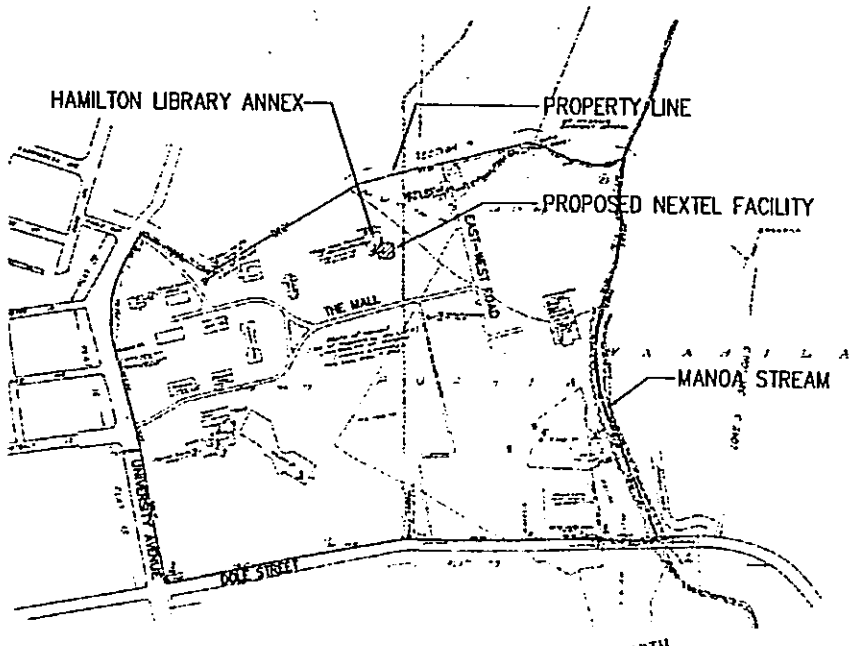
AD2
INTERNATIONAL

PROJECT DATA

ADDRESS:	2550 McCARTY MALL HONOLULU, HAWAII 96822
TMK:	2-8-023: 003
ZONING:	R-5
LOT AREA:	4,507,676 SF
NEXTEL LEASE AREA:	250 SF
ANTENNA HEIGHT:	91' - 4"
MAX. HEIGHT:	25'
FLOOD ZONE:	ZONE AE & X
USE:	ANTENNA



ISLAND MAP
NTS



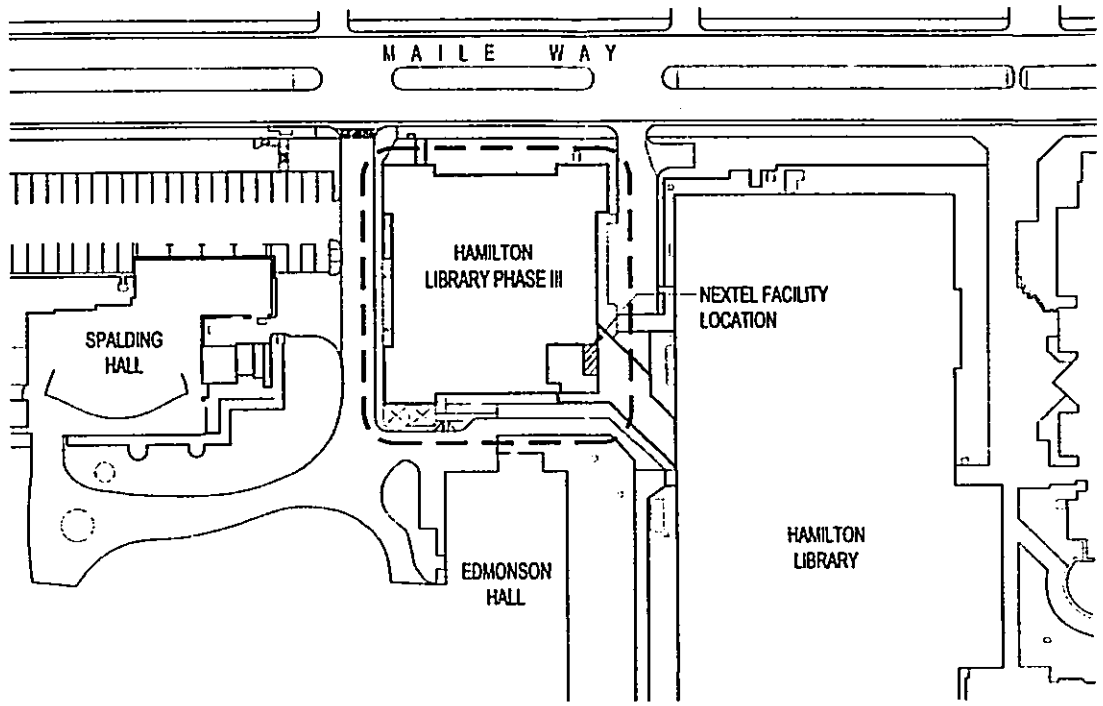
LOCATION MAP
NTS

NEXTEL
PARTNERS INC.

SITE NAME:
UNIVERSITY OF HAWAII
HAMILTON LIBRARY
ANNEX

SITE NUMBER:
HI172P

AD2
INTERNATIONAL



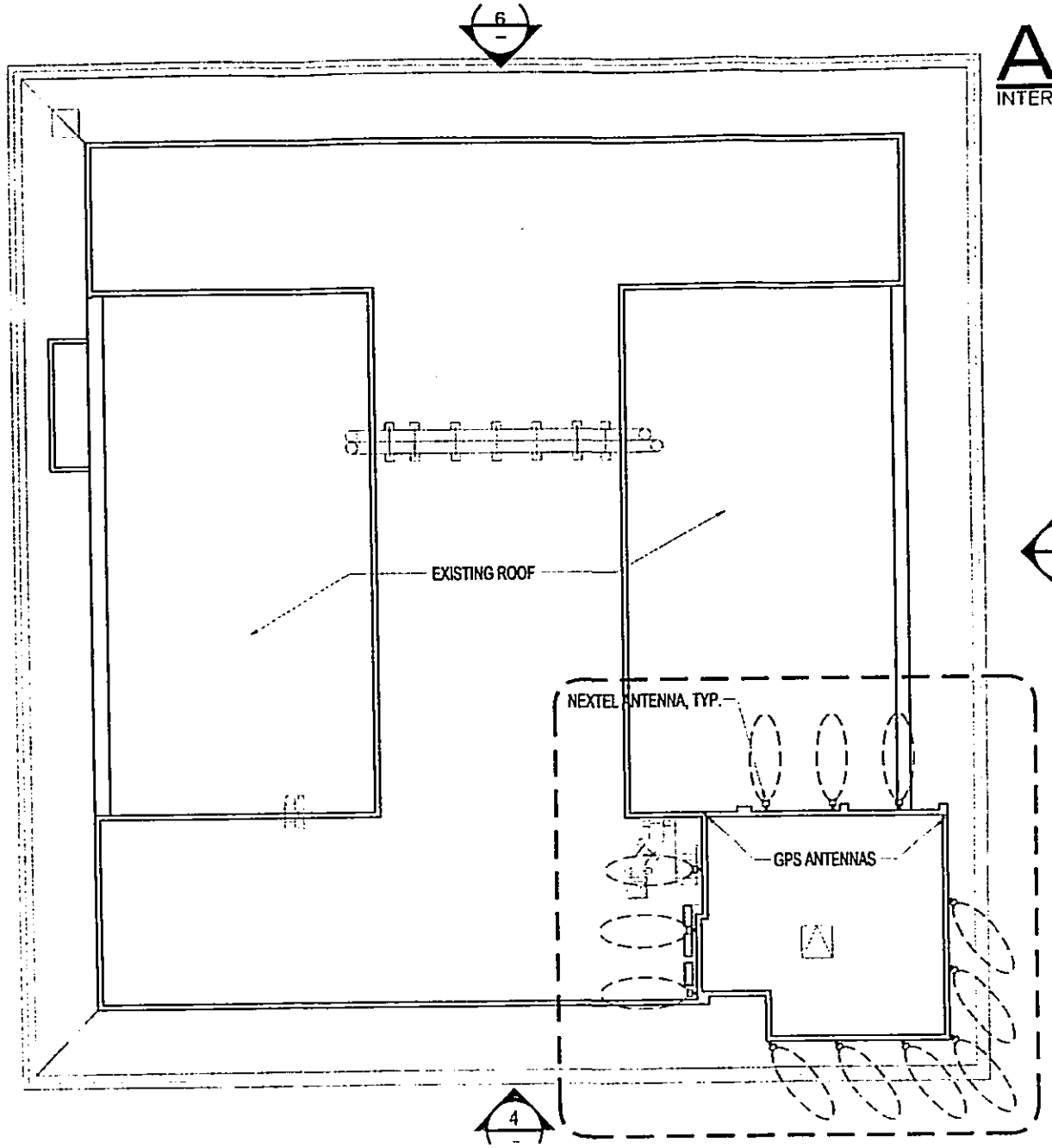
1 / - SITE PLAN
NTS

NEXTEL
PARTNERS INC.

SITE NAME:
UNIVERSITY OF HAWAII
HAMILTON LIBRARY
ANNEX

SITE NUMBER:
HI172P

AD2
INTERNATIONAL



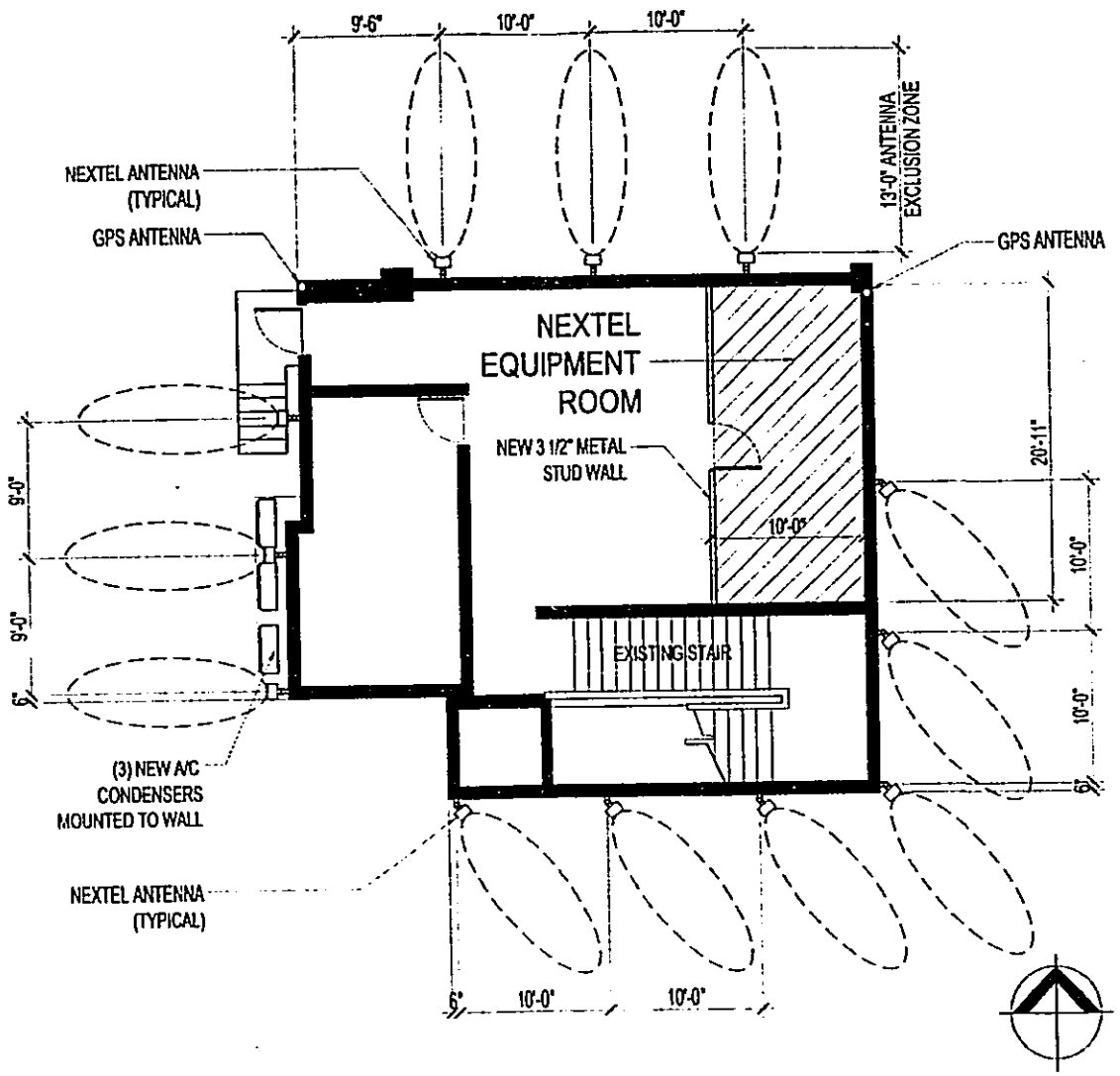
2 ROOF PLAN
SCALE: 1/16" = 1'-0"

NEXTEL
PARTNERS INC.

SITE NAME:
UNIVERSITY OF HAWAII
HAMILTON LIBRARY
ANNEX

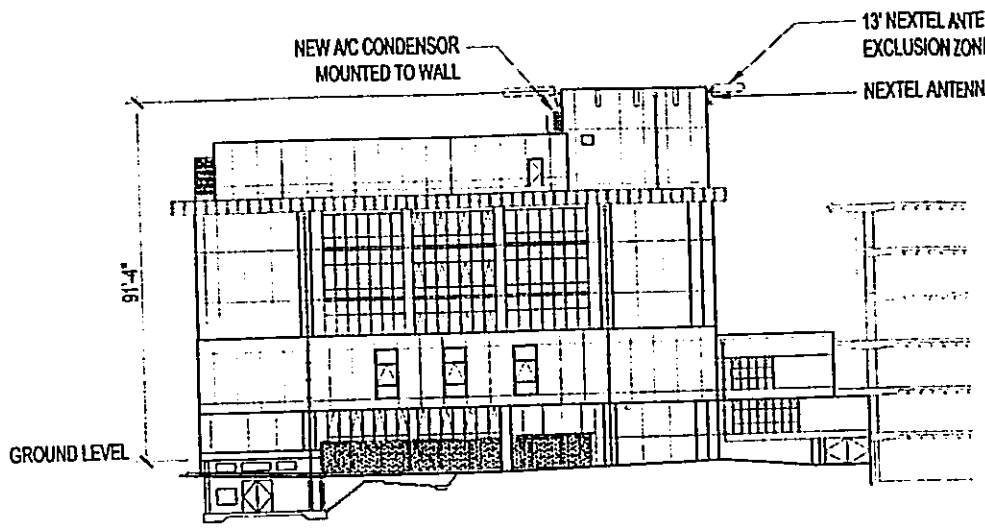
SITE NUMBER:
HI172P

AD2
INTERNATIONAL

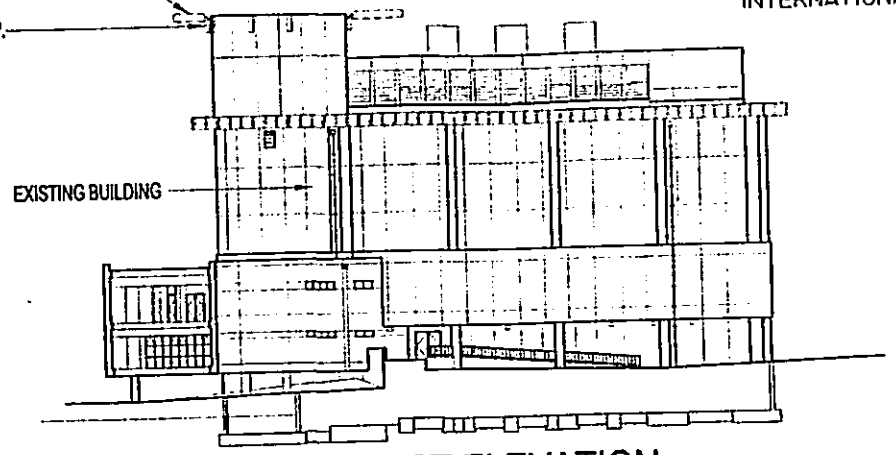


3 / - ELEVATOR MACHINE ROOM PLAN (AT ROOF LEVEL)
SCALE: 1/8" = 1'-0"

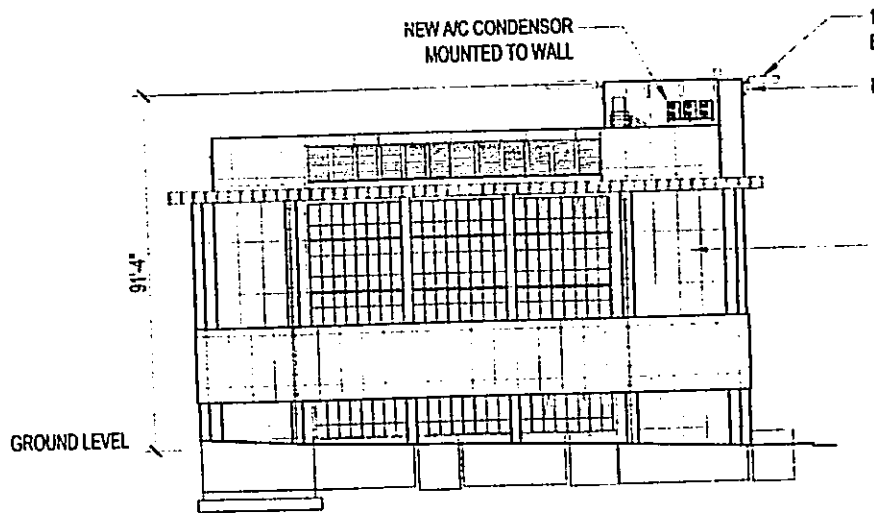
AD2
INTERNATIONAL



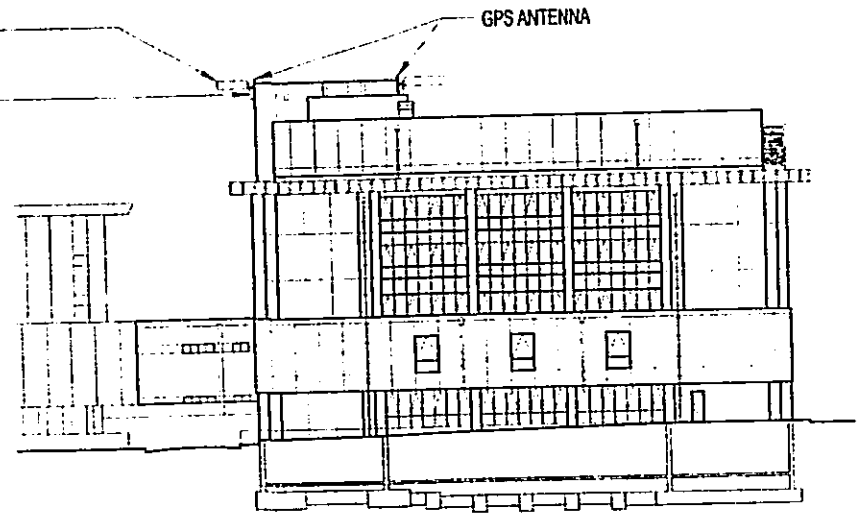
4 / - SOUTH ELEVATION
NTS



5 / - EAST ELEVATION
NTS

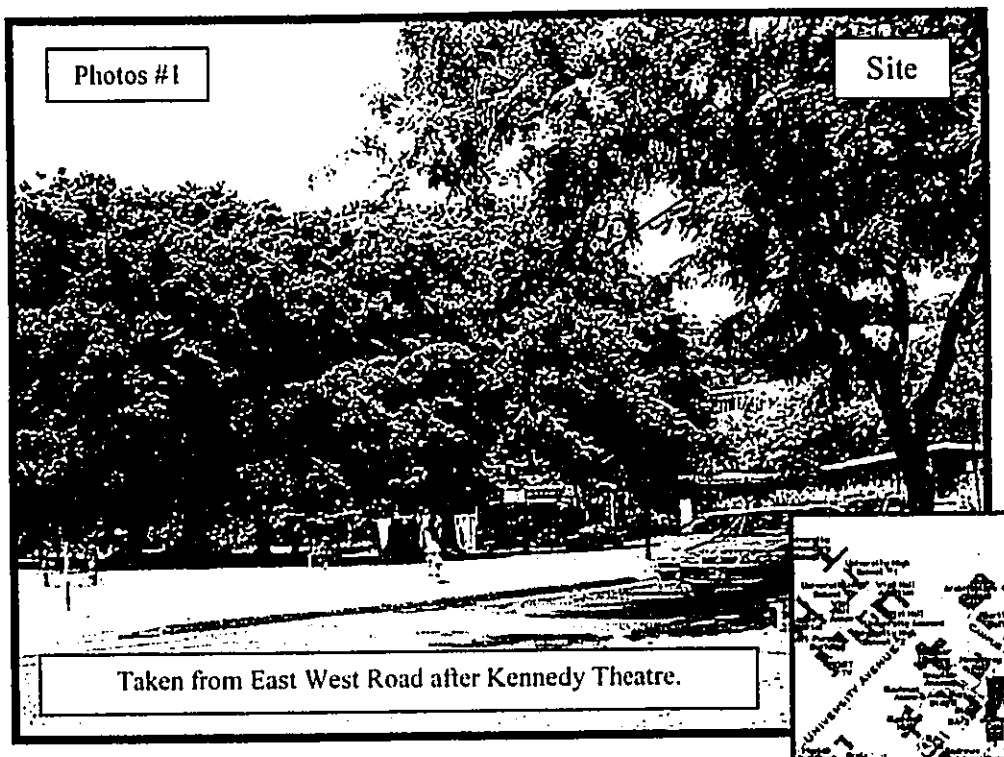


7 / - WEST ELEVATION
NTS

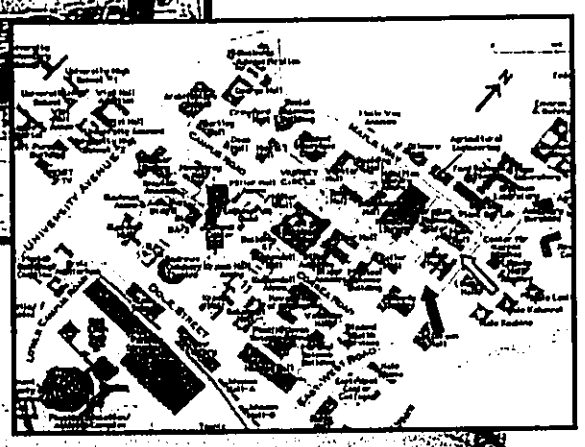


6 / - NORTH ELEVATION
NTS

Nextel Partners, Inc. Antenna Analysis
Hamilton Annex-University Of Hawaii Manoa

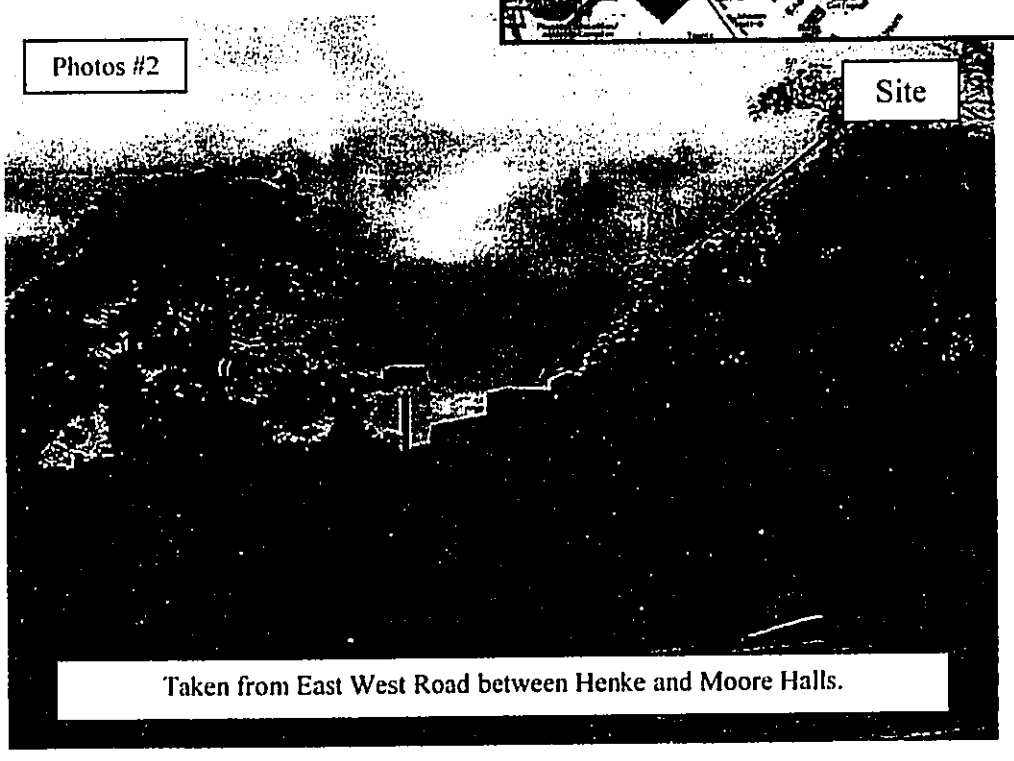


The proposed site will not be visible from this vantage point.



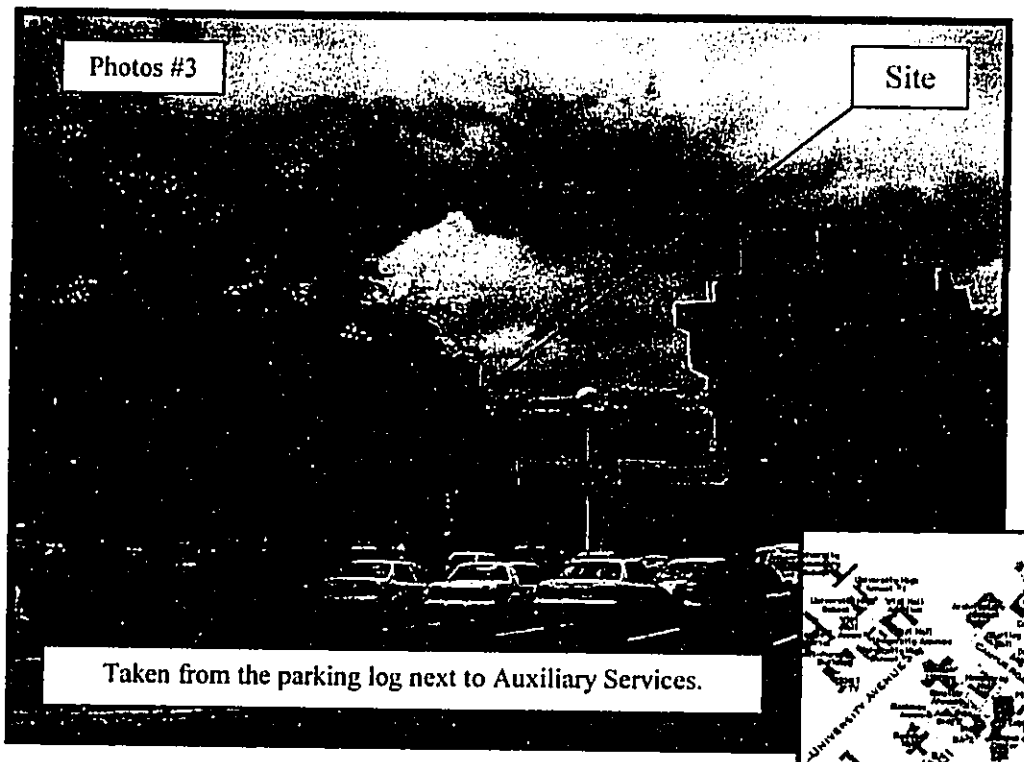
The antennas on the East and South side of the machine room will be visible from this location. (The antennas have been simulated into the photo.)

The antennas will be painted to match the buildings walls, which will help to mitigate visibility.

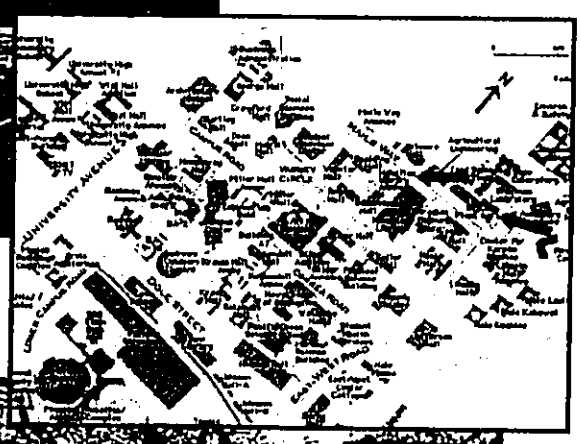


Note: *The color of the arrow corresponds to the photos border and indicates the location and direction the photo was taken from.*

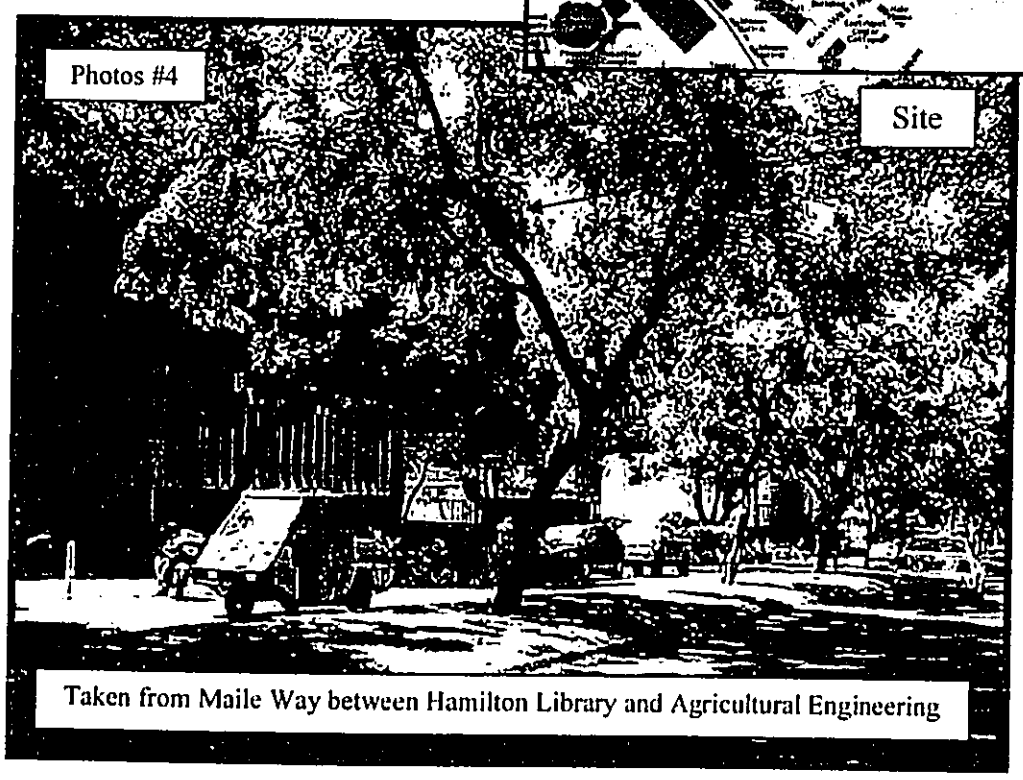
Nextel Partners, Inc. Antenna Analysis
Hamilton Annex-University Of Hawaii Manoa



Hamilton Library and large Keawe trees will hide the proposed site from this vantage point.



Due to abundant mature Shower trees on Maile Way, the proposed site will not be visible from this vantage point.



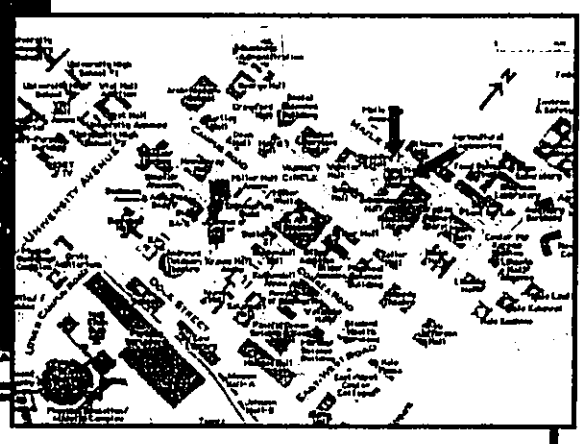
Note: *The color of the arrow corresponds to the photos border and indicates the location and direction the photo was taken from.*

Nextel Partners, Inc. Antenna Analysis
Hamilton Annex-University Of Hawaii Manoa

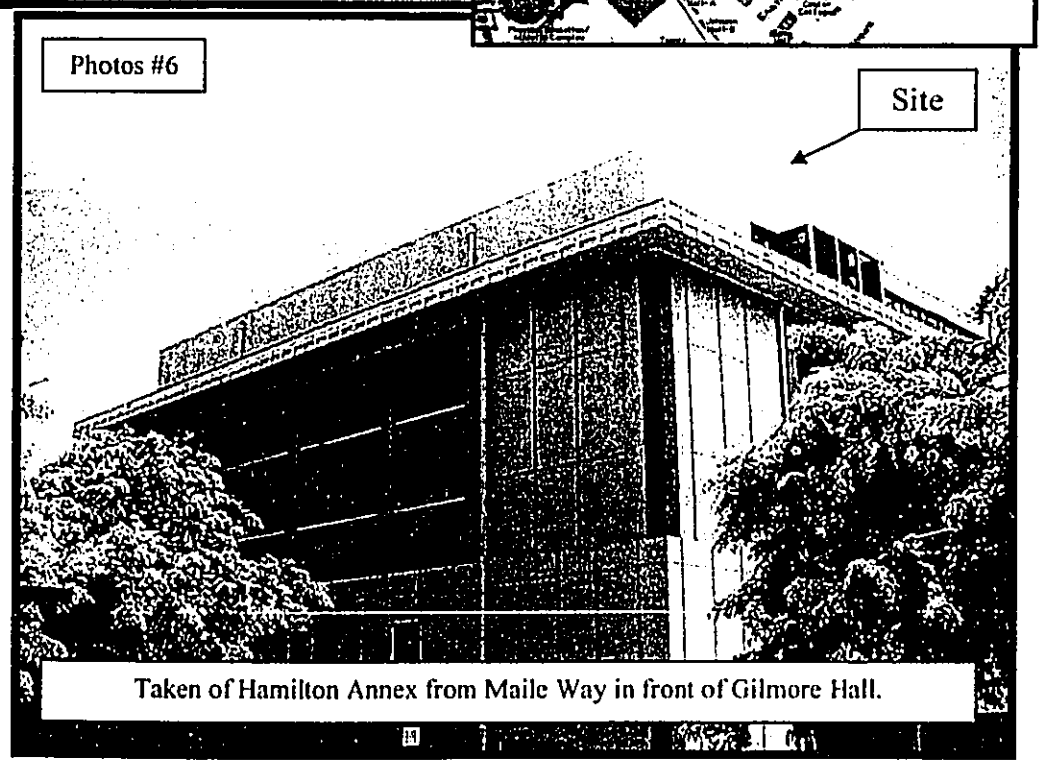
Taken from Maile Way between Hamilton Library and Hamilton Annex

The antennas have been simulated into this photo.

Due to the many trees and the matching color of the antennas, the antennas visibility *between the buildings* will be minimal.



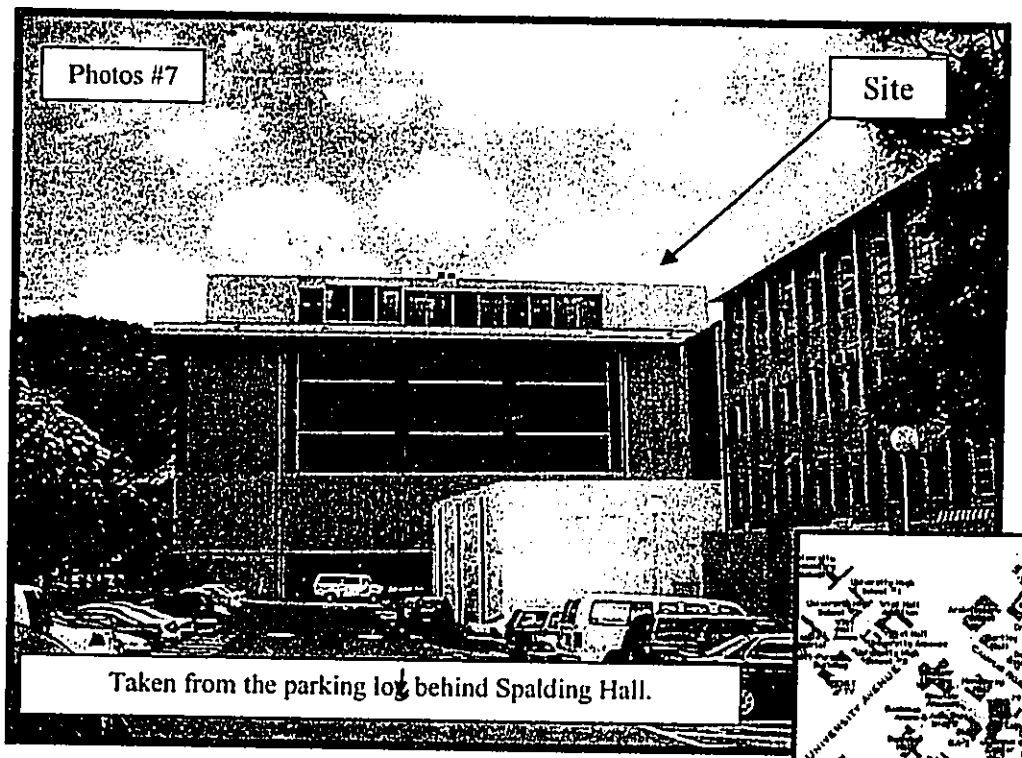
The antennas will be mounted on the opposite side of the building, therefore, they will not be visible from this vantage point.



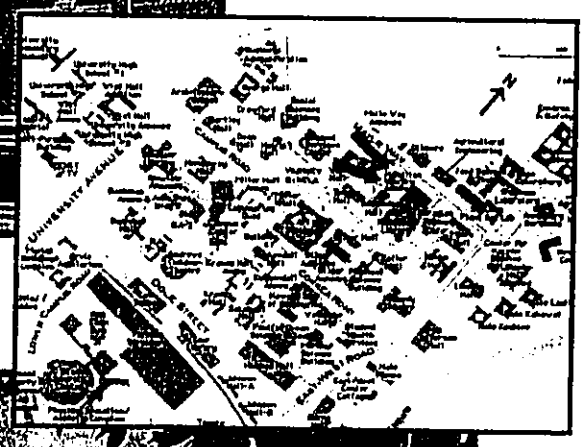
Taken of Hamilton Annex from Maile Way in front of Gilmore Hall.

Note: *The color of the arrow corresponds to the photos border and indicates the location and direction the photo was taken from.*

Nextel Partners, Inc. Antenna Analysis
Hamilton Annex-University Of Hawaii Manoa

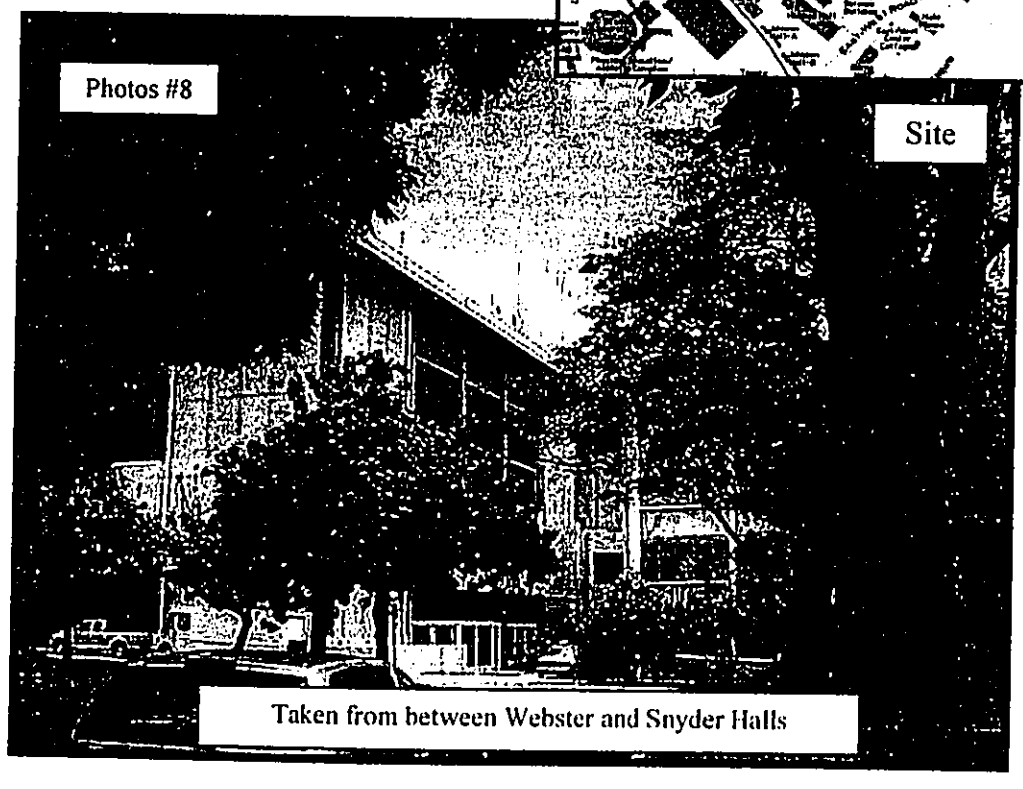


The site will be located on the other side of the building and will not be visible from this vantage point.



The antennas have been simulated into this photo.

Due to the many mature trees, the height of the building and the matching color of the antennas, the antenna's visibility will be minimal.



Note: *The color of the arrow corresponds to the photos border and indicates the location and direction the photo was taken from.*

APPENDIX B:

Pre-Assessment Phase Letters
Draft EA: Comments and Responses
Neighborhood Board Consultation

LINDA LINGLE
GOVERNOR

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

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
LINDEN H. JOESTING
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.1360

September 13, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Pre-Assessment Consultation - Nextel Partners, Inc. for
Proposed University of Hawaii Hamilton Library Annex Antenna Site,
Manoa, Honolulu District, Island of Oahu
TMK: 2-8-023: 003

Thank you for your transmittal requesting our comments on the subject application.

The proposed telecommunications facility will not have a significant impact to our State facilities.

We appreciate the opportunity to provide our comments.

Very truly yours,

for/RODNEY K. HARAGA
Director of Transportation

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

REPLY TO
ATTENTION OF

August 19, 2004

Regulatory Branch

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

This letter is written in regards to your request for comments on the proposed Nextel Partners, Inc. telecommunications facility on the University of Hawaii at Manoa Hamilton Library Annex, Manoa, Oahu, Hawaii (TMK 2-8-023:003). The proposed project includes the construction of twelve panel antennas mounted to the four sides of the exterior of the machine room (top floor) of the Annex, and installation of supporting equipment to operate the facility within the stairwell of the machine room.

Since the new facility will be located in association with an existing building, it does not appear that the construction activities will result in discharges into the nearby Manoa Stream or any other streams or wetland areas in the vicinity that may be considered waters of the United States. Therefore, a Department of the Army permit will not be required. However, should you decide to alter the method, scope, or location of your proposed activity, please contact this office for a determination of DA jurisdiction and, if applicable, the required DA authorization.

File number **200400453** is assigned to this project. Should you have questions, you may contact Ms. Connie Ramsey at 438-9258 or by FAX at 438-4060.

Sincerely,

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

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

TAKE PRIDE IN AMERICA

SEP 13 2004

In Reply Refer to:
1-2-2004-SP-235

Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, HI 96816

Dear Ms. Sakoda:

Thank you for your August 9, 2004, letter in which you request information concerning the proposed Hamilton Library telecommunication antenna facility located on the University of Hawaii at Manoa Hamilton Library Annex, Honolulu, Oahu, TMK (2) 8-023:003. This proposal is to mount twelve panel antennas to the exterior of the machine room on the sixth floor of the Annex. The height of the antennas will remain within the buildings height. Equipment will be enclosed within the stairwell of the machine room. Your letter was received in our office on August 11, 2004.

We reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Natural Heritage Program. To the best of our knowledge, no federally listed or proposed species, or proposed or designated critical habitat, wildlife sanctuaries, preserves, refuges, wilderness areas, forests, and national parks occur on the proposed project site.

We appreciate your efforts to conserve listed species. If you have any questions, please contact Elizabeth Sharpe, Fish and Wildlife Biologist (phone: 808/792-9400; fax: 808/792-9580).

Sincerely,

Jeff Newman
Acting Field Supervisor

CORRECTION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

TAKE PRIDE IN AMERICA

SEP 13 2004

In Reply Refer to:
1-2-2004-SP-235

Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, HI 96816

Dear Ms. Sakoda:

Thank you for your August 9, 2004, letter in which you request information concerning the proposed Hamilton Library telecommunication antenna facility located on the University of Hawaii at Manoa Hamilton Library Annex, Honolulu, Oahu, TMK (2) 8-023:003. This proposal is to mount twelve panel antennas to the exterior of the machine room on the sixth floor of the Annex. The height of the antennas will remain within the buildings height. Equipment will be enclosed within the stairwell of the machine room. Your letter was received in our office on August 11, 2004.

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We appreciate your efforts to conserve listed species. If you have any questions, please contact Elizabeth Sharpe, Fish and Wildlife Biologist (phone: 808/792-9400; fax: 808/792-9580).

Sincerely,

Jeff Newman
Acting Field Supervisor

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI'I 96804

OFFICE OF THE SUPERINTENDENT

August 31, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

SUBJECT: Pre-assessment Consultation, University of Hawaii
Hamilton Library Annex Antenna Site, Oahu TMK: 2-8-23:3

The Department of Education has no comment or concern about the proposed telecommunications facility on the campus of the University of Hawaii at Manoa.

If you have any questions, please call Rae Loui, Assistant Superintendent of the Office of Business Services, at 586-3444 or Heidi Meeker of the Facilities and Support Services Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:jmb

c: Rae Loui, OBS

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

HRD04/1507

September 9, 2004

Collette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, HI 96816

RE: Request for review and comments on Nextel Partners, Inc.'s proposed University of Hawai'i Hamilton Library Annex antenna site, Mānoa, O'ahu, TMK: 2-8-023:003

Dear Collette Sakoda,

The Office of Hawaiian Affairs is in receipt of your August 9, 2004, request for comments on the above-proposed project, which would include construction of an antenna facility of 12 panel antennas, mounted to the four exterior walls of the machine room, and that would remain within the building's current roofline.

Because there is no apparent impact on the viewplane, nor on any natural or cultural resources, OHA has no comment at this time.

Thank you, however, for the opportunity to comment. If you have further questions, please contact Heidi Guth at 594-1962 or e-mail her at heidig@oha.org.

Sincerely,

Clyde W. Nāmu'o
Administrator

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
1000 ULUOHIA STREET, SUITE 309 • KAPOLEI, HAWAII 96707
TELEPHONE: (808) 692-5561 • FAX: (808) 692-5131 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

WILLIAM D. BALFOUR, JR.
DIRECTOR

EDWARD T. "SKIPPA" DIAZ
DEPUTY DIRECTOR

August 26, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Environmental Assessment - Telecommunication Facility
on the University of Hawaii Manoa Hamilton Library

Thank you for the opportunity to review and comment on the proposed construction of a Telecommunication Facility by Nextel Partners, Inc., on the top floor of the University of Hawaii at Manoa Hamilton Library.

The Department of Parks and Recreation has no comment on this project and as it will not impact any facility or program of this department, you can remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner, at 692-5454.

Sincerely,

W. D. Balfour, Jr.

WILLIAM D. BALFOUR, JR.
Director

WDB: mk
(72570)

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

ERIC G. CRISPIN, AIA
DIRECTOR

BARBARA KIM STANTON
DEPUTY DIRECTOR

KATHY SOKUGAWA
CHIEF PLANNER

2004/ELOG-1833 (JM)

September 13, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Nextel Partners, Inc.
University of Hawaii at Manoa
2444 Dole Street - Manoa
Tax Map Key 2-8-23: 3

This is in response to your letter dated August 9, requesting comments or information regarding the permit requirements for Nextel Partners, Inc. to install an antenna facility on the Hamilton Library Annex building on the University of Hawaii at Manoa campus.

We understand that the project is located within an R-5 Residential District, and will involve the following:

- 12 panel antennas mounted on the exterior surfaces of an existing machine room, not to exceed the height of the existing roofline.

- The accessory equipment will occupy a 200-square foot (20' x 10') area within the stairwell of the machine room.

Based on the information you have provided, it appears that Nextel's proposal will require:

1. Documentation confirming compliance with Chapter 343, HRS (Environmental Impact Statements) [We understand that preparation of an Environmental Assessment is underway.];

2. A Conditional Use Permit, Minor (CUPm), to allow a utility installation within a residential district; and

3. A Zoning Waiver, to allow the antennas to exceed the permitted maximum height and increase the nonconformity of the structure; or

4. Modification to Plan Review Use Permit No. 88/PRU-3 for the University of Hawaii at Manoa campus, if the proposed antenna facility is intended to improve wireless telephone service predominately within the University campus.

A master application form and instructions for filing a Waiver and CUPm are enclosed for your convenience. Please note that, as a prerequisite to filing a CUPm application, the applicant is required to make a presentation to the neighborhood board of the district where the project will be located, and provide written notice of such presentation to owners of all properties adjoining the proposed project.

Our department will need additional information to determine whether the proposed project can be reviewed as a minor modification to 88/PRU-3, in lieu of a new CUPm and Waiver application. Documentation of compliance with Chapter 343 and confirmation that the proposal was presented to the Neighborhood Board also must be submitted with the minor modification request.

If you have any questions, please contact James Morisato of our staff at 523-4861.

Sincerely yours,

ERIC G. CRISPIN, AIA
for Director of Planning
and Permitting

EGC:cs
Encl.
Doc. No. 324252

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4529 • FAX: (808) 523-4730 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

CHERYL D. SOON
DIRECTOR

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

TP8/04-72493R

September 3, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Nextel Partners, Inc. Proposed University of Hawaii Hamilton Library Annex Antenna Site

In response to your August 9, 2004 letter, we reviewed the project information provided. At this time, we have no comments regarding the proposed project.

Should you have any questions regarding this matter, please contact Faith Miyamoto of the Transportation Planning Division at 527-6976.

Sincerely,

CHERYL D. SOON
Director

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
3375 KOAPAKA STREET, SUITE H425 • HONOLULU, HAWAII 96819-1869
TELEPHONE: (808) 831-7761 • FAX: (808) 831-7750 • INTERNET: www.honolulufire.org

JEREMY HARRIS
MAYOR

ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

September 1, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Pre-Assessment Consultation
Nextel Partners, Inc.
Proposed University of Hawaii Hamilton Library Annex Antenna Site
Honolulu, Oahu, Hawaii
Tax Map Key: 2-8-023: 003

We received your letter dated August 9, 2004, requesting our comments on the above-mentioned project.

The Honolulu Fire Department has no objections to the project.

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 831-7778.

Sincerely,

ATTILIO K. LEONARDI
Fire Chief

AKL/SY:bh

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 529-3111
http://www.honolulupd.org
www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

BOISSE P. CORREA
~~LEE D. DONOHUE~~
CHIEF

GLEN R. KAJIYAMA
PAUL D. PUTZULU
DEPUTY CHIEFS

OUR REFERENCE CS-KP

August 31, 2004

Ms. Colette Sakoda
Environment Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Thank you for your inquiry of August 9, 2004, relative to the proposed telecommunications facility on the University of Hawaii at Manoa Hamilton Library Annex.

This project should have negligible impact on the facilities and services provided by the Honolulu Police Department.

If there are any questions, please call Ms. Carol Sodetani of the Support Services Bureau at 529-3658.

Sincerely,

BOISSE P. CORREA
Chief of Police

By
KARL GODSEY
Assistant Chief of Police
Support Services Bureau

Serving and Protecting with Aloha

THE GAS COMPANY

P.O. Box 3000
Honolulu, Hawaii 96802-3000

September 14, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Nextel Partners, Inc. Proposed University of Hawaii
Hamilton Library Annex Antenna Site
Pre-Assessment Consultation

The proposed antenna facility will have no impact on The Gas Company, LLC facilities. Therefore, we have no comment and will not need to be included in future reviews.

Thank you for your consideration. Should there be any questions or if additional information is desired, please call me at 594-5570.

Sincerely,

The Gas Company, LLC

Charles E. Calvet, P.E.
Manager, Engineering

CEC:krs
04-241

DEA Comments and Responses

50004

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

SAM DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
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
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

HAWAI'I HISTORIC PRESERVATION DIVISION REVIEW

JAN 10 2005

Log #: 2004.3661
Doc #:0412EJ17
Date Received: November 23, 2004

Applicant/Agency: Colette Sakoda
Environmental Planning Solutions, I LC
Address: 945 Makaiwa Street
Honolulu, Hawaii 96816

SUBJECT: National Historic Preservation Act Section 106 Review - Draft Environmental Assessment for a Proposed Telecommunications Facility at Hamilton Library Annex, University of Hawai'i at Mānoa

Ahupua`a: Manoa
District, Island: Kona, O`ahu
TMK: (1) 2-9-023:003

1. ___ This project has not gone through the historic preservation review process. Please submit documentation _____

2. ✓ This project has already gone through the historic preservation review process.
___ a. mitigation has been completed
✓ b. other: Our previous "no historic properties affected" concurrence is attached (SHPD Log 2004.3473)

3. ___ We have not been consulted on this undertaking, however we believe there are no historic properties present, because:
___ a) intensive cultivation has altered the land
___ b) residential development/urbanization has altered the land
___ c) previous grubbing/grading has altered the land
___ d) an acceptable archaeological assessment or inventory survey found no historic properties
___ e) other:

✓ Thus, we believe that "no historic properties will be affected" by this undertaking.

Sincerely,

Peter T. Young
State Historic Preservation Officer

EJ: jen
C: Mr. Wallace Gretz, University of Hawai'i at Mānoa, Facilities Planning and Management, 2002 East West Road, Honolulu, HI 96822

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

SAM DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
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
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Jerry M. Sassums, P.E., Ph.D.
President
South Pacific Geotechnical, Inc.
73-5574 Maiau Street, Suite 1
Kailua-Kona, Hawaii 96740

LOG NO: 2004.3473
DOC NO: 0411TL06
Architecture

Dear Mr. Sassums:

SUBJECT: Section 106 (NHPA) Historic Preservation Review for
Hamilton Library Annex
University of Hawaii at Manoa
2559 McCarthy Mall, Hawaii 96822
TMK: (1) 2-8-023:003, Honolulu, Oahu

Thank you for your submittal dated November 11, 2004. The proposed project is for a National Environmental Protection Act (NEPA) Land Screening of Nextel Partner, Inc. Cellular Communication Site on Hamilton Library in the University of Hawaii at Manoa campus. The project proposed actions involves the installation of equipment shelter on the interior of the building and the mounting of twelve 5-foot long panel antennae on the exterior of the mechanical room on the roof of the building.

We concur that the determination for the project is "no historic properties affected." Thank you for the opportunity to comment. Should you have further questions, please feel free to call Thomas Lim at (808)692-8030.

Sincerely,

Peter T. Young
State Historic Preservation Officer

TL: jen

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

YVONNE Y. IZU
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

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

LOG NO: 2004.3474
DOC NO: 0411TL09
(also see 0411TL08)
Architecture

Dear Ms. Sakoda:

SUBJECT: **Section 106 (NHPA) Environmental Assessment/Conditional Use Permit - Minor Review of Proposed Telecommunications Facility on Hamilton Library Annex**
University of Hawaii at Manoa
2559 McCarthy Mall, Hawaii 96822
TMK: (1)2-8-023:003, Honolulu, Oahu

Thank you for your submittal dated August 9, 2004. The proposed project is for the Environmental Assessment of Nextel Partner, Inc. Cellular Communication Site on Hamilton Library in the University of Hawaii at Manoa campus. The project proposed actions involves the installation of equipment shelter on the interior of the building and the mounting of twelve 5-foot long panel antennae on the exterior of the mechanical room on the roof of the building.

We concur that the determination for the project is "no historic properties affected." Thank you for the opportunity to comment. Should you have further questions, please feel free to call Thomas Lim at (808)692-8030.

Sincerely,

Peter T. Young
State Historic Preservation Officer

TL: jen

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 1, 2005

Mr. Peter T. Young
State Historic Preservation Officer
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Young:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu,
TMK No. (1) 2-8-023:003 Ref: Log#: 2004.3661, Doc#:0412EJ17

We have received your letters dated January 10, 2005 and December 8, 2004 regarding the subject project in which your Historic Preservation Division concludes, under the National Historic Preservation Act Section 106 review, that "no historic properties will be affected" by the project.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa

12/21/2004 16:30 FAX 808 956 3305 UH FAC. PLAN. & MGMT 001

UNIVERSITY OF HAWAI'I AT MĀNOA

Facilities Planning and Management Office

FAX TRANSMITTAL

Date: December 21, 2004

To: COLETTE SAKOTA (808) 538-3168
PLANNING SOLUTIONS LLC

From: WALLY GRETZ
FACILITIES PLANNING

Project: NEXTEL PARTNERS INC.
ANTENNA AND EQUIPMENT INSTALLATION AT
HAMILTON LIBRARY ADDITION, PHASE III

Subject: ENVIRONMEBTAL ASSESSMENT

Transmitted herewith are NINE (9) pages, including this page. Please notify Facilities Planning and Management Office – Design Section at 956-8254 immediately if materials forwarded are not legible or incomplete.

Copies ☐will be mailed. ☒will not be mailed. ☐Originals are ready for pick-up.

COLETTE:
ATTACHED ARE PAGES 1, 3, 6, 7, 8, 21, 22 AND 25 WITH REVISIONS REQUIRED FOR YOUR ENVIRONMENTAL ASSESSMENT. I WILL BE SENDING A FORMAL LETTER REQUESTING A MORE SPECIFIC EXPLANATION OF AT LEAST TWO ITEMS AS FOLLOWS: 1. EXPLAIN HOW CAMPUS MAINTENANCE PEOPLE WILL BE MORE KNOWLEDGEABLE REGARDING EMF SAFETY (SEE PG 6). 2. EXPLAIN THE FIRE SAFETY ASPECTS OF THE DESIGN THAT WILL BE INCLUDED IN THE PROJECT RELATIVE TO THE ELECTRICAL ROOM. A LOT OF HEAT IS GENERATED THERE YET THE EXISTING FIRE SPRINKLER SYSTEM IS TO BE ELIMINATED. WHAT IS THE BACKUP FIRE SAFETY SYSTEM FOR THIS ROOM?

Should you have any questions regarding this transmittal, call me at 956-8896.

cc: File

2002 East-West Road, Honolulu, Hawai'i 96822
Telephone: (808) 956-8961, Facsimile: (808) 956-3305

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaleva Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 24, 2005

Mr. Wallace Gretz, Facilities Planning
University of Hawaii at Manoa
Facilities Planning and Management Office
2002 East-West Road
Honolulu, Hawaii 96822

Dear Mr. Gretz:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu, TMK No. (1) 2-8-023:003

We have received your fax memo dated December 21, 2004 regarding the subject project and the following has been prepared in response to your comments.

1. Pages 1, 3, 6, 7, 8, 21, 22 and 25 of the final EA have been revised.

2. Signage posted below eye level by Nextel AC units on the rooftop will instruct campus maintenance personnel on safe working distances from the antennas. A Nextel phone number will also be posted on the sign should a worker have questions regarding safety.

3. The radio equipment room will be retrofitted with FM-200 which is a fire suppression system that discharges a gas within 10-20 seconds to protect equipment, data or files.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

Colette Sakoda

cc: Nextel Partners, Inc.

LINDA LINGLE
GOVERNOR

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

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
BARRY FUKUNAGA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO

STP 8.1477

December 2, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Nextel Partners, Inc. Proposed UH Hamilton Library Annex Antenna Site
Draft Environmental Assessment Consultation
TMK: 2-8-023: 003

Thank you for your transmittal requesting our comments on the subject application.

The proposed telecommunications facility will not have any impact to our State facilities.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

c: Mr. Wallace Gretz, UH Facilities Planning and Management

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 1, 2005

Mr. Rodney K. Haraga, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Dear Mr. Haraga:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu, TMK No. (1) 2-8-023:003 Ref: STP 8.1477

We have received your letter dated December 2, 2004 in which you stated that the project will not have any impact on State facilities.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4414 • FAX: (808) 527-6743
DEPT WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

JEREMY HARRIS
MAYOR

ERIC G. CRISPIN, AIA
DIRECTOR

BARBARA KIM STANTON
DEPUTY DIRECTOR

2004/ELOG-2438(lk)

December 22, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Hakaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Draft Environmental Assessment
Nextel Partners, Inc. Telecommunications Facility
University of Hawaii at Manoa
2444 Dole Street - Manoa
Tax Map Key 2-8-23: 3

We have reviewed the Draft Environmental Assessment (DEA) for Nextel Partners, Inc.'s telecommunications antenna facility at the Hamilton Library Annex and offer the following comments:

Section 1.2 Identification of Approving Agency

1. As indicated in your letter of November 24, 2004, the approving agency should be identified as the University of Hawaii, not the Department of Planning and Permitting. The final EA must be revised accordingly.

2. The University of Hawaii at Manoa is operating under a Plan Review Use (PRU) File No. 88/PRU-3. Based on the information provided in the DEA, the proposed project is necessary to improve wireless communication service for the university. As such, the proposal can be reviewed as a minor modification to the PRU. A Conditional Use Permit-minor (CUPm) for a utility installation and a height waiver will not be required.

Section 1.4 Short-Term Impacts

To mitigate potential short-term impacts associated with construction activities, the installation of the equipment should be coordinated with the university to minimize disruption of classes, preferably when the university is not in session.

Section 3.12 Land Use Designations

The project site is in the R-5 Residential District. Universities are permitted in the R-5 district with an approved PRU. The university is currently operating under an approved PRU File No. 88/PRU-3. Development standards related to permitted uses and the maximum height of structures for the university are regulated under the PRU.

Section 7.4 The City and County of Honolulu General Plan

This section should be amended to state how the project conforms to the revised 1992 edition of the General Plan.

Section 7.5 The City and County of Honolulu Development Plan

This section should be expanded to discuss the consistency of the project with the Primary Urban Center (PUC) Development Plan (DP), approved on June 21, 2004 (Ordinance No. 04-14). The PUC-East Land Use Map designates the site as Institutional, not Public Facility.

Sections 7.6 Land Use Ordinance - Zoning

As previously indicated, universities (not all public facilities) are permitted in the R-5 Residential District with an approved PRU. The telecommunications antenna facility for the university will be an accessory use to the existing facility. A request for a minor modification to the PRU can be submitted when the Chapter 343 process is completed.

Section 7.7 Plan Review Use

On December 13, 1989, a PRU File No. 88/PRU-3 (Resolution No. 89-411, CD-2) was approved by the City Council to expand the University of Hawaii Manoa campus. A major modification to the PRU was approved on March 10, 1993, (Resolution No. 92-286) to increase the seating capacity of the Physical Education Facilities Phase II and to redesignate the facility as the Special Events Arena.

If you have any questions, please contact Lynne Kauer of our staff at 527-6278.

Sincerely yours,

ERIC G. CRISPIN, AIA
for Director of Planning
and Permitting

EGC:cs

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 1, 2005

Mr. Henry Eng, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Dear Mr. Eng:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, 2444 Dole Street, Manoa, Island of Oahu, TMK No. (1) 2-8-023:003 Ref: 2004/ELOG-2438 (lk)

We have received your letter dated December 22, 2004 regarding the subject project, and the following has been prepared in response to your comments.

Section 1.2 Identification of Approving Agency

1. The final EA is revised to reflect the University of Hawaii as the approving agency.
2. We understand that the original CUP minor (CUPm) application submitted to DPP on October 27, 2004 will be processed as a minor modification to the PRU File No. 88/PRU-3.

Section 1.4 Short-Term Impacts

The final EA will include discussion of how the timing of equipment installation should be coordinated with the university to minimize disruption of classes.

Section 3.12 Land Use Designations

Information regarding the applicability of the university's approved PRU is noted and incorporated in appropriate sections of the final EA.

Section 7.4 The City and County of Honolulu General Plan

Discussion of the project's relationship to the 1992 edition of the General Plan is included in this section of the final EA.

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

Section 7.5 The City and County of Honolulu Development Plan

This section of the final EA includes an expanded discussion of the project's consistency with the PUC Development Plan approved on June 21, 2004 (Ordinance No. 04-14). The site's land use designation as Institutional by the PUC-East Land Use Map is also noted.

Section 7.6 Land Use Ordinance – Zoning

As previously indicated, the discussion regarding the applicability of the university's approved PRU and its relevance to the DPP review and approval process is incorporated in appropriate sections of the final EA.

Section 7.7 Plan Review Use

Discussion of the history of the university's PRU has been revised based on information provided regarding approval by resolution (Resolution No. 92-286) on March 10, 1993 as a major modification.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 · AREA CODE (808) 529-3111
http://www.honolulupd.org
www.honolulu.gov

JEREMY HARRIS
MAYOR

BOISSE P. CORREA
CHIEF

GLEN S. KAJIYAMA
PAUL D. PUTZULU
DEPUTY CHIEFS

OUR REFERENCE CS-KP

November 30, 2004

Ms. Colette Sakoda
Environmental Planning
Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Nextel Partners, Inc. (NPI), Telecommunications Facility on the Hamilton Library Annex Rooftop, University of Hawaii at Manoa Campus.

Although this project should have negligible impact on the facilities and services provided by the Honolulu Police Department, it may impact the City and County of Honolulu's radio system. We expect to continue working with the NPI in resolving the problems relative to signals interfering with the radio system.

If there are any questions, please call Mr. Warren Izumigawa of the Telecommunications Systems Section at 831-7200 or Ms. Carol Sodetani of the Support Services Bureau at 529-3658.

Sincerely,

BOISSE P. CORREA
Chief of Police

By
KARL GODSEY
Assistant Chief of Police
Support Services Bureau

cc: Mr. Wallace Gretz (University of Hawaii at Manoa)

Serving and Protecting with Aloha

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 1, 2005

Boisse P. Correa, Chief of Police
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawaii 96813
Attn: Karl Godsey, Assistant Chief of Police

Dear Chief Correa:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu, TMK No. (1) 2-8-023:003 Ref: CS-KP

We have received your letter dated November 30, 2004 in which you stated that while the project should have negligible impact on the facilities and services provided by the Honolulu Police Department, it may impact the City and County of Honolulu's radio system. Please be assured that NPI will continue to work with the City and County staff to resolve any problems relative to signals interfering with the radio system.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa
Pete Jaeger, Technical Manager Nextel
Karl Godsey, Assistant Police Chief
Warren Izumigawa, Telecommunications Section

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
3375 KOAPAKA STREET, SUITE H425 • HONOLULU, HAWAII 96819-1869
TELEPHONE: (808) 831-7761 • FAX: (808) 831-7756 • INTERNET: www.honolulufire.org

JEREMY HARRIS
MAYOR

ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

December 8, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Draft Environmental Assessment Consultation
Nextel Partners, Inc.
Proposed University of Hawaii at Manoa Hamilton Library Annex Antenna Site
Manoa, Oahu, Hawaii
Tax Map Key: 2-8-023: 003

We received your letters dated November 22, 2004, and November 24, 2004, requesting our review and comments on the above-mentioned project.

The Honolulu Fire Department has no objections to the project or its approving authority.

Should you have any questions, please call Battalion Chief Lloyd Rogers of our Fire Prevention Bureau at 831-7778.

Sincerely,

ATTILIO K. LEONARDI
Fire Chief

AKL/SK:jl

cc: Mr. Wallace Gretz, Architect
University of Hawaii at Manoa, Facilities Planning and Management

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 1, 2005

Attilio K. Leonardi, Fire Chief
City and County of Honolulu
3375 Koapaka Street, Suite H425
Honolulu, Hawaii 96819-1869
Attn: Battalion Chief Lloyd Rogers

Dear Chief Leonardi:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu, TMK No. (1) 2-8-023:003

We have received your letter dated December 8, 2004 in which you stated that you have no objections to the project or its approving authority.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

December 6, 2004

JEREMY HARRIS, Mayor

EDDIE P. ORES, JR., Chairman
CHARLES A. STED, Vice-Chairman
HERBERT S. K. KAOPUA, SR.
CAROLYN H. LENDIO

RODNEY K. HARAGA, Ex-Officio
LARRY J. LEOPARDI, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

DONNA FAY K. KIYOSAKI
Deputy Manager and Chief Engineer

Ms. Colette Sakoda
Environmental Planning Solutions, Inc
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Your Letter of November 24, 2004 on the Draft Environmental Assessment Consultation for University of Hawaii Hamilton Library Annex Antenna Site, TMK: 2-8-23: 3

Thank you for the opportunity to comment on the subject document.

We do not have any comments on the proposed project.

If you have any questions, please contact Joseph Kaakua at 748-5442.

Very truly yours,

K. Shida

KEITH S. SHIDA
Principal Executive
Customer Care Unit

cc: Mr. Wallace Gretz

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 1, 2005

Mr. Keith S. Shida, Principal Executive
Customer Care Unit
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Dear Mr. Shida:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu, TMK No. (1) 2-8-023:003

We have received your letter dated December 6, 2004 in which you stated that you had no comments regarding proposed project.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4529 • FAX (808) 523-4730 • INTERNET: www.co.honolulu.hi.us

TP11/04-85227R
TP11/04-84906R

December 20, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Dear Ms. Sakoda:

Subject: Nextel Partners, Inc. Proposed University of Hawaii Hamilton Library Annex Antenna Site

In response to your November 22, 2004 letter, we have reviewed the draft environmental assessment for the subject project. We do not have any comments regarding the document or the subject project.

Should you have any questions regarding this matter, please contact Faith Miyamoto of the Transportation Planning Division at 527-6976.

Sincerely,

for GEORGE "KEOKI" MIYAMOTO
Director

cc: Mr. Wallace Gretz
UH – Facilities Planning and Management

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

January 19, 2005

Edward Y. Hirata, Acting Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813

Dear Mr. Hirata:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu,
TMK No. (1) 2-8-023:003 Ref: TP11/04-85227R, TP11/04-84906R

We have received your letter dated December 20, 2004 in which you stated that you had no comments regarding the document or the subject project.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa

verizon

Verizon Hawaii Inc.
P.O. Box 2200
Honolulu, HI 96841

December 8, 2004

Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816
Attention: Colette Sakoda

Subject: Nextel Partners, Inc. Proposed Antenna Site at UH Hamilton Library

Dear Ms. Sakoda:

Thank you for the opportunity to review the above project. We have the following comments to make:

- As far as Verizon Hawaii's concern, providing telephone service should not negatively impact the environment.
- All electrical work shall conform to all electrical codes.

Should you have any questions, please call Noel Remigio at 840-5847.

Sincerely,

Jill Lee
Manager – OSP Engineering, East & West Oahu

C: File (Punahou)
N. Remigio
Mr. Wallace Gretz
UH, Facilities Planning and Management
2002 East West Road
Honolulu, Hawaii 96822

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

February 1, 2005

Ms. Jill Lee, Manager
OSP Engineering, East and West Oahu
Verizon Hawaii, Inc.
P.O. Box 2200
Honolulu, Hawaii 96841
Attn: Noel Remigio

Dear Ms. Lee:

Subject: Draft Environmental Assessment for a Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu, TMK No. (1) 2-8-023:003

We have received your letter dated December 8, 2004 in which you stated that the project should not negatively impact the environment. Additionally, in response to your second comment, NPI will ensure that electrical work relative to its proposed facility will conform to all electrical codes.

Your participation in the planning phase of this project is truly appreciated.

Sincerely,

Colette Sakoda

cc: Wallace Gretz, University of Hawaii at Manoa

Neighborhood Board Consultation

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

September 29, 2004

Dear Neighbor:

Subject: Nextel Partners, Inc. Proposed University of Hawaii Hamilton Library Annex Antenna Facility, Manoa, Island of Oahu, TMK No. 2-8-023:003, Presentation to Manoa Neighborhood Board No. 7 on Wednesday, October 6, 2004

Nextel Partners, Inc. is proposing to install telecommunications facility on the University of Hawaii at Manoa Hamilton Library Annex rooftop. We plan to present the project at the next Manoa Neighborhood Board meeting on Wednesday, October 6, 2004 at 7:00 p.m. at the Noelani Elementary School cafeteria.

The antenna facility is to consist of:

- 12 panel antennas mounted to the 4 sides of the exterior of the machine room which is essentially the sixth, or top floor, of the Annex. Height of the antennas will remain within the building's existing roofline height.
- The equipment would be enclosed in a 10' x 20' area opposite the stairwell of the machine room.

This installation will be regulated by the Federal Communications Commission and requires additional zoning and building permits from the City & County of Honolulu. Nextel Partner's installation is classified as a Utility Installation, Type B, in the R-5 zoning district (residential), which requires a Conditional Use Permit – Minor.

You're welcome to attend the October 6, 2004 meeting to learn more about the proposed project. Please feel free to call me at 732-8602 should you have any questions.

Sincerely,

Colette Sakoda

Colette Sakoda

CERTIFICATE OF MAILING

State of Hawaii
University Lab School
2320 Dole Street
Honolulu, HI 96822
2-8-015:001;3-3-056:001; :002;2-8-029:001; 2-9-004:005

YMCA
1441 Pali Highway
Honolulu, HI 96813
2-8-016:001

Ogden Lindsley
1904 University Avenue
Honolulu, HI 96822
2-8-016:046

University Court
1914 University Avenue
Honolulu, HI 96822
2-8-016:025

Wesley Foundation at UH
1918 University Avenue
Honolulu, HI 96822
2-8-016:031; :032

Hawaii Pacific Baptist Conv.
c/o Dub EFurd
2042 Vancouver Drive
Honolulu, HI 96822
2-8-022:001

Church of Jesus Christ LDS
c/o Tax Admin. Div. 22nd Floor
50 East North Temple St.
Salt Lake City, UT 84150
2-8-022:034

Robert E. Fox
2815 E. Broadway
Long Beach, CA 90803
2-8-022:037

Sylvianne GC Lee Chun Trust
2315 Maile Way
Honolulu, HI 96822
2-8-022:039

Harry Dassah
2322 Maile Way
Honolulu, HI 96822
2-9-002:015

Mid-Pacific Institute
2445 Kaala Street
Honolulu, HI 96822
2-9-004:002; :003

Sisters 3rd Franciscan Order MC-Hawaii
2715 Pamoa Road
Honolulu, HI 96822

Return to:
Colette Sakoda
945 Makaiwa St.
Honolulu, HI 96816

HONOLULU, HI WAILAE-NAHA STA SEP 30 2004 USPS

UNITED STATES POSTAL SERVICE

0000

U.S. POSTAGE PAID HONOLULU,HI 96816 SEP 30, 04 AMOUNT $3.60 00051182-07

HONOLULU, HI WAILAE-NAHA STA SEP 30 2004 USPS

MANOA NEIGHBORHOOD BOARD

" ... to increase and assure effective citizen participation in the decisions of government ... "

REGULAR MEETING AGENDA

Wednesday October 6, 2004 7:00 P.M.
Noelani Elementary School Cafetorium
2655 Woodlawn Drive

PLEASE NOTE: To accommodate the business that must be considered at this meeting as listed on the agenda below, all speakers are encouraged to be brief (2 minutes for questions and comments unless otherwise directed by the Board) and to the point in order to move the discussions forward. All interested persons will be afforded an opportunity to submit data, views, or arguments in writing and present oral testimony on any agenda item, pursuant to the "Sunshine Law" – Hawaii Revised Statutes Section 92-3. ***Thank you for your participation and cooperation!***

---

1. Call to Order by Chair Tom Heinrich

2. **Public Safety Input**
   - 2.1. Honolulu Fire Department
   - 2.2. Honolulu Police Department;

   Information on the Four Proposed Amendments to the Hawaii State Constitution to be Considered by the Voters in the November 2, 2004 General Election

3. **Special Orders of New Business**

   3.1. Status of the University of Hawaii's Lyon Arboretum, 3860 Manoa Road –

   Presentation by Dr. Peter Englert, Chancellor, University of Hawaii at Manoa;

   Consideration of Proposed Resolution Regarding Support for the Reopening of Lyon Arboretum to the Public, Support for a Proposed $3,000,000 Capital Improvement Budget Appropriation by the 2005 State Legislature, and the Continued Long-Term Role of Lyon Arboretum as a Unique Community, Conservation, Education, and Research Resource; and Appointment of a Manoa Neighborhood Board Representative (and Alternate) to Serve on the "Lyon Arboretum Task Force"

   3.2. Comprehensive Public Funding of Election Campaigns –
   Presentation by Grace Furukawa, Hawaii Clean Elections Coalition;
   Consideration of Proposed Resolution in Support of Establishing a Hawaii Comprehensive Public Funding of Election Campaigns Program

3.3. Consideration of a Proposal by Nextel Partners, Inc. to Install a Telecommunications Facility (12 Panel Antennas, etc.) on the Sixth Floor of the University of Hawaii at Manoa Hamilton Library Annex (Tax Map Key No. 2-8-023: 003) – Presentation by Colette Sakoda, Environmental Planning Solutions, LLC

4. **Community Input** ****THREE (3) MINUTE** TIME LIMIT GUIDELINE **

4.1. Residents & Others [For Matters Not Otherwise Listed on the Agenda]
4.2. University of Hawaii Administration -- Jim Manke
4.3. Governor's Representative – Lawrence Reifurth, Deputy Director, DCCA
4.4. Mayor's Representative – Peter Radulovic
4.5. Elected Officials: Councilmember Ann Kobayashi (District 5)
Senator Brian Taniguchi (District 10)
Representative Kirk Caldwell (District 24)
4.6. Board of Water Supply – Daryl Hiromoto
4.7. Department of Parks & Recreation -- Howard Yoshioka
4.8. Malama o Manoa

5. **Board Open Forum**: Opportunity for General Discussion Regarding Board Administrative Matters, Members' Concerns, Planning for Future Meetings and Activities, Networking, Coordination with Adjacent Neighborhood Boards, Community Activities, Announcements, Etc.

6. **Board Planning & Administration**

6.1. Consideration of "Proposals to Improve Community Participation In, and Time-Effectiveness of Board Meetings" – Chuck Pearson
(1) Proposal to Rotate the Regular Community Input Presentations on a Quarterly Basis
(2) Proposal to Have Each of the Four Subdistricts' Representatives Present an Overview of Their Subdistrict's Characteristics, Key Issues, and Capital Improvement Needs at Successive Meetings and Periodically Thereafter
6.2. Treasurer's Report -- Hank Chapin (Note: The Board's current budget period and the City & County of Honolulu's current fiscal year (FY 2005) is the period from July 1, 2004 to June 30, 2005.)
6.3. Discussion of the Manoa Neighborhood Board's Regular Meeting Schedule to July 2005; Whether to Have "Special Focus" Meetings; Whether to (Co-)Sponsor District and Regional "Candidates Forums" Prior to the November 2, 2004 General Election
6.4. Consideration of Use of the Publicity Account Funds and Whether to (1) Continue to Videotape Manoa Neighborhood Board Regular Meetings for Later Repeated Broadcast on Olelo Channel 54, (2) Prepare a District Newsletter, (3) Prepare a District Survey, (4) Make Banners or Other Signage, or (5) Consider Other Ideas
6.5. Consideration and Establishment of Committees, Appointment of Committee Chairs, & Appointment of Board Delegates and Liaisons
6.6. Manoa Neighborhood Board No. 7 District Inspection Report and Proposal to Create a District/Subdistrict Issues & Inspection Program – Tom Heinrich
6.7. Discussion of **"Manoa Vision: The Future of a Valley"** – Community-Based Planning Initiatives and Public-Private Partnering Opportunities; Consideration of a Proposed Initiative to Develop a Series of Manoa Neighborhood Board "Planning Principles & Issue Statements"
6.8. Consideration of a Proposed Resolution to Establish a "Vision Statement" for the Manoa Neighborhood Board No. 7 District
6.9. Update Concerning the Proposed Amendments to the Manoa Neighborhood Board No. 7 Initiative Petition Regarding Changes to the Four Subdistrict

Boundaries

6.10. Neighborhood Plan Revision Effort Update (Third Draft RNP 2004 in Progress)

6.11. Approval of the Regular Meeting Minutes of April 2, 2003, May 7, 2003, June 4, 2003, July 2, 2003, and August 6, 2003, October 1, 2003, November 5, 2003, December 3, 2003, February 4, 2004, March 3, 2004, April 7, 2004, May 5, 2004, June 2, 2004, July 7, 2004, August 4, 2004, and the Special Meeting Minutes of June 21, 2003

7. Unfinished Business

7.1. Update on Honolulu City Council **Bill 74 (2003), CD2** (May 18, 2004) to Adopt the Primary Urban Center Development Plan (PUCDP)

7.2. Update on the Possible Installation of a Crosswalk on Woodlawn Drive Near Longs Drugs and the Manoa Stream Bridge; Letter Sent to the City Department of Transportation Services Requesting Participation in the "Manoa Improvement Projects" List Process

7.3. Consideration of Potential Improvements to the Woodlawn Drive Public Right-of-Way Between Kolowalu Street and Kahaloa Drive Including, But Not Limited To, Street Trees, Parking "Bulb-outs", and Pedestrian Safety Improvements

7.4. Consideration of the Possible Development of a Neighborhood Transportation Center, Revision of Bus Routes, and Use of Shuttles

7.5. Update on the Woodlawn Area Earth Movement (Hill Slippage) Problem and Engineering Efforts (Tie-backs and Drainage)

7.6. Consideration of Public Safety Issues Related to Parking and Signage in the 3100 Block Area of Alani Drive, Makai of Puhala Rise to Paty Drive

7.7. Consideration of Issues Related to the Status of Building and Other Permits Required for the Hawaii Korean Central Church (Located at 3516 Pilikino Street, Tax Map Key No. 2-9-069-072) to be in Compliance with City & County of Honolulu Laws (After the Fact Approvals May Be Necessary); Department of Planning & Permitting Public Hearing Held on April 23, 2004 for Conditional Use Permit – Minor, File No. 2004/CUP-15 (LK)

7.8. CAPITAL IMPROVEMENT PROJECT (CIP) PROGRAM UPDATE; Fiscal Year 2004 & 2005 CIP Proposals Status; Manoa Valley District Park Master Plan Update; District Roadway Repair & Resurfacing Projects; Traffic Calming & Pedestrian Safety Program Projects; Consideration of New Proposals

7.9. Consideration of a Proposed Resolution Concerning the Honolulu City Council's Budget Cut Affecting the Neighborhood Commission and All 32 Neighborhood Board Operating and Publicity Account Budgets

7.10. Consideration of Proposed Resolutions Concerning the Honolulu City Council's (1) Resolution No. 03-105 "Establishing a Moratorium for a Period of Two Years on the Budgeting and Construction of Vision Team and Neighborhood Board Capital Improvement Projects" and (2) Resolution No. 03-143 "Concerning Budgeting for the Maintenance of City Roads"

7.11. Kamoku-Pukele 138 kV Transmission Line Project & 46 kV Alternatives Update

7.12. Update on the Proposal for a Privately Developed Student Housing and/or Mixed Use Complex at the Varsity Theatre and Varsity Building Property (Mauka-Ewa Corner of University Avenue & Coyne Street) to Serve the University of Hawaii

7.13. Consideration of Resolutions Related to Support of Alternative Energy

Initiatives, Establishment of a Moratorium on 138 kV Transmission Line Construction, Undergrounding of Utility Lines & Facilities, and Public Utilities Commission Reforms to Benefit Consumer Access & Participation in Proceedings (including a Consumers' Intervenors Fund)

7.14. Update Concerning Central Union Church's Plans to Proceed with a Change of Zone Application for a 5.1-Acre Portion of CUC's 8.4-Acre Campus from A-2 (Medium Density Apartment) to BMX-3 (Community Business Mixed Use) – Proposed Partial Rezoning (Bill 71 (2003)), Transfer of Development Density Rights, and Application for Historic Registration

7.15. Proposed Resolution in Opposition to the Possible Widening of South Beretania Street Fronting the Makai Side of Central Union Church (1660 South Beretania Street & Punahou Street)

7.16. District Traffic & Parking Concerns and Update

7.17. Paradise Park Acquisition Initiative by the University of Hawaii Update

7.18. Manoa Falls Trail & Manoa Stream Management Issues Update

7.19. Update on the "Dog Park" and On-Leash Exercise Area Authorization Issues

8. New Business

8.1. Discussion of the City Administration's Primary Budget Bills Now Before the Honolulu City Council – **Bill 13 (2004)** Relating to the Executive **Operating Budget** and Program for the Fiscal Year July 1, 2004 to June 30, 2005, and **Bill 14 (2004)** Relating to the Executive **Capital Budget** and Program for the Fiscal Year July 1, 2004 to June 30, 2005

8.2. Consideration of a Proposed Resolution Concerning Honolulu City Council **Resolution 03-54, CD1** Relating to Civil Service Status for Neighborhood Commission Office Employees Other Than the Executive Secretary

8.3. Consideration of a Proposed Resolution Concerning Honolulu City Council **Resolution 04-18** Proposing a City Charter Amendment to Require Five of the Nine (5/9) Neighborhood Commissioners to Have Previously Served at Least One Full Term on a Neighborhood Board (An Increase from Three of the Nine (3/9))

8.4. Consideration of a Proposed Resolution Concerning the Fiscal Year 2005 Budget for the Neighborhood Board System

8.5. Consideration of a Proposed Resolution Related to Amending the Name of Pawaina Street to Distinguish Between the Northern and Southern Portions Which Are Separated by Manoa Stream and Not Connected by a Vehicular Bridge

8.6. Consideration of a Proposed Resolution to Request that the Primary Address of Manoa Valley District Park be Changed from 2721 Kaaipu Avenue to 3131 Manoa Road

8.7. Consideration of a Proposed Resolution Related to Requiring an Additional Presentation to the Neighborhood Boards by Permit Applicants in the Event of Substantive and/or Substantial Changes to the Original Proposal as First Presented to the Public

8.8. Consideration of a Proposed Resolution Relating to the Oahu Landfill Site Selection Process

8.9. Consideration of a Proposed Resolution Relating to Beautification

and Public Use of the Southeast Area of the H-1 Freeway/University Avenue Interchange

8.10. Consideration of a Proposed Resolution Relating to the Potential Public-Private Partnering Purchase of 1,129 Acres in Pupukea-Paumalu, North Shore Oahu

8.11. Consideration of a Proposed Resolution Relating to Feral Pig Hunting

8.12. Consideration of Various Proposed Resolutions Relating to the University of Hawaii Board of Regents' Decision to Remove President Evan Dobelle and Its Future Effects

8.13. Update on the Proposed Conditional Use Permit Application for the Addition of a Gymnasium/Community Center to Maryknoll Grade School, 1526 Alexander St.

8.14. Consideration of Request by Halau Kumana for Support to Have the Department of Transportation Services Restore TheBus Service to Paradise Park

9. **Committee & Board Delegate/Liaison Reports**

9.1. Communications Committee (Fassler)
9.2. Historical & Cultural Resources Committee (Andersen)
9.3. Planning, Transportation & Public Safety Committee (Ragsdale)
9.4. Sustainability Committee (Harwood)
9.5. Vision Team No. 10: Makiki-McCully-Mo`ili`ili-Manoa (Heinrich)
9.6. Ala Wai Watershed Association (Heinrich)
9.7. Kamoku-Pukele Community Advisory Committee (Heinrich, Lam)
9.8. Oahu Metropolitan Planning Organization Citizens Advisory Committee (Heinrich, Shoji, Ragsdale (alt.))
9.9. Ad Hoc Community Parking Committee (Heinrich, Ragsdale)

10. **Announcements & Correspondence**

10.1. Next Regular Board Meeting. The Manoa Neighborhood Board's next regular meeting will be held on **Wednesday November 3, 2004 at 7:00 P.M.** at the Noelani Elementary School Cafetorium, 2655 Woodlawn Drive. The regular meetings of the Board are held on the first Wednesday of each month at the same time and place, unless otherwise noticed. To verify the meeting schedule, please call the Neighborhood Commission Office at 527-5749.

10.2. The **next Neighborhood Commission meeting** is tentatively scheduled for **Tuesday October 12, 2004 at 6:30 P.M.** at City Council Chambers, City Hall, 3rd Floor, 530 South King Street. To verify the meeting schedule and review the agenda, please call the Neighborhood Commission Office at 527-5749.

10.3. The next **Vision Team 10: Makiki-McCully-Mo`ili`ili-Manoa** meeting has not yet been scheduled. Everyone is welcome to attend and participate! Please call Tom Heinrich at 988-3469 or Peter Radulovic at 523-4674 to verify the meeting schedule, for more information, or to be added to the Vision Team 10's mailing list.

10.4. City and State Budget Information. For information on the City Council's budget process and schedule, please call the office of Councilmember and Budget Committee Chair **Ann Kobayashi at 547-7005** (our own Council District 5). For information on the State Legislature's budget process and schedule, please call the office of Senator and Ways & Means Committee Chair **Brian Taniguchi at 586-6460** (our own Senate District 10). The City & County of Honolulu's current fiscal year (FY 2005) is the period from July 1, 2004 to June 30, 2005. The State of Hawaii's current biennial budget is for the period July 1, 2003 to June 30, 2005.

10.5. Suggestions for **capital improvement projects (CIPs)** in the Manoa Neighborhood Board district are welcome at any time in preparation for planning activities and the next fiscal year budgets. Please contact the Board or any elected official for our area to convey your ideas.

11. ADJOURNMENT

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

FOR FURTHER INFORMATION, please contact:

Chair J. Thomas Heinrich Tel 988-3469 Fax 988-6689
1st Vice Chair Jim Harwood Tel 941-0435 Fax 941-0435 harwood@hgea.org
2nd Vice Chair Chuck Pearson Tel 988-0657

A mailing list is maintained for interested persons and agencies to receive the Manoa Neighborhood Board No. 7 agenda and minutes. Additions, corrections, and deletions to the mailing list may be directed to the Neighborhood Commission Office, City Hall, Room 400, 530 South King Street, Honolulu, HI 96813, telephone 527-5749, fax 527-5760.

Neighborhood Board agendas and minutes are available on the internet at **www.honolulu.gov**.

Any disabled person requiring accommodation to be able to participate at this meeting may call the Neighborhood Commission Office at 527-5749 for information and assistance.

Friday, October 01, 2004

Proposed Telecommunications Site
University of Hawaii at Manoa Hamilton Library Annex, Honolulu, Hawaii

GENERAL INFORMATION

Applicant:	Nextel Partners, Inc. (NPI) 3375 Koapaka Street, D-155 Honolulu, Hawaii 96819
Agent:	Colette M. Sakoda Environmental Planning Solutions, LLC 945 Makaiwa Street Honolulu, HI 96816
Owner:	University of Hawaii
Property Profile: Location:	Manoa, Honolulu, Oahu
Address:	University of Hawaii Hamilton Library Annex, Maile Way Manoa, Honolulu, Hawaii
TMK:	2-8-023:003
Zoning (LUO):	R-5 Residential
Lot Area:	88,760,400 square feet (103.482 acres)s.f.
Height Limit:	25-30 feet
State Land Use: Special District: Development Plan:	Urban None Public and Quasi-Public
Special Management Area: Flood Zone (FIRM map): Existing Use:	No AE & X Vacant rooftop area of existing graduate library annex
Surrounding Land Use:	Hamilton Annex is in the Upper/Central campus bordered on the north by Maile Way, original Hamilton Library to the east, Edmondson Hall to the south, and Spalding Hall to the west..

ENVIRONMENTAL PLANNING SOLUTIONS, LLC
945 Makaiwa Street, Honolulu, HI 96816 Phone: 732-8602 Fax: 538-3168

August 9, 2004

Subject: Nextel Partners, Inc. Proposed University of Hawaii Hamilton Library Annex Antenna Site, Manoa, Honolulu District, Island of Oahu, TMK No. 2-8-023:003, Pre-Assessment Consultation

Dear Consulted Party:

Nextel Partners, Inc. is preparing a Chapter 343, HRS Environmental Assessment for a proposed telecommunications facility on the University of Hawaii at Manoa Hamilton Library Annex. The antenna facility is to consist of:

- 12 panel antennas mounted to the 4 sides of the exterior of the machine room which is essentially the sixth, or top, floor of the Annex. Height of the antennas will remain within the building's existing roofline height.
- The equipment would be enclosed in a 10' x 20' area within the stairwell of the machine room.

This installation will be regulated by the Federal Communications Commission and requires additional zoning and building permits from the City & County of Honolulu. Nextel Partner's installation is classified as a Utility Installation, Type B, in the R-5 zoning district (residential), which requires a Conditional Use Permit – Minor.

In conjunction with this work, we are requesting any written comments and/or information with respect to your area(s) of concern. We welcome your participation in the planning phase of this important project and would appreciate your feedback by September 11, 2004. Please forward your written comments to:

Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Sincerely,

Colette Sakoda

Colette Sakoda

Enclosure: location map

UNIVERSITY OF HAWAI'I AT MĀNOA

Office of Facilities, Grounds, and Safety

October 5, 2004

Mr. John Thomas Heinrich
Chair
Mānoa Neighborhood Board No. 7
c/o Mānoa Library
2716 Woodlawn Drive
Honolulu, Hawai'i 96822

Dear Mr. Heinrich:

Re: Nextel Antenna Site at Hamilton Library Addition
University of Hawai'i at Mānoa

The proposed Nextel Partners, Inc. (NPI) antenna installation project at Hamilton Library Addition on the University of Hawai'i Mānoa Campus is being directed and coordinated by the Facilities Planning and Management Office.

Two concerns were raised in the campus review process. The Mechanical Engineering Section requested that maintenance workers exposure to radio wave be addressed and the Head Librarian was concerned about roof leaks on the new 20-year warranty roof.

To address the Mechanical Engineering's concern, NPI has agreed to power-down antennas to safe levels while workers are within a few feet of the antennas mounted on the machine room exterior walls. In addition, the University requires an environmental assessment, which will address radio emissions.

To address the Head Librarian's roof concerns, NPI will not be installing equipment in a way that will impact the existing roof. Penetrations for antenna cables will be through the walls. In addition, since the telecommunications equipment site will be on the interior of the building, roof traffic will be eliminated.

Both answers from NPI have adequately addressed our primary concerns. If you have any questions, please feel free to call Wally Gretz at (808) 956-8896.

Sincerely,

Kalvin Kashimoto
Director

c: Carl Young, NPI
Wally Gretz, FPMO

2002 East-West Road, Honolulu, Hawai'i 96822
Telephone: (808) 956-6142, Facsimile: (808) 956-2165

MANOA NEIGHBORHOOD BOARD NO. 7

c/o NEIGHBORHOOD COMMISSION • 530 SOUTH KING STREET, ROOM 400 • HONOLULU, HAWAII 96813
PHONE: (808) 527-5749 • FAX: (808) 527-5760 • INTERNET: www.co.honolulu.hi.us

October 12, 2004

Ms. Colette Sakoda
Environmental Planning Solutions, LLC
945 Makaiwa Street
Honolulu, Hawaii 96816

Re: Proposal by Nextel Partners, Inc. to Install a Telecommunications Facility on the Sixth Floor of the University of Hawaii at Manoa Hamilton Library Annex (Tax Map Key No. 2-8-023: 003)

Dear Ms. Sakoda:

Thank you for your presentation concerning the above identified cellular service antenna site proposal made to the Manoa Neighborhood Board No. 7 at its regular meeting on Wednesday October 6, 2004 at the Noelani Elementary School cafetorium.

I especially wish to commend you, based on the comments of other board members, for the thoroughness of your presentation and the excellent 7-page handout which included 8 photographs that provided different perspectives of the proposed antenna site and simulations of the antennas as they would appear installed.

Concerns expressed by the Board members during discussion included: (1) possible health effects which could be caused by electro-magnetic field (EMF) emissions from the antennas; (2) possible effects on research activities in the vicinity, including plant- and animal-related and electronic data transmission from other transceivers; and (3) aesthetic effects, including visual clutter and possible interference with sight lines.

It was noted that (1) an environmental assessment is being done for the University of Hawaii at Manoa as lessor of the site (letter dated October 5, 2004 from Kalvin Kashimoto, Director, Office of Facilities, Grounds, and Safety, University of Hawaii at Manoa, to the Manoa Neighborhood Board); (2) that a number of cellular service antennas are currently installed at various locations on the UH-Manoa campus; and (3) the KTUH radio antenna is located to the west atop Saunders Hall on Maile Way.

After discussion, the following motion was adopted by a vote of 12 in favor, none opposed, and 4 abstentions (12-0-4): "That the Manoa Neighborhood Board No. 7 has no objection to the proposal by Nextel Partners, Inc. to install a telecommunications facility on the sixth floor of the University of Hawaii at Manoa Hamilton Library Annex (Tax Map Key No. 2-8-023: 003)."

Sincerely,

J. Thomas Heinrich

J. Thomas Heinrich, Chair

APPENDIX C:
CERTIFICATION OF CATEGORICAL EXCLUSION
CERTIFICATE FOR TELECOMMUNICATIONS ANTENNA

Nextel Partners, Inc

RF Compliance Report

Proposed Site HI0172 UH Manoa

Hamilton Library
University of Hawaii at Manoa
Honolulu, Hawaii 96822

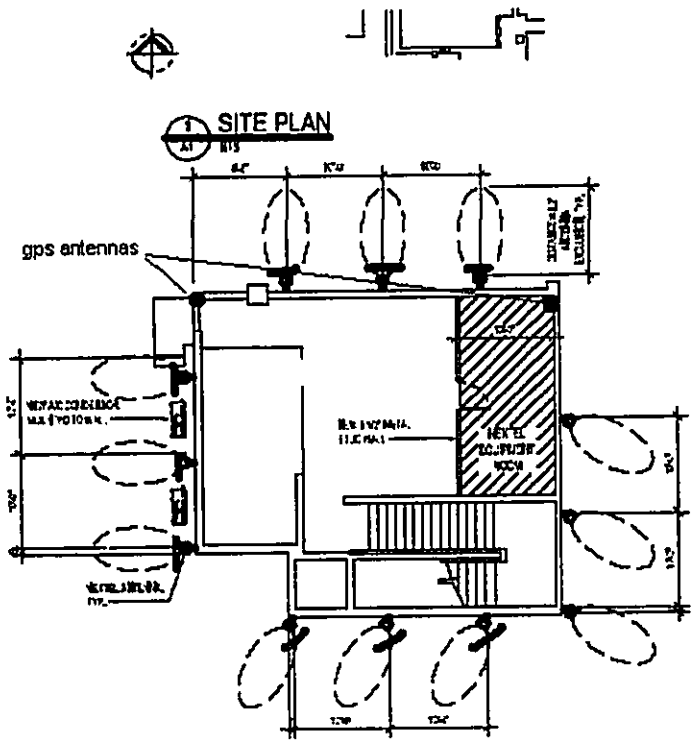
Prepared By:
Mikel Nakamoto, RF Engineer
Nextel Partners, Inc
3375 Koapaka Street Suite D155
Honolulu, Hawaii 96819
Phone: (808) 478-9529
Email: mikel.nakamoto@nextelpartners.com

Purpose of this document:

To provide requested information and MPE analysis regarding MPE calculations for the proposed Nextel Partner's, Inc cell site on Hamilton Library.

Site Description:

Nextel Partner's Inc, is proposing to install a 4 sector, 12 panel antenna, cell site operating between 851 and 866 MHz SMR band frequencies on the rooftop of the Hamilton Library. Current site design places the antennas on the elevator mechanical room as shown below.



Analysis Description:

Nextel Partners will be using a maximum of 6 radios per antenna, each operating at approximately 10 Watts power input.

PA Tx (watts)	PA Tx (dBm)	Cable loss(dB)	Duplexer loss(dB)	combiner loss(dB)	Power at antenna (dBm)	Power at antenna (watts)	# radios per antenna	max power at antenna (watts)	max power at antenna (dBm)	ant gain (dBm)	erp (dBm)	erp (watts)
10	40	3.20000	1.0	3.5	32.30000	1.6982437	6.0	10.19	40	13	53	203.3065

The analysis methodology is based on OET Bulletin 65's definition of "General population/uncontrolled" exposure.

The definition is as follows: "General population/uncontrolled exposure limits apply to situation in which the general public may be esposed or in which persons who are exposed as a consequency of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications

tower that exposes persons in a nearby residential area, or in our case, UH maintenance workers or air conditioning workers."

There are basically 2 parts to this methodology. First is that exposure guidelines apply to power densities or the squares of the electric and magnetic field strengths that are spatially averaged over the body dimensions. Second, exposure may be averaged over certain periods of time with the average not to exceed the limit for continuous exposure. This concept is commonly referred to as SAR or Specific Absorption Rate.

According to OET Bulletin 65, Power Density for General Population/Uncontrolled Exposure is calculated by the formula S=f/1500, where S is in mW/cm^2 and f is frequency in Megahertz. The current MPE limit for Nextel Partners, Inc.'s iDEN system is .56733 mW/cm^2, using 851 MHz in place of f. For the general population/uncontrolled category, the spatial averaging time is 30 minutes at the 100% MPE threshold. As an example of how time averaging, SAR, and MPE are used:

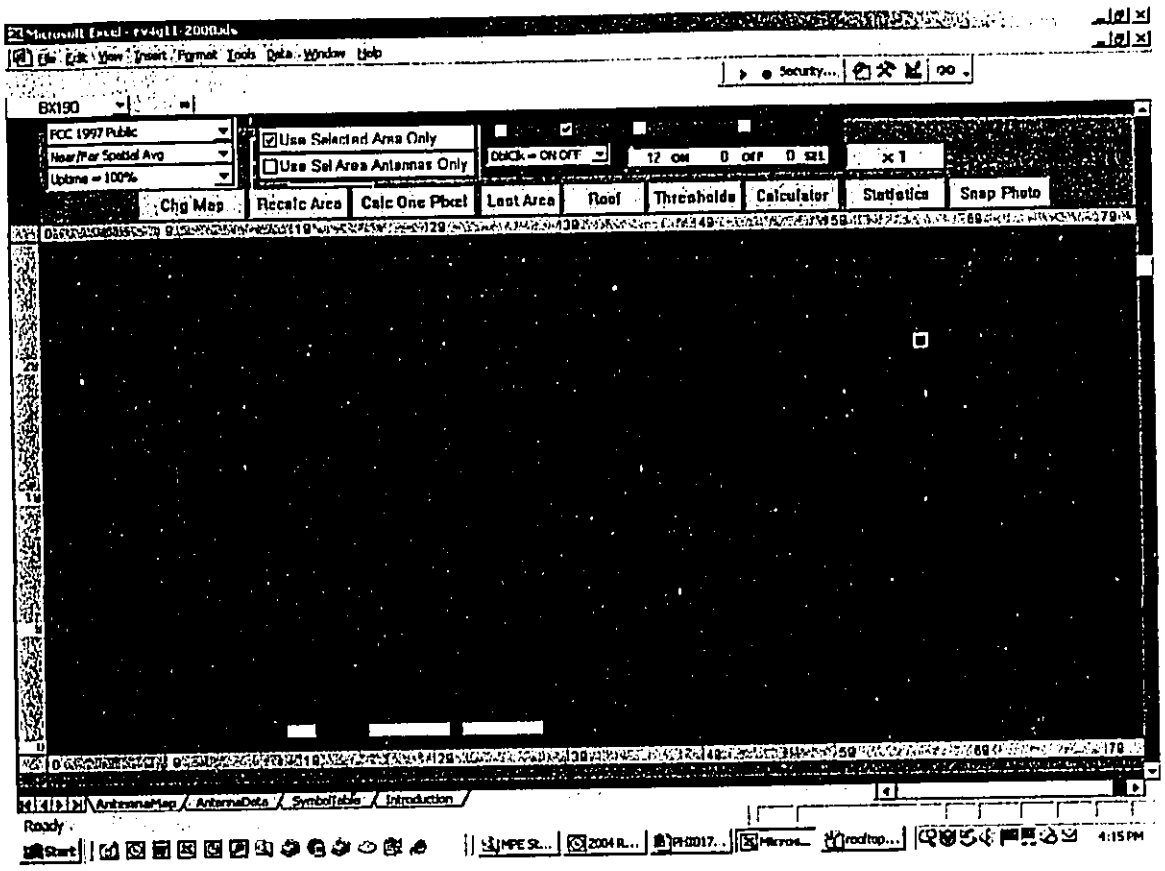
MPE limits			
freq (MHz)	power density limit (mW/cm2)		
851	0.5673333		
% of MPE	SAR (uncontrolled, min)	Time limit on exposure (min)	Time limit on exposure (hr)
5.00%	30	600	10
10.00%	30	300	5
20.00%	30	150	2.5
50.00%	30	60	1
100.00%	30	30	0.5
200.00%	30	15	0.25
300.00%	30	10	0.166667
7.40%	30	405.4054	6.756757
16.20%	30	185.1852	3.08642

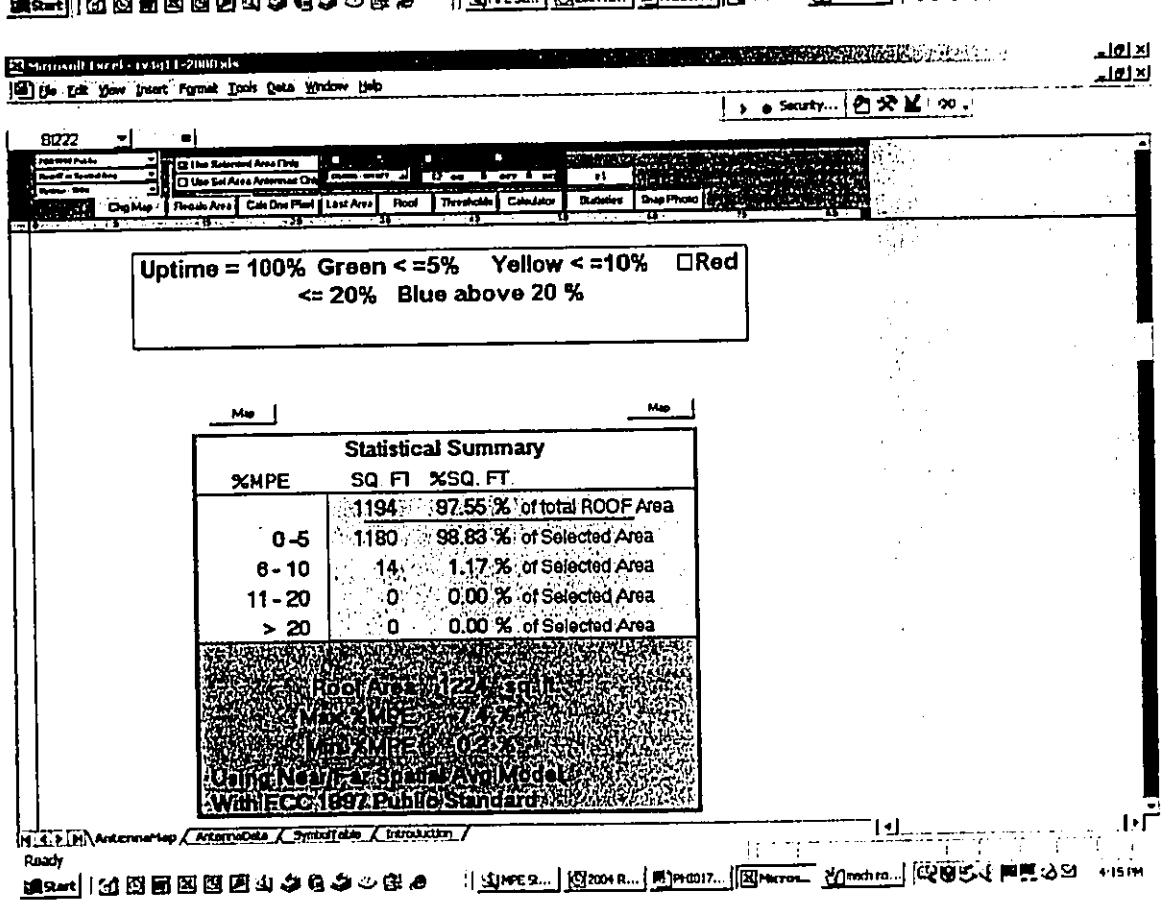
This table illustrates how much time a worker could potentially spend without overexposing him/herself to radiofrequency energy. A worker in an area with 5% of MPE would be able to stay there for 10 hours assuming that they were not exposed during the preceding 10 hours and will not be exposed during the following 10 hours. Similarly, if a worker was in an area with 300% of MPE, the worker would be able to stay in this area for no more than 10 minutes assuming that they were not exposed during the preceding 10 minutes and will not be exposed during the following 10 minutes.

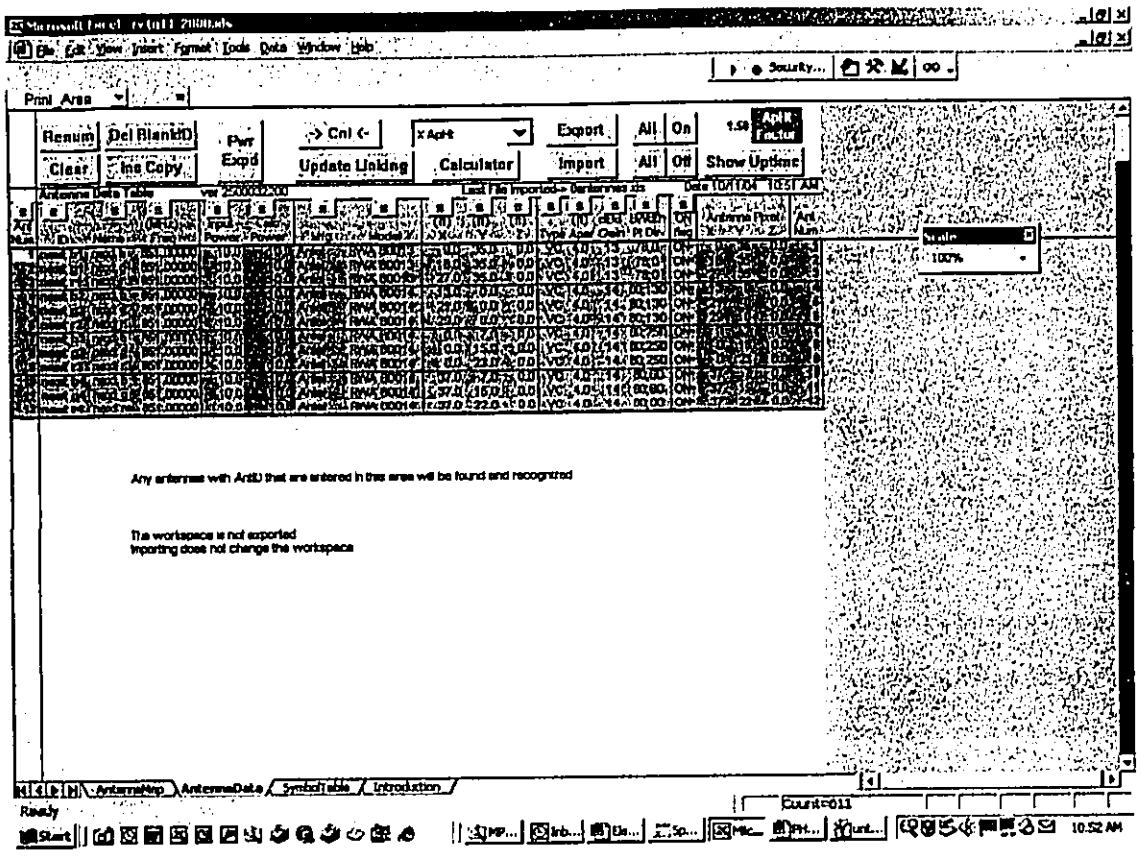
Analysis Results

Analysis of both the mechanical room rooftop and lower rooftop was completed using Roofview V4.11 created by Richard Tell Associates, Inc. The Roofview analysis software was set to use FCC 1997 Public Limits, Near/Far Spatial Averaging, and duty cycle of transmitters at 100%. The settings used in the analysis are for the worst-case implementation. Below are the analysis results.

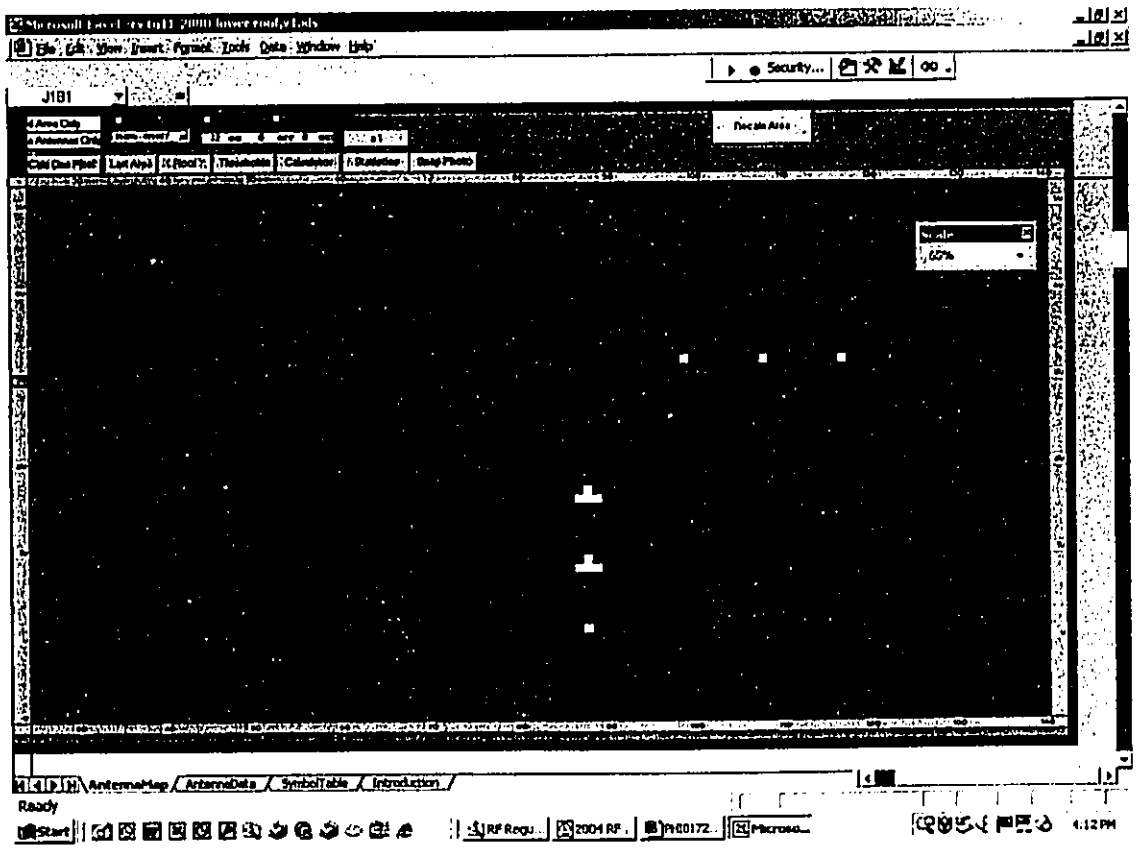
Mechanical Room Rooftop

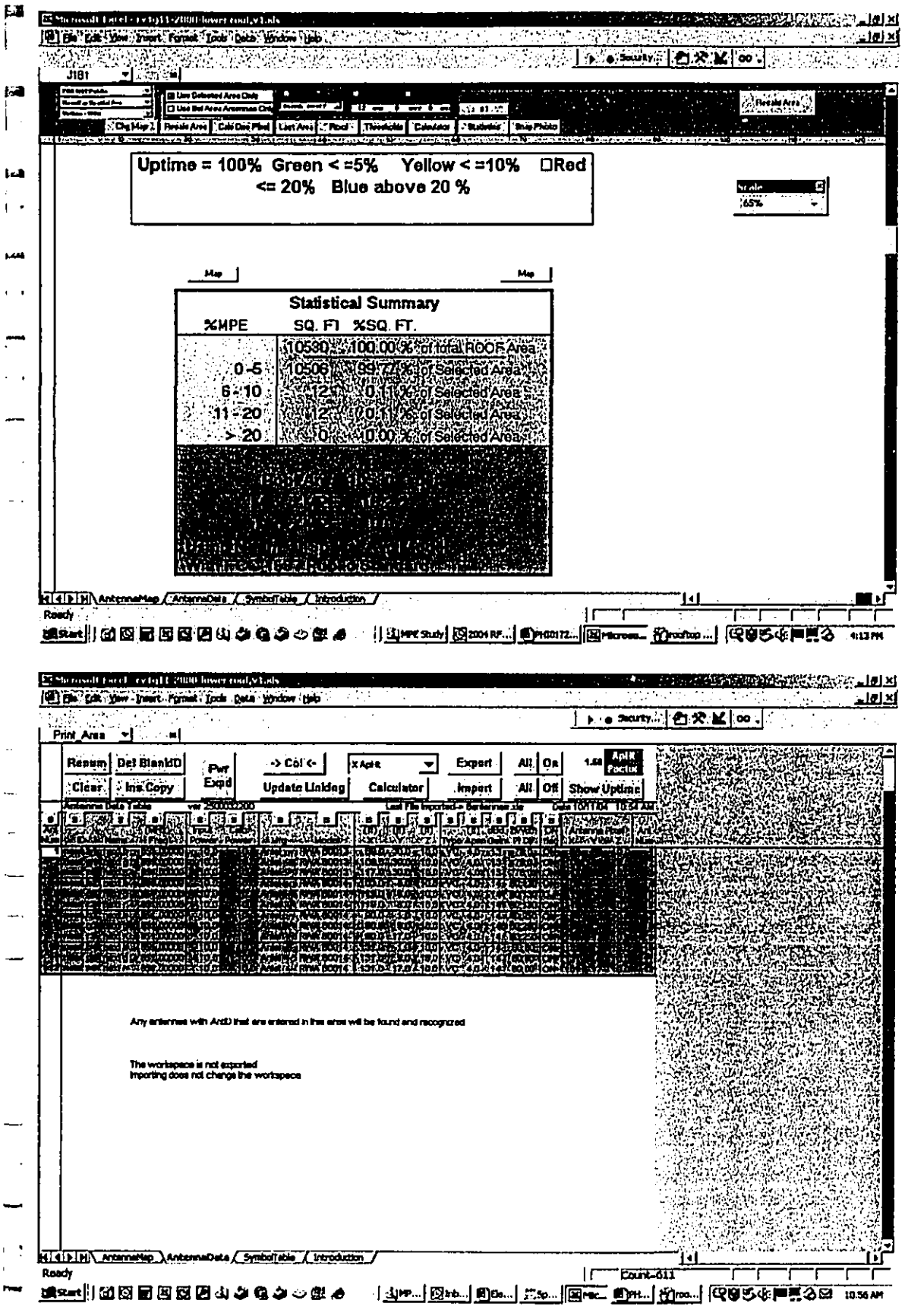

Use Selected Area Only
Use Sel Area Antennas Only
Chg Map
Recalc Area
Calc One Pixel
Last Area
Roof
Thresholds
Calculator
Statistics
Snap Photo
AntennaMap
AntennaData
SymbolTable
Introduction
Ready


Uptime = 100% Green < =5% Yellow < =10% Red
<= 20% Blue above 20 %
Statistical Summary
%MPE SQ. FT %SQ. FT.
1194 97.55 % of total ROOF Area
0-5 1180 98.83 % of Selected Area
6-10 14 1.17 % of Selected Area
11-20 0 0.00 % of Selected Area
> 20 0 0.00 % of Selected Area
Roof Area 1224 sq ft
Max %MPE 7.4 %
Min %MPE 0.2 %
Using Near-Far Spatial Avg Model
With FCC 1997 Public Standard
AntennaMap
AntennaData
SymbolTable
Introduction
Ready



Lower Rooftop





Conclusions:

As can be seen by the analysis results, the proposed cell site installation will not exceed FCC MPE Regulations for the General Public as per the FCC 1997 Public Standard and Roofview V4.11 analysis software. Worst case areas are calculated to be 16.2% of the maximum permissible exposure limit. This means that for the areas indicated in red, workers would be able to spend up to 3 hours, assuming

yellow are safe to be in for 5 hours at a time assuming that they were not exposed to this level for the preceding and following 5 hours. Areas indicated in green are safe to be in for up to 10 hours at a time assuming that they were not exposed to this level for the preceding and following 10 hours. As a general observation, any work being done at least 4 ft away from the vertical plane of any antenna should be safe and in compliance to this analysis for a period of up to 10 hours. Any work to be done in closer proximity to any of the antennas should be scheduled with Nextel Partners, Inc. so that the antennas can be powered down to lower levels.

Further Information:

Nextel Partners, Inc. complies with all FCC standards regarding Radio Frequency Emissions and Maximum Permissible Exposure limits from such emissions. Further documentation and explanation on these FCC standards can be obtained at http://www.fcc.gov/oet/info/documents/bulletins/ under bulletin 65 and bulletin 56. Further detailed information can also be found under the Code of Federal Regulations, Title 47 at http://www.access.gpo.gov/nara/cfr/cfr-table-search.html

CERTIFICATE FOR TELECOMMUNICATIONS ANTENNA

This form is to be submitted along with building permit applications for telecommunication antennas. It shall be signed by the building permit applicant who shall be responsible for meeting the exclusion distance (setbacks) required by the Land Use Ordinance (LUO), and the veracity of information submitted herein.

Building permit plans shall include a delineation of the exclusion distance, and shall provide any additional information to demonstrate that fencing or other measures are being taken to restrict public access within this distance.

Please type or print legibly all required information.

Tax Map Key: (1) 2-8-023:003

Applicant: NEXTEL PARTNERS, INC.
(If company, list company name)

Brief Description of the Type of Antenna: LAND-MOBILE, CELLULAR
(E.g. land-mobile, paging service; mast antenna, dish. If antenna is an independent operational fixed-point microwave or receiving-only antenna, that does not qualify as an accessory use, please note this here; no other additional information is required for these antennas.)

Effective Radiated Power (ERP) of Antenna(s): 200 watts
(If more than one antenna is being proposed, or if an antenna is being added to a site where there are already other antennas, indicate combined ERP)

Computation of Exclusion Distance (ED) in feet:

$$\text{Exclusion Distance (in feet)} = .0325\sqrt{796ERP}$$

Using the above formula, the Exclusion Distance is 13 feet

Applicant — Date
(If company, authorized signature)

10/12/04

0166L.6.13.88

CERTIFICATION OF CATEGORICAL EXCLUSION FOR ANTENNA INSTALLATIONS

This certification shall be submitted with all Land Use Permit applications for antenna-related *utility installations* (see LUO Sec. 21-10.1). It shall be signed by the applicant who shall be responsible for the veracity of the information submitted, herein.

Tax Map Key: (1) 2-8-023:003 Applicant: NEXTEL PARTNERS, INC.
(If company, list company name)

Signature: _____ 10/12/04
Applicant Date

PART I.

The proposed utility installation will be operated in the Multi-point Distribution Service, Paging and Radiotelephone Service, Cellular Radiotelephone Service, Narrowband or Broadband Personal Communications Service, Private Land Mobile Radio Services Paging Operations, Private Land Mobile Radio Service Specialized Mobile Radio, Local Multi-point Distribution Service, or service regulated under CFR Part 74, Subpart I:

☒ Yes (Circle the applicable service, above) ☐ No _____
Indicate the type of service

The proposed antenna will be a *freestanding antenna structure* (see LUO Sec. 21-10.1): ☐ Yes ☒ No

The lowest point of any antenna associated with the proposed utility installation will be at least 10 meters (~33 feet) above the ground: ☒ Yes ☐ No

If the response to ALL three of these questions is "Yes", then the proposed utility installation IS categorically excluded. It is unlikely to cause exposure in excess of the FCC's guidelines. You do not need to complete Parts II, III or IV of the certification.

If the response to ANY of the three questions is "No", then you must complete Part II of the certification.

Part II.

The *transmitting antennas* (see LUO Sec. 21-10.1) associated with the proposed utility installation will be inaccessible to the public:
☒ Yes ☐ No

ANTENNAS WILL BE LOCATED ON ELEVATOR MECHANICAL ROOM FACADE. ROOFTOP SECURED BY LOCKED DOOR.
Briefly describe how the antennas will be rendered inaccessible to the public

If the response is "Yes", then the proposed utility installation IS categorically excluded. It is unlikely to cause exposure in excess of the FCC's guidelines. You do not need to complete Parts III or IV of the certification.

If the response is "No", then you must complete Part III of the certification.

PART III.

This is a:
☐ Single facility site (the site contains ONLY ONE antenna array). Please complete Part III of the certification.
☐ Multiple facility site (the site contains MORE THAN ONE antenna array). Please skip the remainder of Part III of the certification and proceed to Part IV.

Please provide the following information and calculations.

A. Enter the power threshold for categorical exclusion for this service from the attached Table 1 in watts ERP or EIRP [note: EIRP = (1.64) x ERP]: _____

B. Enter the total number of channels if this will be an omnidirectional antenna(s), or the maximum number of channels in any sector if this will be a sectored antenna: _____

C. Enter the ERP or EIRP per channel using the same units as in "A": _____

D. Multiply the answer from "B" by the answer from "C": _____

The response to "D" is less than or equal to the value for "A": ☐ Yes ☐ No

If the response is "Yes", then the utility installation IS categorically excluded. It is unlikely to cause exposure in excess of the FCC's guidelines. You do not need to complete Part IV of the certification.

If the response is "No", the utility installation is NOT categorically excluded and you must complete Part IV of the certification.

PART IV.

Estimate the "worst case" horizontal distance which must be maintained.

A. This is a:
☐ Single facility site (the site contains ONLY ONE antenna array). Enter the ERP or EIRP for the proposed antenna array: _____
☐ Multiple facility site (the site contains MORE THAN ONE antenna array). Enter the TOTAL ERP or EIRP for ALL antenna arrays at the site, including the proposed antenna installation: _____

B. Based on the ERP or EIRP from "A", enter the estimated "worst case" horizontal distance (in feet) that should be maintained for the service from the attached Appendix B: _____

The estimated "worst case" horizontal distance MUST be indicated on the plans submitted with your Land Use Permit application. The plans MUST also indicate how public access will be prevented within this distance.

If the estimated "worst case" horizontal distance cannot or will not be maintained, then your application MUST include adequate documentation demonstrating how the proposed antenna installation has otherwise complied with the FCC's exposure guidelines, or the application will not be accepted as "complete" for processing purposes.

STATEMENT
Regarding Electromagnetic Radiation Levels
Associated with Proposed KTUH FM Radio Transmission
by
Prof. Vincent Z. Peterson
Department of Physics, UHM

INTRODUCTION:

At the request of ASUH I agreed to review the proposed increase in power of KTUH's FM radio CW (continuous-wave) transmission in order to calculate the expected FM radiation power levels in the top-floor offices of Porteus Hall.

I agreed to do this, on a "pro-bono" basis, since I am impressed with the dedication and hard work of the students concerned, who hope to have KTUH reach a wider audience than can now be reached with the present power limitation (100 watts). Although the proposed increase in radiated power (to 3000 watts) may seems major (30x factor), it is really quite modest --in comparison with power radiated by commercial FM stations. Yet it is also prudent to be concerned with possible effects of electromagnetic radiation on nearby members of the campus community. Since I've been involved in advising the State Department of Health, and the National Weather Service/FAA, on the effects of electromagnetic radiation, ASUH asked me --- as a member of the Physics faculty at UHM -- to calculate the expected maximum radiation intensity which KTUH might project, and compare that with accepted standards.

Since ASUH already has competent electronic engineering advice from Mr. Dale Machado of KSSK (knowledgeable on FCC regulations for FM radio) I will confine my remarks to the "physics and biophysics" of electromagnetic radiation in the FM radio band (specifically, at about 90 Megaherz, or 90 MHz).

Standards of permissible radiation exposure of human to electromagnetic fields (EMF) are determined by ANSI (American National Standards Institute) for a wide range of frequencies, including FM radio. The Federal Communications Commission (FCC) had adopted the ANSI standards. The FCC OST-Bulletin No. 65 "Evaluating Compliance with FCC-Dpecified Guidelines for Hkuman Exposure to Radiofrequency Radiation") also included useful graphs and tables for determining the minimum height of antenna.

MY QUALIFICATIONS AS AN "EXPERT" ON ELECTROMAGNETIC RADIATION:

Besides a PhD in Physics (UC–Berkeley, 1950), I have 38 years of experience in teaching physics courses, at CalTech and (since 1964) at UHM. I have taught the full range of courses in Electricity and Magnetism (E&M), including the most advanced physics courses in Electromagnetic Fields (EMF). Radiation of electromagnetic waves is a prime topic in these courses. While involved with research at the Caltech Electron Synchrotron (1950–1962) I served part-time as Radiation Safety Officer. I also was a member of the CalTech campus Health and Safety Committee, chaired by George Beadle (Nobel prize in genetics).

In recent years, a series of articles in the New Yorker aroused public concern over "Does EMF cause cancer?". The UH School of Public Health was asked (by the Hawaii Legislature) to convene a Symposium on "Electromagnetic Fields: Scientific Facts and Community Concerns". I was asked to participate, as a physicist with expertise on EMF. In 1993 Dr. Bruce Anderson (State Board of Health Deputy *Director for Environmental Health) asked me to serve on an Advisory Committee* concerned with possible health effects of powerline frequency EMF. Other members of the panel included medical doctors, two EEs, a HECO official, and community group representatives. My role was nominally as a physicist but it turned out I was the only member with personal contact with scientists directly involved in setting national radiation exposure standards. The data obtained covered potential medical effects of radiation over a wide range of frequencies. Our panel achieved unanimous agreement on the lack of convincing evidence that ordinary powerline frequency EMFs provide a serious hazard to human health. This advice was accepted by the Legislature.

Later on (in 1994) I was asked to serve as a Consultant to a group of National Weather Service/FAA officials in charge of explaining the impact of installing the new "NEXRAD" Weather radars (pulsed Doppler radars) at four different sites in the State of Hawaii. My role was to explain the "physics of electromagnetic radiation (and its relationship to biophysical parameters)" to the Boards of Supervisosrs of the Counties of Maui/Molokai, Kauai, and the Big Island. (My testimony was complementary to that of a medical radiologist from the East Coast.) Despite some initial concerns about the possible health effects of NEXRAD's pulsed radar by various Supervisors, and after substantial discussion, all the Boards of Supervisors declared themselves satisfied that NEXRAD radar would not pose a danger to human health in their communities.

Although I am NOT a medical doctor, I've been stimulated to learn more about the potential effects on the human body by EMFs at various frequencies and power levels. Fortunately, several of my close friends in physics and biophysics are national figures in Radiation Protection and I have corresponded regularly with them regarding the basis for the ANSI (American National Standards Institute) radiation levels for "maximum permissible exposures". For example, Dr. E. Adair of Yale Biophysics is co-chairperson of COMAR (Committee on Man and Radiation) which included representaatives from ANSI, NCRP (National Committee on Radiation Protection) and the EPA. Dr. Adair has provided me with detailed information on these matters, for EMF frequencies extending from 60 Hz to ultra-high frequencies (radar).

ELECTROMAGNETIC RADIATION EFFECTS ON HUMANS: (simplified summary)

There are two major aspects to consider:

(a) Damage caused by ionizing radiation (radiation able to ionize atoms knocking electrons free from their atomic bonds). Ionization is the most direct way electromagnetic fields (of sufficient strength) can cause biological damage and is capable of modifying DNA in the human body.

(b) The local heating of human flesh, such that local body temperatures are raised beyond acceptable limits (i.e., beyond the range which natural body mechanisms can control, a few degrees Fahrenheit from 98.6)

Let us consider each aspect in turn.

Ionization of atoms in the body: Fortunately, in dealing with EMFs at FM-radio frequencies (KTUH operates at 90.3 Megaherz), we don't need to worry about KTUH radiation ionizing any atom: KTUH's frequency is much too low to ionize even the least tightly-bound electron. (The energy of the smallest "packet" of EMF -- called the "photon" -- is given by $E = hf$, where f = frequency, and h = Planck's constant.) Since electromagnetic waves can be labelled by wavelength (λ) as well as by frequency (f), it is useful to write down the simple formula relating the two:

$$f \times \lambda = c = \text{velocity of light} = 186{,}300 \text{ miles/second}$$
$$= 300{,}000{,}000 \text{ meters per second.}$$

Thus, 90 MHz frequency corresponds to a wavelength of 3.3 meters = 330 cm.
In general, high frequencies (short wavelengths) pack more "power" into each photon. (Example: in sunbathing, UV photons can be dangerous and cause skin cancer directly (by ionization), whereas IR (infrared) photons are not dangerous unless incident at high intensity (lots of photons/second per unit area of skin)).

To illustrate the frequency (or wavelength) dependence of EMF, Figure 1 displays the of various bands of frequencies, on a logarithmic scale (linear in powers of 10), with labels for various types ofB radiation.

(Project Figure 1 at this point, and explain the Figure,
pointing out where KTUH frequency lies relative to UV, IR, etc).

In particular, note that all ionizing radiations have frequencies above about 10^{15} Herz (or cycles/second), the lowest ionizing frequency corresponding to the least tightly-bound electron.

Since KTUH's frequency is ~~100,000~~ $> 10{,}000$ times lower than the threshold frequncy for ionizing radiation, we can dismiss any worry about direct (ionizing) damage to human flesh from KTUH radiation.

Local heating of human flesh: from thorough studies of the effects of EMF on human biology, all other (non-ionizing) effects on mammalian flesh (human or otherwise) can be attributed to local heating, which raises the local temperature of the body more than a critical amount (ΔT_c). For the human body it is well known

that a fever of more than a few degrees Fahrenheit can be serious, since it causes the body's natural heat-regulating system to lose control. The (very conservative) ANSI standards for Maximum Permissible radiation intensity, in the non-ionizing EMF range, roughly correspond to $\Delta T = 0.1$ deg. Fahrenheit, for exposures sustained for at least 6 minutes. (The body can handle higher intensity radiation for shorter exposures, since the body fluids distribute the heat fairly rapidly over a large volume.)

One example (from NEXRAD radar, whose frequency closely matches those of microwave ovens, yet is non-ionizing): It is the average power/unit area, averaged over some seconds exposure, which is important. Microwave ovens (HIGH power consumption of 300 watts) can "cook" meat very efficiently by raising the meat's temperature by hundreds of degrees. Yet the NEXRAD radar, pulsed at high power (450,000 watts in a narrow beam) for very short time intervals (a few microseconds for about 1000 times per second), has very low average power, even in the main beam. The radiation intensity (in milliwatts per square centimeter) is less than one milliwatt/square centimeter at the nearest accessible distance. (The radiation from a home "nightlight", used to illuminate the hallway at night, is more dangerous than NEXRAD radiation outside the perimeter fence around the transmitter/antenna).

The FCC regulations for radiated power levels include the ANSI limits on radiation intensity levels wherever humans are involved. Thus, the radiation intensity from KTUH must be less than 1.0 mW/cm^2 (one milliwatt per square centimer) at all regions where humans might possibly occupy.

ESTIMATE OF RADIATION INTENSITY FROM THE PROPOSED KTUH ANTENNA (on top of Porteus Hall), at a power level of 3000 watts:

The present KTUH transmitting, located on top of Porteus hall, radiates a maximum of 100 watts of electromagnetic power. It is proposed to increase the power to 3000 watts (a factor of 30). A new "4-bay" FM antenna would be installed, to emit FM power in a relatively narrow beam pattern (vertically) but distributed over all azimuthal directions in a horizontal plane.

A rough sketch (not to scale) of the KTUH antenna, mounted on top of Porteus, is shown in Figure 2. Dimensions are in meters. Note that the center of the antenna would be 15.75 meters (52 feet) above the roof of Porteus.The smallest vertical angle of radiation which would impact any portion of the top floor of Porteus Hall would be about 45-degrees.

The angular distribution (in the vertical plane) of the electric field (E) from a 4-bay antenna is shown in Figure 3. Note that the value of the E-field in the secondary peaks does not exceed 0.25 of the maximum value of the E-field in the main beam. Since the power (or intensity) in the beam varies as the square of the electric field, this means that the intensity reaching Porteus' to floor will always be less than (0.25)-squared times that in the main beam, or 1/16th the main beam power.

The radiation intensity in the main beam can be calculated from the standard antennae formula,

$$S = \frac{K \cdot P\ G}{4\pi R^2}$$

where P = total radiated power (in watts), R = radial distance from antenna to observation point, G = antenna "gain" (r.m.s. value), and "K" takes into account beam polarization and time-averaging effects. For KTUH the power is 3000 watts, and R = 16 to 24 meters (various distances from Antenna midpoint to Porteus rooftop points). If the power were radiated in an exactly spherical pattern, and if K = 1, the radiation intensity over a spherical surface of radius R would be just $P/(4\pi R^2)$ ~~R~~) --- "isotropic radiation".

The antenna *concentrates the radiation in a fairly narrow horizontal plane*, in order to reach greater distances with a detectable signal. The "antenna gain factor, G" is a measure of this concentration of power into the main beam; i.e., G is how much more intense the FM intensity is at zero degrees than a completely isotropic radiation pattern. A detailed calculation for this 4-bay turnstile antenna yields G= 2.1, so that the main beam intensity is 2.1 times greater than it would be for an isotropic radiation pattern.

The factor K/4 = 0.64, so that the formula for the radiation intensity (power per unit area) in the main beam becomes:

$$S = 0.64\ \frac{P\ G}{\pi R^2}$$

showing that the intensity falls off as the square of the distance from the antenna (if R is at least several wavelengths). For a nominal distance of R = 15 meters, P = 3000 watts, and G = 2.1, the FM radiation intensity in the main beam calculates to be:

$$S\ (0\ deg) = 0.57\ mW/cm\hat{}2,$$

FCC permissible radiation intensity (for 24-hr. continuous exposure of humans) is 1.0 mW/cm^2, so that even in the main beam (15 meters distant) the KTUH beam is within the FCC limit of "maximum permissible intensity".

The angular distribution (in the vertical plane) of the electric field (E) from a 4-bay antenna is shown in Figure 3. Note that the value of the electric-field in the secondary peaks does not exceed 0.25 of the maximum value of the E-field in the main beam. Since the power (or intensity) in the beam varies as the square of the electric field, this means that the intensity reaching Porteus' to floor will always be less than (0.25)-squared times that in the main beam, or 1/16th the main beam power. Thus the maximum intensity on Porteus' roof wil be"

$$S\ (max,\ roof) = (0.57/16) = 0.035\ mW/cm\hat{}2$$

Which is 30x lower than FCC-acceptable radiation levels of 1.0 mW/cm^2.

I conclude, therefore, that the FM radiation from KTUH 4-bay antenna as described, with 3000 total radiated power, does NOT constitute a radiation hazard to occupants of the top floor (or ANY floor) of Porteus Hall.

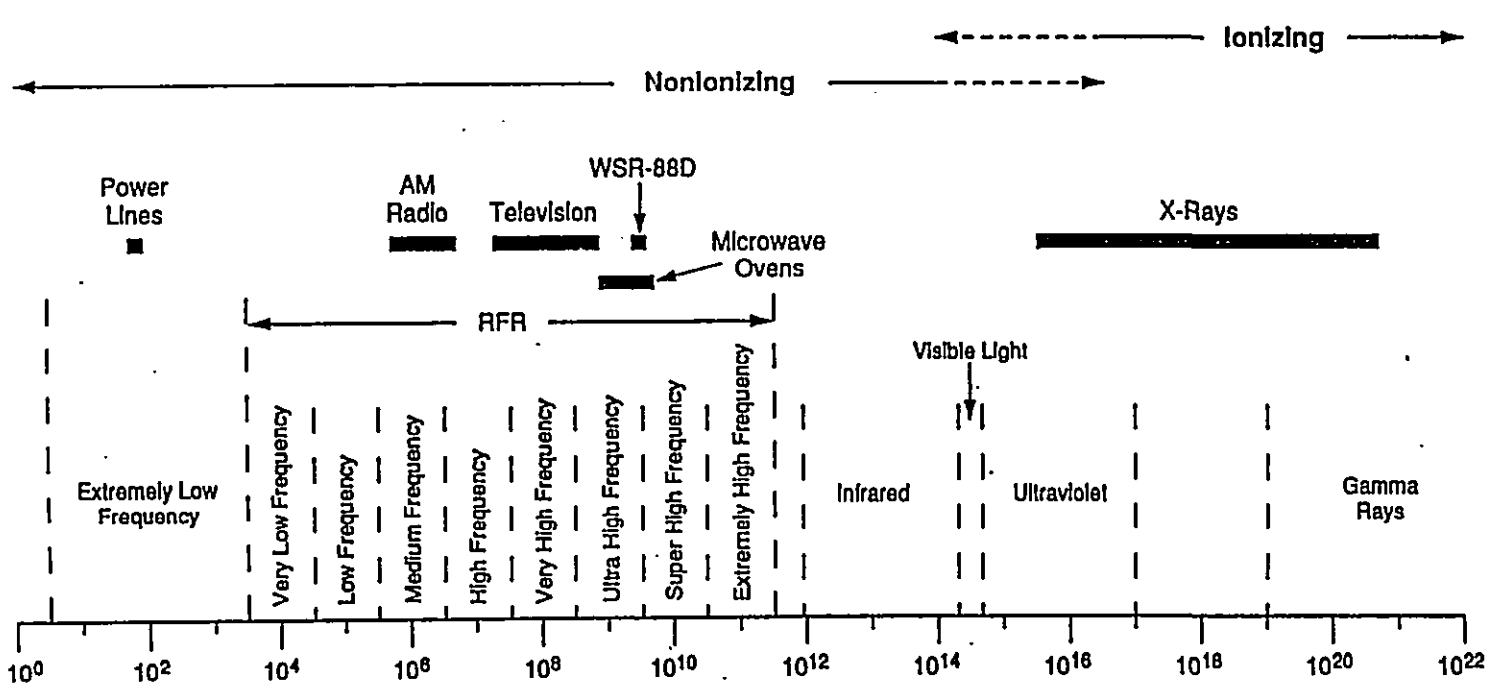


FIGURE ~~1~~ 1 The Electromagnetic Spectrum

PROPOSED INSTALLATION OF KTUH ANTENNA ON PORTEUS HALL

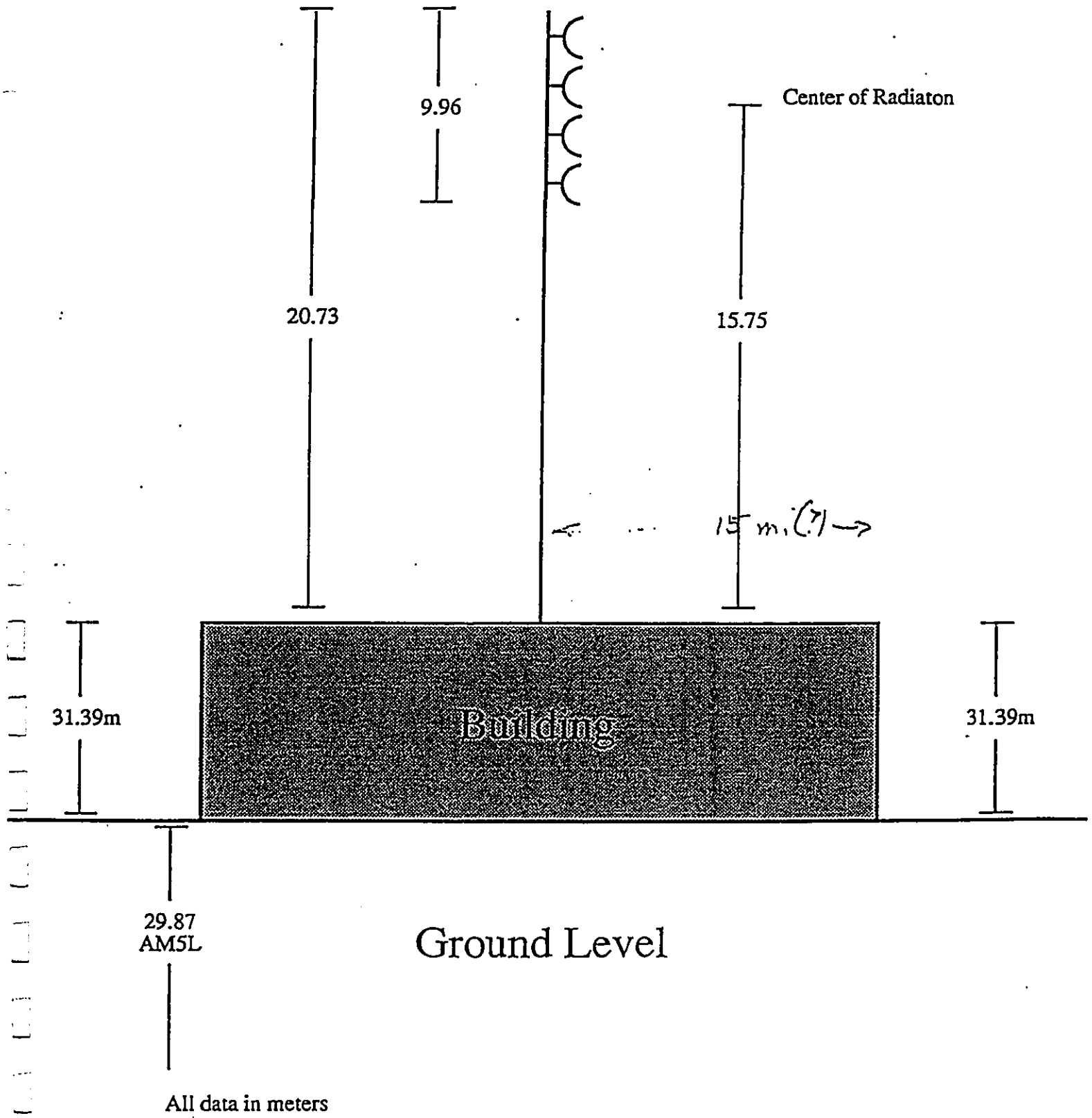


Fig. 2

Cetec Antennas

KSSK

ELEVATION PATTERN DATE: 9/1/79 BEAM TILT= 0

JSCP - 4 RMS GAIN= 2.1 NULL FILL= 0%

FIELD	ELEVATION (Degrees)
.236	20.00
.188	18.00
.095	16.00
.039	14.00
.205	12.00
.389	10.00
.575	8.00
.745	6.00
.881	4.00
.970	2.00
1.000	0.00
.970	-2.00
.881	-4.00
.745	-6.00
.575	-8.00
.389	-10.00
.205	-12.00
.039	-14.00
.095	-16.00
.188	-18.00
.236	-20.00
.243	-22.00
.213	-24.00
.156	-26.00
.082	-28.00
.004	-30.00
.068	-32.00
.128	-34.00
.169	-36.00
.189	-38.00
.187	-40.00
.165	-42.00
.128	-44.00
.079	-46.00
.024	-48.00
.034	-50.00
.090	-52.00
.142	-54.00
.186	-56.00
.223	-58.00
.250	-60.00

Scale: .1 .2 .3 .4 .5 .6 .7 .8 .9 1

RECEIVED AS FOLLOWS

NEXTEL
PARTNERS INC.

SITE NAME:
UNIVERSITY OF HAWAII
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ANNEX

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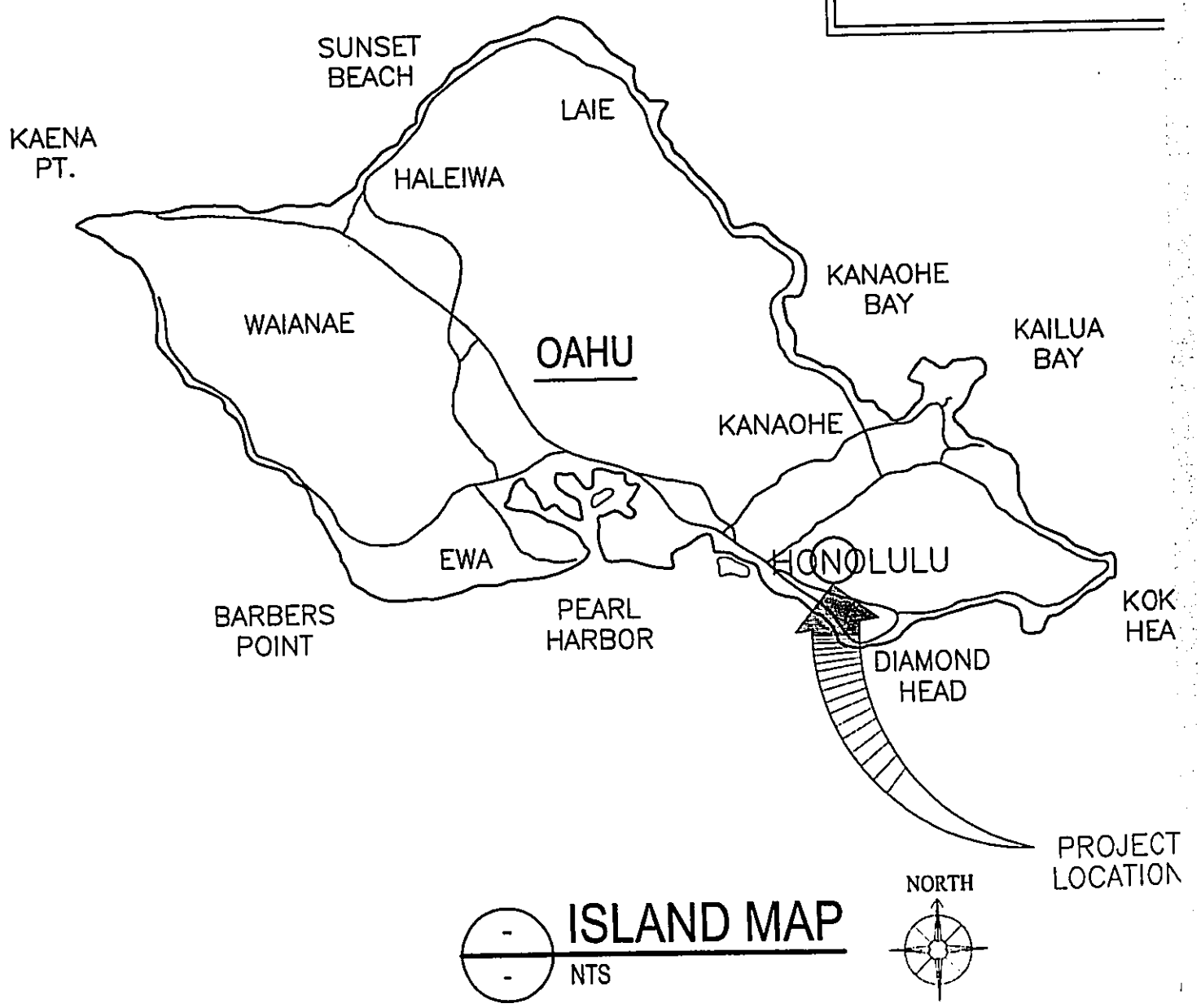

ISLAND MAP
NTS

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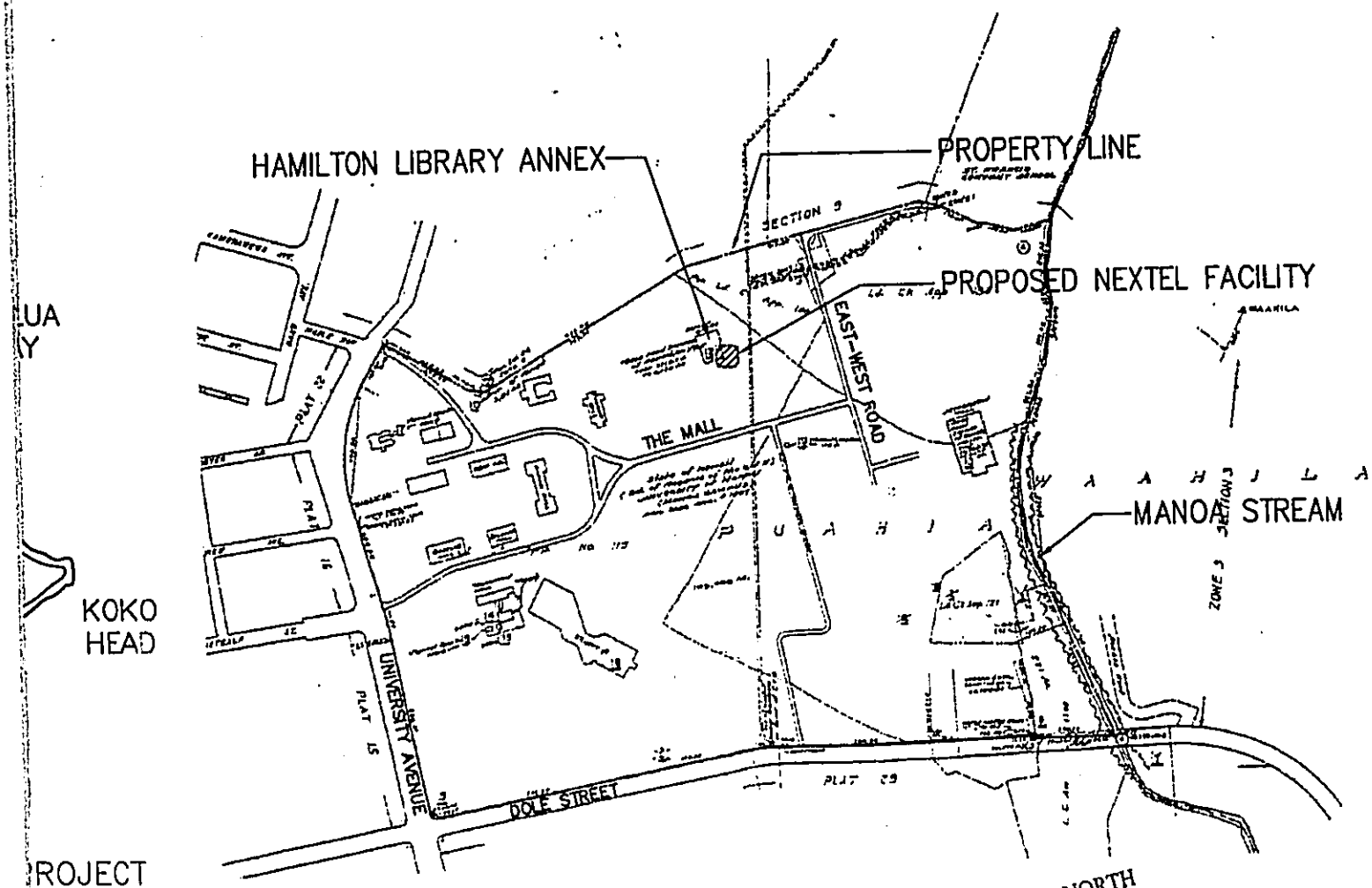
AD2
INTERNATIONAL

PROJECT DATA

ADDRESS:	2550 McCARTY MALL HONOLULU, HAWAII 96822
TMK:	2-8-023: 003
ZONING:	R-5
LOT AREA:	4,507,676 SF
ASE AREA:	250 SF
A HEIGHT:	91' - 4"
. HEIGHT:	25'
OD ZONE:	ZONE AE & X
USE:	ANTENNA



LOCATION MAP
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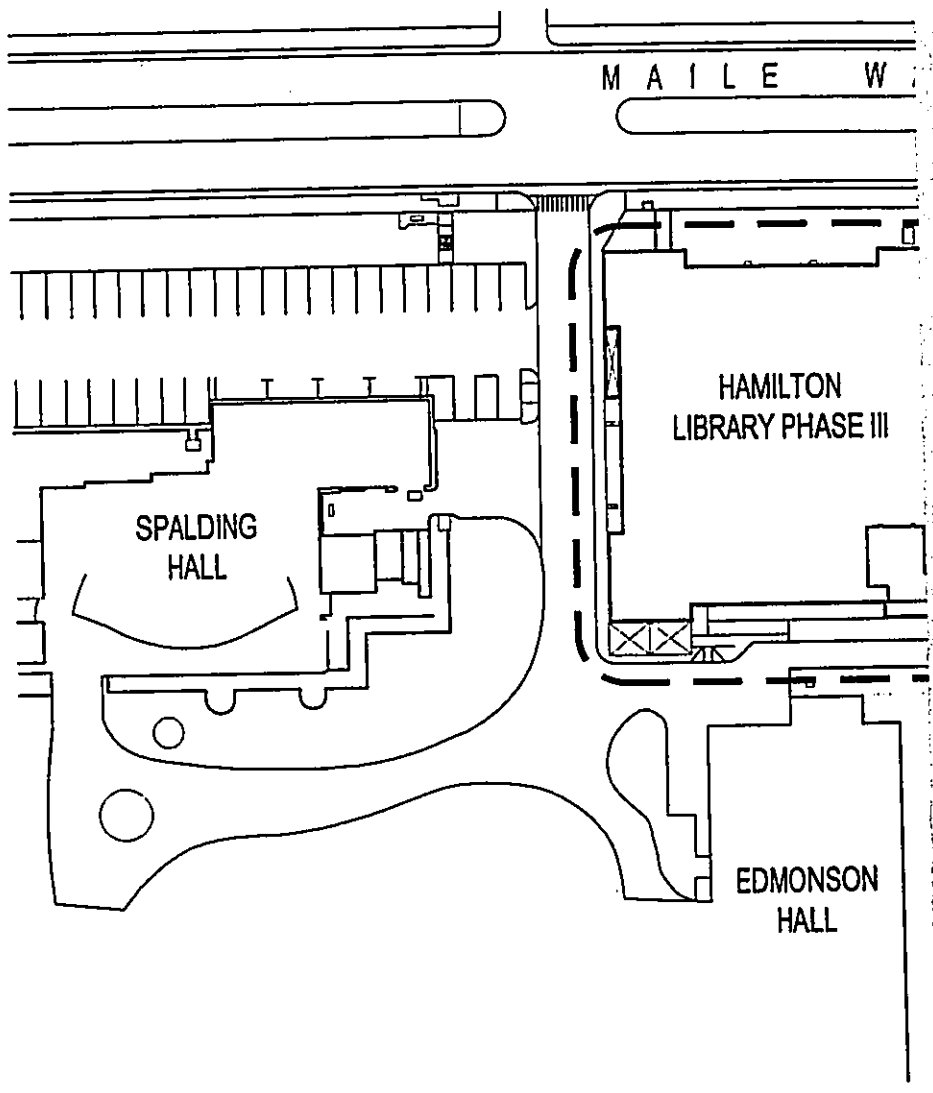
SITE NUMBER:
HI172P



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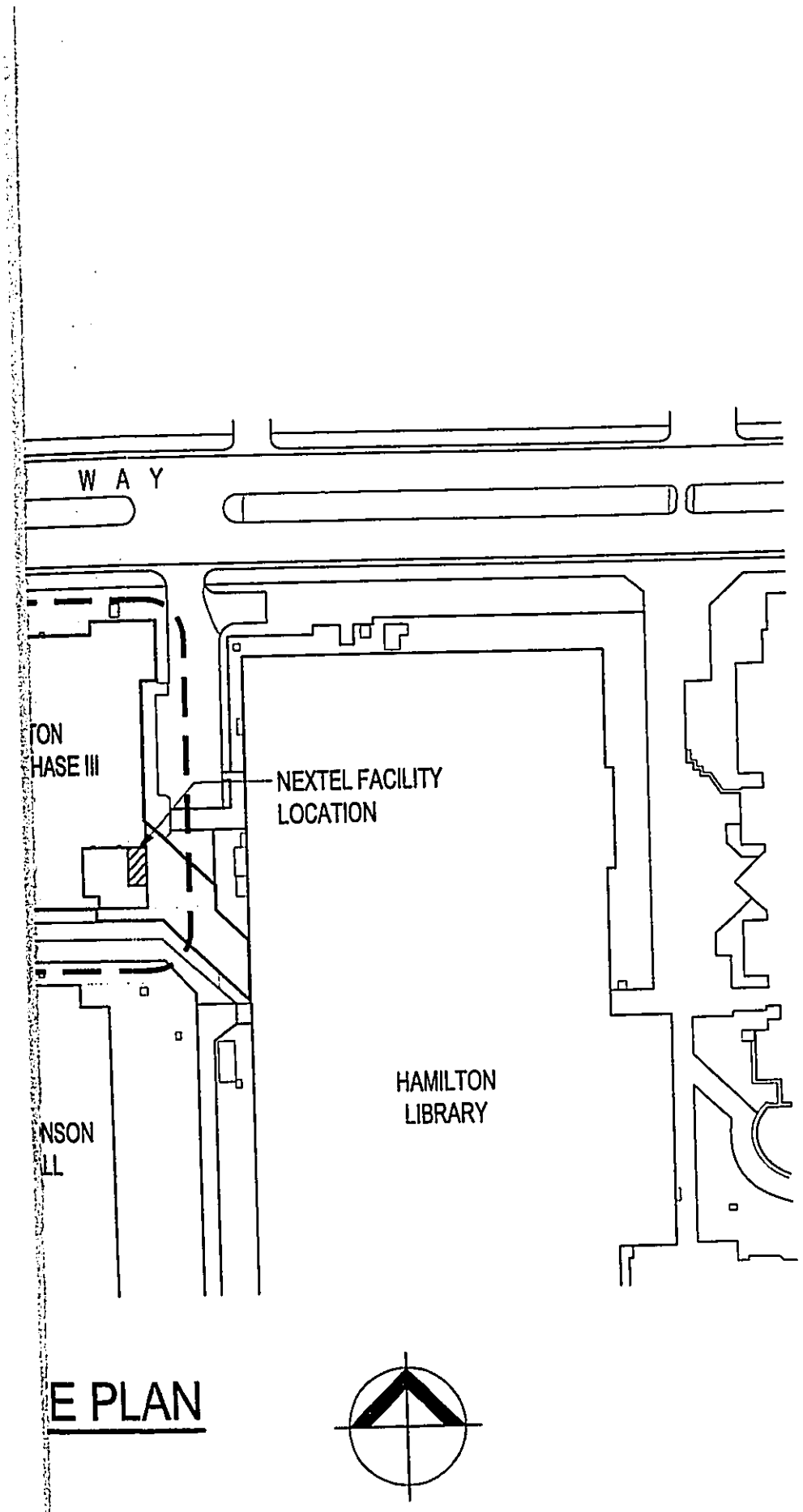

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PARTNERS INC.

SITE NAME:
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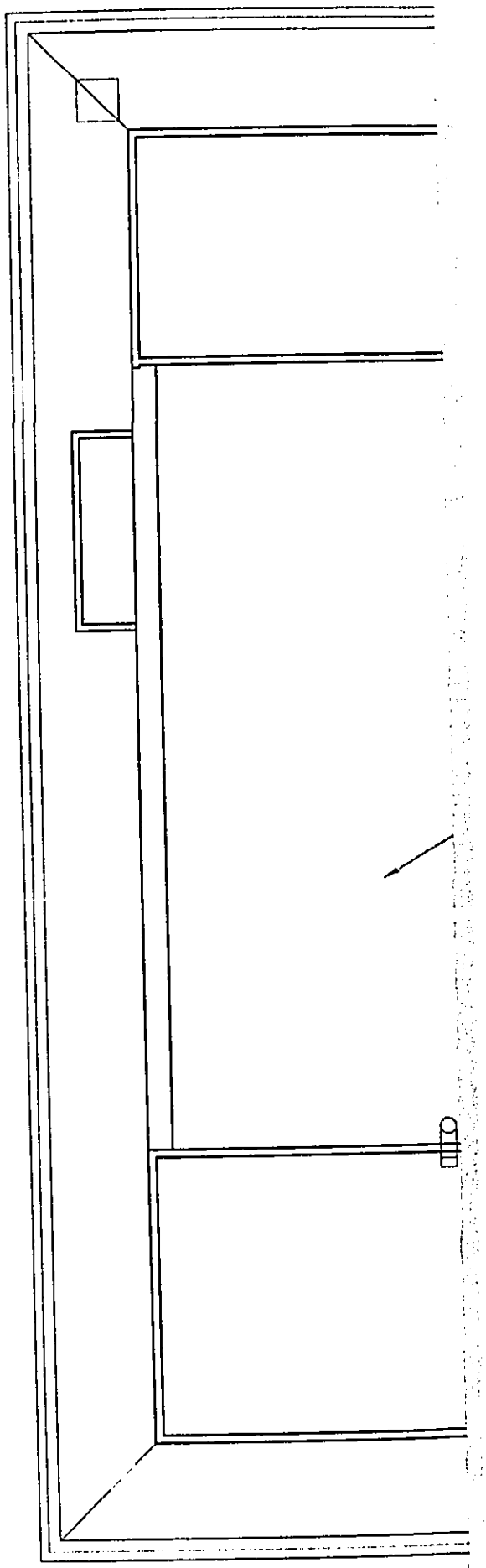

7
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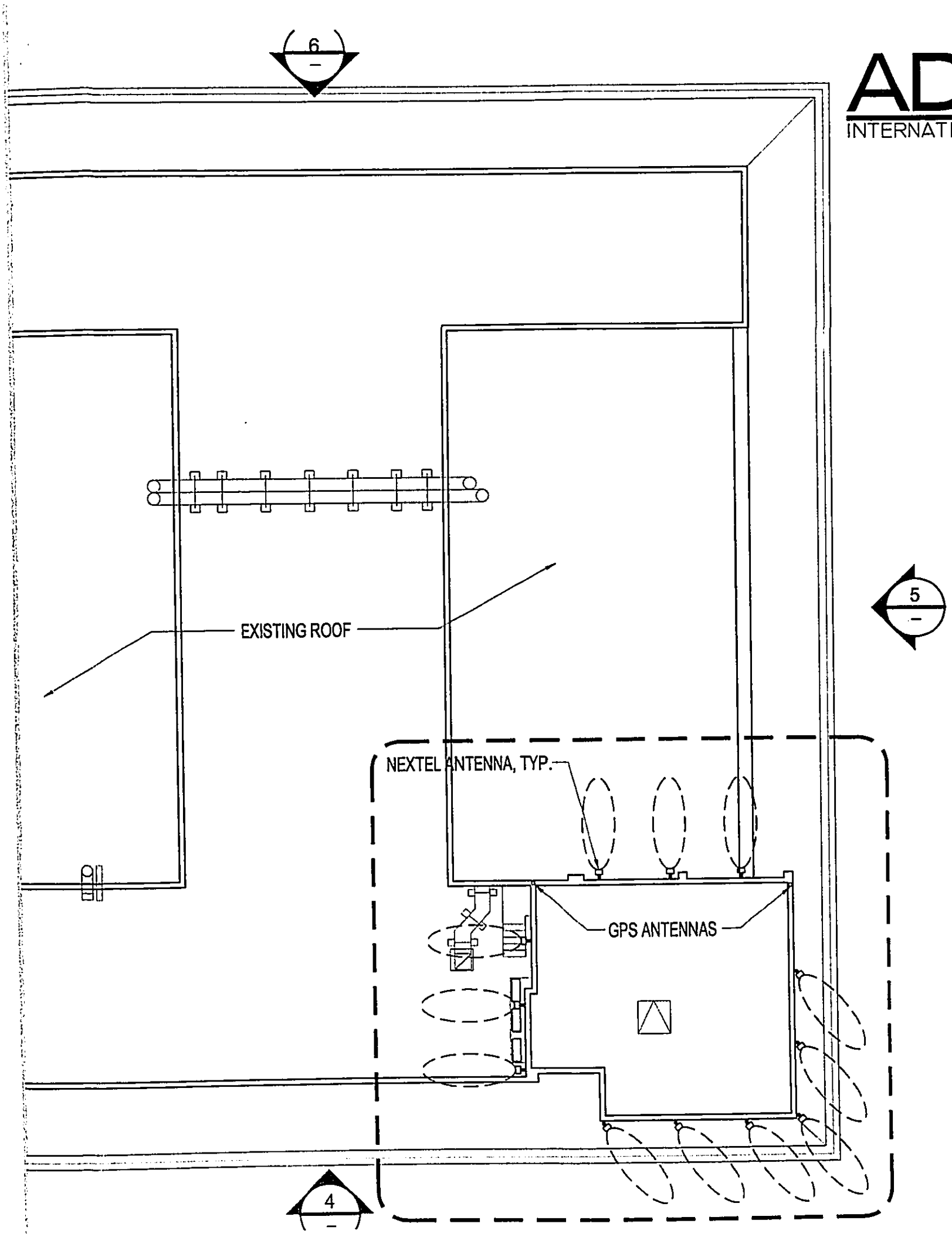
ROOF PLAN
SCALE: 1/16" = 1'-0"

RECEIVED AS FOLLOWS

AD2
INTERNATIONAL



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NEXTEL
PARTNERS INC.

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HAMILTON LIBRARY
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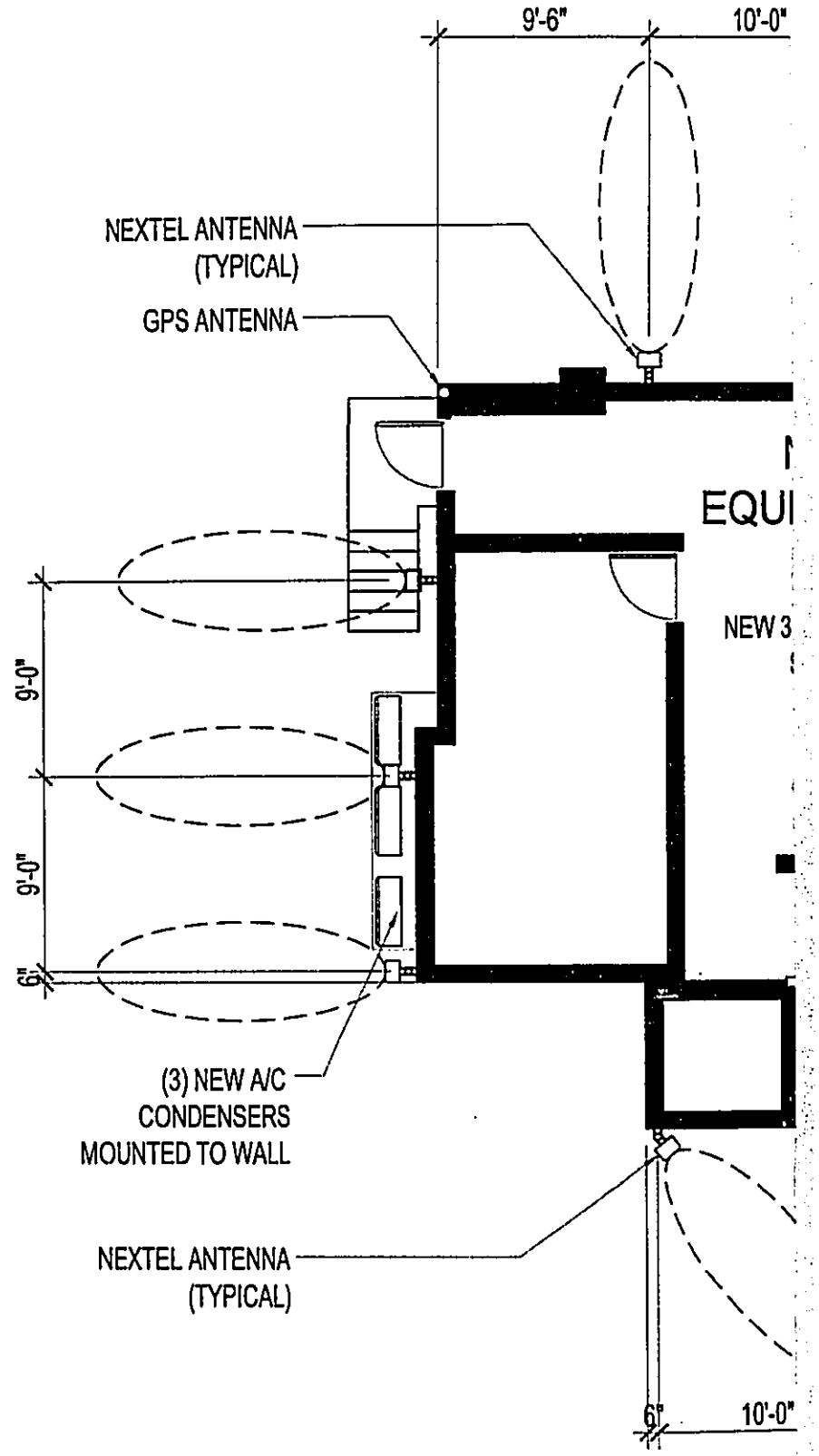
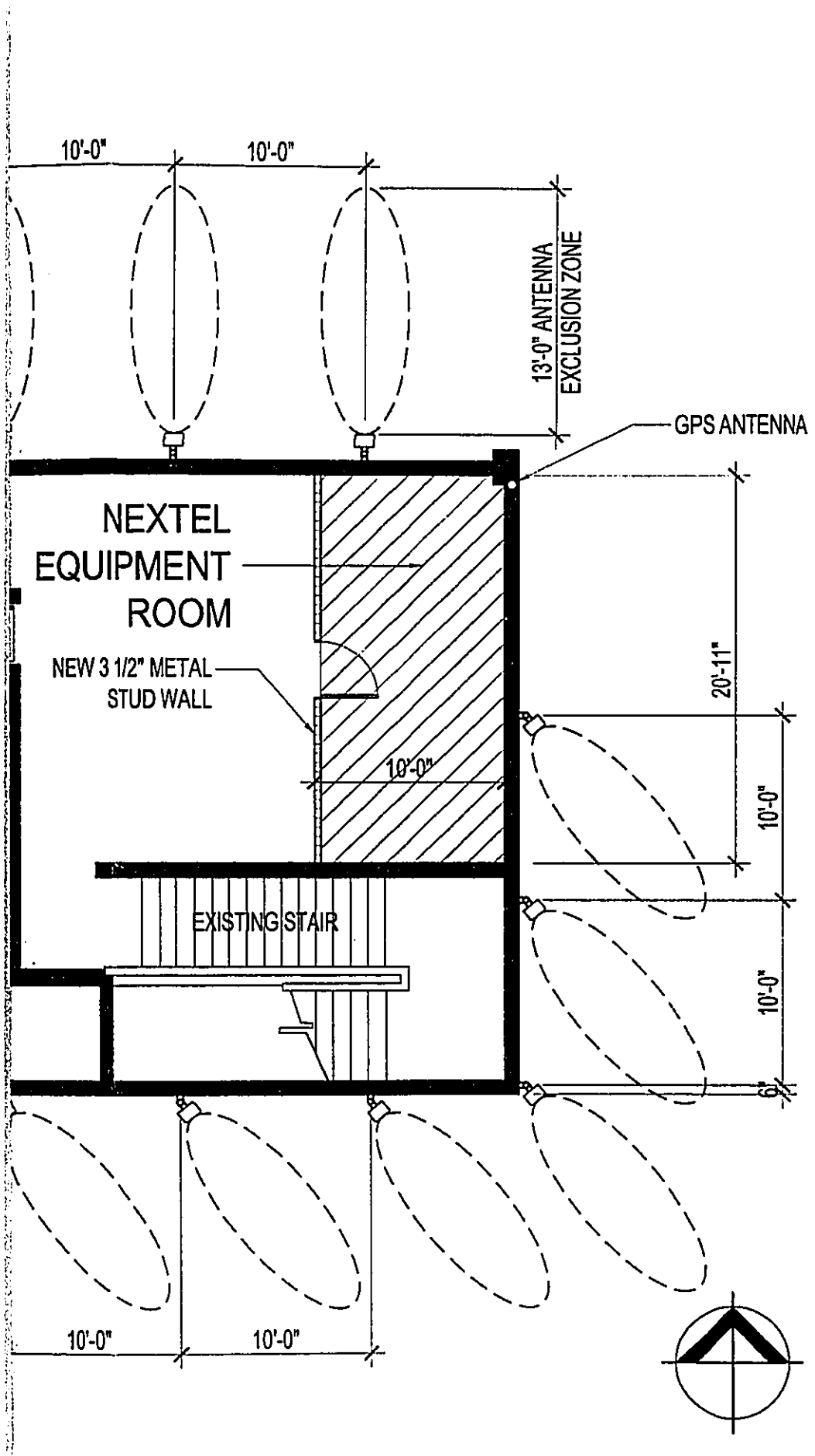


3 / - ELEVATOR MACHI

SCALE: 1/8" = 1'-0"

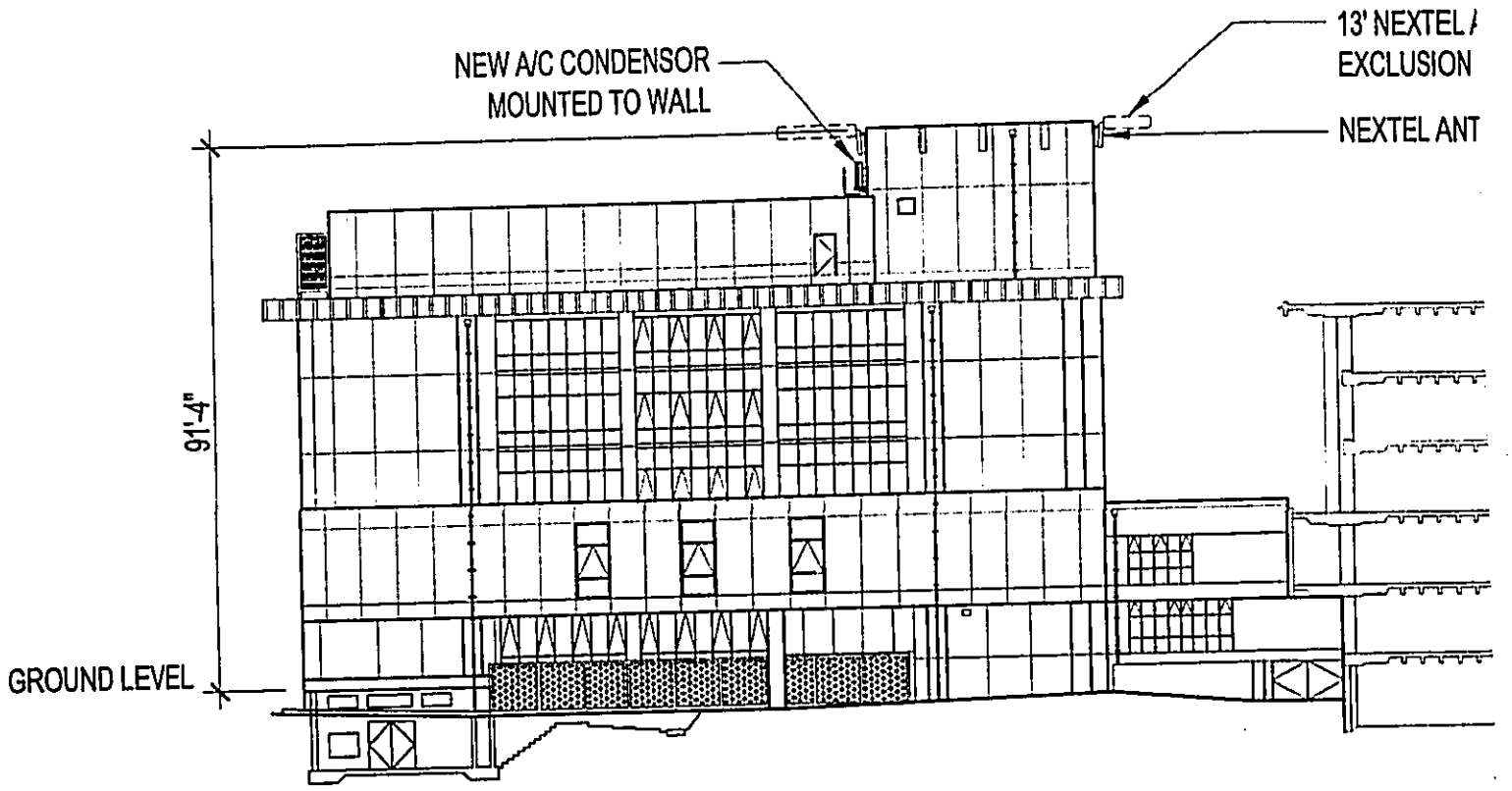
RECEIVED AS FOLLOWS

AD2
INTERNATIONAL



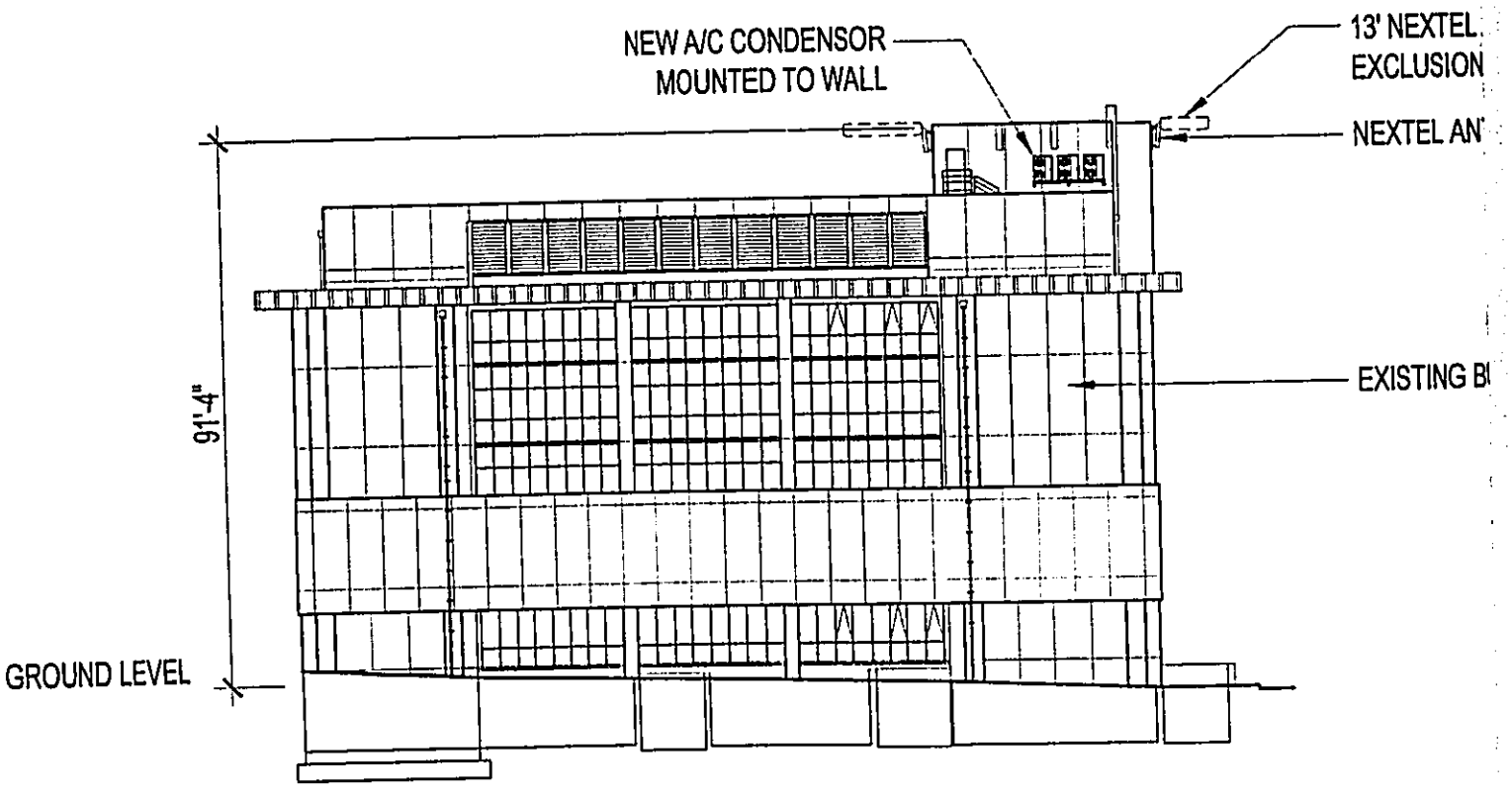
ACHINE ROOM PLAN (AT ROOF LEVEL)

RECEIVED AS FOLLOWS



4 / - SOUTH ELEVATION

NTS

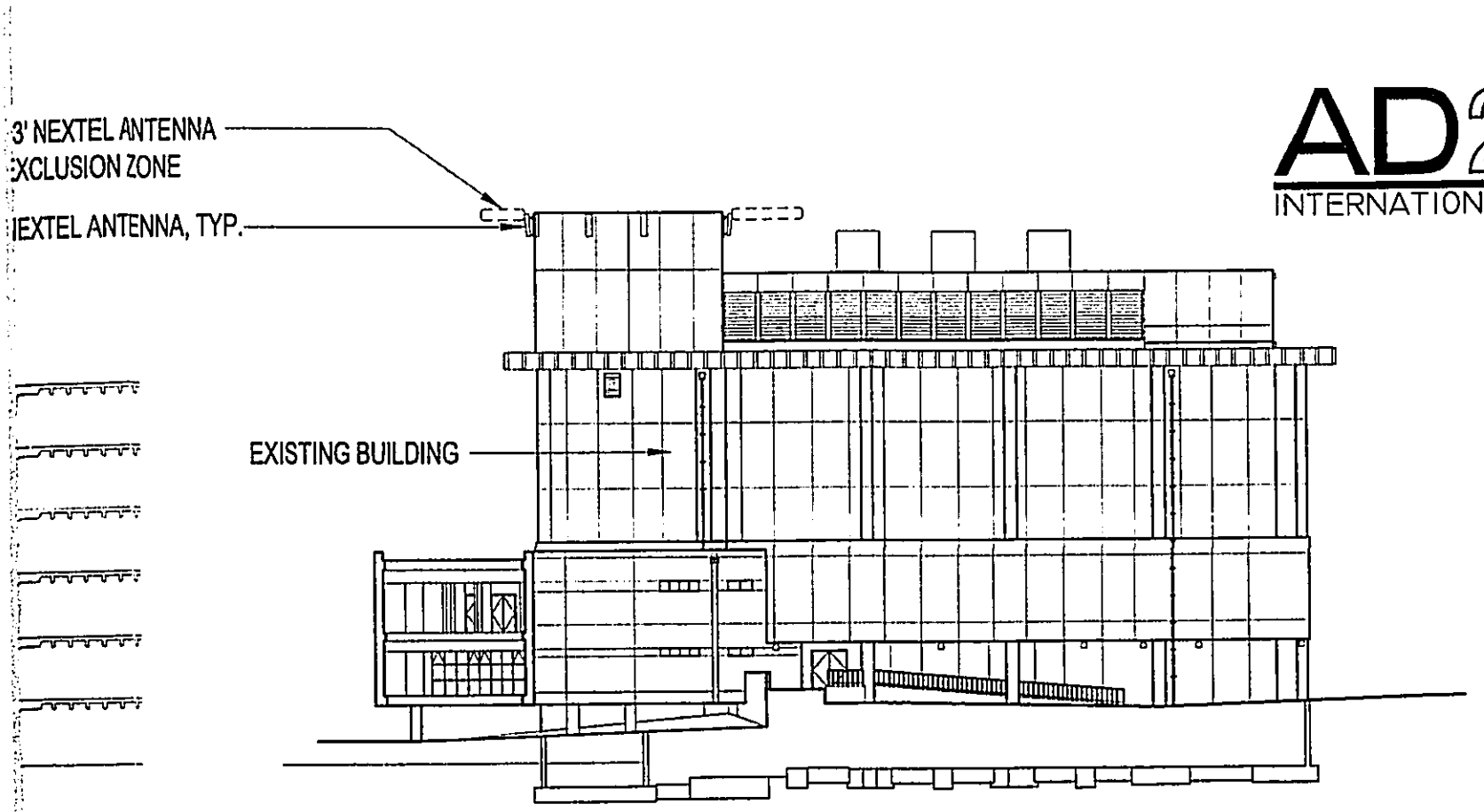


7 / - WEST ELEVATION

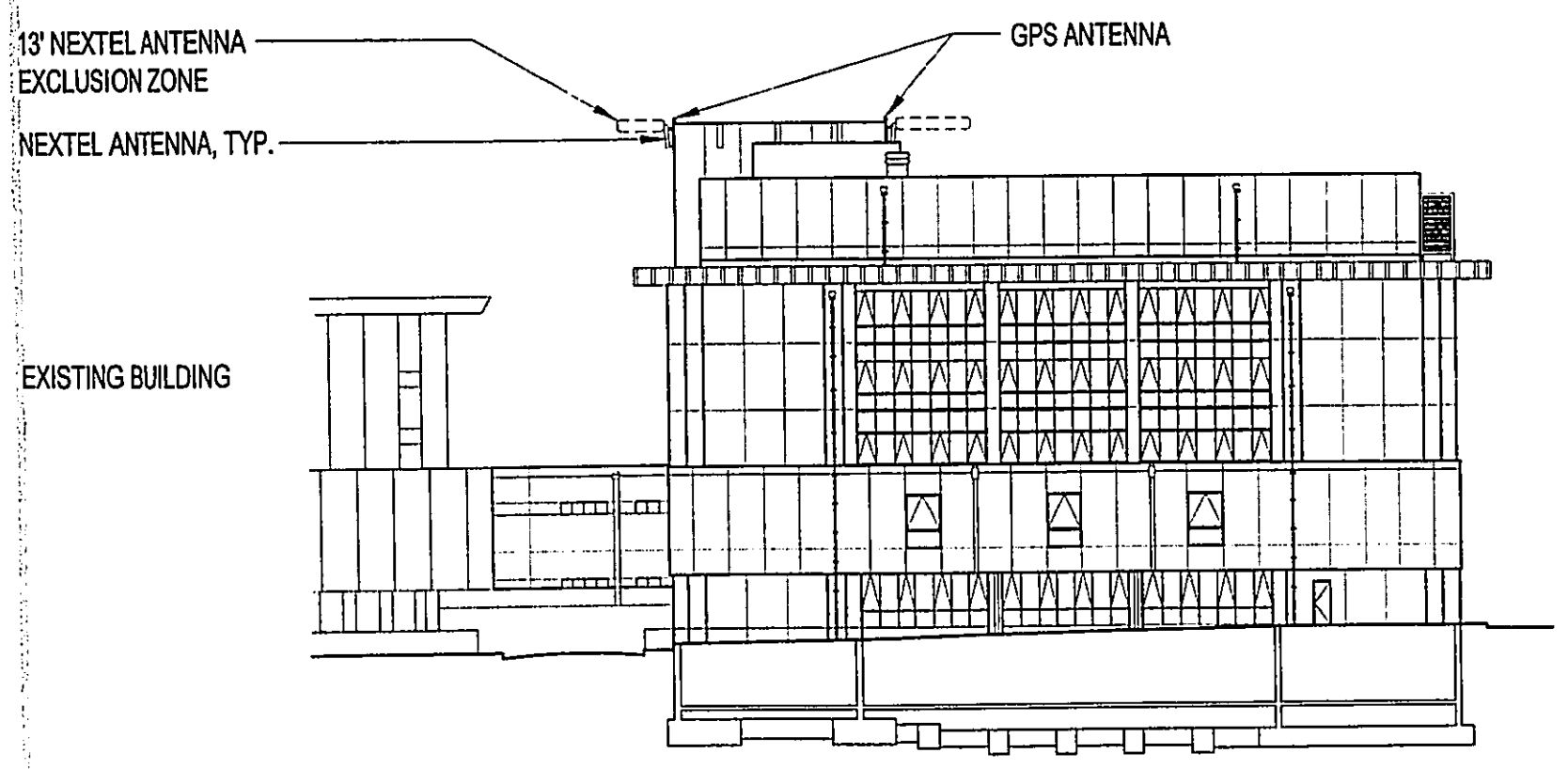
NTS

RECEIVED AS FOLLOWS

AD2
INTERNATIONAL



5 / - EAST ELEVATION
NTS



6 / - NORTH ELEVATION
NTS