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JOHN WAIHEE  
GOVERNOR

April 11, 1990

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

The Honorable Russel S. Nagata  
State Comptroller  
Department of Accounting and General Services  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

Dear Mr. Nagata:

Based upon the recommendation of the Office of Environmental Quality Control, I am pleased to accept the Final Environmental Impact Statement for the Hawaii Film Facility Expansion, Honolulu, Oahu, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding whether the action described therein should be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under applicable laws and does not constitute an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the proposing agency to weigh carefully whether the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and, together with the comments made by reviewers, provide a useful analysis of the proposed action.

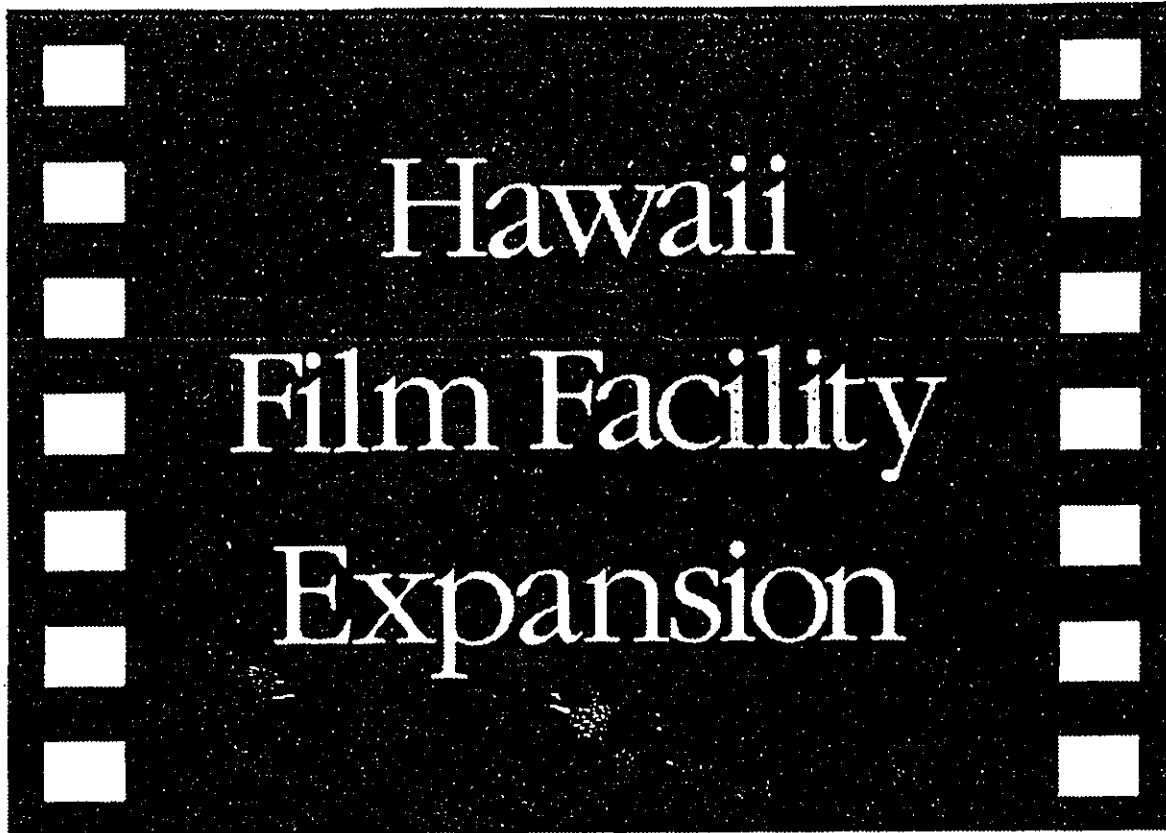
With kindest regards,

Sincerely,

JOHN WAIHEE

✓ cc: Dr. Marvin T. Miura  
Office of Environmental Quality Control

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Environmental  
Impact  
Statement



Department of Accounting & General Services

August 1989

ENVIRONMENTAL IMPACT STATEMENT  
FOR  
HAWAII FILM FACILITY EXPANSION  
D.A.G.S. JOB NO. 12-26-0035

Submitted Pursuant to Chapter 343,  
Hawaii Revised Statutes  
Environmental Impact Statement Regulations



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Russel S. Nagata, State Comptroller  
State of Hawaii  
Department of Accounting and General Services  
Division of Public Works

August, 1989

ENVIRONMENTAL IMPACT STATEMENT  
FOR  
HAWAII FILM FACILITY EXPANSION  
D.A.G.S. JOB NO. 12-26-0035

Prepared for:

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

Prepared by:

DHM Planners inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

August 1989

**PROJECT TEAM**

**Y. EBISU & ASSOCIATES**

Noise Impact Study

**ENGINEERING CONCEPTS, INC.**

Drainage Study  
Wastewater Study  
Water Study

**ENVIRONMENTAL MANAGEMENT CONSULTANT**

Air Quality Impact Study

**JOHNSON TSUSHIMA LUERSEN LOWREY, INC.**

Architecture

**PACIFIC PLANNING AND ENGINEERING, INC.**

Traffic Impact Study

**DHM PLANNERS INC.**

Land Use and Environmental Planning

Staff Members:

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HAWAII FILM FACILITY EXPANSION  
ENVIRONMENTAL IMPACT STATEMENT

**PROPOSING AGENCY:** Department of Accounting and General Services  
Project Management Branch  
Division of Public Works  
1151 Punchbowl Street  
Honolulu, Hawaii 96813

**ACCEPTING AUTHORITY:** Governor John Waihee

**CONSULTANT:** Mrs. Duk Hee Murabayashi  
DHM inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813  
(808) 521-9855

**PROPOSED ACTION:** Expansion of a film production facility

**PROJECT LOCATION:** Corner of 18th Avenue & Diamond Head Road

**TAX MAP KEY:** 3-1-42: Por of 9, 33

**LOT AREA:** 7.477 acres (expansion area 2.677 acres)

**LANDOWNER:** State of Hawaii

**EXISTING USE:** Existing filming facility and vacant land  
(Project Site)

**STATE LAND USE DISTRICT:** Urban

**DEVELOPMENT PLAN:** Public Facility

**ZONING:** R-10 Residential  
Special Management Area  
Diamond Head Special Design District

**EIS PREPARATION NOTICE:** November 8, 1988, OEOC Bulletin

**DRAFT ENVIRONMENTAL IMPACT STATEMENT:** February 8, 1989, OEOC Bulletin

**COMMENTS AND CONCERNS:** In response to comments expressed during the review period, revisions and additions to the draft Environmental Impact Statement are in bold type.

MITIGATIVE MEASURES TAKEN SINCE THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The review process for the Draft Environmental Impact Statement included comment letters (Chapter XV) and meetings with the following community organizations:

Kaimuki Neighborhood Board	-	March 30, 1989
Diamond Head Neighborhood Board	-	April 06, 1989
East Diamond Head Association	-	April 19, 1989
Waiialae-Kahala Neighborhood Board	-	April 20, 1989

Major concerns expressed by the community which relate to physical and environmental aspects of the proposed project, in general, focused on the visual and noise impacts of the proposed film facility expansion. In response to these concerns, further measures have been taken to mitigate these impacts.

1. Reduced Building Height and Design

The roof of the proposed soundstages will be approximately the same elevation as the roof of the existing soundstage. Mitigative measures which have made this possible are:

- a) The height of the proposed soundstages will be reduced by grading the ground elevation four (4) feet more than previously proposed. The initially proposed ground elevation was 104 feet above mean sea level (MSL). The new elevation is 100 feet above MSL.
- b) The roof of the soundstages has been redesigned from a flat roof to a sloped roof with an eave height of approximately 32 feet above ground elevation. The peak height of the roof has been reduced from 50 feet above

ground elevation to approximately 46 feet above ground elevation. The eave elevation of the proposed soundstages will be approximately 132.5 feet above MSL while the eave elevation of the existing soundstage is approximately 142 feet above MSL.

The proposed film facility will not impact any views of Diamond Head from the vantage points specified in Land Use Ordinance Section 7.40 for the Diamond Head Special Design District. The three public vantage points to view Diamond Head which relate to this project are Diamond Head Road, 18th Avenue from Kilauea Avenue to Diamond Head Road and from Kaimuki Intermediate School at the intersection of 18th Avenue and Kilauea Avenue.

Building colors will be of "earth tone" to blend with the color scheme of Kapiolani Community College (KCC). In addition, the design will include extensive landscaping in and around the project site and will extend the same landscaping concept implemented at KCC. Selection of trees along the 18th Avenue property lines will be from a City and County of Honolulu list of approved trees. Trees, small shrubs and ground cover will also be incorporated into the project landscape plan.



2. Siting of the Technical Building

The Technical Building has been re-sited within the project site. This siting serves the purpose of improving the visual quality along the south property line and Diamond Head Road, and improving the functional relationship between the Technical Building and Soundstage No. 1.

The Technical Building was originally sited 20 feet from the south property line, the boundary closest to Diamond Head Road. It has been re-sited 105 feet towards the interior of the project site and is situated next to the proposed Soundstage No. 1 located near the property line closest to KCC. There will be a heavily landscaped on-grade 30-stall parking lot as a buffer between the Technical Building and Diamond Head Road.

The anticipated noise impact from the Technical Building, specifically to the KCC campus, is expected to be minimal, if any. This is due to the distance between the Technical Building and the closest KCC building (650 feet), and the siting of Soundstage No. 1 between them. The anticipated decibel level to the south towards Diamond Head is not expected to create an impact since there are no houses or businesses in this area. Because of the distance between the Technical Building and Iwalani Place (approximately 600 feet), the anticipated noise levels from the Technical Building are not expected to adversely impact those residents.

The anticipated noise levels from the Technical Building are slightly over the State Department of Health standards on an intermittent basis at the south (Diamond Head Road) and north property line (KCC). Therefore, in order to lower the decibel level within the State Department of Health standards at all property lines, sound dampening measures for the equipment and the Technical Building are being investigated.

## INTRODUCTION

In addition to the acceptance of this EIS by the accepting authority, two zoning related approvals are still necessary before construction can begin on the project. During the approval process, other agencies having jurisdiction or expertise as well as relevant citizens groups and individuals will be further consulted for their input.

If all government approvals are obtained as projected, Phase I construction is scheduled to begin in Spring 1990. Two zoning related approvals needed are:

1. Special Management Area Use Permit (SMP)

The subject property is within the designated Special Management Area. As designated under Chapter 33, Revised Ordinances of City and County of Honolulu, a special management area use permit (SMP) is necessary under Sec. C (16) for,

" . . . an action by the authority authorizing development, the valuation of which exceeds \$65,000 or which may have a substantial adverse environmental or ecological effect, taking into account potential cumulative effects."

2. Special Design Permit

The subject property is located within the Diamond Head Special Design District. A Special Design Permit is required by the Land Use Ordinance (Sec. 7.20-2) for major projects in Special Districts.

HAWAII FILM FACILITY EXPANSION

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# Chapter I

I. STATEMENT OF PURPOSE AND NEED FOR ACTION

As Hawaii continues to search for ways to strengthen and diversify its economy, the development of a film industry emerges as one of the more promising means. There is an expressed desire by the State to develop a full-service film industry in Hawaii. A permanent film facility is a critical component to attract major productions to Hawaii, and is viewed by the State as a catalyst for the development of other services and facilities. The existing film facility can accommodate one Hawaii-based filmed television series but it cannot accommodate multiple productions. In addition, the existing structures are deteriorating and will need major repair or replacement in order to be serviceable.

To date, private business has been unsuccessful or unable in developing such facilities. Privately owned facilities do exist but they are insufficient to accommodate a Hawaii-based filmed television series. Their markets focus on music video production, commercial production, video specials, and syndicated programming production. Other owner-operated stage facilities are available for rentals for production of commercials and local specials.<sup>1</sup>

-----  
1. Overview Study of the Hawaii Motion Picture Industry and the Feasibility of a Studio Facility (referred to as Overview Study hereinafter). Cinelectronics Development Corporation with Peat, Marwick, Mitchell & Company, and Architects Hawaii, Ltd., January 1986, pg. S-9. See Appendix A for selected sections of the Overview Study.

The public purpose served by the proposed film facility is to provide Hawaii's film industry with a permanent facility for production of motion pictures, television series and large scale commercials. Large-scale productions can help strengthen Hawaii's economy through increased employment and tax revenues.

The film industry is a "clean" industry and relies on, rather than destroys, a location's natural beauty and environment especially here in Hawaii. Filming on location in Hawaii will promote Hawaii as an international visitor destination, and enhance the tourism industry. A State-owned film facility could serve as a training facility for Hawaii's students who are interested in pursuing a career in the film and video industry. That opportunity does not currently exist. Expansion of an indoor filming production facility is a critical element of the development of a film industry in Hawaii.

Accordingly, the State of Hawaii, Film Industry Branch of the Department of Business and Economic Development (DBED), proposes to expand the indoor filming production facility at the makai, Diamond Head corner of Kapiolani Community College, Diamond Head campus site (hereafter referred to as KCC) on the island of Oahu.

# Chapter II

II. PROJECT DESCRIPTION

A. PROJECT LOCATION AND LAND OWNERSHIP

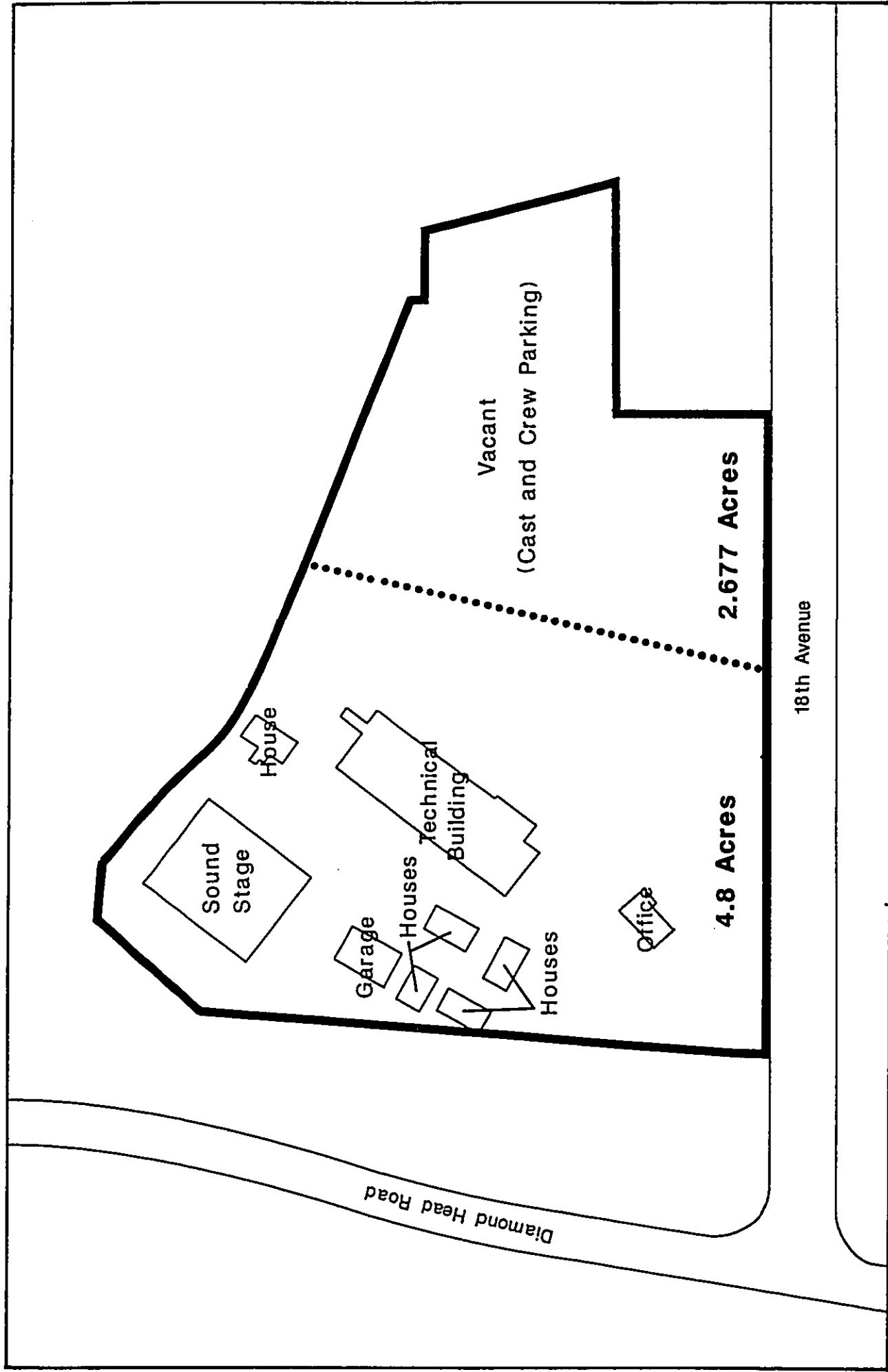
The project site is the current location of the filming facility previously used by Hawaii 5-0 and, more recently, Magnum P.I. The project site is approximately 3 miles east of Waikiki, a 7-10 minute drive from major Waikiki hotels. (Exhibit II-1) Access to the project site from Waikiki is via Monsarrat Avenue to Diamond Head Road and 18th Avenue. The project site is a portion of TMK 3-1-42:9 at the makai corner of 18th Avenue and Diamond Head Road. This is a part of the total 46.752 acre KCC parcel identified as TMK 3-1-42:9, 31 & 33. (Exhibit II-2) The existing film facility site contains 4.8 acres. The 2.677-acre vacant land adjoining the 4.8 acres was periodically used for cast and crew parking. The expanded film facility (4.8 acres + 2.677 acres for a total of 7.477 acres) will, therefore, utilize the acreage that has already been in use as a film production facility. (Exhibit II-3)

The project site is owned by the State of Hawaii. It is set aside by a 1989 Executive Order to the DBED for the purpose of expanding a film facility. Prior to that, this 7.477-acre project site was part of the whole KCC parcel leased in 1975 to the University of Hawaii from the State of Hawaii, but has been used as a film studio since 1978. The University of Hawaii subleased 4.8 acres of its KCC parcel to Universal Studios for the filming of Magnum P.I.









**DHM inc.**  
 Land Use and  
 Environmental  
 Planning

**Exhibit II-3**  
**Existing Site Use**

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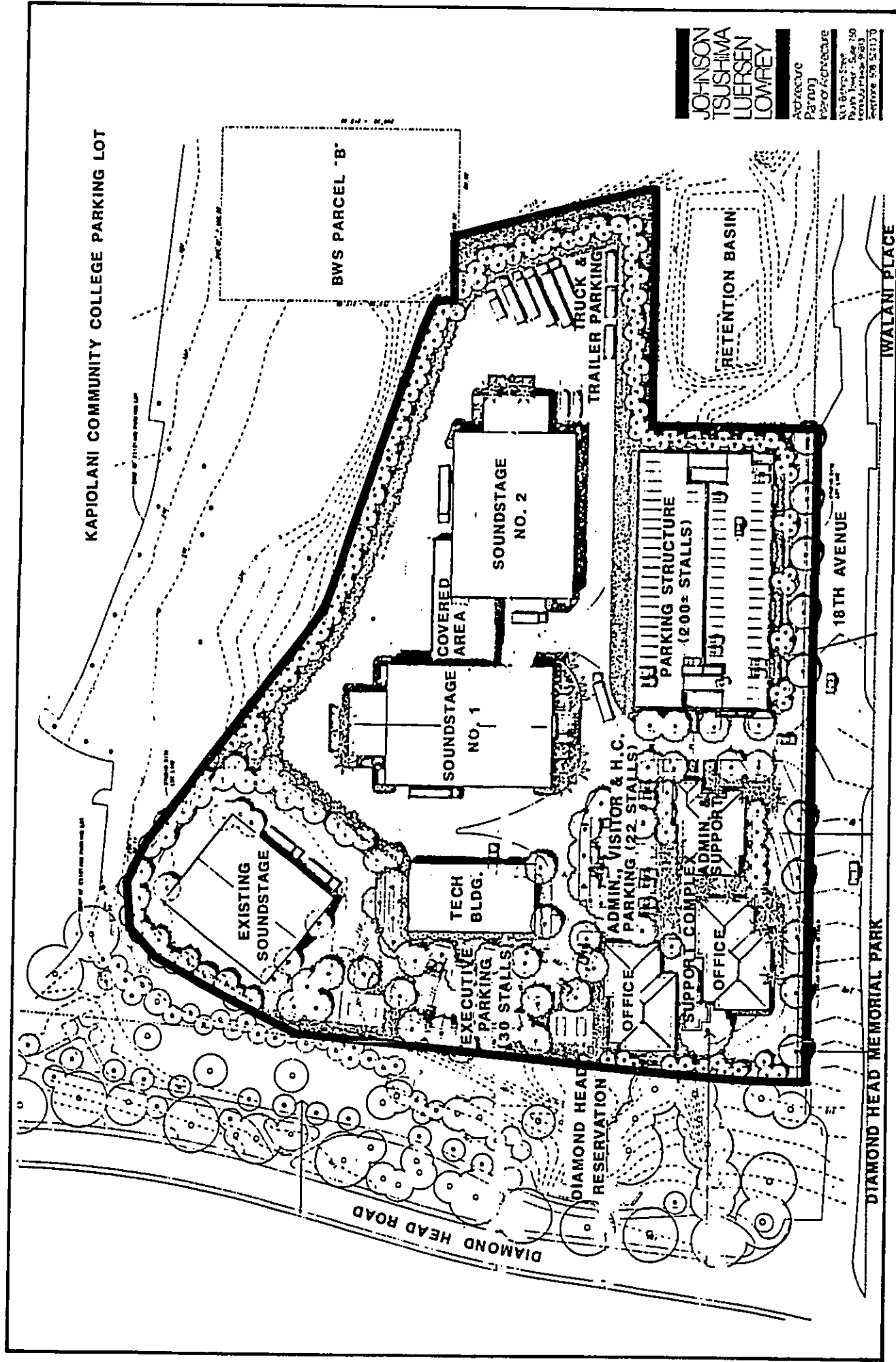
That sublease expired in 1988 and the University of Hawaii released the initial 4.8 acres plus the abutting 2.677-acre area to the State of Hawaii in 1989.

B. COMPLETED PROJECT AND PHASE I FEATURES

When the film facility is ultimately completed, it will consist of the following structures which includes some of the existing buildings (Exhibit II-4):<sup>2</sup>

1. Three Soundstages, 1 existing at 12,000 sq. ft., 22 feet high and 2 new additional, each at approximately 16,800 sq. ft. Each new soundstage is approximately 46 feet high at its highest point with an eaves height of approximately 32 feet and will be used for indoor filming. A 4,800 sq. ft. open area with a roof will be located between the two new soundstages. This area is to be used for truck unloading during rainy periods and for commissary purposes.
  
2. One Support building complex, to include one administrative office (4,120 sq. ft.) and two office type buildings (5,232 sq. ft. each) for multi-purpose uses such as dressing rooms.

-----  
2. Information provided by Johnson Tsushima Luersen Lowrey, Memorandum, "DAGS Film Facility Building Description", July 7, 1989. See Appendix B for a more complete description of the film facility structures.



**JOHNSON  
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LUERSEN  
LOWREY**  
 Architects  
 1111 Bayview Drive  
 Suite 150  
 Honolulu, Hawaii 96813  
 Phone 598-5110

**DHM inc.**  
 Land Use and  
 Environmental  
 Planning

Exhibit II-4  
 Site Plan - Completed Project

3. One Technical building (Mill)

This will be a 50 feet x 115 feet (5,750 sq. ft.) one-story 20-foot building located adjacent to Soundstage No 1 between the existing soundstage and the Support Complex. It's location is approximately 105 feet from the south boundary near Diamond Head Road and 250 feet from 18th Avenue. It will consist of one large space with a separate paint shop, scene dock, air compressor room and toilets.

4. Parking to include one structure of approximately

200-stalls and two additional parking lots of 30 and 22 stalls respectively, adjacent to the Technical Building and the Support Complex. Trucks and trailers will park around the soundstages and in the lot adjacent to Soundstage No. 2. Parking calculations for Phase I and the completed project are presented in Appendix C.

The proposed facility will be developed in phases. Phase I development originally included the development of:

- o Soundstage No. 1;
- o the Technical Building;
- o the on-grade parking lot;
- o sitework and infrastructure for the entire project; and
- o relocation of the existing wooden office buildings

At the time this phasing was determined, the existing soundstage was not in use and plans for the KCC child care center were undecided. However, since that time these conditions have changed. The existing soundstage is now being

used by a production company and is leased until March 30, 1990. In addition, plans for development of the KCC child care center have been approved as part of the KCC Master Plan.

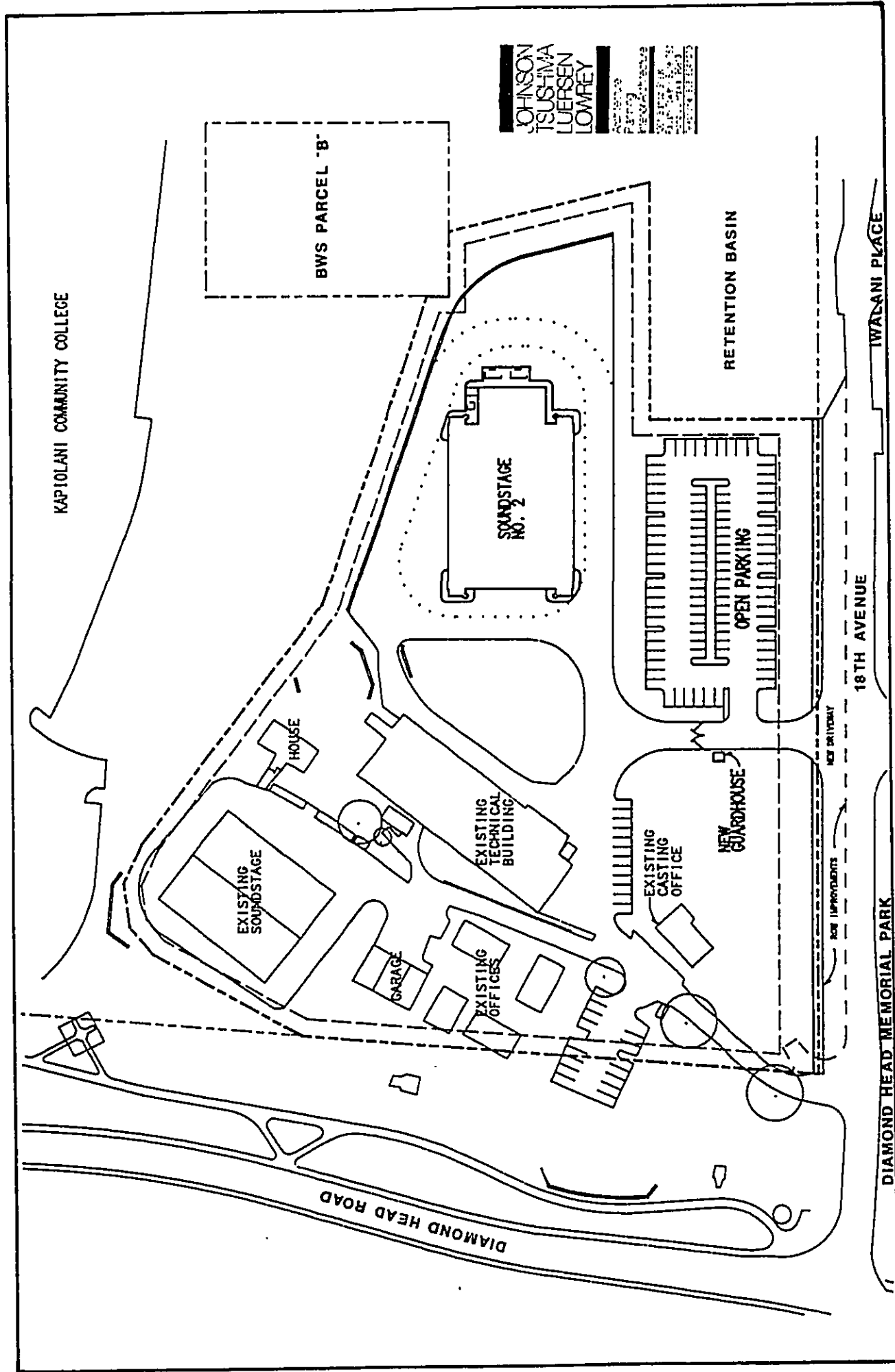
To prevent interference with production activities at the existing soundstage, Phase I development will be modified to include construction of only Soundstage No. 2, the on-grade parking lot and sitework around Soundstage No. 2. This phasing will provide the most efficient use of the film facility because Soundstage No. 2 will be available for production use and the existing soundstage will be available for use as a mill when construction of Soundstage No. 1 and the Technical Building commences at a later date. As a result, the film facility will not be inoperable at any time.

To reduce the impact of construction noise on the child care facility, construction of Soundstage No. 2, (the film facility building closest to the child care center) will be phased to either coincide with the construction of the child care center or precede it.

The first phase will, therefore, include the following development (Exhibit II-5):

1. Soundstage No. 2

The new soundstage will be located in the north portion of the project site. This will be an approximately 16,800 sq. ft., air conditioned, rigid frame/concrete building with motorized grid system for access to stage



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LOWREY

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**Exhibit II-5**  
**Site Plan - Phase I**

lighting. It will have a eave height of approximately 32 feet above finished grade with an interior clear height of 28 feet from the finished floor elevation to the lighting grid. The top of the building will be approximately 46 feet above finished grade. Attached to the building will be pedestrian vestibules, crew toilet facilities, a combined mechanical and electrical room of 2,646 sq. ft. It will have the capability of accommodating a maximum of 250 studio audience should the need arise based on type of production.

2. Parking Facilities

During Phase I, an open parking lot of 99 parking stalls will be located on the 18th Avenue boundary adjacent to the Support Building. The access to the film facility and this parking lot will be via 18th Avenue makai of the parking lot. This access road will lead to the Soundstage No. 2 and in the opposite direction to the existing wooden office buildings and mill.

3. Sitework and Infrastructure

Grading will occur around the location of Soundstage No. 2 and the on-grade parking lot. Approximately 14,000 cubic yards (cy) of soil will be excavated during Phase I and most of it will be used on-site during Phase I. Unsuitable material will be taken offsite to an approved disposal site.

C. DEVELOPMENT SCHEDULE

Phase I construction is scheduled to begin in April 1990. June 1991 is the expected completion date for Phase I construction. The earliest expected construction start date for the subsequent phases is estimated at 1996. Construction date of the subsequent phase will be determined by actual demand for the Phase I facility and the growth of the film industry in Hawaii.

D. ESTIMATED COSTS

The estimated construction cost for Phase I is approximately \$6 million<sup>3</sup> and a breakdown is as follows:

1. SITEWORK	
- On-Site Improvements	\$1,635,500.00
- Off-Site Improvements	\$ 392,000.00 <sup>4</sup>
SITE WORK TOTAL . . . . .	\$2,027,500.00
2. SOUNDSTAGE NO. 2 TOTAL . . . . .	\$4,065,200.00
3. LANDSCAPE TOTAL . . . . .	\$ 210,600.00
TOTAL ESTIMATED COSTS . . . . .	\$6,303,300.00 <sup>5</sup>
5% Escalation	\$ 315,200.00 <sup>6</sup>
TOTAL . . . . .	\$6,618,500.00

-----  
3. Figures supplied by Johnson Tsushima Luersen Lowrey Inc., July 1989. These are the latest estimates available.

4. This figure includes costs for repaving 18th Avenue from Diamond Head Road to the Retention Basin. Sidewalks will be added along the project site fronting 18th Avenue. This is in accordance with Revised City Ordinances, Chapter 20, Article 5, Construction of Improvements by Certain Property Owners.

5. All costs are in today's dollars. Total Estimated Costs do not include such costs as water meters (\$22,800), Hawaiian Electric Company charges (\$22,717) and furnishing costs and stage lighting (figures not available).

6. This 5% escalation figure reflects projected cost increases to January 1990.



The project will be funded by the State of Hawaii, and the Legislature has already appropriated the funds for Phase I of the proposed project.

E. MANAGEMENT PLAN FOR FILMING FACILITY

The DBED Film Industry Branch has drafted a management plan for the proposed film facility. It is proposed to retain the High Technology Development Corporation (HTDC) as the public body and agency of the State to manage the expanded film facility. The HTDC was established "to pursue and assist the development of emerging industries in the broad area of high technology," and is administratively placed under DBED.

A Film and Video Advisory Committee will be formed to serve in an advisory capacity to the Film Industry Branch relating to film facility management, community relations, interaction of filming activities and educational activities, and the further development of Hawaii's film and video industry. The Film Industry Branch Chief of DBED will serve on the committee as an ex-officio member, with other committee members appointed by the Governor of the State of Hawaii.

# Chapter III

### III. PHYSICAL ENVIRONMENTAL CONDITIONS/PROJECT IMPACTS

#### A. TOPOGRAPHY AND SLOPE

(Exhibit III-1)

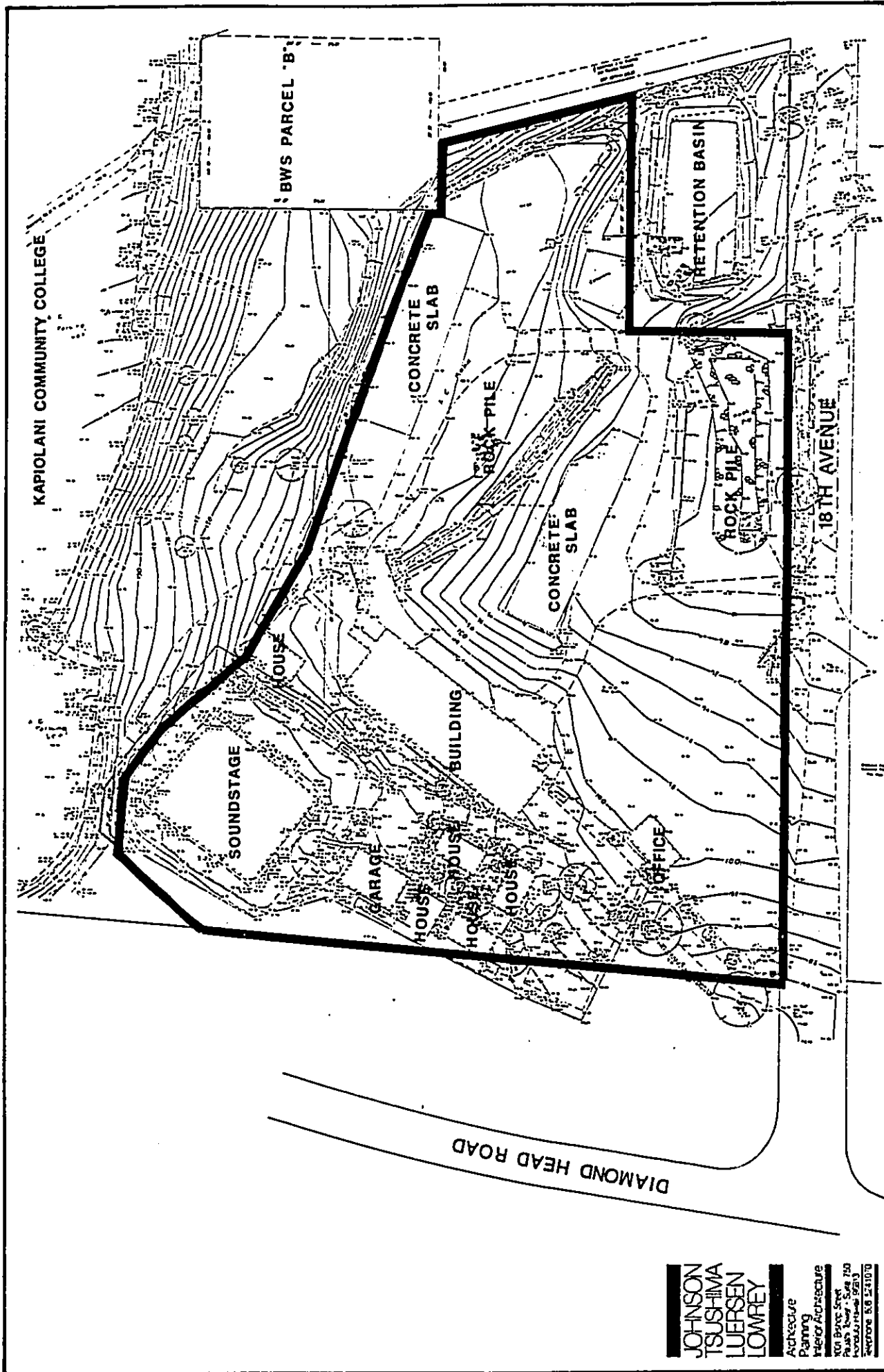
##### Existing Condition

The project site has ground elevations ranging from approximately 80 feet (fronting 18th Avenue) to 132 feet (towards KCC campus) above mean sea level (MSL). The project site has a moderate slope ranging from 5%-20%. The area around the existing Soundstage rises to approximately 120 feet elevation above MSL. Directly beyond the northeast (towards KCC project site) boundary, the slope steepens and rises to 136 feet elevation above MSL at the lower KCC parking lot and continues to 180 feet elevation above MSL at the closest KCC building.

Two large rock piles are located on the project site. One pile, approximately 200 feet long x 50 feet wide x 6 feet high, is located next to the retention basin near 18th Avenue. The smaller second pile, approximately 40 feet long x 30 feet wide x 5 feet high, is located west of the retention basin north of the center of the project site.

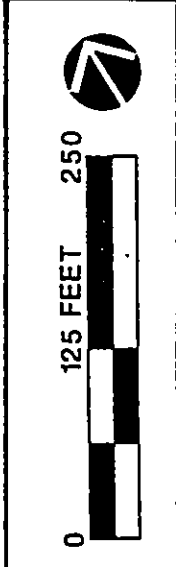
##### Project Impacts

The existing rock piles are in the process of being removed by KCC and an estimated 14,000 cy of soil will be excavated during Phase I development. Phase I excavation will take place around Soundstage No. 2 and the on-grade parking lot. Most of the excavated material will be used on-site during



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**Exhibit III-1**  
**Topography Map**

Phase I construction. Unsuitable material may be disposed at a City and County of Honolulu approved site. For the completed project, there will be approximately 35,000 cy excavated.<sup>7</sup> The surplus of approximately 12,000 cubic yards during Phase II will be disposed at a City and County of Honolulu approved site.

No grading or excavation is planned for the area around the Existing Soundstage. It will remain at an approximate 120 - 122 feet elevation.

The area for the Technical Building where four houses currently stand will have extensive excavation in the completed project. The elevations are approximately 120 feet by the existing garage and 110 feet by the existing parking lot. These areas will be lowered to 108 feet near the garage and 104 feet near the parking lot.

There will be minor leveling off at the location where the Support Complex will ultimately be constructed. The property elevation, presently at 98 - 106 feet, will be leveled to an approximate 100 feet elevation.

The entrance drive into the film facility will be from 18th Avenue and will continue between the Support Complex and the ultimate 2-level Parking Structure. The paved parking lot

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7. All figures and elevations provided by Engineering Concepts, Inc., December 1988 and July 1989.

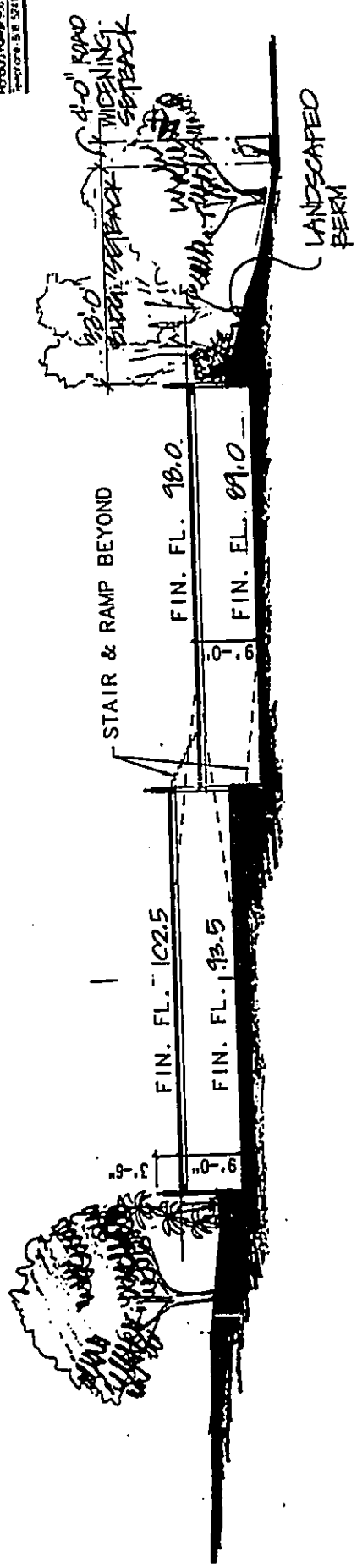
will be at or close to existing grades of 90 - 94 feet. For the completed 2-level parking structure, the property will be leveled at approximately 89 feet elevation (Exhibit III-2). The first level of the parking structure along 18th Avenue will be at 89 feet ground elevation with the second level at 98 feet elevation. The first level of the parking near Soundstage No. 2 will be at 93.5 feet ground elevation with the second level at 102.5 feet elevation. There will be a landscaped berm which will rise from the property boundary along 18th Avenue 4.5 feet up half way to the second level.

The area around Soundstage Nos. 1 and 2 are currently at 92 - 106 feet elevation. In response to community concerns, the area around Soundstage Nos. 1 and 2 will be graded to a level 100 feet above mean sea level. Only the grading around Soundstage No. 2 will occur during Phase I development.

During site preparation, there might be an increase in sediment runoff if heavy rains occur. In order to avoid the potential runoff, site preparation will be done during dry months prior to the projected construction start date of April 1990. In addition, all necessary precautions will be taken and regulations will be complied with.

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SCALE: 1" = 25 FEET

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Exhibit III-2  
Completed Parking Structure: Side View Section

B. SOILS

(Exhibit III-3)

**Existing Condition**

According to the Soil Survey<sup>8</sup>, the soil in this general region has been identified as MuD, Molokai silty clay loam, 15% to 25% slope, and MuC, Molokai silty clay loam, 7% to 15% slope. These are well-drained soils with a medium runoff capability and occur in relatively dry areas.

The Land Study Bureau<sup>9</sup> classifies the project site as "U" for urban use and does not assign an overall Productivity rating.

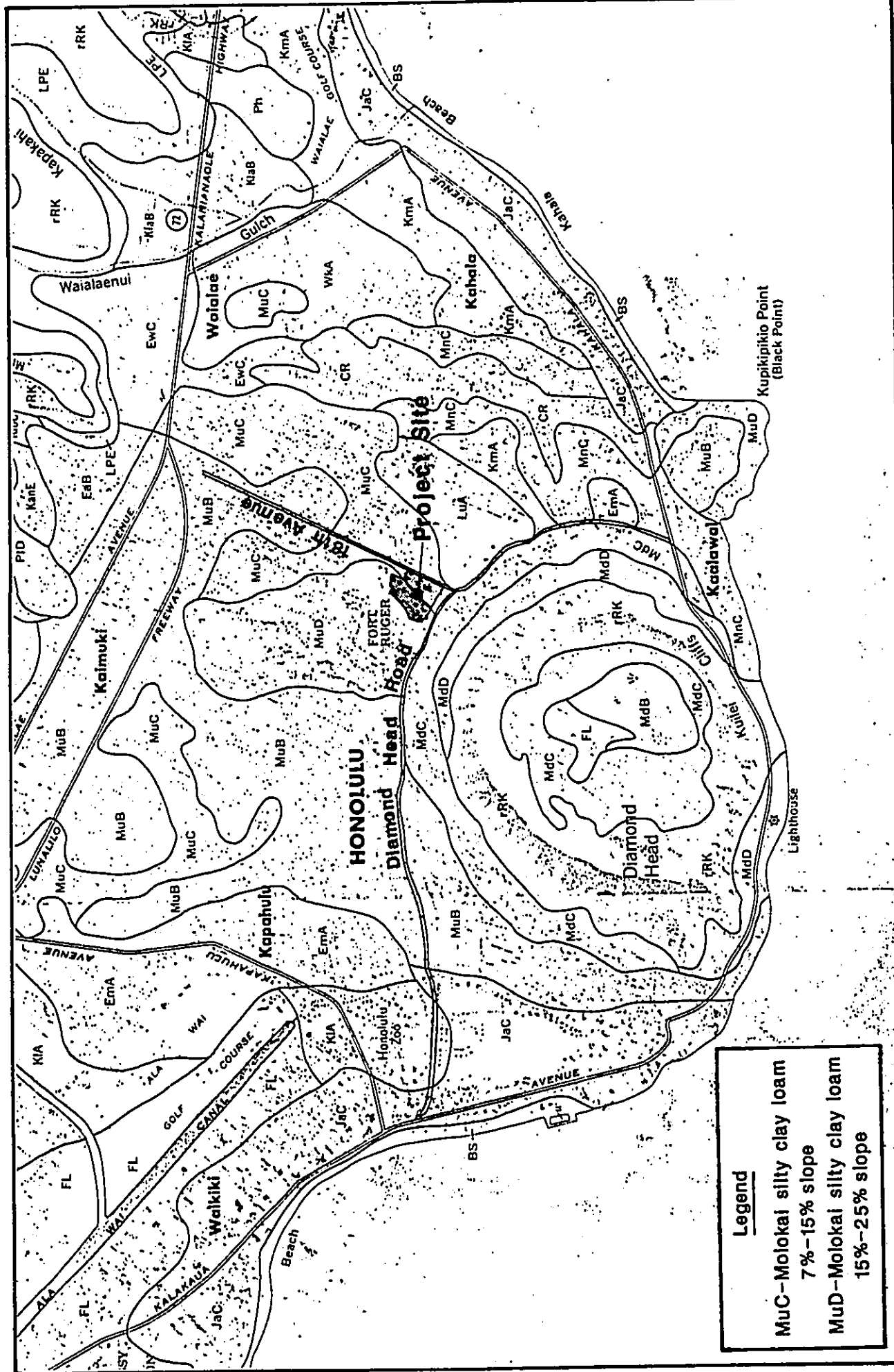
**Project Impacts**

The project will not change the overall soil composition of the project site. However, due to grading and leveling, some soil will be redistributed to achieve a more level topography. All efforts will be made to minimize the potential for drainage and erosion problems.

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

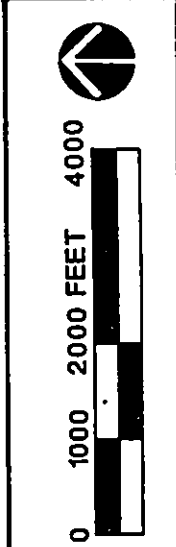
9. Detailed Land Classification, Land Study Bureau, University of Hawaii, December 1972.





**Legend**  
 MuC-Molokai silty clay loam  
 7%-15% slope  
 MuD-Molokai silty clay loam  
 15%-25% slope

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**Exhibit III-3**  
**Soils Map**

C. CLIMATIC AND FLOOD CONDITIONS

**Existing Condition**

This area is subject to normal tradewinds produced by northeast winds. As indicated in the KCC Master Plan EIS,<sup>10</sup> temperature readings for the project site are not available but the average annual temperature for Waikiki can be approximated for this area. The average temperature for the coolest month is 71.9°F and 80.6°F for the warmest month. It is one of the driest areas on Oahu with a median annual rainfall of approximately 25 inches.

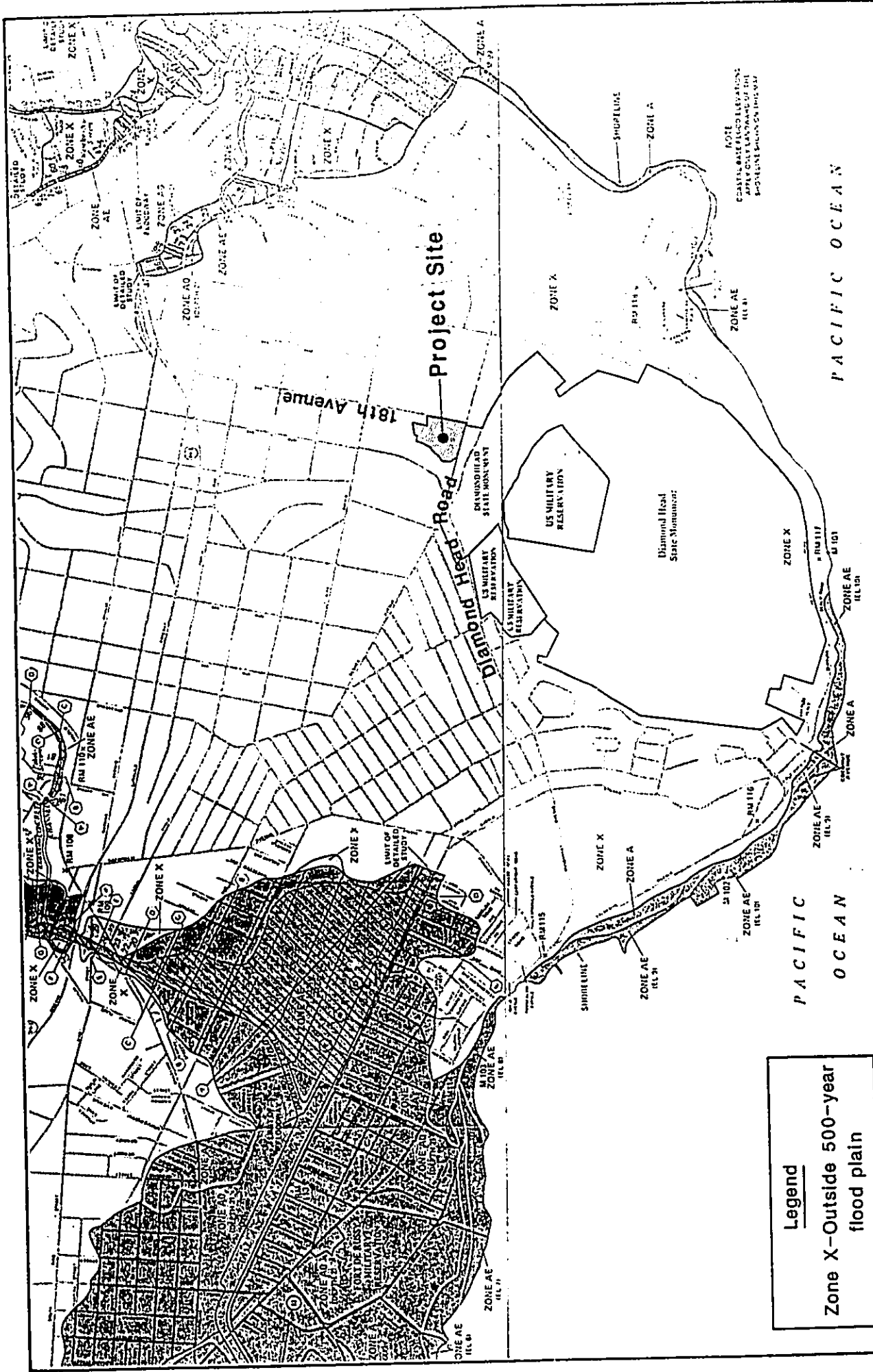
The entire project site and surrounding area on all sides is designated Zone X on the Flood Insurance Rate Map (FIRM).<sup>11</sup> (Exhibit III-4) This designation indicates areas determined to be outside a 500-year flood plain.

**Project Impacts**

The proposed project is not expected to have an impact on the climatic or flood conditions of the area. Rather, the dry weather condition of the project site is ideal for a film facility.

-----  
10. Kapiolani Community College Master Plan Environmental Impact Statement, DAGS, February 1981.

11. Flood Insurance Rate Map, City and County of Honolulu, Hawaii, Panel 120 of 135, Map Revised September 4, 1987.



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**Exhibit III-4**  
**Flood Insurance Rate Map**

D. VEGETATION

**Existing Condition**

A survey was conducted on the entire KCC area in 1981 for the KCC Master Plan EIS. That survey included the project site for the proposed film facility expansion.

The vegetation included a number of common species of trees, some cultivated plants, weeds and shrubs. No rare or endangered species were indicated at that time. The vegetation at the project site has not changed since the 1981 study and no new study was conducted.

No endangered plant species are found on the project site; however, a 40 x 50 foot area of an officially listed endangered plant species, Schiedea adamantis, is located off the site on the upper, outer slope of Diamond Head Crater.<sup>12</sup> There are probably less than 30 wild plants growing at this site. It is a small white-flowered shrub with dry capsule seed pods approximately 1-2 feet in height and is deciduous during the dry season.

**Project Impact**

No negative impacts on indigenous vegetation are expected since none are reported at the project site. A potential impact of the proposed facility would be a positive one since the project will include landscaping.

-----  
12. Information provided by DLNR's Forestry and Wildlife Division letter received March 14, 1989, included in Appendix I.

Concern for the Schiedea adamantis centers on possible fire hazard resulting from increased traffic along Diamond Head Road. There will be a slight increase in traffic from the proposed film facility, approximately 100 people per day on the average. This is a modest increase based on the volume of existing and projected traffic in the area.<sup>13</sup> The traffic study conducted for this project concluded that projected increases in traffic growth would result from anticipated enrollment increases at KCC and not as a result of traffic from the proposed film facility. This primary increase in traffic and additional risk of fire, if any, is therefore not directly impacted by the proposed film facility expansion.

In addition, the level of fire protection and response times for this area is felt to be sufficient to contain a fire on the project site before it would have the opportunity to spread across Diamond Head Road. Therefore, it is anticipated that the Schiedea adamantis will not be adversely impacted by the proposed expansion of the Hawaii Film Facility.

---

13. The 1988 traffic volume for the Diamond Head Road/18th Avenue intersection surveyed from 7:00-8:00 a.m. on a Wednesday was as follows: 1) 510 vehicles turning from 18th Avenue onto Diamond Head Road; 2) 565 vehicles travelling straight on Diamond Head Road; and 3) 145 vehicles turning from Diamond Head Road onto 18th Avenue.

E. FAUNA

**Existing Condition**

A study was conducted in 1981 on the entire KCC area for the KCC Master Plan EIS to determine the presence of wildlife. That survey included the project site for the proposed film facility expansion.

The 1981 study concluded that no significant wildlife was present, primarily due to the urban nature of this area. A probable list includes mongoose, rats and mice as well as stray domestic cats and dogs. No endemic insects are at this site.

In addition, according to the 1981 KCC study, this general area hosted a variety of songbirds. A count was conducted in 1979 for the entire Fort Ruger area which did not indicate any endemic or endangered species in this general area. No new study was conducted for the proposed film facility.

**Project Impacts**

The proposed film facility is not expected to have an impact on any indigenous wildlife since none were reported at the project site nor is it expected to change the wildlife component of the area.

F. TRAFFIC AND ACCESS

A traffic study was conducted in November 1988 by the Pacific Planning & Engineering, Inc. to assess the impact of the proposed film facility on 18th Avenue, Diamond Head and Kilauea Avenue traffic patterns.<sup>14</sup> These are the three main streets providing access to the proposed project site. A summary of that study follows.

Existing Condition

All three impacted roads - Diamond Head Road, 18th Avenue, and Kilauea Avenue - are under City and County of Honolulu jurisdiction. Each is a 2-lane, 2-way roadway feeding into and away from the project site.<sup>15</sup>

The peak hour traffic for the Diamond Head area occurs between the hours of 7:00 to 8:00 am and 4:30 to 5:30 pm with a 10% to 15% heavier traffic flow in the morning traffic.<sup>16</sup> Traffic impacts were assessed for the morning traffic on Wednesday, October 19, 1988 since this reflects a "worse case" scenario.

-----  
14. Traffic Impact Assessment Report, Proposed Hawaii Film Facility, Pacific Planning & Engineering, Inc., December 1988. For a more detailed review of the traffic impact assessment report, see Appendix C.

15. A 10-foot road widening setback for 18th Avenue is required by the Department of Transportation Services (DTS) to achieve right-of-way width of 60 feet. However, existing 18th Avenue right-of-way width is 56 feet in front of the project site. Therefore, a 4-foot widening of the road on the project side is required and has already been incorporated into the project design.

16. Traffic Impact Assessment Report, p. 9.

The major traffic movement through the study area is Ewa-bound on Kilauea Avenue, left on 18th Avenue and then right on Diamond Head Road. There are few left turning vehicles from 18th Avenue onto Diamond Head Road and right turning vehicles are able to turn with little delay.

Traffic capacity is presented in terms of Level-of-Service (LOS).<sup>17</sup> The 1988 LOS for Kilauea Avenue/18th Avenue is LOS C.<sup>18</sup> The Diamond Head Road/18th Avenue intersection has a eastbound left turn LOS A,<sup>19</sup> a southbound left turn of LOS B,<sup>20</sup> and a southbound right turn LOS C.

-----  
17. The LOS for traffic movements in an intersection is classified into six categories ranging from LOS A (little or no delay) to LOS F (extreme traffic delays). See Appendix C for further discussion of LOS categories.

18. Level-of-Service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.

19. Level-of-Service A represents free flow. The general level of comfort and convenience provided to the motorist, passenger or pedestrian is excellent.

20. Level-of-Service B is in the range of stable flow, but the presence of others in the traffic stream begins to be noticeable. The level of comfort and convenience provided is somewhat less than at LOS A.



### Project Impacts

The number of employees working at the film facility would vary according to use from a low of 5 to a high of 300 employees during the peak season, July to March. Most of the time, the production companies would employ approximately 100 people.<sup>21</sup>

Employees would be starting work from 6:00 to 8:00 am. The worse case scenario would be an estimated 35% of the employees arriving during the morning peak hour (7:00 to 8:00 am) using personal vehicles and about 30 vehicles (trucks, mobile trailers and personal vehicles) leaving the studio at the same period. No heavy trucks, vans or buses would travel to the facility during the morning peak hours. For location shooting, approximately 15 vehicles per production company would leave the studio from 6:00 to 7:00 am, prior to the morning peak traffic.

There will be an estimated 70% resident employees and 30% non-resident which results in an estimated 67% of the vehicles arriving from the North direction and 33% from the South direction. Residents will likely arrive via the H-1 Freeway, and non-residents (staying in hotels in Waikiki and Kahala) arriving via Diamond Head Road.<sup>22</sup>

-----  
21. Information provided by Universal Studio based on estimates of film facilities similar to the proposed project.

22. Appendix D, Traffic Impact Assessment Report, graphically presents the projected 1996 traffic forecasts without and with the Hawaii Film Facility, pgs. 19-22.

The afternoon traffic leaving the studio would be spread over a longer period of time since employees are expected to finish work at staggered hours beginning at 3:00 pm. This would result in a smaller afternoon impact on traffic.

In addition to employee-related traffic, the possibility of an occasional 250-member studio audience and subsequent traffic is low but does exist. The studio audience, if present, will utilize approximately 6 buses arriving and leaving at an off-peak hour.<sup>23</sup> The effects of the studio audience traffic is included in the following traffic impact analysis.

Impacts on traffic from the Hawaii Film Facility are presented in terms of change in LOS without the project and with the project.<sup>24</sup> Tables I and II present the 1988 and 1996 levels-of-service for the Kilauea/18th Avenue and Diamond Head Road/18th Avenue intersections.

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23. Information for use of buses for the studio audience provided by the Film Industry Branch, Department of Business & Economic Development. Local residents who wish to be part of the studio audience will meet the buses at designated pick-up points for transport to the film facility. Only individual visitors who are invited to the film facility will be permitted onto the site and these are expected to be few in number.

24. Actual traffic counts for 1988, 1996 without Project, and 1996 with Project are presented in Appendix D, pg. B-21.

TABLE I  
Capacity and Level-of-Service  
for  
Four-Way Stop Intersection  
at Kilauea and 18th Avenue

	<u>1988</u>	<u>1996</u> <u>w/o Project</u>	<u>1996</u> <u>w/Project</u>
Vehicles Entering Intersection	1142	1317	1431
LOS	C	D	D

TABLE II  
Levels of Service  
AM Peak Hour Forecast Traffic  
Intersection of Diamond Head Road  
and 18th Avenue

<u>Turning Movement</u>	<u>1988</u>	<u>1996</u> <u>w/o Project</u>	<u>1996</u> <u>w/Project</u>
Diamond Head Road			
Eastbound    LT	A	A	A
18th Avenue			
Southbound  LT	B	C	C
RT	C	D	D

Source: Pacific Planning and Engineering, Inc.

Both the Diamond Head Road/18th Avenue and the Kilauea Avenue/18th Avenue intersections will operate at an acceptable LOS with and without the film facility traffic. Traffic going eastbound on Diamond Head Road making a left turn onto 18th Avenue will experience a LOS A both with and without the film facility. Traffic going southbound on 18th Avenue making a left turn on Diamond Head Road will experience a LOS C both with and without the film facility. Traffic going southbound on 18th Avenue making a right turn on Diamond Head Road will experience a LOS D<sup>25</sup> both with and without the film facility. The changes to slightly poorer levels of services are projected to occur as a result of traffic growth due to the enrollment increases at KCC and not as a result of traffic from the proposed film facility.

The Traffic Study, therefore, concludes that, "The proposed Hawaii Film Facility project will not significantly impact traffic flow at the intersections of 18th Avenue with Diamond Head Road and 18th Avenue with Kilauea Avenue when the project is completed in 1996."<sup>26</sup>

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25. Level-of-Service D represents high-density, but stable, flow. Small increases in traffic flow will generally cause operational problems at this level.

26. Ibid. p. 25.

G. AIR QUALITY

An Air Quality Study was conducted by Environmental Management Consultant in November 1988 to assess the impact on air quality by the proposed film facility.<sup>27</sup> A summary of the results of that study follows.

**Existing Condition**

Carbon monoxide (CO) is the principle air pollutant measured for the purposes of this study since it has a relatively long half-life in the atmosphere and it comprises the largest portion of automotive emissions. The State and Federal standards for CO are respectively 10 mg/m<sup>3</sup> and 40 mg/m<sup>3</sup> maximum average in any one hour. Results of morning peak-hour air samplings on October 11, 1988 and October 19, 1988 in the vicinity of Diamond Head Road and 18th Avenue produced readings of 4.9 mg/m<sup>3</sup> and 5.0 mg/m<sup>3</sup> respectively for one hour. Both are well below the State and Federal standards.

**Project Impacts**

Projections for 1996 both with and without the proposed project are as follows. At the mauka side of the Kilauea Avenue/18th Avenue intersection, with the proposed project,

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27. Air Quality Impact Report, Hawaii Film Facility, Fort Ruger, Oahu. Jim W. Morrow, Environmental Management Consultant, November 14, 1988. For a more detailed review of the air quality impact report, see Appendix E.

the levels of CO range from 3.2 mg/m<sup>3</sup> - 5.4 mg/m<sup>3</sup>.<sup>28</sup>

Without the proposed project, in 1996, the levels of CO range from 3.3 mg/m<sup>3</sup> - 5.7 mg/m<sup>3</sup> at this intersection. At the Diamond Head Road/18th Avenue intersection with the proposed project, the levels of CO range from 2.5 mg/m<sup>3</sup> - 9.3 mg/m<sup>3</sup>. Without the proposed project, the CO levels range from 2.4 mg/m<sup>3</sup> - 8.8 mg/m<sup>3</sup>. All readings are below the State and Federal air quality standards.

It is concluded that, "traffic generated by the proposed project will contribute a very small additional increment (<1 mg/m<sup>3</sup>) to predicted ambient CO concentrations in 1996. Both Federal and State CO standards will be met beyond 5 meters from the roadway edge at both the Kilauea Avenue and Diamond Head Road intersections with 18th Avenue."<sup>29</sup>

Projections for 1996 both with and without the proposed project indicate an apparent reduction in ambient impact despite the projected increases in vehicular volume. This is due to the effect of the Federal motor vehicle control program and the projected rate of reduction in emissions per vehicle over the 1988-1996 period. Therefore, the projected rate of emissions reduction per vehicle over the 1988-1996

-----  
28. This range is a result of a 5-meter receptor spacing at the intersection. The mauka side of Kilauea Avenue presented the worse possible case. For a further discussion, see the Air Quality Impact Report, Appendix E.

29. Ibid. p. 8.

period is greater than the expected rate of traffic volume increase. This results in a net decrease in cumulative emissions and ambient impact results.

There will be an additional electrical demand caused by the project which will result in a small (<0.4%) increase in pollutant emissions at the Kahe Generating Station.

A short term impact will be due to construction activities and will impact local air quality. Dust from construction activities will be reduced by appropriate dust control measures. A water truck will be located on the project site at all times to water graded areas as needed. EPA estimates indicate that watering, twice per day, can reduce fugitive dust emissions by up to 50%.<sup>30</sup> In addition, ground cover will be planted as soon as is feasible for erosion and dust control.

#### H. NOISE CONDITIONS

A Noise Study was conducted by Y. Ebisu & Associates in November 1988 to assess the impacts on the noise levels resulting from the proposed film facility.<sup>31</sup> A summary of the results of that study follows.

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30. Ibid. p. 8.

31. Noise Study for the Proposed Improvements to the Hawaii Film Facility, Fort Ruger, Oahu. Y. Ebisu & Associates, November 1988. For a more detailed discussion of the noise study, see Appendix F.

### Existing Condition

The primary source of existing noise levels at the project site is traffic on 18th Avenue and Diamond Head Road. Along 18th Avenue and along Diamond Head Road to the east of the project site, the existing noise environment is in the "Moderate Exposure, Acceptable" category.<sup>32</sup> Traffic noises are higher along Diamond Head Road to the west of the project site and fall within the "Significant Exposure, Normally Unacceptable" category.

### Project Impacts

Traffic volume projections for 1996 were used for future traffic noise level predictions along Diamond Head Road and 18th Avenue and are presented in decibels (dB).

The contribution of project traffic noise along Diamond Head Road and 18th Avenue is expected to increase noise levels in the range from 0.1 dB to 0.7 dB along Diamond Head Road, and from 0.4 dB to 1.0 dB along 18th Avenue. The larger increases on each road are expected to occur on 18th Avenue

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32. The noise descriptor currently used for Federal and State standards is the Day-Night Average Sound Level (Ldn). For the purposes of determining noise acceptability by the Federal government, an exterior noise level of 65 Ldn or lower is considered acceptable. This is a National standard and is used by the State of Hawaii. The Noise Exposure Classes are as follows: 1) Minimal Exposure, Unconditionally Acceptable - not exceeding 55 Ldn; 2) Moderate Exposure, Acceptable - Above 55 Ldn but not above 65 Ldn; 3) Significant Exposure, Normally Unacceptable - Above 65 Ldn, but not above 75 Ldn; 4) Severe Exposure, Unacceptable - 75 Ldn. "Guidelines for Considering Noise in Land Use Planning and Control," Federal Interagency Committee on Urban Noise, June 1980.



north of Kilauea Avenue, and on Diamond Head Road east of the film facility. Even with these increases, the traffic noise levels are expected to remain in the "Moderate Exposure, Acceptable" category. The smaller increases on each road are expected to occur on the busier sections of 18th Avenue fronting the project site and on Diamond Head Road west of the film facility.

The traffic noise from non-project traffic is already significantly greater than the noise which will be generated from 1996 project traffic. It is concluded, therefore, that "traffic noise impacts from the expanded studio facility are not expected to be significant."<sup>33</sup>

Noise impact was also conducted for the proposed Technical Building which will house the film facility's mill and paint shop. Power tools and machinery are expected to generate noise levels normally in the range of 65 dB to 85 dB with levels intermittently exceeding 85 dB at the operator's position within the building.

The Technical Building will be sited approximately 105 feet from the south property boundary line and approximately 650 feet from the nearest KCC building or any residences to the north. Noise levels at the south boundary are predicted to be less than 64 dB for a typically ventilated Technical

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33. Ibid. p. 14.

Building. These predicted levels may exceed the State Department of Health (DOH) and Honolulu Land Use Ordinance Noise Limits which are equivalent to 65 Ldn or 55 dB measured at the property line. Because of the Technical Building's location away from the south boundary, the risks of adverse noise impacts to the south are considered minimal in that direction.

Since Soundstage Nos. 1 and 2 will be located between the Technical Building and both the KCC buildings and residences to the north, the risks of adverse noise impacts to the north of the film facility are also considered minimal. At the north boundary closest to the KCC campus, the dB level is expected to be in the 30 dB - 60 dB range. This dB level slightly exceeds the State DOH standards of 55 dB.

The dB levels at the north and south boundaries are very close to the State DOH standards. However, since the upper dB level for each boundary is an intermittent level, it is believed the normal dB levels at the property lines will most likely be within the State DOH standards.<sup>34</sup> In addition, design mitigation measures, such as a treated ventilation system and more soundproofing for the Technical Building will be incorporated within the Technical Building wherever possible in order to comply with the State DOH standards. A report from Darby and Associates, acoustical

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34. Information provided by Mr. Y. Ebisu, Y. Ebisu & Associates, in a phone conversation, April 21, 1989.

consultant, is included as Appendix K which discusses the noise impacts from the Technical Building and appropriate mitigation measures.

# Chapter IV

IV. PUBLIC FACILITIES AND SERVICES/PROJECT IMPACTS

A. WATER

A water system analysis was conducted for the proposed film facility by Engineering Concepts, Inc. in November 1988.<sup>35</sup>

A summary of that study follows.

Existing Condition

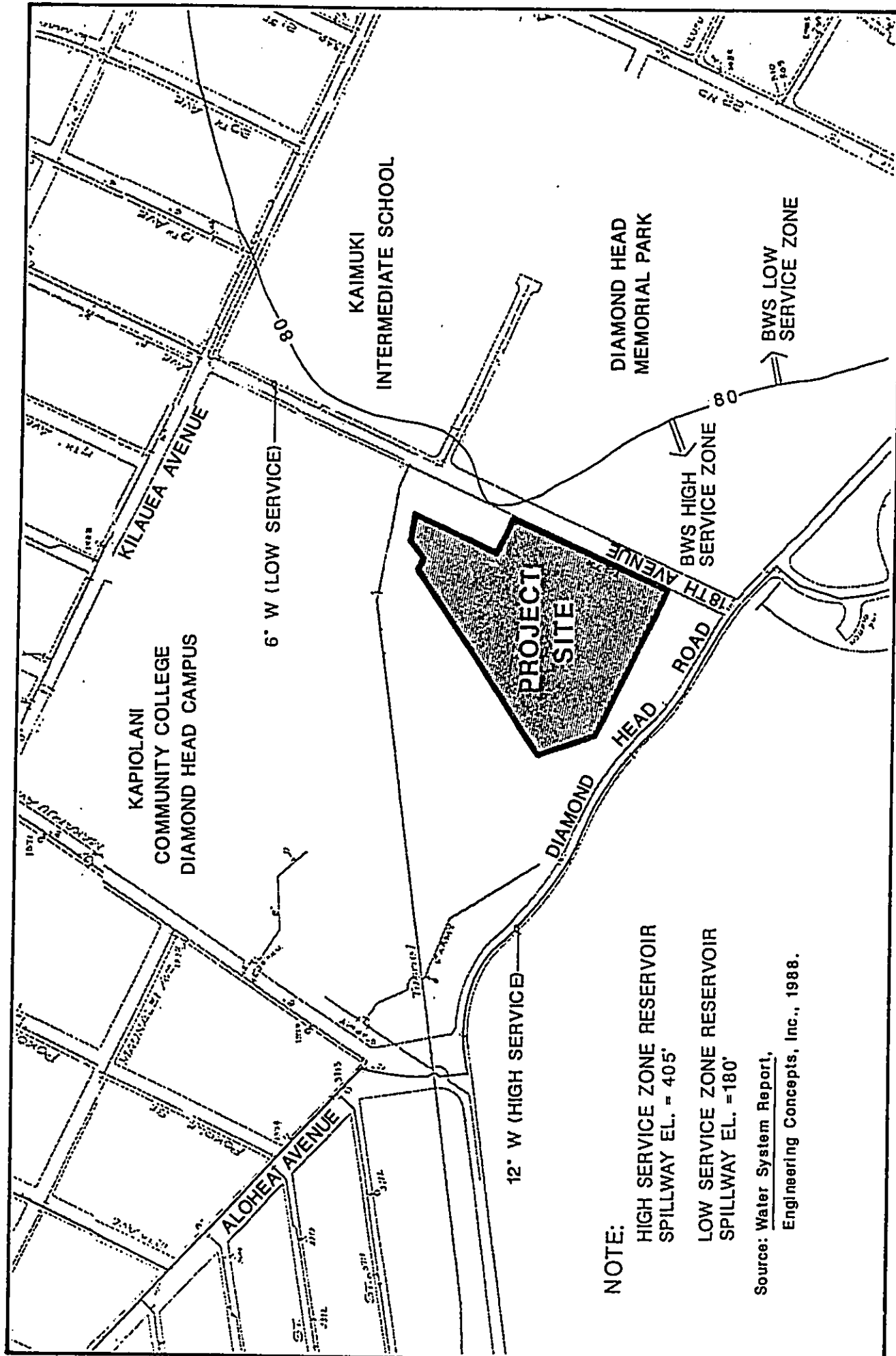
The Board of Water Supply (BWS) operates and maintains the existing water distribution system for the project site.

The distribution system is divided into two service areas designated "low service" and "high service." The boundary between these two service areas is located at 80 feet roughly between the proposed project site and the lot containing the Kaimuki Intermediate School, Iwalani Street and Diamond Head Memorial Park. (Exhibit IV-1)

Diamond Head Reservoir located in Diamond Head provides service to the areas between elevations 0-80 feet and has a 3.5 MG storage capacity. A 6-inch low service water line is located along 18th Avenue from Kilauea Avenue to Iwalani Street.

The high service system near the proposed project site is part of the BWS 405 system. Wilhelmina Rise Reservoir No. 1 with 2.0 MG storage capacity is the nearest 405 reservoir to

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35. Water System for the Proposed Hawaii Film Facility.  
Engineering Concepts, Inc., December 1988. For a further discussion of the water system analysis, see Appendix G.



NOTE:  
 HIGH SERVICE ZONE RESERVOIR  
 SPILLWAY EL. = 405'  
 LOW SERVICE ZONE RESERVOIR  
 SPILLWAY EL. = 180'

Source: Water System Report,  
 Engineering Concepts, Inc., 1988.

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**Exhibit IV-1**  
**Existing Water Distribution System**

the project site, servicing areas between elevation 80-305 feet. The closest connecting point to the project site is a 12-inch main along Diamond Head Road at 18th Avenue.

#### **Project Impacts**

The existing ground elevations of 85-132 feet at the project site require connection to the high service system. For the purposes of calculating water demand and fire flow requirements, the proposed film facility is considered a commercial use by the BWS. The average domestic water demand<sup>36</sup> for commercial uses is 3,000 gallons per acre per day (gpad).<sup>37</sup> Based on approximately 6-acres of commercial use (not including parking areas) in the 7.477-acre site, the estimated average domestic water demand would be approximately 20,000 gallons per day (gpd).

Fire flow requirements are based on requirements for schools, neighborhood businesses, small shopping centers, hotels and high-rise apartments. There is a 2,000 gallon per minute (gpm) fire flow requirement over a 2-hour period for this land use. The calculated storage volume at the project site is 240,000 gallons.

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36. Domestic water demand for commercial uses includes water used for drinking water, toilets, cleaning, etc.

37. Calculations of domestic water demand are based on the BWS Water System Standards, Volume 1 (1985).

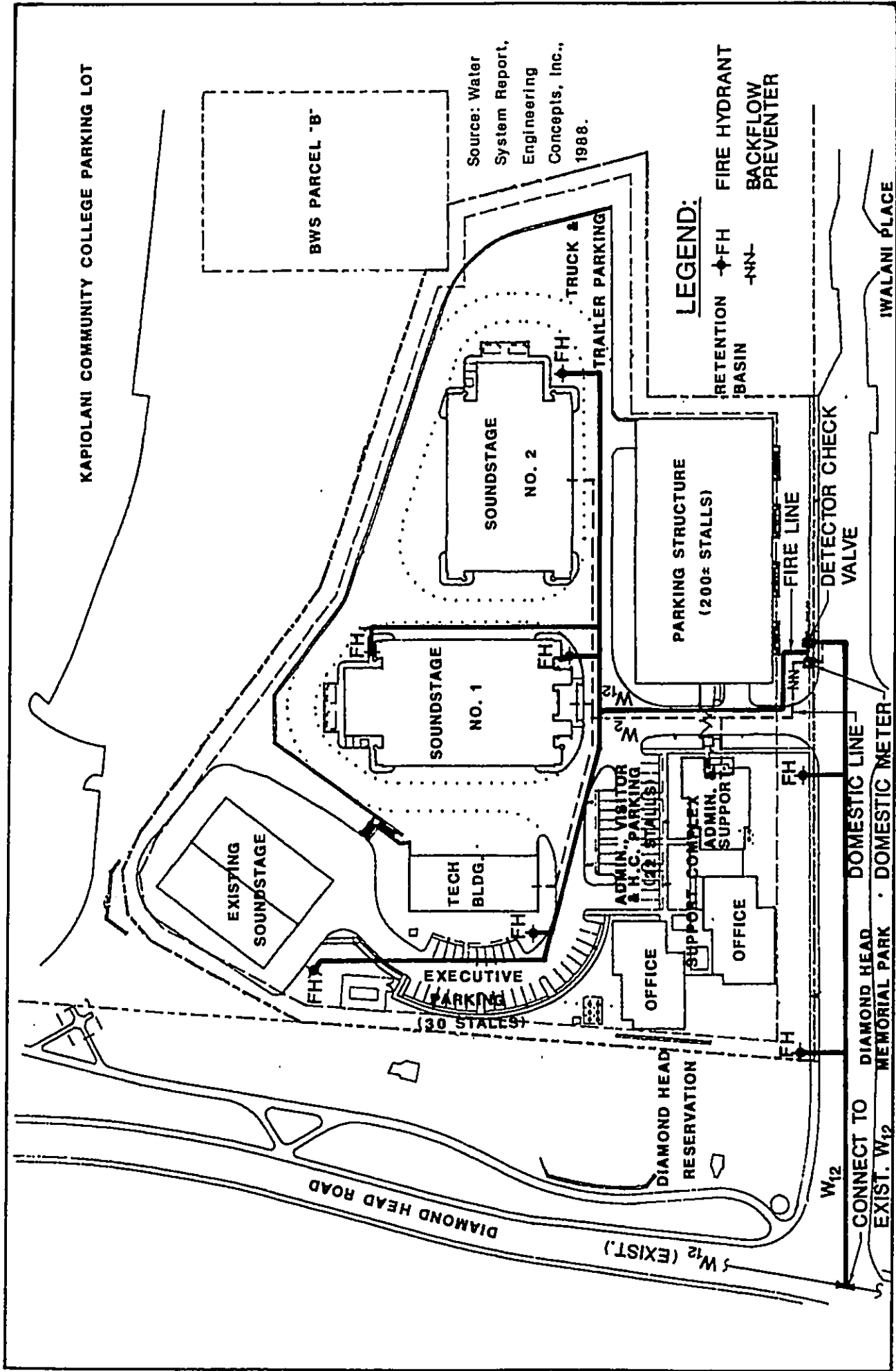
Accordingly, the proposed water system plan for the film facility includes the following: (Exhibit IV-2)

1. Connecting to the existing 12-inch water main at the intersection of 18th Avenue and Diamond Head Road to convey high service water to the project site.
2. Installation of two individual water lines within the project site, one for domestic use and irrigation, and the second for fire flow.
3. Installation of a water meter and detector check on the domestic water line and fire line respectively.

There are two types of impacts which will result from the proposed film facility. First, there will be traffic disturbance on Diamond Head Road and 18th Avenue from construction of the offsite waterline. This may cause temporary inconveniences to pedestrians and motorists on a short-term basis. An approved traffic plan will help minimize these traffic inconveniences. Other mitigative measures include off-hours construction schedules and coordination with future roadway improvements planned for 18th Avenue.

Second, since there is an additional 20,000 gpd water demand plus a storage volume of 240,000 required for the proposed project, there will be an increased demand on the BWS





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Exhibit IV-2  
Proposed Water System

system. However, the water supply is sufficient to handle the demand from the proposed film facility since the increase on demand and storage is insignificant. The BWS high service system for this area is serviced by a battery of reservoirs from Kalihi to Kaimuki.

B. DRAINAGE

A drainage system study was conducted by Engineering Concepts, Inc. in December 1988.<sup>38</sup> A summary of the results from that study follows.

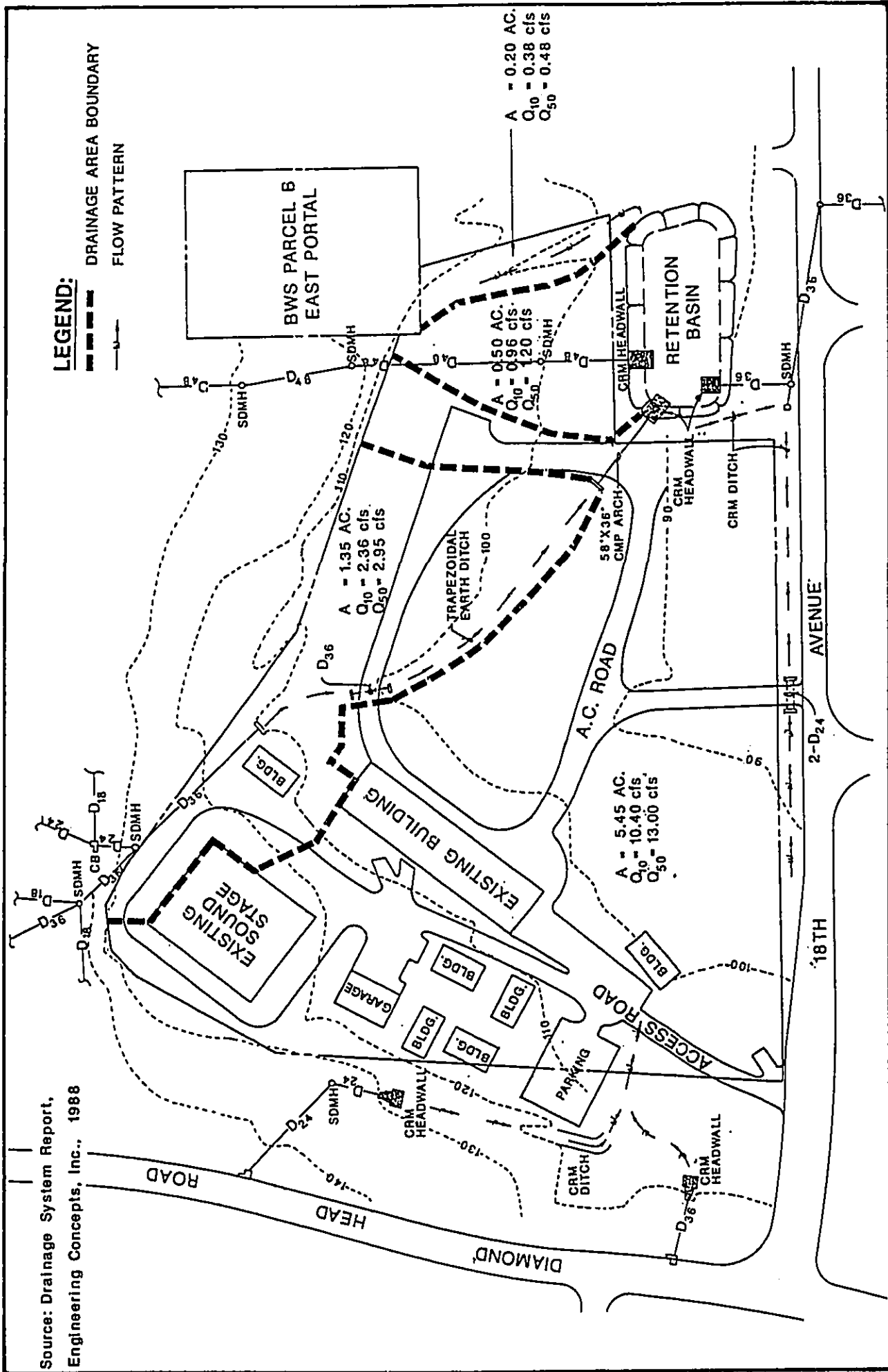
Existing Condition

All existing onsite runoff ultimately discharges into the inlet of an existing City and County of Honolulu 36-inch drain located along 18th Avenue fronting the existing retention basin. (Exhibit IV-3) There are three routes for onsite runoff to reach this 18th Avenue drain.

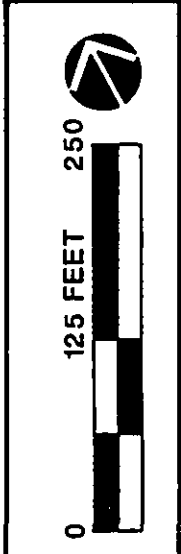
1. Overland flow into an offsite retention basin

The retention basin is approximately 70 ft. wide by 190 ft. long by 5 ft. deep and has a total capacity of 66,500 cubic feet (cf). Current storage required within the retention basin by the existing land use is

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38. Drainage System for the Proposed Hawaii Film Facility. Engineering Concepts, Inc., December 1988. For a further discussion of the drainage system study, see Appendix H.



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**Exhibit IV-3**  
**Existing Drainage Conditions**

17,150 cf for a 10-year storm leaving approximately 49,350 cf additional storage. Runoff from approximately 0.5 acres flows overland directly into the retention basin while runoff from approximately 0.2 acres flows through an underground pipe into the basin. The retention basin produces a dampening effect which permits runoff to be discharged into the 18th Avenue drain at a reduced rate.

2. Overland flow into a trapezoidal earth ditch bisecting the site and to the retention basin.

Onsite runoff from approximately 1.35 acres is intercepted by this ditch where it is directed to the offsite retention basin. The trapezoidal ditch also accepts KCC campus runoff from a 36-inch pipe originating offsite and connecting to the ditch. The total onsite system length is about 490 linear feet, including a 35-foot segment of reinforced concrete pipe and a 95-foot segment of 58-inch by 36-inch corrugated metal pipe arch.

3. Overland flow into an offsite swale/ditch along 18th Avenue. Onsite runoff from approximately 5.45 acres flows overland into an offsite swale and CRM ditch bordering the project site along 18th Avenue. It is then transported and discharged into an inlet of the 36-inch 18th Avenue drain.

Approximately one-fourth of the onsite runoff is discharged in the offsite retention basin via routes 1 and 2 above while approximately three-fourths is discharged directly into the offsite 18th Avenue swale/ditch.

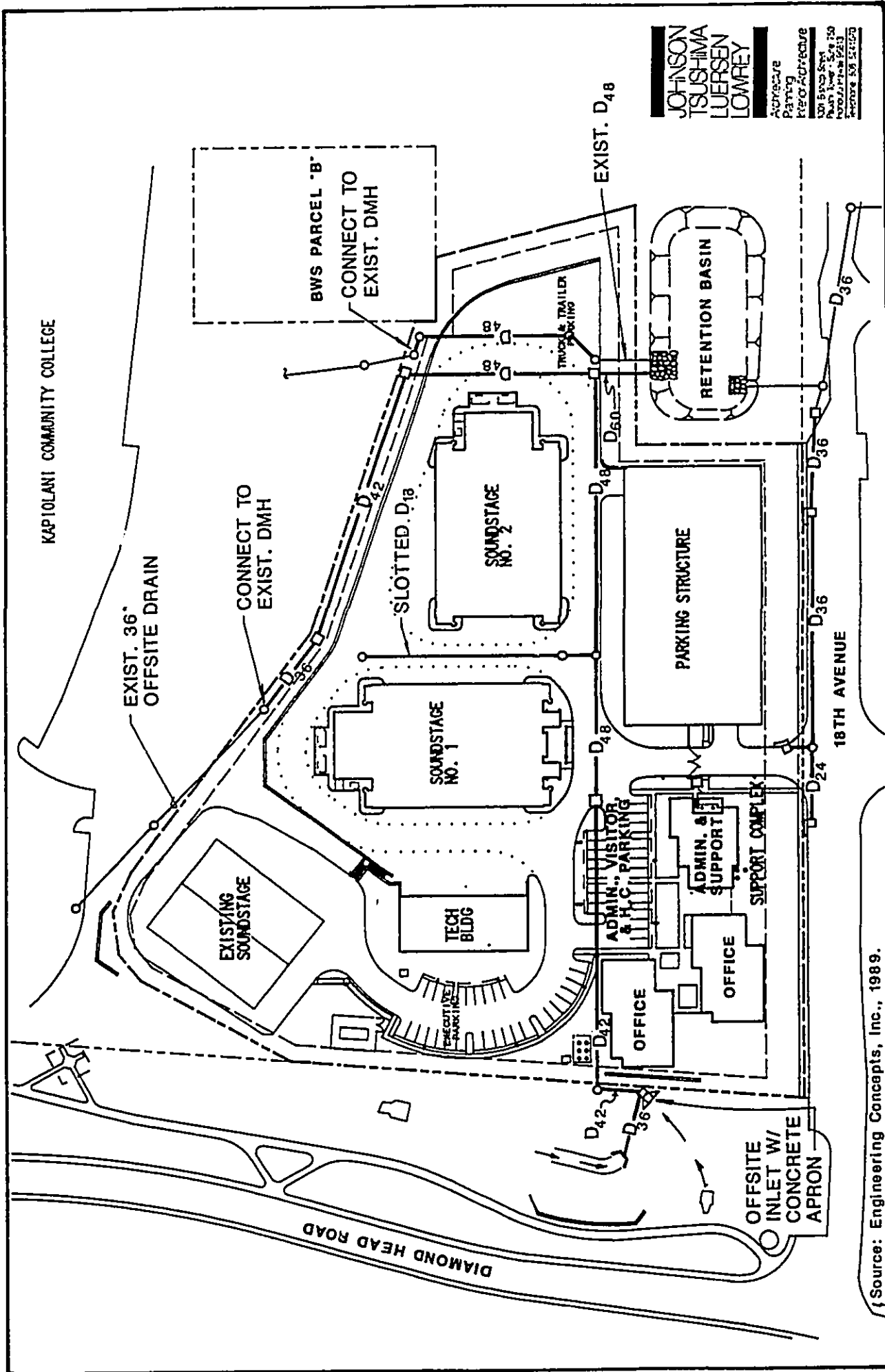
#### Project Impacts

It is expected that the volume of runoff generated onsite will increase due to the increase in impervious area. The total onsite runoff volume will increase from 14.1 cfs to 26.1 cfs for a 10-year storm, and from 17.6 cfs to 32.5 cfs for a 50-year storm.<sup>39</sup>

The percentages of onsite runoff discharging into the retention basin and the 18th Avenue swale/ditch will change. Approximately three-fourths of the onsite runoff will be discharged into the retention basin while one-fourth will be discharged into the 18th Avenue swale/ditch. This is reversed of the existing condition. Both will continue to ultimately discharge into the 18th Avenue 36-inch drain.

In order to accommodate the increased volume of onsite runoff, the following drainage improvements have been proposed in the drainage study for the project site and surrounding areas (Exhibit IV-4):

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39. These figures indicate the change in cfs from Existing Conditions to After Development. See Table 1, Appendix H, for a complete breakdown of runoff from project site before and after development.



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Source: Engineering Concepts, Inc., 1989.

**Exhibit IV-4  
Proposed Drainage System**

1. Construction of an onsite drainage system to collect runoff generated onsite and diversion to the retention basin.
2. Construction of an offsite inlet with a concrete apron to collect runoff from the area between the project site and Diamond Head Road and diversion to the retention basin.
3. Construction of a perimeter drain on the KCC side of the site to capture runoff presently traversing the site and entering the trapezoidal earth ditch, and diversion directly to the retention basin.
4. Excavation of the retention basin to increase its effective volume.
5. Adjustment of an existing 48-inch drain to accommodate the proposed truck and trailer parking area grading.
6. Improvements to 18th Avenue fronting the project site including a storm drain system replacing the existing ditch/swale system.

The project site is only about 13% of the total drainage area served by the offsite retention basin. This percentage remains the same with or without the proposed film facility expansion since the acreage discharging runoff into the

retention basin remains the same. The volume discharging into the retention basin does increase and will be offset by an improved drainage system and excavation of the retention basin to increase storage volume. The volume discharging into the 18th Avenue swale/ditch system will be reduced after the development of an improved onsite drainage system.

Even though the total volume of runoff discharged to the 18th Avenue drain will be slightly increased after project development, the rate of discharge to the 18th Avenue drain can be controlled and should remain at existing levels. The proposed project is not expected to have a negative impact on the capacity of the existing 18th Avenue drain.

C. WASTEWATER SYSTEM

A wastewater system study was conducted by Engineering Concepts, Inc. in November 1988.<sup>40</sup> A summary of the results from that study follows.

**Existing Condition**

The project site is within the service area of the existing City and County of Honolulu sewerage system. There is an existing State 18-inch sewer which crosses the makai portion of the project site used to transport wastewater from the KCC campus to the City and County 18th Avenue sewer line.

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40. Wastewater Collection System for the Proposed Hawaii Film Facility. Engineering Concepts, Inc., December 1988. For a further discussion of the wastewater collection system, see Appendix I.



This sewer line is an 8-inch vitrified clay pipe fronting the project site along 18th Avenue. Wastewater collected in this sewer line is ultimately discharged at the Sand Island Wastewater Treatment Plant.

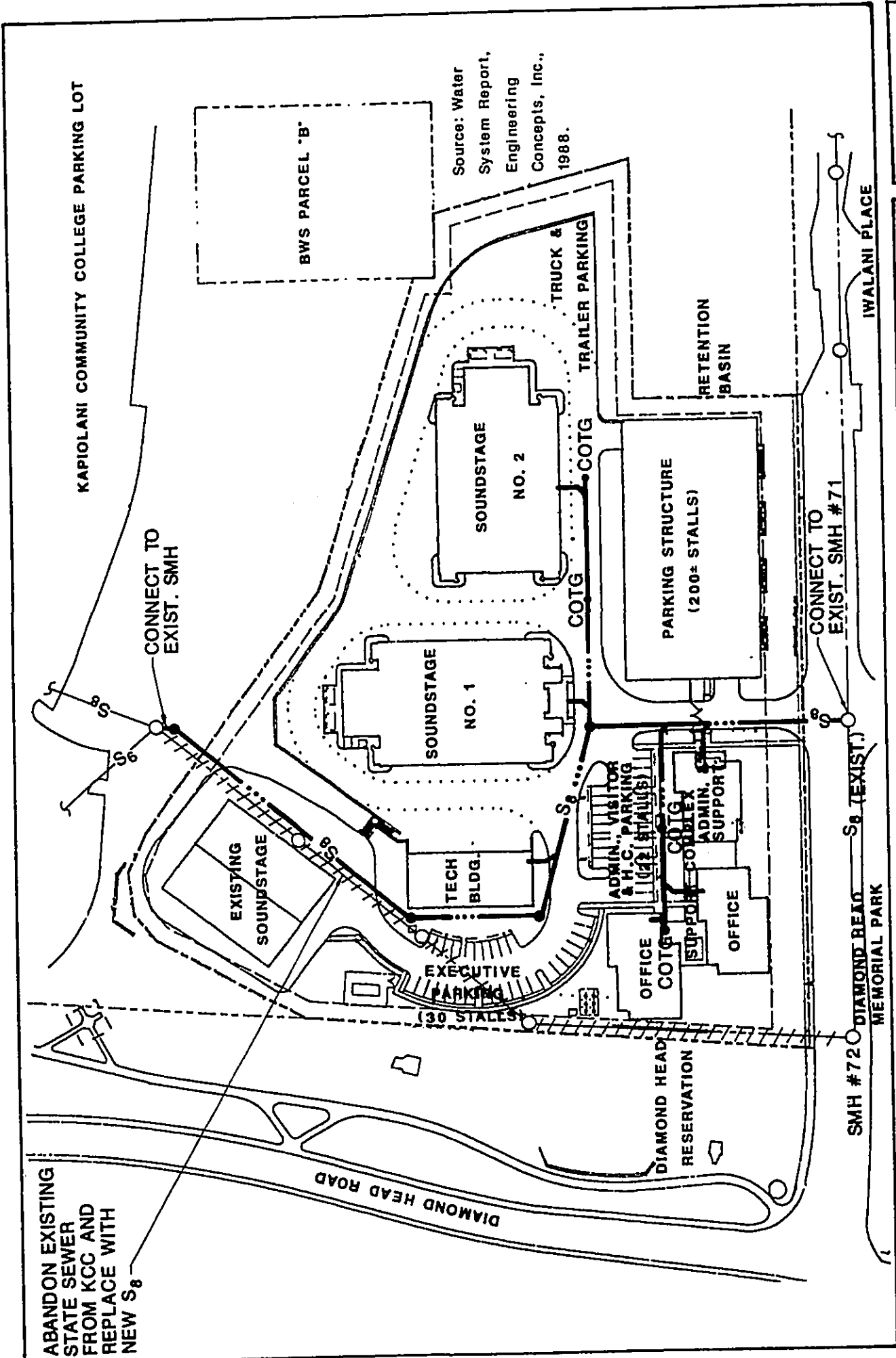
#### Project Impacts

The estimated average wastewater discharge from the proposed project is 9,000 gallons per day (gpd). This is based on an average working force of 100 persons and a maximum work force of 300 persons. The proposed wastewater collection system for the project includes: (Exhibit IV-5)

1. Abandonment of a portion of the existing 8-inch State sewer through the project site.
2. Construction of a new on-site 8-inch sewer as a replacement with a new sewer man-hole (SMH) near the eastern corner of the existing Soundstage.
3. Connection to the existing City and County sewer at SMH #71 located at the project access road and 18th Avenue.

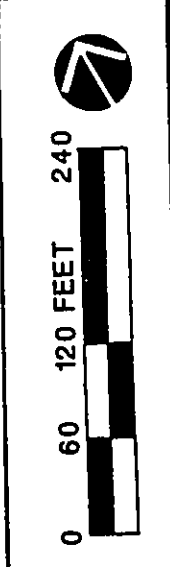
The proposed wastewater collection system will be operated and maintained by the State.

There are two types of impacts which will result from the proposed film facility. First, connection of the on-site sewer to 18th Avenue at SMH #71 and modification to SMH #71



Source: Water System Report, Engineering Concepts, Inc., 1988.

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**Exhibit IV-5**  
Existing and Proposed Wastewater Collection System

will result in traffic disturbance on Diamond Head Road and 18th Avenue. This may cause temporary inconveniences to pedestrians and motorists on a short-term basis. An approved traffic plan will help minimize these traffic inconveniences. Other mitigative measures include off-hours construction schedules and coordination with future roadway improvements planned for 18th Avenue.

Second, even though there is an additional 9,000 gpd average wastewater flow from the project, this will not significantly impact the capacity at the Sand Island treatment facility.

An Application for Sewer Connection was submitted to the Division of Wastewater Management to evaluate the adequacy of the City's collection system to handle the additional flows. The Division of Wastewater Management determined on January 20, 1989 that the City's collection system is adequate to handle the additional 9,000 gpd average wastewater flow from the film facility expansion.

D. SOLID WASTE

**Existing Condition**

Solid waste is being collected by BFI Waste Systems, a private refuse collection firm. One large dumpster currently services the needs of the existing film facility. During the filming of Magnum P.I. several very large bins were utilized.

**Project Impacts**

Solid waste generated by the expanded film facility will again be collected by a private refuse collection firm. Therefore, there will be no impact on the refuse collection service by the City and County of Honolulu.

**E. ELECTRICITY/TELEPHONE**

**Existing Condition**

Electrical service is currently provided to the project site by the Hawaiian Electric Company (HECO). A 4kV distribution overhead line borders the project site along Diamond Head Road and 18th Avenue. Electrical service to the existing facilities is tapped off of this overhead line.

Telephone service is currently provided to the project site by the Hawaiian Telephone Company.

**Project Impacts**

There will be an anticipated load of 4,450 kw from the proposed project which will require an extension of a 12kV distribution line from 22nd Avenue to 18th Avenue via the Puu Panini Avenue easement extension.<sup>41</sup> In response to community concerns, this extension as well as all on-site electrical service lines will be underground. In addition, all electrical service lines fronting the project site will

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41. Information provided by Hawaiian Electric Company, Inc. in a memorandum to Leung & Pang Associates, Inc., (consulting electrical engineers), November 1988.

also be underground. Therefore, this extension will neither have an impact on the level of services for the surrounding areas nor will it impact the visual quality of the area. Each building will have its own transformer and meter installed and maintained by HECO. This will minimize initial and future maintenance costs and allow better monitoring of power usage.

Telephone services are adequate for the proposed film facility expansion and will not have an impact on the level of these services for the surrounding areas.

F. FIRE PROTECTION

**Existing Condition**

Primary fire protection is provided by two-engine, one-ladder companies from the Waikiki and Kaimuki Fire Stations approximately 3-5 minutes away with a total of nineteen on-duty personnel for this area. Secondary service is from the McCully, Palolo or Wailupe Fire Stations.

**Project Impacts**

Fire protection is considered adequate for the proposed film facility based on comments from the City and County of Honolulu Fire Chief and will be primarily provided by the Waikiki and Kaimuki Fire Stations.

G. POLICE PROTECTION

**Existing Condition**

The project site is located in District 7 of the Honolulu Police Department system. District 7 includes the area from Punahou (mauka of King Street) to Makapuu Lookout (excluding Waikiki) and is housed in the main police station on Young Street. There are three watches per day with approximately twenty-two officers per watch.<sup>42</sup> There was additional 24-hour security guard protection at the film facility during production. However, there is currently no additional security guard system at the present film facility.

**Project Impacts**

District 7 police protection is considered adequate for the proposed film facility expansion project. Production companies using the facility will be required to provide security personnel and additional police protection is not anticipated.

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42. Phone conversation with Sgt. Clifford, District 7 office, Honolulu Police Department, December 22, 1988.

# Chapter V

V. SOCIO-ECONOMIC CONDITIONS/PROJECT IMPACTS

A. EXISTING AND SURROUNDING LAND USES

As indicated on Exhibit V-1a, Existing Site Plan, the present 4.8 acre project site includes one soundstage, 6 buildings used for offices and dressing rooms, one technical building, and one separate on-grade executive parking area. The remainder of the site consists of vacant land which was used for occasional cast/crew and truck parking.

The proposed film facility expansion will not change the present land use designations. It already has a Public Facility designation and the proposed expansion is within the guidelines of this designation. It will not change the principal condition of the present use of this project site or within the surrounding neighborhood.

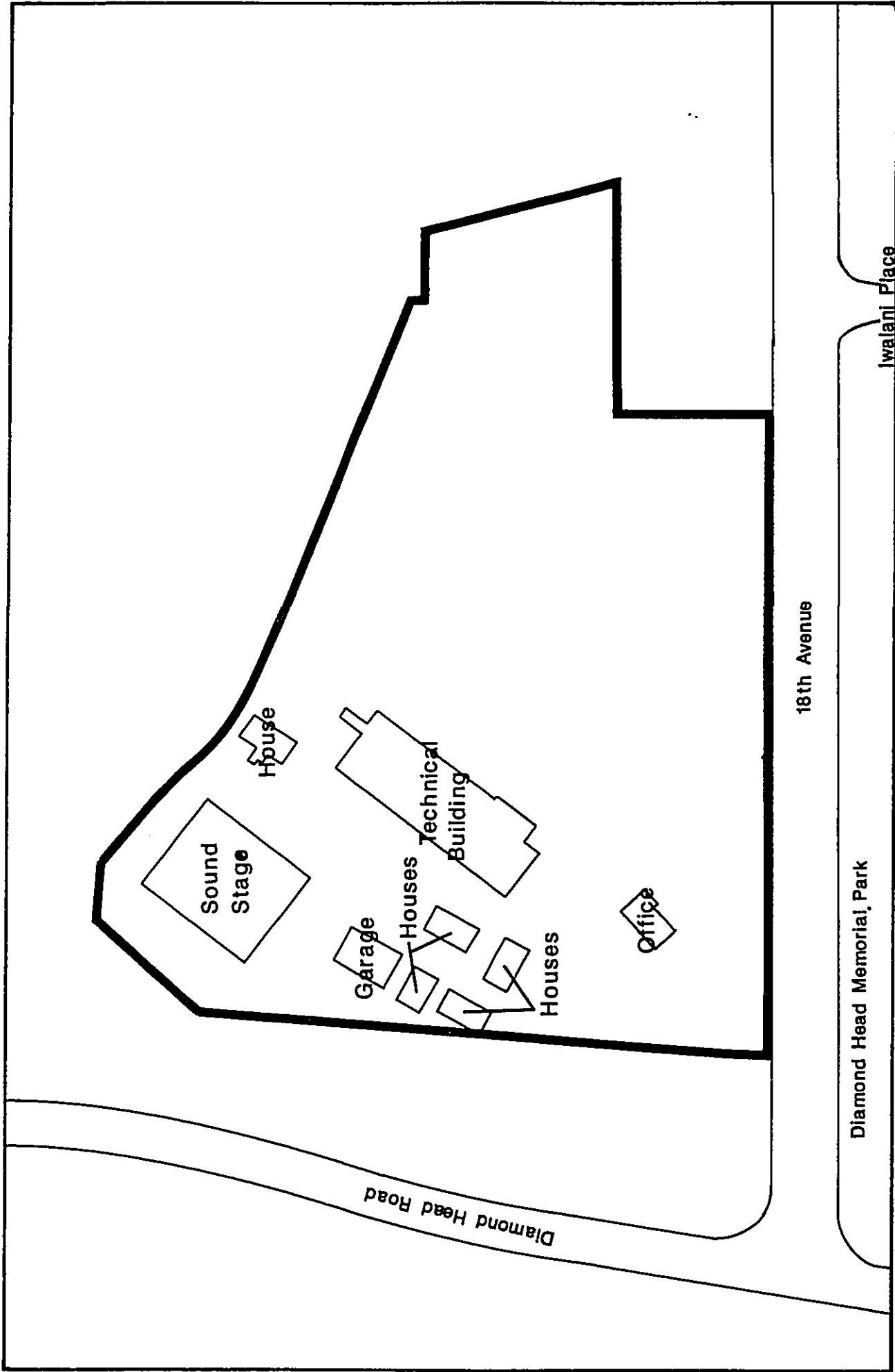
Surrounding land uses include Diamond Head and open space to the south and west, KCC to the northwest (Exhibit V-1b), Diamond Head Memorial Park to the southeast, Iwalani Place, containing 18 houses off 18th Avenue to the east, and Kaimuki Intermediate School to the northeast. (Exhibit V-2)

B. HISTORICAL/ARCHAEOLOGICAL CHARACTERISTICS

Existing Condition

An historic sites survey was conducted in 1981 on the entire KCC area for the KCC Master Plan EIS. The project site was included in this survey. The only historical sites were 5

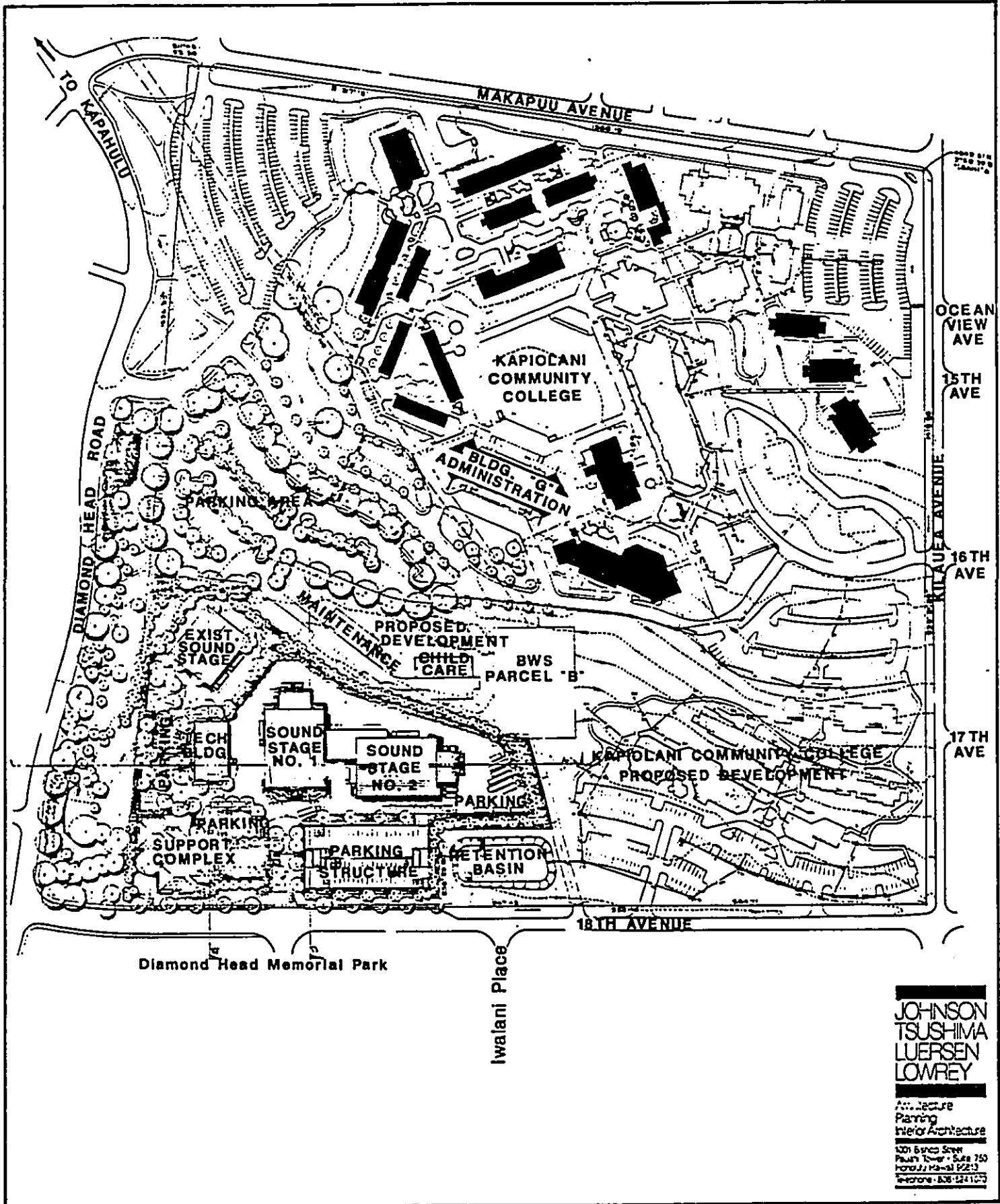




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**Exhibit V-1a**  
**Existing Site Plan**

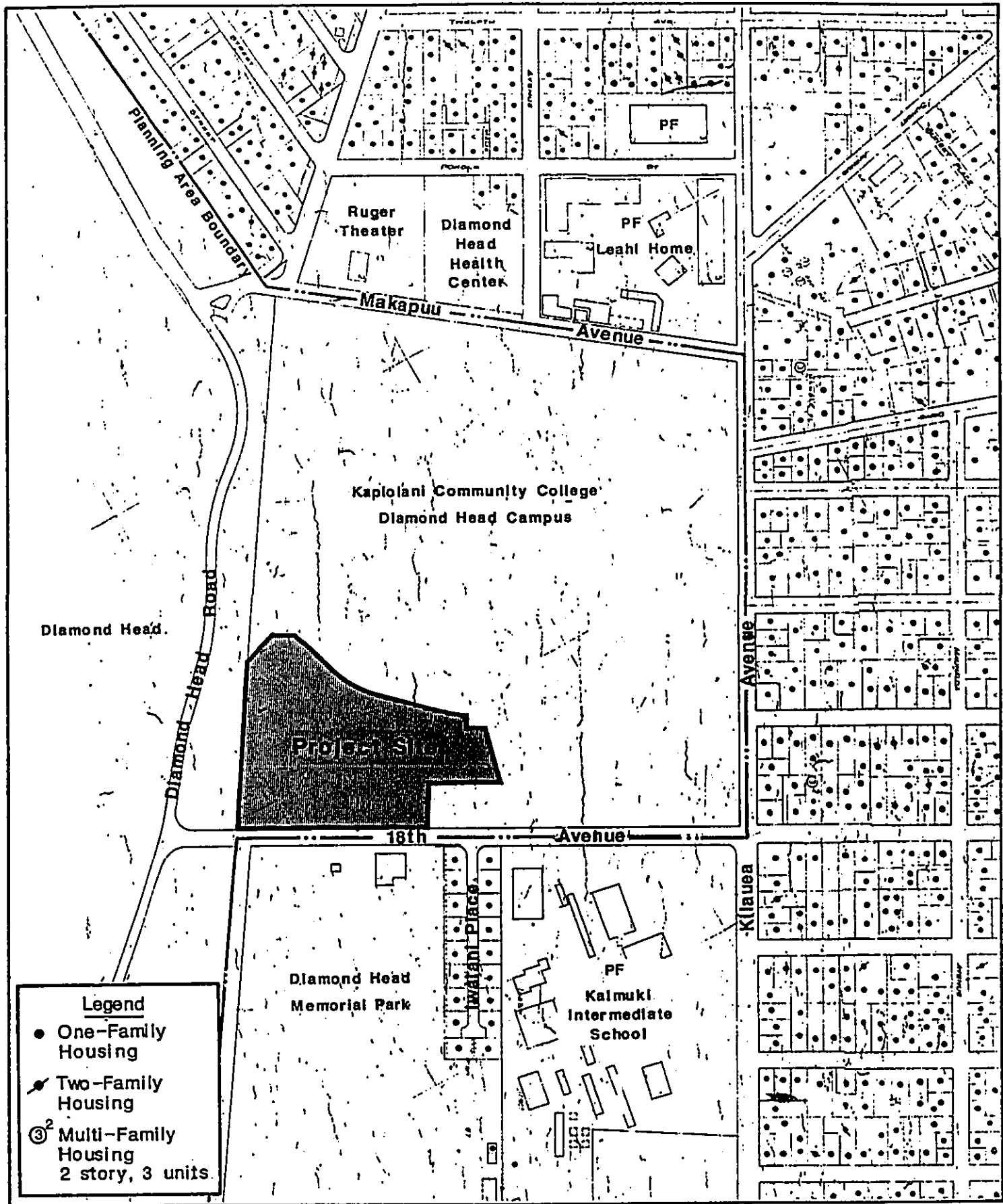


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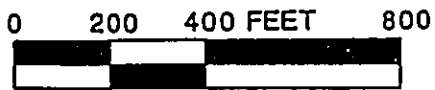
**Exhibit V-1b  
Site Area Map**



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**Exhibit V-2**  
**Surrounding**  
**Land Use Map**



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existing wooden buildings being considered at that time for the Hawaii Register of Historical Places but were never registered.<sup>43</sup> The buildings are all on the KCC site and no sites of historical or archaeological significance are indicated for the proposed film facility project site.

In addition, information provided by the Historic Sites Section of the Department of Land & Natural Resources (DLNR) on surveys conducted on adjacent areas (TMK: 3-1-42:21 in 1988 and Diamond Head State Monument in 1977) indicates that only litter related to military use was found during these surveys. It was determined that any previous archaeological sites have not survived in this area.<sup>44</sup>

No new archaeological survey was conducted on the proposed project site.

#### **Project Impacts**

The proposed film facility is not likely to impact any historical or archaeological resources in the project site since it is not probable that any archaeological remains have survived in this area. However, there is concern that

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43. According to phone calls to the Hawaii Historic Places Review Board and to the KCC Planning Office on October 3, 1988, the 5 wooden buildings were not registered under the Hawaii Register of Historical Places. Two of the wooden buildings which would have been close to the proposed filming facility site have been demolished.

44. See Department of Land and Natural Resources comment letter in CHAPTER XIII, COMMENTS AND RESPONSES DURING THE CONSULTATION PHASE.

the possibility still does exist that archaeological remnants may be found on the project site. Therefore, the departmental guidelines of the Historic Sites Section will be complied with, which include immediate cessation of work and notification of the Historic Sites Section should any archaeological findings be made.

C. VISUAL QUALITY

**Existing Condition**

The project site is located within the Diamond Head Special Design District and it is public policy to preserve public vantage points of Diamond Head.<sup>45</sup> Three vantage points have been specified for public viewing of Diamond Head in the Land Use Ordinance, Section 7.40. These are from Diamond Head Road, 18th Avenue from Kilauea Avenue to Diamond Head Road, and from Kaimuki Intermediate School at the intersection of 18th Avenue and Kilauea Avenue. Since the existing film facility is located mauka of Diamond Head Road, the view of Diamond Head from Diamond Head Road is not impacted and is not included in the following discussion.

The existing buildings on the present film facility site do not intrude upon the views of Diamond Head from Kaimuki Intermediate School or from the 18th Avenue/Kilauea Avenue

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45. Land Use Ordinance 7.40, City and County of Honolulu.

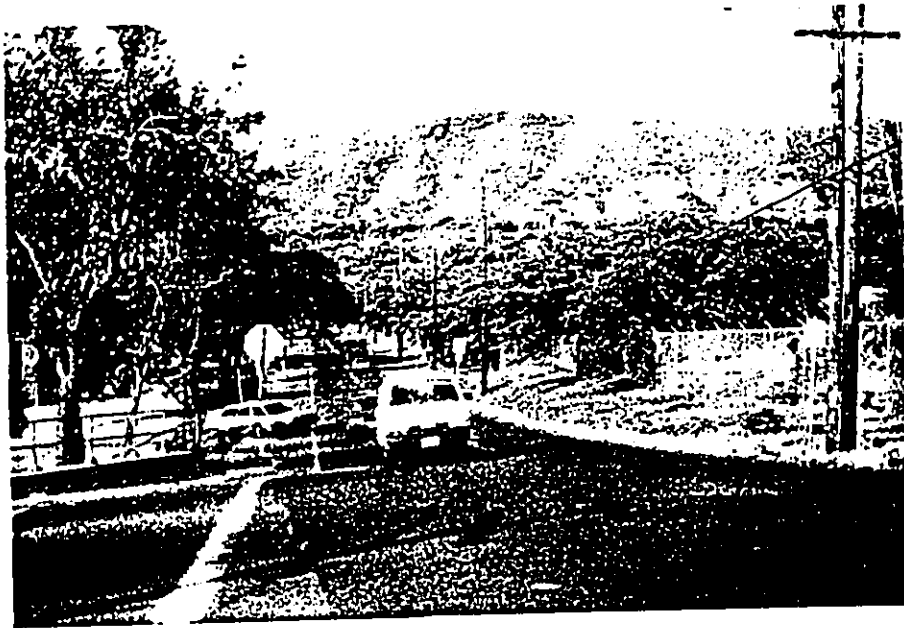
intersection (Exhibit V-3). Exhibit V-4 presents the view of the existing film facility from Diamond Head Road towards mauka.

#### Project Impacts

(Exhibits V-5A, V-5B, V-5C)

The peak of the new Technical Building will be approximately 30 feet high and has a ground elevation of 101 feet. This is an estimated 7 feet lower than the 138 feet elevation above msl of Diamond Head Road at that point. Its location is approximately 105 feet mauka of the south boundary near Diamond Head Road and will be heavily landscaped, including canopy trees. The building will not, therefore, be easily seen from Diamond Head Road nor will it obstruct views from Diamond Head or KCC.

The peaks of the new Support Complex buildings will be approximately 23 feet high with a ground elevation of 100 feet above msl. This will be approximately 3 feet lower than the 126-127 feet elevation above msl of Diamond Head Road at that point. In addition, canopy trees will be located between the Diamond Head Road boundary and the Support Complex. Therefore, the Support Complex will not obstruct views to or from Diamond Head or KCC from Diamond Head Road. The elevation of 18th Avenue fronting the Support Complex ranges from 100-106 feet above msl. This is lower than the Support Complex peak elevation of 123 feet. Canopy trees will be located along 18th Avenue fronting the



View of 18th Avenue/Kilauea Avenue Intersection



View of Kaimuki Intermediate School from Kilauea Avenue

Exhibit V-3

Land Use Ordinance: Vantage Points

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Existing Soundstage from Diamond Head Road

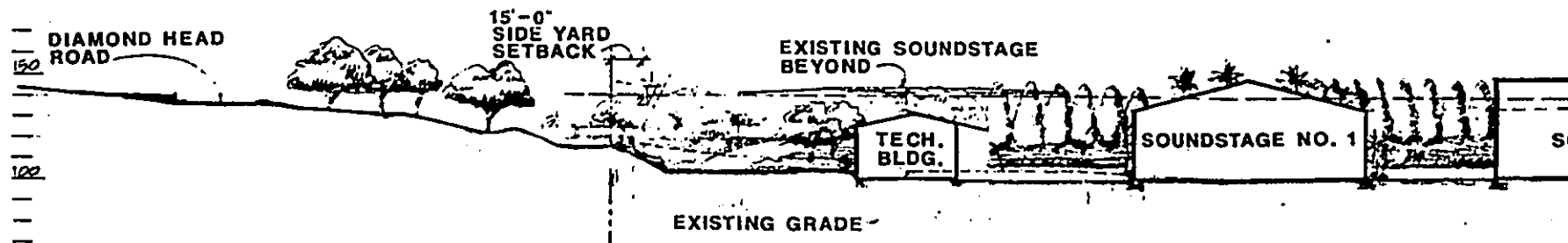


Film Facility Buildings from Diamond Head Road

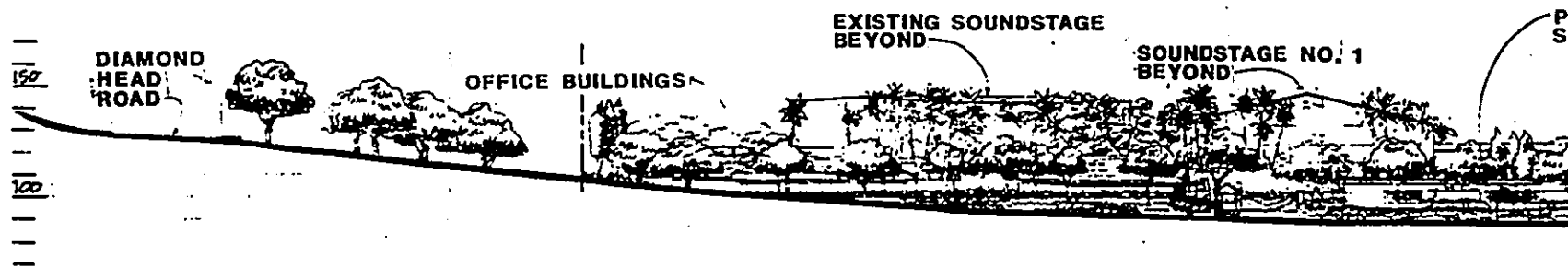
Exhibit V-4  
View of Existing Film Facility: Mauka

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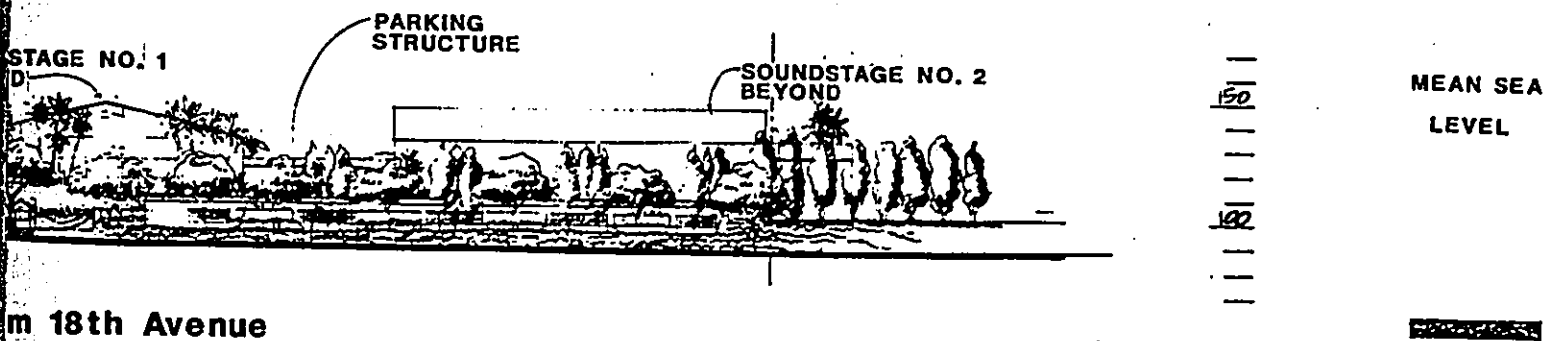
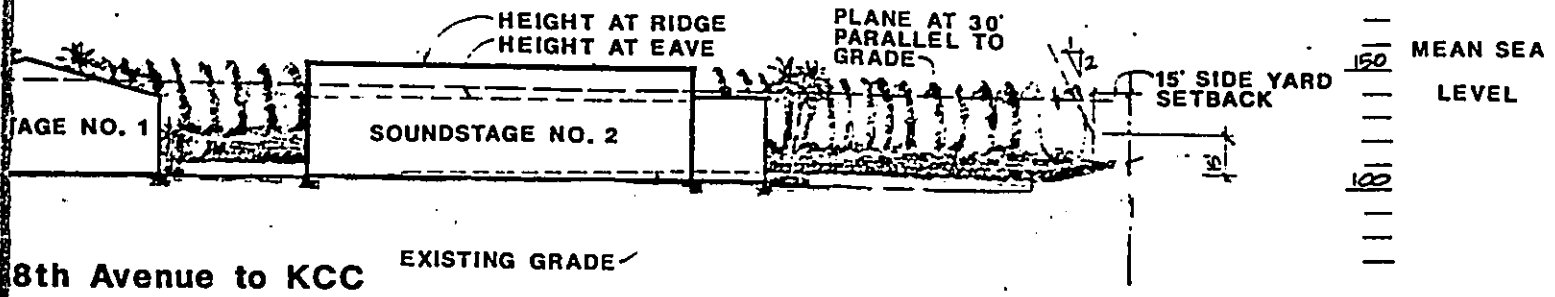


On-site View: 18th Avenue to KCC



Elevation from 18th Avenue

Exhibit V-5A  
Completed Project: Views

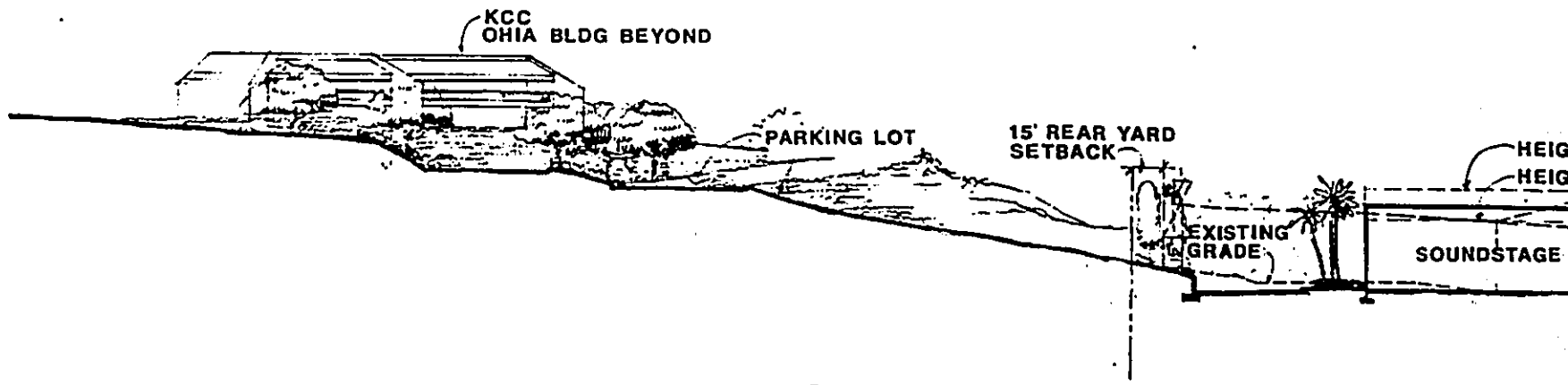


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SCALE: 1" = 80 FEET

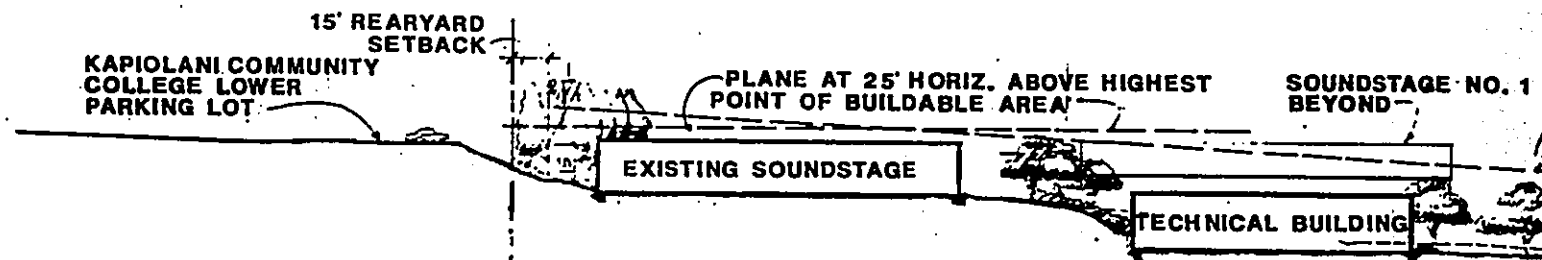
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200  
150  
100



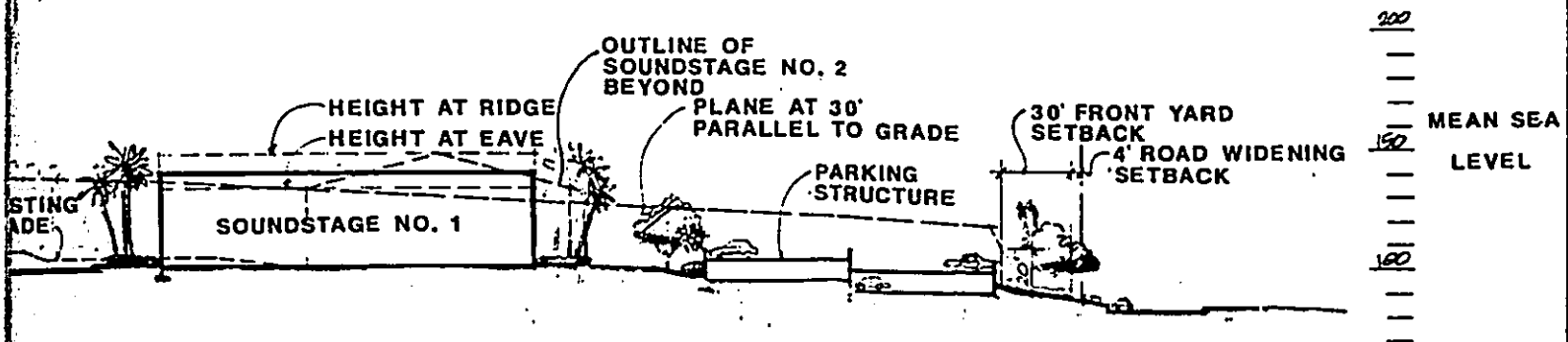
On-Site View: Diamond Head Road to Mauka

150  
100

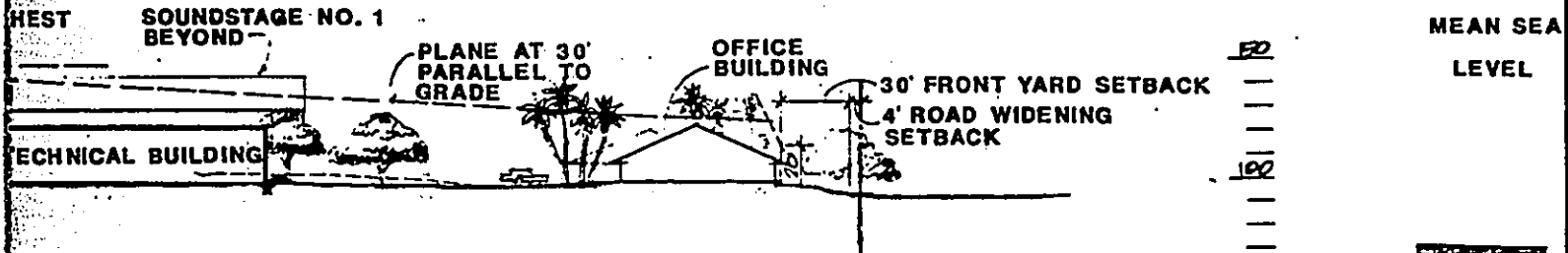


On-Site View: Diamond Head Road to Mauka

Exhibit V-5B  
Completed Project: Views



Lead Road to Mauka



Lead Road to Mauka

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SCALE: 1" = 80 FEET

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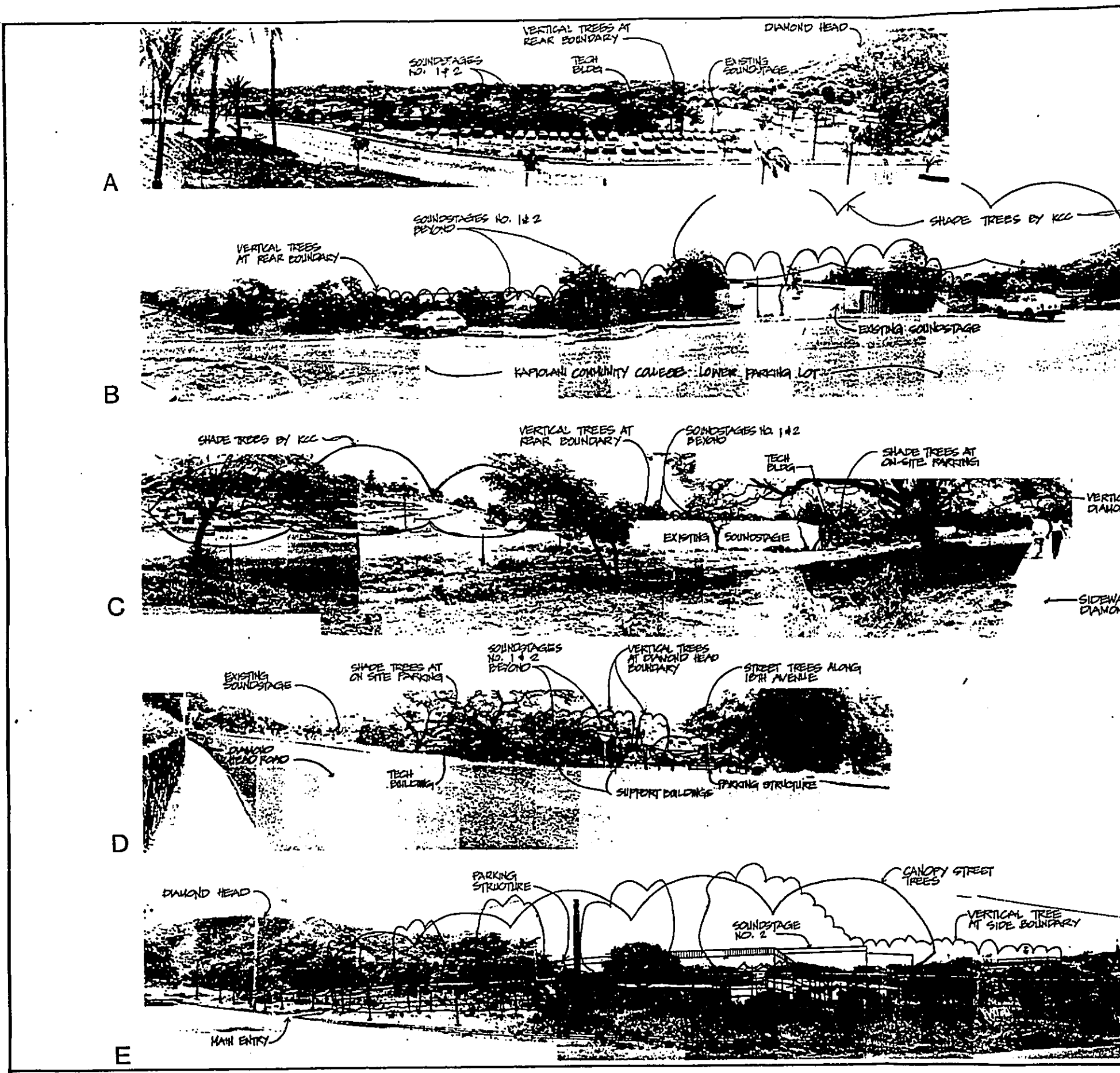
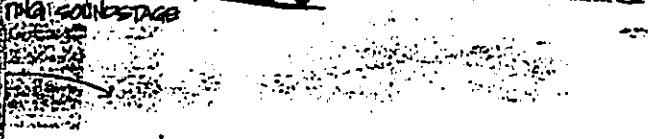
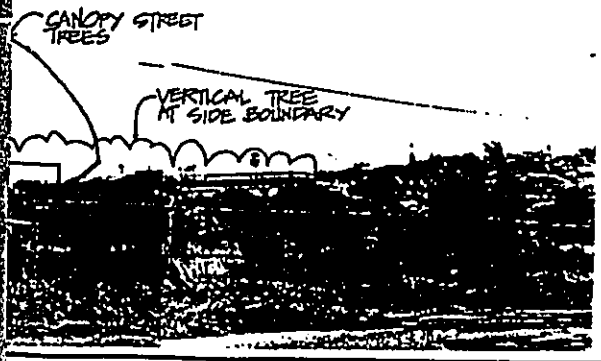
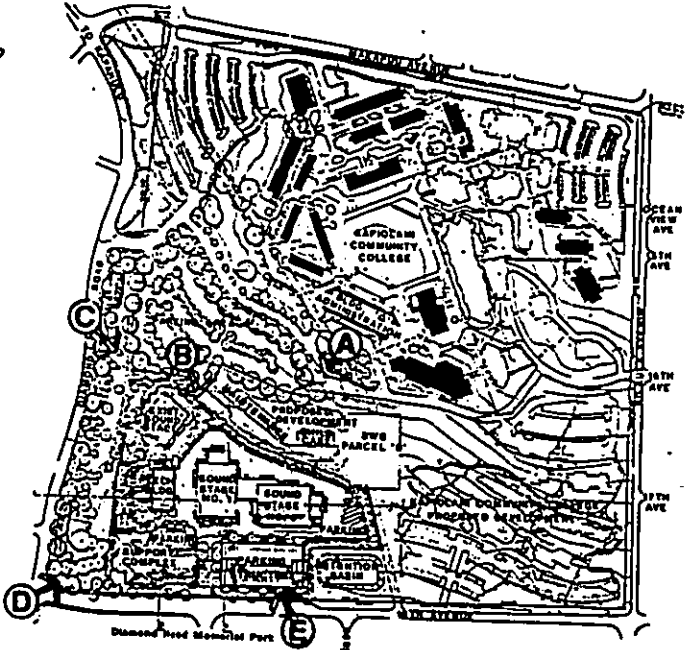


Exhibit V-5C  
 Visual Orientation Map



SIDEWALK ALONG DIAMOND HEAD ROAD



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Not To Scale

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project site. The Support Complex will not obstruct views to or from Diamond Head from 18th Avenue. There will be some view obstruction of KCC from 18th Avenue. However, that view will consist of canopy trees with the KCC buildings in the background. Finally, the view from KCC towards 18th Avenue will not be obstructed by the Support Complex.

The one-level paved parking lot developed in Phase I will not interrupt any views of Diamond Head from the above mentioned vantage points.

The 2-level parking structure in front of Soundstages No. 1 and 2 will be built at an approximate 89 feet ground elevation. (See Exhibit III-2) The section closest to 18th Avenue will have an 89-foot ground elevation for the first level and a 98-foot elevation above msl for the second level. The total 2-level height for this section is 17 feet. A landscaped berm will rise from the 18th Avenue boundary and extend half way, approximately 4.5 feet, up the first level of this section.

The first level of the parking structure closest to Soundstage No. 2 will be at 93.5 feet ground elevation with a second level of 102.5 feet elevation above msl. The total 2-level height for this section is 12.5 feet. Because of the topographical differences, the section closest to 18th Avenue has a total height elevation of 106 feet above msl.

The upper level is lower than the approximate 126 feet ground elevation at the Diamond Head Road/18th Avenue intersection. Light fixtures of approximately 20 feet in height will be located around all parking lots and the parking structure for night security. There will be some view obstruction of KCC from 18th Avenue. The parking structure will not obstruct views to or from Diamond Head.

Soundstage No. 2 will be constructed during Phase I and will have a eave height of 32 feet and will be approximately 46 feet high at the roof peak. The eave height of the existing soundstage is 142 feet elevation while the eave height of the proposed soundstages will be at 132.5 feet elevation.<sup>46</sup> Due to the specific type of activity in soundstages, it is not possible to create a special roof design to exactly match the KCC roof design for Soundstage No. 2. The building must be designed to accommodate the 28' clear grid height and house the extensive air conditioning ducts above. However, color and landscaping are being designed to match or complement KCC.

Both Soundstages No. 1 and 2 will be set back approximately 220 feet from 18th Avenue. Each soundstage peak will be at approximately 147 feet above mean sea level. This height will have an impact on the view from Diamond Head Road which has an approximate 140 feet - 142 feet elevation at that

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46. The eave level of buildings is the perceived height of a building when looking at it from ground level.



point on Diamond Head Road parallel to the soundstages. However, because of topographic differences, the proposed soundstage will look about the same height as the existing soundstage. Since the soundstages will be set back from 18th Avenue, the view towards the mountains will be slightly lessened. However, Kahala and ocean views should not be as impacted since Diamond Head Road rises to a 147 feet elevation at the northernmost point of the property line. The long range views makai from the lower KCC parking lot (136 feet elevation) will be reduced but the views from the upper parking lot (160 feet elevation) and the KCC buildings (180 feet elevation) will not be obstructed.

The views of Diamond Head from the vantage points of Kaimuki Intermediate School, and 18th Avenue/Kilauea Avenue will not be obstructed since the soundstages are set back from 18th Avenue. In addition, the views of Diamond Head from Iwalani Place will also remain unobstructed (Exhibit V-6).

The existing open space will be somewhat reduced especially due to the construction of Soundstages No. 1 and 2, and the 2-level parking structure. The views toward KCC from 18th Avenue will be obstructed primarily by the parking structure, the soundstages, and trees. Exhibit V-7 shows existing views towards KCC. This will be partially mitigated by siting the soundstages 220 feet back from 18th Avenue and including extensive landscaping with City and County of Honolulu approved trees along 18th Avenue and



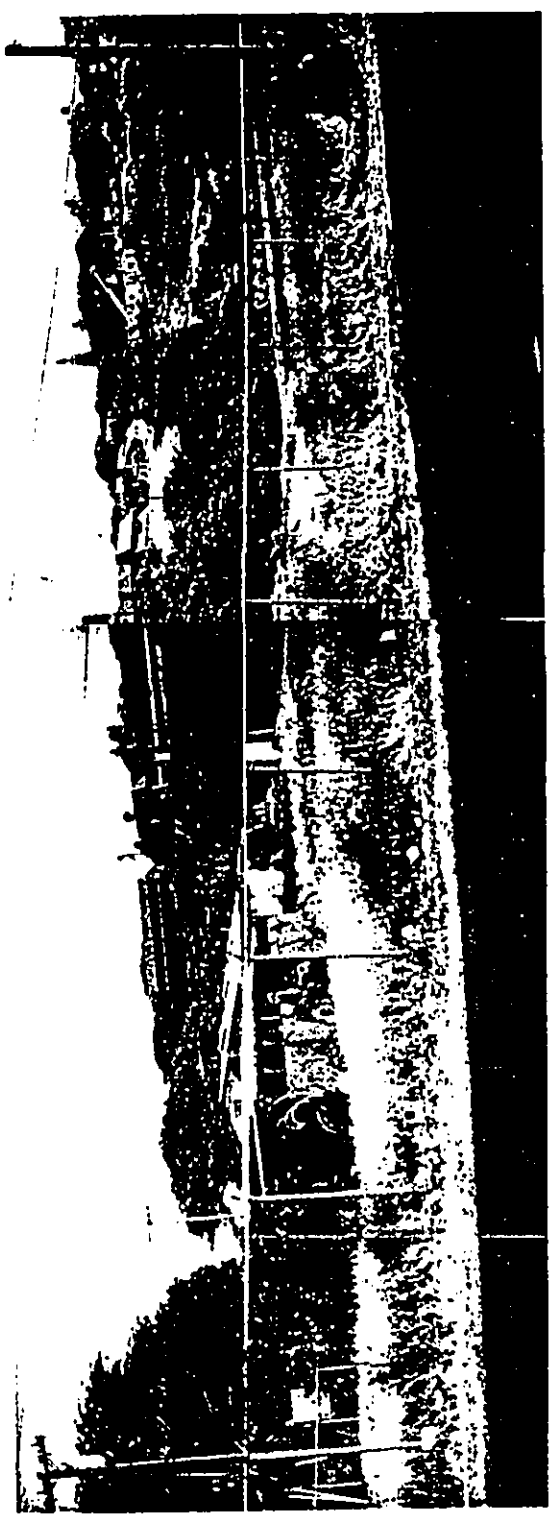
Iwalani Place from 18th Avenue



Diamond Head View from Iwalani Place

Exhibit V-6  
Iwalani Place View

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From 18th Avenue



From Diamond Head Road/18th Avenue Intersection

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Exhibit V-7  
Views of Kapiolani Community College

around the entire project site. Since 18th Avenue is at an approximate 84 feet elevation and the peaks of the parking structure and soundstages will be 102.5 feet and 147 feet respectively, there will be some loss of view towards KCC and loss of open space.

D. ECONOMIC CONDITIONS

Existing Condition

In 1985 approximately \$40.6 million were expended in the State of Hawaii through the production of feature films and television series and specials, including commercials.

Revenues generated were tax revenues of \$3.8 million and a spending effect on the State economy of \$90 million.<sup>47</sup> In 1986, approximately \$35.3 million was expended in Hawaii by the film industry which generated \$3.1 million in tax revenues and had a spending effect on the State economy of \$78 million. The film industry expenditures in Hawaii for 1987 indicate an estimated total of \$50.5 million. The State realized an estimated \$4.5 million tax revenues from the total expenditures while the estimated spending effect was a high \$114.8 million.

Data for 1988 are currently in the process of being compiled and are unavailable. It is expected that the amount expended by the film industry in Hawaii will be an estimated

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47. The Hawaii State Plan - Economy, Department of Planning and Economic Development, December 1984, pgs. 157-160.

\$25 million.<sup>48</sup> This figure is approximately half of the expenditures for 1987 and is primarily a result of an extended writers' strike, the termination of the Magnum P.I. television series and relocation of the Tour of Duty series to California. Since another television series, Jake and the Fatman, is currently filming in Hawaii, the expenditure figures for 1989 are expected to again increase.

The latest year employment figures available is 1984 which indicated a direct employment figure of 1,850 and a total employment figure of 2,720. These figures indicate an increase from 1983 direct employment of 2,575 and total employment of 1,745.<sup>49</sup> Employment figures were based on 63 motion pictures and television programs in 1983 and 76 in 1984. Since 81 such projects were indicated for 1986, it is reasonable to assume that the employment figures would be larger than those indicated for 1984.

#### **Project Impacts**

Expansion of the film studio facility will enhance the development of a strong film industry in Hawaii, which will in turn help to diversify and expand the state's economy.

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48. Estimates provided by the Film Industry Branch, Department of Business & Economic Development.

49. State of Hawaii Data Book 1987, Department of Business & Economic Development.

It is, however, important to note that a film facility of this size will probably operate at a deficit at least on a short-term basis. Revenue is realized from the rental of the soundstages and support facilities. Even during the periods of time when there is no rental income, all maintenance and administrative activities and costs must continue. These costs include, but are not limited to, administrative costs for overall management of the property, maintenance scheduling for the property and marketing. Maintenance costs would include security, trash disposal, groundskeeper and property maintenance personnel.

During the tenure of Magnum P.I., soundstage rental was \$26,300 per month which was a daily average of \$1,500 per day. An average estimated rental rate is \$1,200 per day or \$1,000-\$1,800 per day depending on project size and scope.

Based on figures used for Magnum P.I., the Overview Study estimated that operating revenue, costs and income from the rental of two soundstages plus support facilities would be as follows.

Soundstage No. 1 would be rented on a day-to-day basis and would be used for approximately 15 days per year at an estimated average daily rate of \$1,200 per day. Office facilities and other amenities would be extra. An estimated annual income from Soundstage No. 1 would be \$18,000.

Soundstage No. 2 would be rented on a daily or monthly basis at a monthly rental rate of \$27,500 which includes office and support facilities. The estimated annual income from Soundstage No. 2 would be \$330,000.

The total estimated revenues for one stabilized year of operations utilizing two soundstages would be \$348,000. Estimates of total operating expenses for the same year would be \$262,800 for a publicly managed facility and \$314,000 for a privately managed facility. Therefore, the annual operating income before depreciation, amortization and debt service would be approximately \$86,000 (public facility) and \$34,000 (private facility).<sup>50</sup> This annual operating income is not sufficient to support the film facility and cover depreciation, amortization and debt service. This is especially true if it is a private facility.

For this reason, it is extremely difficult, if not impossible, for private industry to maintain a film facility of this size through the periods of time when there is no rental or production revenue.

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50. The Overview Study discussed in detail the different types of debt service and how each would affect the operating income. In all cases, it is determined that the debt service would be greater than the operating income for both a public and private facility.

The primary economic impacts resulting from the expansion of the film facility, on the other hand, will be increased employment (short- and long-term) and increased tax revenues. Short term employment is generated by the construction of the expanded film facility. If labor is determined to be half of construction costs, \$3 million of the estimated \$6 million direct construction cost could represent construction employment opportunities.

Long term and short term employment will be generated by the operation of the film facility and production activities. For long term productions, the Overview Study<sup>51</sup> estimates that approximately 70 local residents and 40 non-residents can be expected to be employed full time by a production company which leases the proposed studio facility on a monthly basis. At an average annual salary of \$52,000 per production crew member, yearly wages for a crew of 110 total \$5.7 million.

For short term productions, the Overview Study also estimates that production companies which rent the film facility on a daily basis will most likely need 50 full-time employees, including 25 local residents and 25 non-residents. At an average daily salary of \$250, total wages for 50 employees would be about \$190,000 for a 15-day project.

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51. Ibid, pg. S-27.



Tax revenues from general excise and State income taxes create another source of income for the State. All taxes accrued would be on a long-term bases except the construction-related taxes. For direct construction costs along, a general excise tax based on 0.5% of the estimated \$6.0 million basic construction costs would generate an immediate, short-term benefit of \$30,000. Long-term tax benefits include an estimated \$572,000 in State income taxes.<sup>52</sup> Therefore, the estimated direct economic benefits to the State would be approximately \$602,000.<sup>53</sup> This figure does not include a multiplier effect on indirect spending in the local economy.

E. HOUSING

Existing Condition

The project site is included in Census Tract (CT) 6 which had 556 households in 1985. The surrounding CT 7 and 8 had 1,022 and 1,288 households respectively.

There are no residential units on the project site. The closest residences are 18 homes located on Iwalani Place across 18th Avenue from the retention basin.

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52. Based on an average annual salary of \$52,000 and average income tax rate of 10.0% which is the average rate paid by taxpayers in the \$50,000-\$75,000 tax bracket. See Overview Study, pg. 154.

53. These estimates from the Overview Study are based on the completed project with two soundstages, whereas the expansion plan will ultimately have 3 soundstages.

### Project Impacts

By correlating the housing impact and the number of employees expected to be hired by production companies utilizing the proposed film facility (110 for long term and 50 for short term productions), it appears that the housing impact will be relatively minor. The majority of these employees will be local residents. Out-of-state employees will most likely be staying at hotels in Waikiki or Kahala on a temporary basis or will be renting homes and apartments on a six to nine month basis. Local employees would probably already be located in some types of housing.

The project will not include any housing facilities and will not add to the housing pool on Oahu.

### F. POPULATION

#### Existing Condition

The project site is located within the Primary Urban Center.<sup>54</sup> This is the most densely populated area on Oahu with a population of 379,600 or approximately 47% of the resident Oahu population.<sup>55</sup> The project site is within Kaimuki neighborhood with a 1985 population of 19,665.

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54. There are eight Development Plan areas specified for the island of Oahu: Primary Urban Center, Ewa, Central Oahu, East Honolulu, Koolaupoko, Koolauloa, North Shore and Waianae.

55. All population data is from The State of Hawaii Data Book, State of Hawaii, 1987 unless otherwise noted.

Census Tract (CT) 6 includes the location of the project site and had a resident population in 1985 of 1,630 residents with approximately 2.9 persons per household. The surrounding CTs 7 and 8 had populations of 3,311 and 4,110 respectively in 1985. The resident populations for all three census tracts have shown a small but steady decline in population from 1970 to 1985.

#### Project Impacts

The proposed film facility will have a negligible impact on the State's resident population. For long-term productions, approximately 65% of the employees will be local residents and 35% out-of-state employees. The proposed film facility will provide an impetus for a temporary six to nine month influx of people while in production. However, the out-of-state employees will not have an impact on Oahu's resident population unless they decide to make Hawaii their home.

The proposed film facility could have a positive impact on Hawaii's visitor population. Interest about Hawaii could be increased as viewers on the Mainland and in other countries see Hawaii in films, television series and commercials.

G. DISPLACEMENT

**Existing Condition**

There is currently one soundstage, six houses, one technical building and one garage on the project site. One equipment rental company has been hired by Universal Studios to maintain the studio equipment and is located on the project site. No other businesses or homes exist on the project site.

**Project Impacts**

This project is an expansion of a film facility already located on this project site. The equipment rental company will be displaced but this is expected since they were hired on an interim basis. No other businesses or homes will be displaced from the project site since none exist at this location.

# Chapter VI

VI. RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLAN,  
POLICIES AND CONTROLS FOR THE AFFECTED AREA

A. FEDERAL

1. Federal Flood Insurance Program

The project site is within Zone X, as designated by the Federal Emergency Management Agency. This designation is given to areas determined to be outside a 500-year flood plain.

B. STATE

1. The Hawaii State Plan

The proposed film facility expansion will meet several objectives of the The Hawaii State Plan Revised (Hawaii Revised Statutes, amended), including:

Sec. 226-5 Objective and policies for population

- (a) It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter.
- (b) To achieve the population objective, it shall be the policy of this State to:
  - (3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.

The film facility expansion will offer increased opportunities to Hawaii's people to pursue a creative, highly skilled employment opportunity at a level previously unavailable in the local film industry. For

a large production which is labor intensive, approximately 65% of the employees will be Hawaii residents.

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

- (a) Planning for the State's economy in general shall be directed toward achievement of the following objectives:
- (1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people.
  - (2) A steadily growing and diversified economic base that is not overly dependent on a few industries.
- (b) To achieve the general economic objectives, it shall be the policy of this State to:
- (6) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.
  - (8) Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.
  - (14) Promote and protect intangible resources in Hawaii, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.

The film facility will offer diversified employment outside the normal tourism-related jobs. Productions, especially large productions, are labor-intensive and are usually very economically satisfying. There is the opportunity to learn a wide range of highly technical skills which may translate into other fields.

The intangible resources of Hawaii are a primary reason for interest by outside studios to film in Hawaii. It would be of great importance for production companies to support the protection of Hawaii's scenic beauty and to maintain policies which would not lead to the destruction of Hawaii's environment.

Sec. 226-10 Objectives and policies for the economy - potential growth activities

- (a) Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawaii's economic base.
- (b) To achieve the potential growth activity objective, it shall be the policy of this State to:
  - (1) Facilitate investment and employment in economic activities that have the potential for growth such as . . . film and television production. . . .
  - (5) Promote Hawaii's geographic, environmental, social and technical advantages to attract new economic activities into the State.

The proposed film facility expansion is in direct response to the above stated objectives and policies. The expansion of the existing film facility is a required component for growth in this industry in the State of Hawaii. The present facilities, public and private, are inadequate to attract long-term productions and television series which generate the highest amount of long-term revenue for the State and Hawaii's residents.



With an adequately built film facility, it will be possible to promote Hawaii's advantages to Mainland and foreign production companies. Without adequate technical capabilities, Hawaii's environmental and social advantages will not be sufficient to attract the film industry's attention and productions, particularly with increased competition from other states and countries for a greater share of film production activity.

2. State Land Use Laws (Chapter 205, HRS)

(Exhibit VI-1)

The entire KCC site and the project site is within an Urban district as designated by the State Land Use Commission. Urban districts are established to allow activities or uses as designated by the ordinances and regulations of the County within which the urban district is located.

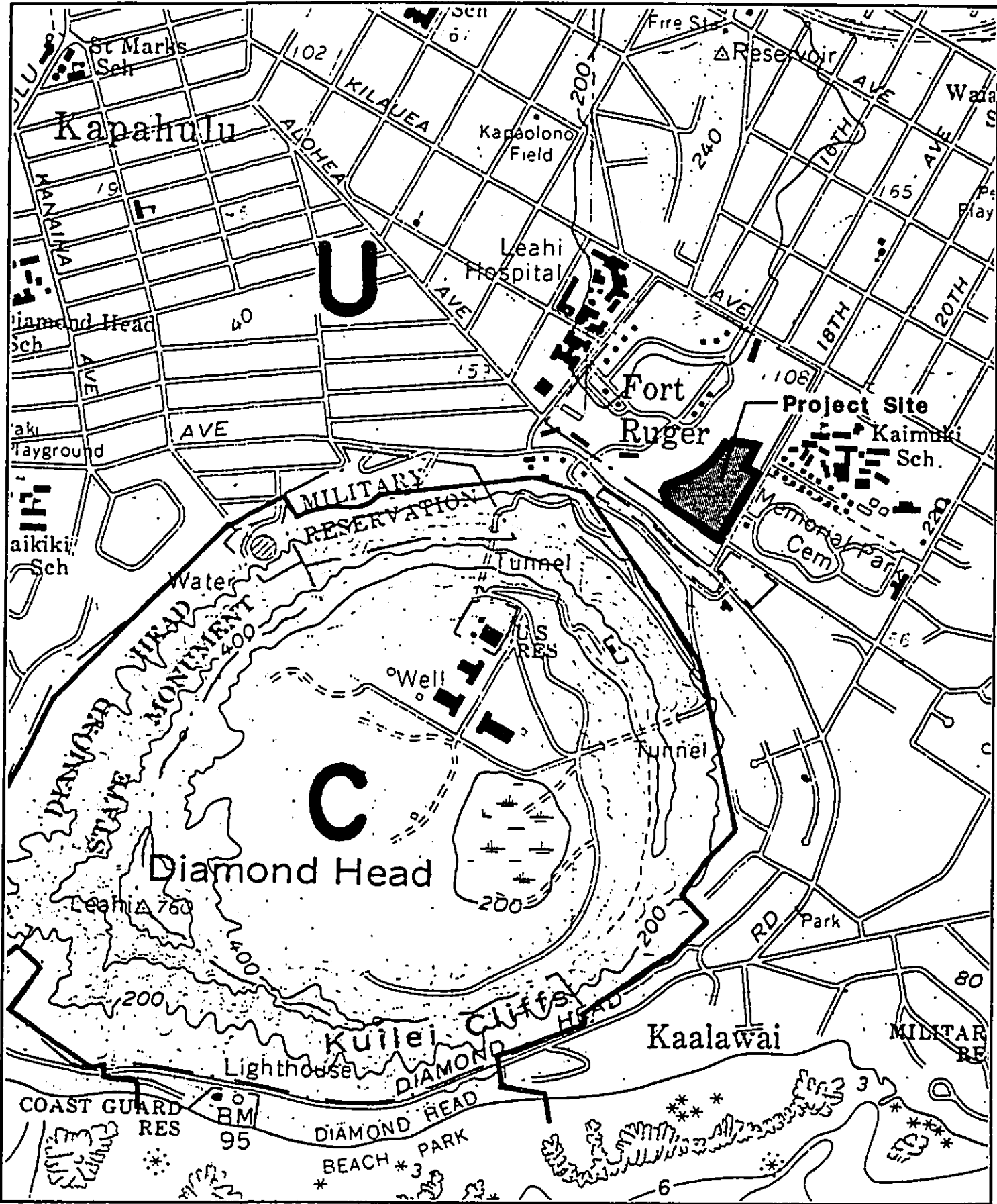
C. CITY AND COUNTY OF HONOLULU

1. General Plan

The film facility expansion will meet several provisions of the General Plan of the City and County of Honolulu, including:

a. Population

Objective C: To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.



**Exhibit VI-1  
State Land Use  
District Map**



**DHM inc.**  
Land Use and  
Environmental  
Planning

Policy 1: Facilitate the full development of the primary urban center.

As previously stated, the project site is within the primary urban center which also supports the largest population. The film facility will provide additional employment opportunities for the employees to work close to their place of residences.

The film facility is also in close proximity to hotels in Waikiki and Kahala which will most likely house the people who will be working at the film facility on a short term basis.

b. Economic Activity

Objective A: To promote employment opportunities that will enable all the people of Oahu to attain a decent standard of living.

Policy 1: Encourage the growth and diversification of Oahu's economic base.

Policy 2: Encourage the development of industries which will contribute to the economic and social well-being of Oahu residents.

Policy 3: Encourage the development of Honolulu as a Pacific headquarters for trade, communications, and other industries of a nonpolluting nature.

The proposed film facility expansion offers a positive diversification to Hawaii's economic base. It is not directly related to tourism, the State's largest employer, but can have a positive impact on that sector. It offers the residents of

Oahu a different employment option, one of satisfaction, creativity and the opportunity to gain technical expertise. The film industry in Hawaii is a nonpolluting industry and relies heavily on the maintenance of Hawaii's natural resources and beauty.

Objective E: To prevent the occurrence of large-scale unemployment.

Policy 1: Encourage the training and employment of present residents for currently available and future jobs.

The film industry offers a wide range of employment opportunities many which involve a high level of technical training. The State of Hawaii is able to offer the required skilled labor needed to work in this field. The film facility expansion would offer the employment opportunities to allow these skilled workers to remain in Hawaii.

Objective G: To bring about orderly economic growth on Oahu.

Policy 1: Direct economic activity primarily to Honolulu, Aiea and Pearl City, and secondarily to Ewa.

Policy 2: Permit the moderate growth of business centers in the urban-fringe areas.

The proposed film facility expansion is located in Honolulu and is part of the primary urban center. It is located at the fringe of the primary urban center and would offer a moderate employment center close to a majority of the population.

c. Physical Development

Objective A: To coordinate changes in the physical environment of Oahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.

Policy 1: Plan for the construction of new public facilities and utilities in the various parts of the Island according to the following order of priority: first, in the primary urban center; second, in Ewa; and third, in the urban-fringe and rural areas.

Policy 2: Locate new industries and new commercial areas so that they will be well related to their markets and suppliers, and to residential areas and transportation facilities.

The proposed film facility has been determined to be a public use by the Department of Land Utilization. It is a public facility located in the primary urban center well located to the market and suppliers. It is also well located in terms of population since it is close to but not directly adjacent to major residential developments. It's location also offers easy access without burdening the present transportation systems.

d. Education

Objective B: To provide a wide range of educational opportunities for the people of Oahu.

Policy 1: Support education programs that encourage the development of employable skills.

The film facility would not only offer employment but could also serve as a training facility for students interested in pursuing a career in the film industry.

2. Development Plan

(Exhibit VI-2)

The project site is a part of "public facility" on the City's Development Plan and has been determined to be a public facility by the Department of Land Utilization in their September 8, 1988 letter to Robert Luersen.

(Appendix J)

3. Zoning

(Exhibit VI-3)

The project site is within an area zoned Residential, R-10. The intent of R-10 zoning is to allow for areas of large lot developments and are typically located in transitional districts between preservation, agricultural or county districts and urban districts.

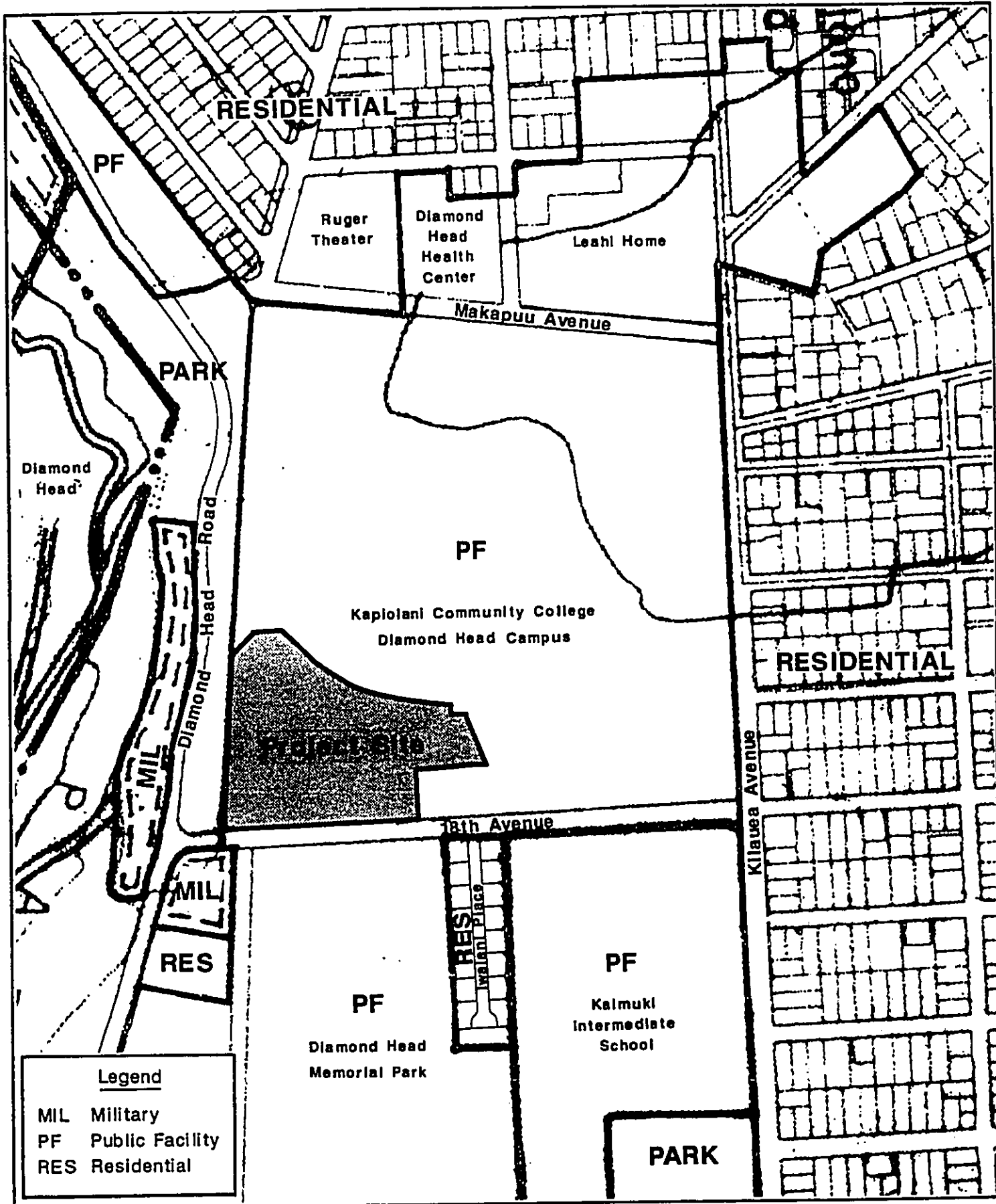
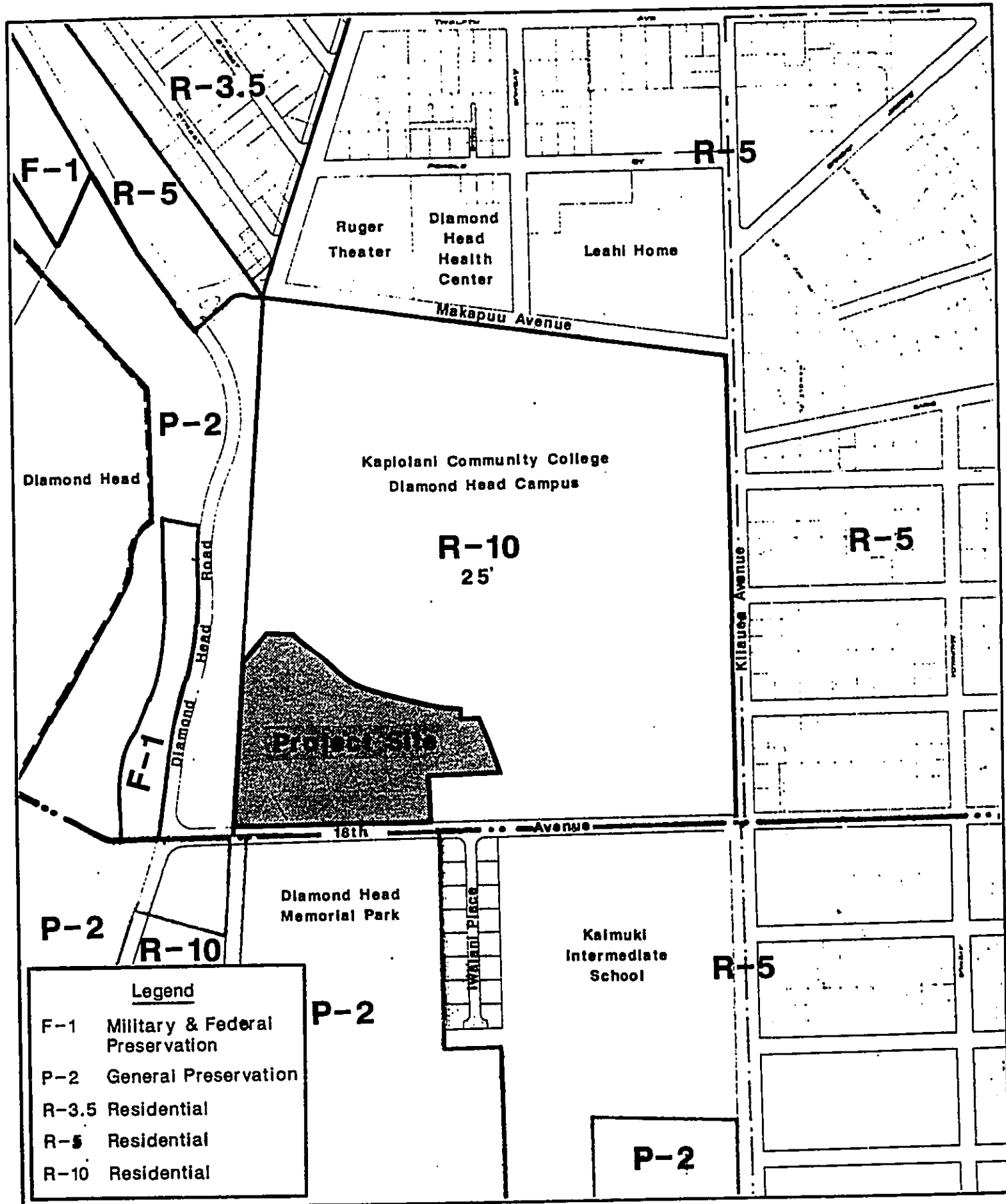


Exhibit VI-2  
Development Plan Map



**DHM inc.**  
Land Use and  
Environmental  
Planning



Legend	
F-1	Military & Federal Preservation
P-2	General Preservation
R-3.5	Residential
R-5	Residential
R-10	Residential

**Exhibit VI-3**  
**Zoning Map**

0 200 400 FEET 800

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Environmental  
Planning



4. Special Management Area

(Exhibit VI-4)

The project site is within the Special Management Area (SMA) as designated by Chapter 33, Revised Ordinances of Honolulu, relating to the protection of the shoreline areas of the City and County of Honolulu.

5. Diamond Head Special Design District

(Exhibit VI-5)

The film facility expansion will be in compliance with the following objectives for the Diamond Head District:  
(Land Use Ordinance, page 7-30)

"A. To preserve existing prominent public views of Diamond Head by modifying construction projects that would diminish existing prominent public views.

D. To preserve and enhance the views of Diamond Head as seen from heavily travelled and highly developed areas."





# Chapter VII

**VII. RELATIONSHIP BETWEEN SHORT TERM USES OF THE ENVIRONMENT  
AND MAINTENANCE AND ENHANCEMENT LONG-TERM PRODUCTIVITY**

The major portion of the project site has been used for a film facility for 12 years from production of Hawaii 5-0 to the present. The proposed expansion project will not result in a change of use of the area but will allow the property to be used on a larger scale with more versatility. This will enhance the long-term productivity of the project site.

# Chapter VIII

### VIII. ADVERSE EFFECTS WHICH CANNOT BE AVOIDED

Most of the potential adverse impacts of the proposed expansion will be mitigated. However, some impacts cannot be avoided and they are:

- 1) Traffic Impact
- 2) Noise Impact
- 3) Visual Impact

The project will have an insignificant, although adverse, impact on the levels of traffic for the area. There will be a slight increase in traffic resulting from employees arriving and leaving the film facility. However, the arrival and departure times would usually be earlier than morning peak traffic and later than afternoon peak traffic due to the earlier working hours and longer work days in the film industry.

The project will have an insignificant, although adverse, impact on the noise levels for the area. The increase in traffic will be the main source of noise. Additional noise levels will result from the activities within the Technical Building. However, these levels will not significantly affect KCC or the closest residences and will comply with State Department of Health standards.

The existing open space will be somewhat reduced especially due to the construction of Soundstage Nos. 1 and 2, and the 2-level parking structure. The 2-level parking structure includes a 4.5-foot landscape berm which will lessen the

impact of the parking structure. The views toward KCC from 18th Avenue, however, will be somewhat obstructed primarily by the parking structure and the soundstages.



# Chapter IX

**IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The construction of the proposed film facility expansion will require an irreversible commitment of capital, labor and energy expended in design, development, labor, construction materials and equipment. However, since the project site has been in use as a film facility for 12 years, the proposed development will not result in an irretrievable loss of natural resources.

# Chapter X

**X. SUMMARY OF UNRESOLVED ISSUES**

The potential impacts of the proposed development are generally known and appropriate mitigative measures have been developed to address these impacts. Comments received from agencies, organizations and individuals possessing jurisdiction, expertise, and/or interest in the project have been responded to.

There are still some community concerns regarding the appropriateness of the site, and height and visual impact issues even though mitigation measures have been incorporated into the project design.

# Chapter XI

XI. ALTERNATIVES TO THE PROPOSED ACTION

A. PROJECT-RELATED ALTERNATIVES

The Overview Study evaluated ten (10) different potential sites for a film facility on Oahu.<sup>56</sup> Each of the sites was evaluated based on the following criteria:

- a. Industry Requirements
- b. Architectural Considerations
- c. Economic Considerations
- d. Social Considerations

Kamilo Nui Valley (Hawaii Kai) was initially selected as meeting most of the criteria. It consisted of approximately 60 acres and was zoned P-1. An Environmental Assessment (EA) and draft Environmental Impact Statement (dEIS) were submitted in December 1987. In the process of developing preliminary design and preparing the dEIS, the unsuitability of the Hawaii Kai site became apparent. Grading and excavation would have been too extensive and possibly have caused drainage and flooding problems for the Kamilo Nui Valley residents.

Subsequently, other alternative sites were considered by the DBED. The present film facility at KCC, previously eliminated in the Overview Study due to its then unavailability, was reconsidered. Negotiations were reopened with the University of Hawaii and permission was

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56. Overview Study, pg. 111.

given to DBED to pursue the feasibility of this site for the film facility expansion. This site was determined to be feasible since it already has some facilities; there are no major residential areas adjacent to the project site; it is close to hotels in Waikiki and Kahala; and the land is already owned by the State of Hawaii.

B. NO ACTION ALTERNATIVES

If the proposed film facility expansion is not constructed, the existing film facility will probably remain as it currently stands. The No Action Alternative will have impacts. The facilities in Hawaii are considered inadequate to offer the support necessary for production companies for their long-term productions, particularly television series. It will be difficult, if not impossible, for the State of Hawaii to promote the islands to Mainland and foreign film industries. This will result in a loss of potential revenues for the State and for the residents of Hawaii. It is also counter to the expressed desire of State and City and County of Honolulu for economic diversification and alternate employment opportunities for residents.

# Chapter XII



**XII. AGENCIES, ORGANIZATIONS, AND INDIVIDUALS CONSULTED**

**A. STATE**

Department of Accounting and General Services  
Department of Business & Economic Development  
    Film Industry Branch  
Department of Health  
Department of Land and Natural Resources  
    Hawaii Historic Places Review Board  
    Historic Sites Section  
Kapiolani Community College Planning Office

**B. CITY AND COUNTY OF HONOLULU**

Department of General Planning  
Department of Land Utilization  
Department of Public Works  
    Refuse Collection and Disposal Division  
Department of Transportation Services  
Fire Department  
Police Department

**C. OTHERS**

Bishop Museum  
East Diamond Head Community Association  
Diamond Head Neighborhood Board  
Hawaiian Electric Company  
Kaimuki Neighborhood Board  
Universal Studios, Pamela Gossage  
Waialae-Kahala Neighborhood Board

# Chapter XIII

**XIII. COMMENTS AND RESPONSES DURING THE CONSULTATION PHASE**

The EIS Preparation Notice was published in the QEOC Bulletin on November 8, 1988 and all comment letters received by either the Film Industry Branch of DBED or the applicant during the consultation phase are included on the following pages.

Substantive comments received were addressed in the dEIS.

**SUBSTANTIVE COMMENTS/RESPONSES**

**State of Hawaii**

Department of Health  
Department of Land and Natural Resources

**City and County of Honolulu**

Board of Water Supply  
Department of General Planning  
Department of Land Utilization

**Other**

Outdoor Circle

**NO COMMENTS**

**State of Hawaii**

Department of Business and Economic Development  
Housing, Finance & Development Corporation  
Department of Defense  
Department of Hawaiian Home Lands  
Department of Transportation  
University of Hawaii, Environmental Center

**City and County of Honolulu**

Building Department  
Department of Parks and Recreation  
Department of Public Works  
Department of Transportation Services  
Fire Department  
Police Department

JOHN WAIMEE  
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

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

In reply, please refer to:  
EPHSD

November 30, 1988

Mrs. Duk Hee Murabayashi, President  
DHM, Inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813


Dear Mrs. Murabayashi:

Subject: Environmental Assessment/EIS Preparation Notice (EISPN) for Hawaii Film Facility, Diamond Head District, Oahu, TMK 3-1-42: 9

The following potential noise impacts must be addressed when proposing the EIS for the subject project.

1. The proposed project must be designed to comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu. Noise attenuation measures should be incorporated into the facility design to insure that noise emitted by the air conditioners, exhaust fans, and related equipment, when measured at the property line, will meet statutory levels.
2. Noise generated by increased vehicle traffic on 18th Avenue, and in the adjacent parking lot, may have an adverse impact upon residents of Iwalani Place.
3. Activities associated with the construction phase must comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu.
  - a. The contractor must obtain a noise permit if the noise levels from the construction activities are expected to exceed the allowable levels of the rules.
  - b. Construction equipment and onsite vehicles requiring an exhaust of gas or air must be equipped with mufflers.
  - c. The contractor must comply with the conditional use of the permit as specified in the rules and conditions issued with the permit.
4. Traffic noise from heavy vehicles travelling to and from the construction site must be minimized near existing residential areas and must comply with the provisions of Title 11, Administrative Rules Chapter 42, Vehicular Noise Control for Oahu.

Sincerely yours,

  
BRUCE S. ANDERSON, Ph.D.  
Deputy Director for  
Environmental Health

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

18 January 1989

Dr. Bruce S. Anderson  
Deputy Director for Environmental Health  
Department of Health  
P.O. Box 3378  
Honolulu, Hawaii 96801

SUBJECT: Environmental Impact Statement Preparation Notice  
Hawaii Film Facility Expansion  
Tax Map Key 3-1-42: Por 9

Dear Dr. Anderson:

Thank you for your comments on the EISPN for the above subject property.

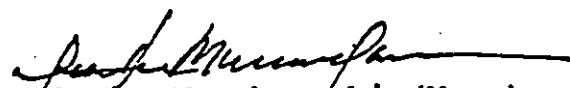
Your comment concerning impacts on the residents of Iwalani Place are well taken and traffic, noise and air quality studies will be included in the draft EIS to address any impacts on the Iwalani place residents and the surrounding area.

All noise generated from the construction will comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu. In addition, the building designs will comply with the provisions of Title 11, Administrative Rules Chapter 43, Community Noise Control for Oahu in relation to noise emitted by air conditioners, exhaust fans and related equipment.

Your comments will be included in the draft EIS which will be filed in February 1989.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 821  
HONOLULU, HAWAII 96809

WILLIAM W. PATY, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

LIBERT K. LANDGRAF  
MANABU TAGOMORI  
RUSSELL N. FUKUMOTO

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

DEC 16 1988

DOC. NO.: 4796E  
FILE NO.: 89-278

Mrs. Duk Hee Murabayashi, President  
DHM Inc.  
1188 Bishop Street  
Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

SUBJECT: Environmental Assessment/EIS Preparation Notice  
Hawaii Film Facility  
TMK: 3-1-42: 9

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the materials you submitted and have the following comments.

Our Department's Historic Sites Section review of records indicates that no archaeological survey has been carried out on this State parcel. Two previous surveys on adjacent areas (TMK: 3-1-42: 21 and Diamond Head State Monument) located only litter related to military use of the area. We believe, therefore, that any previously existing archaeological sites would not have survived, and that this project will have "no effect" on significant historic sites.

Our Aquatic Resources Division notes that no streams exist on this parcel which is over one mile from the shoreline. Impacts adverse to aquatic resource values are not expected.

However, we question the EA/EIS preparation when the application does not state who will be at the new lease or if the withdrawal of the area from U.H. education purpose will be approved. Also, committing to expansion and permanency of a commercial film studio operation would not leave for future KCC-Diamond Head campus use.

Mrs. Duk Hee Murabayashi

- 2 -

DOC. NO.: 4796E

Please feel free to call me or Roy Schaefer of our Office of Conservation and Environmental Affairs, at 548-7837, if you have any questions.

Very truly yours,



WILLIAM W. PATY

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

18 January 1989

Mr. William W. Paty  
Chairperson  
Board of Land & Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

SUBJECT: Environmental Impact Statement Preparation Notice  
Hawaii Film Facility Expansion  
Tax Map Key 3-1-42: Por 9

Dear Mr. Paty:

Thank you for your comments on the EISPN for the above subject property.

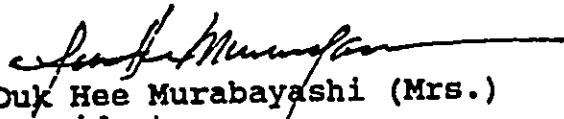
You raised the question about who will be at the new lease or if the withdrawal of the area from U.H. educational purposes will be approved. The project site is currently under a Facilities Use Agreement from the University of Hawaii to the Department of Business and Economic Development. The prior sublease to Universal Studios has expired and the University of Hawaii is in the process of returning the entire 7.477 acre parcel to the State of Hawaii. The specific leasing arrangements for the proposed film facility expansion have not yet been finalized at this stage but the lease will be managed by the Department of Business and Economic Development.

In addition, the expanded film facility will not allow KCC future use of this specific project site since the entire site will be used by the film facility. The possibility does arise, however, for the proposed film facility to indirectly be used as a training facility by KCC students.

Your comments will be included in the draft EIS which will be filed in February 1989.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB



**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA STREET

HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor

DONNA B. GOTH, Chairman  
JOHN K. TSUI, Vice Chairman  
SISTER M. DAVILYN AH CHICK, O.S.F.  
EDWARD Y. HIRATA  
ALFRED J. THIEDE  
ERNEST A. WATARI  
MAURICE H. YAMASATO

KAZU HAYASHIDA  
Manager and Chief Engineer

December 7, 1988

Mrs. Duk Hee Murabayashi, President  
DHM Inc.  
1188 Bishop Street  
Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:


Subject: Your Letter of November 10, 1988 Regarding Hawaii  
Film Facility, TMK: 3-1-42: 9

We have the following comments on the proposed project:

1. We have a 12-inch diameter main in Diamond Head Road. There is no main on 18th Avenue fronting the property.
2. Water demands for the project should be addressed in the EIS. The availability of additional water will be determined when building permits are submitted for our review and approval. The developer will be required to pay our Water System Facilities Charge for source-transmission and storage.
3. The on-site fire protection should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Lawrence Whang at 527-6138.

Very truly yours,

  
FOR KAZU HAYASHIDA  
Manager and Chief Engineer

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

18 January 1989

Mr. Kazu Hayashida  
Manager and Chief Engineer  
Board of Water Supply  
630 South Beretania Street  
Honolulu, Hawaii 96843

SUBJECT: Environmental Impact Statement Preparation Notice  
Hawaii Film Facility Expansion  
Tax Map Key 3-1-42: Por 9

Dear Mr. Hayashida:

Thank you for your comments on the EISPM for the above subject property.


A water assessment study will be included in the draft EIS to determine the requirements and availability of water for the proposed project.

On-site fire protection and water requirements will be coordinated with the Honolulu Fire Department and results will be included in the draft EIS.

Your comments will be included in the draft EIS which will be filed in February 1989.

Sincerely,

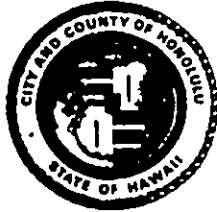
DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB

DEPARTMENT OF GENERAL PLANNING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK F. FASI  
MAYOR

DONALD A. CLEGG  
CHIEF PLANNING OFFICER

GENE CONNELL  
DEPUTY CHIEF PLANNING OFFICER

MM/DGP 11/88-4020

December 14, 1988

Mrs. Duk Hee Murabayashi, President  
DHM, Inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

**Environmental Assessment/EIS Preparation Notice  
Hawaii Film Facility  
Tax Map Key 3-1-42: por. 9**

This is in response to your request for comments on the Environmental Assessment/EIS Preparation Notice for the Hawaii Film Facility.

The subject site is designated on the Primary Urban Center Development Plan (DP) Land Use Map for Public Facility use as part of the Kapiolani Community College's Diamond Head campus. The site is zoned R-10 Residential District, and motion picture and television production studios are not permitted uses under the Residential District regulations. Public Facility uses, however, are permitted within the subject zone. That being the case, your Environmental Impact Statement should elaborate on the public purpose elements of the proposed use.

The availability of facilities and utilities within the area should also be discussed along with probable impacts on adjacent educational and residential uses.

Thank you for the opportunity to comment on this matter. If you have any questions, please call Mel Murakami of my staff at 527-6020.

Sincerely,

*Donald A. Clegg*  
DONALD A. CLEGG  
Chief Planning Officer

DAC:ft

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

18 January 1989

Mr. Donald A. Clegg  
Chief Planning Officer  
Department of General Planning  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement Preparation Notice  
Hawaii Film Facility Expansion  
Tax Map Key 3-1-42: Por 9

Dear Mr. Clegg:

Thank you for your comments on the EISPN for the above subject property.

The proposed expanded film facility has been determined by the Department of Land Utilization on September 7, 1988 to be a public use as defined in Article 9, "Public Use and Structures" of the Land Use Ordinance (LUO). Therefore, the draft EIS will address the public purpose elements of the proposed use.

Utility and facility studies will be included in the draft EIS as will probable impacts on the surrounding educational and residential uses.

Your comments will be included in the draft EIS which will be filed in February 1989.

Sincerely,

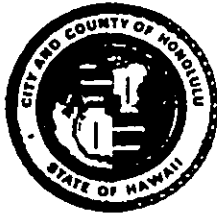
DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB

DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813 • (808) 523-4432



FRANK F. FASI  
MAYOR

JOHN P. WHALEN  
DIRECTOR

BENJAMIN B. LEE  
DEPUTY DIRECTOR

LU11/88-7750(RF)

December 13, 1988

Mrs. Duk Hee Murabayashi  
President  
DHM inc.  
1188 Bishop Street  
Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Environmental Impact Statement  
Preparation Notice (EISP)  
Hawaii Film Facility, Diamond Head, Oahu  
Tax Map Key 3-1-42: 09

The department has reviewed the EISP and comments as follows:

1. We are concerned about the bulk and height of the proposed buildings in relation to Diamond Head, the surrounding neighborhood and the Diamond Head Special District. As proposed, the two new sound stages will be 50 feet high, double the 25-foot height limit under current zoning. The bulk of the proposed structures seems inconsistent with the underlying residential zoning. The bulkiness of buildings fronting 18th Avenue is of particular concern. The visual analysis which will be prepared as part of the EIS should address these concerns.
2. Please note that the Special Management Area Ordinance (previously Ordinance No. 4529; then Ordinance No. 84-4) has been codified as Chapter 33, Revised Ordinances of Honolulu.

Thank you for the opportunity to comment.

Very truly yours,

A handwritten signature in dark ink, appearing to read "John P. Whalen", is written over the typed name.

JOHN P. WHALEN  
Director of Land Utilization

JPW:sl  
0245N

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

18 January 1989

Mr. John P. Whalen  
Director  
Department of Land Utilization  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement Preparation Notice  
Hawaii Film Facility Expansion, Diamond Head, Oahu  
Tax Map Key 3-1-42: Por 9

Dear Mr. Whalen:

Thank you for your comments on the EISPN of the above subject property.

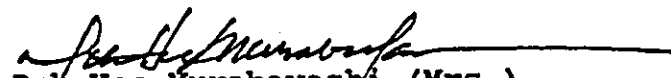
The draft Environmental Impact Statement, which will be circulated in early February 1989, will address the issues concerning the height and bulk of the proposed buildings. A visual analysis will be included.

We also appreciate your clarification of the reclassification of the Special Management Area Ordinances.

Your comments will be included in the draft EIS.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB



**THE OUTDOOR CIRCLE**

*Established 1912  
A Non-profit Organization  
200 No. Vineyard Blvd., Suite 506, Honolulu, HI 96817  
(808) 521-0074*

January 12, 1989

Mrs. Duk Hee Murabayashi, President  
DHM INC.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

SUBJECT: Review of Hawaii Film Facility  
Environmental Assessment -  
at Kapiolani Community College,  
Diamond Head.

Dear Mrs. Murabayashi:

The Outdoor Circle is deeply concerned with the proposed expansion of the film facility at its present Diamond Head site. We can find no justification for the location chosen.

Our organization has no objection to the statement of purpose or the need to develop the film industry and a film facility, however, we cannot help but question the use of tax dollars for such a purpose.

The existing 12,000 sq. ft. soundstage has always been considered a temporary structure and temporary use. The present facility has been tolerated because it was to be just that -- temporary!

The proposed buildings will be over three and a half times the size of the existing structure. Further, they are proposed to go from the present height of 22 feet to 50 feet. Page 25 states "the proposed studio facilities will be one to two stories high". How can the proposed 50 foot high buildings (page 8) be considered one or two story buildings?

This proposed cluster of buildings would include two gigantic fortress-like concrete block sound facilities 50' in height and each 16,500 sq. ft. in area. No amount of landscaping (see page 21) could offset the negative impact of this proposal. We believe this is totally incompatible with the surrounding residential neighborhood.

Mrs. Duk Hee Murabayashi  
January 12, 1989  
Page 2

The Kapiolani Community College development is a tremendous asset to the State of Hawaii and its development has been sensitive to the residential character of this area. The surrounding area, bordering the Diamond Head State Monument, falls within the Diamond Head Special District Ordinance with a height limit of 25 feet. The college has kept the height of its buildings within one or two feet of this 25 foot limit. They have taken into consideration the contour of the land and the need for open space and tree cover as a proper setting for Diamond Head.

This proposed project would take over 15% of the land originally set aside for the completion of the community college. The loss of these lands precludes any real future expansion of the college, and certainly would be confining to the industry also.

The Outdoor Circle seriously questions this commercial use of these state lands at Diamond Head. Thank you for your consideration of our concerns.

Sincerely,

*Luci Pfaltzgraff*  
Luci Pfaltzgraff,  
Diamond Head Chairperson

*Susan L. Fristoe*  
Susan Fristoe,  
1st Vice President



**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

18 January 1989

Ms. Luci Pfaltzgraff  
Diamond Head Chairperson  
The Outdoor Circle  
200 No. Vineyard Boulevard, Suite 506  
Honolulu, Hawaii 96817

SUBJECT: Environmental Impact Statement Preparation Notice  
Hawaii Film Facility Expansion  
Tax Map Key 3-1-42: Por 9

Dear Ms. Pfaltzgraff:

Thank you for your comments on the EISPN for the above subject property.


The proposed soundstages which are 50 ft. high and 16,500 sq. ft. in area are designed for a specific utility. This utility limits the type of design for these buildings and does not allow a similar design to the KCC buildings. In an effort to mitigate the potential visual impact they are being sited 220 ft. back from 18th Avenue.

The proposed expanded film facility has been designated a public use facility by the Department of Land Utilization according to Article 9, "Public Use and Structures" of the Land Use Ordinance.

Your comments will be included in the draft EIS which will be filed in February 1989. Thank you again for your concern.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB

JOHN WAIHEE  
GOVERNOR



JOSEPH K. CONANT  
EXECUTIVE DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT  
HOUSING FINANCE AND DEVELOPMENT CORPORATION  
P. O. BOX 29360  
HONOLULU, HAWAII 96820-1780

IN REPLY REFER  
TO:

88:PLNG/1748B JT

November 23, 1988

Mrs. Duk Hee Murabayashi  
President  
DHM Incorporated  
1188 Bishop Street  
Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Re: Environmental Assessment/EIS Preparation  
Notice for the Hawaii Film Facility

Thank you for the opportunity to review the subject  
report. We have no comments to offer.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph K. Conant".

JOSEPH K. CONANT  
Executive Director

JOHN WAIHEE  
GOVERNOR



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

ALEXIS T. LUM  
MAJOR GENERAL  
ADJUTANT GENERAL  
MYLES M. NAKATSU  
COLONEL  
DEPUTY ADJUTANT GENERAL

DEC 5 1988

Engineering Office

Mrs. Duk Hee Murabayashi, President  
DHM inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Environmental Assessment, Hawaii Film Facility

Thank you for providing us the opportunity to review the environmental assessment for the Hawaii Film Facility.

We found the assessment to be thorough and support the proposed film production facility project at the corner of 18th Avenue and Diamond Head Road.

Sincerely,

A handwritten signature in cursive script, appearing to read "Alexis T. Lum".

Alexis T. Lum  
Major General, Hawaii  
Army National Guard  
Adjutant General

JOHN WAIHEE  
GOVERNOR  
STATE OF HAWAII



ILIMA A. PIIANAIA  
CHAIRMAN  
HAWAIIAN HOMES COMMISSION

STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS  
P. O. BOX 1879  
HONOLULU, HAWAII 96805

December 1, 1988

Mrs. Duk Hee Murabayashi  
President  
DHM, Inc.  
1188 Bishop Street  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Thank you for your letter of November 10, 1988 and the copy of the Hawaii Film Facility Environmental Assessment.

We have reviewed the assessment and have no comments on the project. It does not impact DHHL lands and should provide a boost to the local film industry.

Thank you for the information.

Sincerely,

*Ilima A. Piianaia*  
Ilima A. Piianaia, Chairman  
Hawaiian Homes Commission

IAP:HS:eh

JOHN WAIHEE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
800 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813

December 1, 1988

EDWARD Y. HIRATA  
DIRECTOR

DEPUTY DIRECTORS  
JOHN K. UCHIMA  
RONALD N. HIRANO  
DAN T. KOCHI  
JEANNE K. SCHULTZ

IN REPLY REFER TO:  
HWY-PS  
2.4032

Mrs. Duk Hee Murabayashi  
President, DHM, Inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Hawaii Film Facility,  
TMK: 3-1-42: 9  
Environmental Assessment/  
EIS Preparation Notice

Thank you for the opportunity to review and comment on the subject environmental assessment.

The proposed facility is far from those roadways under our jurisdiction and is therefore not anticipated to affect the State highway system.

Very truly yours,

*Edward Y. Hirata*  
Edward Y. Hirata  
Director of Transportation



## University of Hawaii at Manoa

Environmental Center  
Crawford 317 • 2550 Campus Road  
Honolulu, Hawaii 96822  
Telephone (808) 948-7361

December 13, 1988  
PN:0066

✓ Mrs. Duk Hee Murabayashi  
DHM, Inc.  
1188 Bishop Street  
Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

EIS Preparation Notice  
Hawaii Film Facility  
Honolulu, Oahu

Thank you for sending us a copy of the Hawaii Film Facility Environmental Assessment for our review; however, we do not generally review a document during the preparation stage. We have no comments to offer at this time, but would appreciate the opportunity to review the Draft Environmental Impact Statement on this project when it is completed.

Thank you for the opportunity to review this document.

Sincerely,

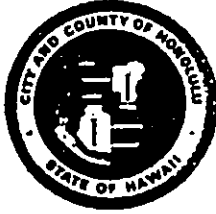
John Harrison  
Environmental Coordinator

cc: OEQC  
C. Anna Ulaszewski

BUILDING DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

HONOLULU MUNICIPAL BUILDING  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

FRANK F. FASI  
MAYOR



HERBERT K. MURAOKA  
DIRECTOR AND BUILDING SUPERINTENDENT

PB 88-1021

November 21, 1988

Mrs. Duk Hee Murabayashi, President  
DHM, Inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Subject: Hawaii Film Facility  
TMK: 3-1-42:9  
Environmental Assessment/  
EIS Preparation Notice

We have reviewed the Environmental Assessment/EIS  
Preparation Notice for the proposed Hawaii Film Facility and have  
no comment.

Thank you for the opportunity to review the document.

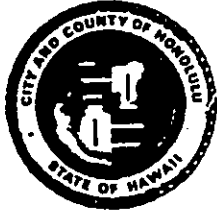
Very truly yours,

  
HERBERT K. MURAOKA  
Director and Building Superintendent

cc: J. Harada

DEPARTMENT OF PARKS AND RECREATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK F. FASI  
MAYOR

HIRAM K. KAMAKA  
DIRECTOR

WALTER M. OZAWA  
DEPUTY DIRECTOR

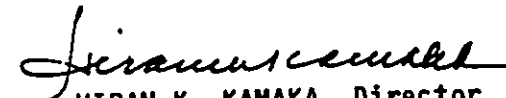
December 9, 1988

Mrs. Duk Hee Murabayashi  
President  
DHM, Incorporated  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Thank you for the opportunity to comment on the environmental assessment for the Hawaii Film Facility next to Kapiolani Community College. We have reviewed the assessment report and have no comments at this time.

Sincerely,

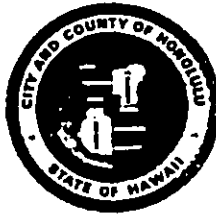
  
HIRAM K. KAMAKA, Director

HKK:ei



DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK F FASI  
MAYOR

ALFRED J. THIEDE  
DIRECTOR AND CHIEF ENGINEER

In reply refer to:  
PRO 88-322(449)

November 15, 1988

Mrs. Duk Hee Murabayashi  
President  
DHM, Inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

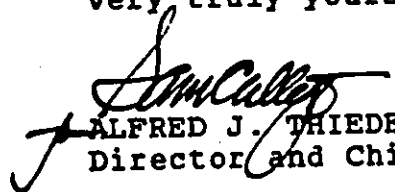
Dear Mrs. Murabayashi:

Subject: Environmental Assessment/EIS Preparation Notice  
Hawaii Film Facility  
Tax Map Key: 3-1-42:9

We have reviewed the subject environmental document and have no comment at this time.

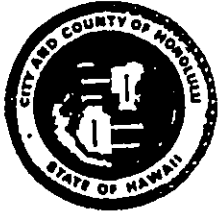
Thank you for the opportunity to review the EA.

Very truly yours,

  
ALFRED J. THIEDE  
Director and Chief Engineer

DEPARTMENT OF TRANSPORTATION SERVICES  
**CITY AND COUNTY OF HONOLULU**  
HONOLULU MUNICIPAL BUILDING  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

FRANK F. FASI  
MAYOR



JOHN E. HIRTEN  
DIRECTOR

JOSEPH M. MAGALDI, JR.  
DEPUTY DIRECTOR

TE-7470  
PL 1.1356

December 12, 1988

Mrs. Duk Hee Murabayashi  
President  
DHM, Inc.  
1188 Bishop Street  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Subject: Hawaii Film Facility  
EIS Preparation Notice  
TMK: 3-1-42: 9

This is in response to your letter dated November 10, 1988.

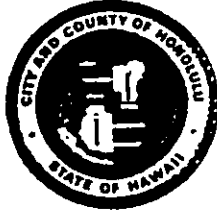
We have reviewed the subject Environmental Impact Statement  
Preparation Notice (EISPN) and have no comments at this time.

Yours truly,

  
JOHN E. HIRTEN

FIRE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

1455 S BERETANIA STREET, ROOM 305  
HONOLULU, HAWAII 96814



FRANK F. FASI  
MAYOR

FRANK K. KAHOOHANOHANO  
FIRE CHIEF

LIONEL E. CAMARA  
DEPUTY FIRE CHIEF

December 5, 1988

Mrs. Duk Hee Murabayashi, President  
DHM Inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

SUBJECT: HAWAII FILM FACILITY (TMK 3-1-42:9)  
ENVIRONMENTAL ASSESSMENT/EIS PREPARATION NOTICE

We have reviewed the subject material provided and foresee no adverse impact on Fire Department facilities or services, planned or now provided.

Initial fire protection for the proposed project would be provided by two engine and one ladder companies from the Waikiki and Kaimuki Fire Stations with nineteen on-duty personnel. Secondary service is available from the McCully and Palolo or Wailupe Fire Stations. Fire protection is considered adequate.

Access for fire apparatus, water supply and building construction shall conform to applicable codes and standards. We highly recommend a fully sprinklered facility.

Should you have any questions, please contact Battalion Chief Kenneth Word of our Administrative Services Bureau at 943-3838.

Very truly yours,

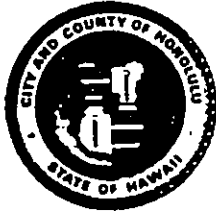
  
FRANK K. KAHOOHANOHANO  
Fire Chief

KAW:ny

POLICE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

1455 SOUTH BERETANIA STREET  
HONOLULU, HAWAII 96814 - AHI A CODE (808) 943-3111

FRANK F. FASI  
MAYOR



DOUGLAS G. GIBB  
CHIEF

WARREN FERREIRA  
DEPUTY CHIEF

OUR REFERENCE KN-LC

November 28, 1988

Mrs. Duk Hee Murabayashi, President  
DHM Inc.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

Dear Mrs. Murabayashi:

Subject: Hawaii Film Facility  
TMK 3-2-42: 9  
Environmental Assessment/EIS Preparation Notice

We have reviewed the EIS preparation notice for the Hawaii Film Facility and have no objections to the project at this time.

Thank you for the opportunity to comment.

DOUGLAS G. GIBB  
Chief of Police

By   
RONALD SOUZA  
Assistant Chief of Police  
Support Services Bureau

# Chapter XIV

**XIV. COMMENTS AND RESPONSES DURING THE PUBLIC REVIEW PERIOD**

Written responses to the draft Environmental Impact Statement were received from the following persons and agencies. Comments postmarked after the review deadline of March 25, 1989, are indicated by an asterisk (\*) beside the reviewer's name.

**SUBSTANTIVE COMMENTS/RESPONSES**

**State**

Department of Land and Natural Resources  
Forestry and Wildlife Division  
Office of Hawaiian Affairs  
University of Hawaii  
Environmental Center

**City and County of Honolulu**

Department of General Planning  
Department of Land Utilization  
Department of Transportation Services

**Others**

Hawaiian Electric Company, Inc.  
Environmental Department  
\*Michael Molloy  
\*Outdoor Circle

**NO COMMENTS**

**Federal**

\*U.S. Department of Agriculture  
Soil Conservation Service  
U.S. Department of the Army, Army Engineer District,  
Honolulu  
U.S. Department of the Interior  
Fish and Wildlife Service, Pacific Islands Office  
U.S. Department of the Navy

State

Department of Accounting and General Services  
Public Works Division  
Department of Agriculture  
Department of Business and Economic Development  
Energy Program  
Housing, Finance and Development Corporation  
Department of Defense  
Department of Health  
Department of Transportation

City and County of Honolulu

Board of Water Supply  
Building Department  
Department of Housing and Community Development  
\*Department of Parks and Recreation  
Department of Public Works  
Fire Department  
Police Department

Others

22nd Avenue Community Association

JOHN WAIHEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621  
HONOLULU, HAWAII 96809

REF: OCEA:SOR

WILLIAM W. PATY, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

LIBERT K. LANDGRAF  
MANABU TAGOMORI  
RUSSELL N. FUKUMOTO

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

DOC. NO.: 5274E  
FILE NO.: 89-412

MAR 14 1989

MEMORANDUM

TO: The Honorable Marvin T. Miura, Director  
Office of Environmental Quality Control

FROM: William W. Paty, Chairperson  
Board of Land and Natural Resources

SUBJECT: Draft EIS - Hawaii Film Facility Expansion  
Diamond Head, Honolulu, Oahu  
TMK: 3-1-42: Por. 9

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the materials you submitted and have the following comments.

Our Department's Forestry and Wildlife Division states that the proposed Hawaii Film Facility Expansion is immediately upwind (during normal tradewind weather) of an officially listed endangered plant species, Schiedea adamantis, which occurs on the outer slope of Diamond Head Crater. The number of S. adamantis plants is limited to probably less than 30 wild plants growing in an area of about 40 x 50 feet. This is the only locality in the world where this species grows in its wild state. The area is very vulnerable to fire with tall grass between the plants and the proposed film site. Summer seasonal dry conditions, brisk tradewinds, and ground fuel make for a hazardous situation for the continued survival of these endangered plants. Although a fuel break has been considered around the plants, it would be visible to residents who presently enjoy the "natural look" of Diamond Head.

The proposed Hawaii Film Facility Expansion will increase the number of people and traffic using Diamond Head Road thereby increasing the risk of fire. A fire along the makai side of the road could burn into the endangered species habitat within minutes, given normal trade winds and dry conditions. The response time of the fire department may not be adequate to control a blaze before it ignites these plants.

The draft EIS does not discuss this impact, and should.



Honorable Marvin T. Miura

- 2 -

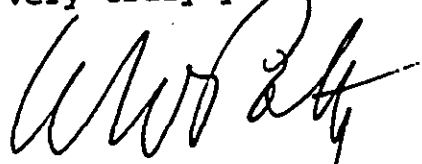
DOC. NO. 5274E

The Department's Historic Sites Section was consulted during the preparation of the EIS, and at that time we concluded that we had no concerns.

The Aquatic Resources Division indicates that no streams exist on this parcel which is over one mile from the shoreline. Therefore, impacts adverse to aquatic resource values are not expected.

Please feel free to call me or Roy Schaefer of our Office of Conservation and Environmental Affairs, at 548-7837, if you have any questions.

Very truly yours,



WILLIAM W. PATY

cc: Department of Accounting and General Services  
DHM, Inc.

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 7, 1989

Mr. William A. Paty  
Chairperson  
Board of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Mr. Paty:

Thank you for your comments to the draft EIS for the Hawaii Film Facility Expansion.

We have contacted DLNR's Forestry and Wildlife Division to discuss the film facility's possible impacts on the Schiedea adamantis located on the outer slope of Diamond Head. We were not aware of the existence of this native plant at this location and appreciate your concern for its protection.

There will be a slight increase in traffic from the proposed film facility, approximately 100 people per day on the average. This is a minor increase based on the volume of existing and projected traffic in the area. The traffic study conducted for this project concluded that projected increases in traffic growth would result from anticipated enrollment increases at KCC and not as a result of traffic from the proposed film facility. This primary increase in traffic and additional risk of fire, if any, is therefore not directly impacted by the proposed film facility.

Primary fire protection is provided on first call by both the Waikiki and Kaimuki Fire Stations, each approximately 3-5 minutes away. Each station is a two-engine, one ladder station. Secondary service is from the McCully, Palolo or Wailupe Fire Stations. The level of fire protection and response times for this area is felt to be sufficient to contain a fire on the project site before it would have the chance to spread across Diamond Head Road.

Thus, it is reasonable to assume that the Schiedea adamantis will not be adversely impacted by the proposed expansion of the Hawaii Film Facility.

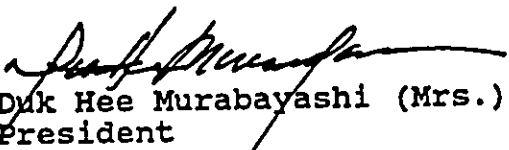
Mr. William A. Paty  
April 7, 1989

Page 2

Your comments are appreciated and will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB

cc: Department of Accounting and General Services  
OEQC



STATE OF HAWAII  
OFFICE OF HAWAIIAN AFFAIRS  
1600 KAPIOLANI BLVD., SUITE 1500  
HONOLULU, HAWAII 96814  
(808) 548-8960  
(808) 946-2642

C-L89-0023

March 8, 1989

Dr. Marvin Miura, Director  
Office of Environmental Quality Control  
465 S. King St. Room 104  
Honolulu, HI. 96813

Subject: Draft EIS: Hawaii Film Facility Expansion, Diamond Head, O'ahu  
TMK: 3-1-42: por. 9, 31, 33

Dear Dr. Miura:

Thank you for sending our office a copy of the Draft EIS, and for the opportunity to comment. Our office is concerned about the routine procedure of giving archaeological clearance to development projects in urban areas. Two of the most important kinds of archaeological sites generally cannot be seen during a surface survey, and often survive land disturbing activities that destroy surface sites: human burials and the earliest, most ancient sites. Another kind of archaeological resource that can be found in disturbed areas, even away from primary settlements, is soil layers that provide a stratigraphic record of environmental changes, and these records cannot be seen through surface survey. Another kind of archaeological resource that is routinely overlooked is historic period remains, such as twentieth century trash dumps. It should not be taken for granted that there is nothing of archaeological interest in the project area. We recommend that project work plans and scopes-of-work include provisions for contacting the State Historic Preservation Office whenever human bones, charcoal deposits, stone artifacts and other kinds of archaeological remains are unexpectedly discovered during construction.

Sincerely,

*Richard K. Paglinawan*  
Richard K. Paglinawan  
Administrator

RKP:EN:klr

cc: DAGS  
DHM, Inc.  
DLNR/Historic Sites  
Environmental Center/U.H.  
Anthropology Dept./U.H.

138

Received

MAR 09 1989

DHM inc.

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 7, 1989

Mr. Richard K. Paglinawan  
Administrator  
Office of Hawaiian Affairs  
1600 Kapiolani Boulevard, Suite 1500  
Honolulu, Hawaii 96814

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Mr. Paglinawan:

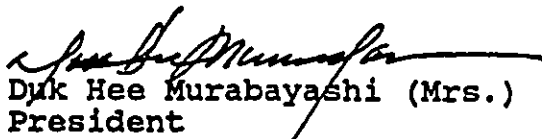
Thank you for your comments on the dEIS for the Hawaii Film Facility Expansion.

The Historic Sites Section of Department of Land and Natural Resources has been contacted concerning the proposed project and concurs with the results of the three archaeological surveys reviewed in Chapter V. Section B of the dEIS. We understand, however, the concern that the possibility still does exist that archaeological remnants may be found on the project site. Therefore, the departmental guidelines of the Historic Sites Section will be complied with. These include cessation of work if any archaeological remains are discovered during construction and immediate contact with the Historic Sites Section.

Your comments are appreciated and will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.

  
Dyk Hee Murabayashi (Mrs.)  
President

DEB:lt

cc: Department of Accounting and General Services  
OEQC



## University of Hawaii at Manoa

Environmental Center  
Crawford 317 • 2550 Campus Road  
Honolulu, Hawaii 96822  
Telephone (808) 948-7361

March 23, 1989  
RE:0524

Dr. Marvin Miura, Director  
Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Draft Environmental Impact Statement  
Hawaii Film Facility Expansion  
Honolulu, Oahu

According to the above referenced document, the State of Hawaii, Film Industry Branch of the Department of Business and Economic Development, is proposing to expand the indoor film production facility at the makai, Diamond Head corner of Kapiolani Community College. The proposed facility will be developed in phases, with Phase I scheduled to begin in November 1989. The project site is located within the Special Management Area and the Diamond Head Special Design District.

This review was conducted with the assistance of Kem Lowry, Urban and Regional Planning; Chuck Gee, Travel Industry Management; Duane Preble, Art; Yu-Si Fok, Water Resources Research Center; and C. Anna Ulaszewski, Environmental Center.

Archaeology (page 83)

According to paragraph 3 of this section, "It was determined that any previous archeological sites have not survived in this area." What is the rationale for this statement, since "[n]o new archaeological survey was conducted on the proposed project site?" While the assumption that there are no surviving archeological sites may be correct, it cannot be verified without an archaeological study.

Visual Quality (page 59)

Provisions of the Diamond Head Special Design District and Land Use Ordinance, Section 7.40 require that attention be given to visual impacts. Without a view impact analysis, which incorporates photo-montage

Dr. Marvin Miura

- 2 -

March 23, 1989

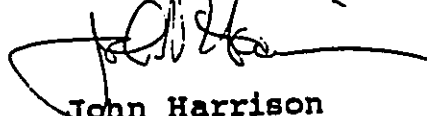
or similar technique), we are unable to assess the visual impacts of the proposed project.

Alternatives (page 83)

According to this section, ten potential sites for a film facility were evaluated in the Overview Study (1986). This study was not appended to the document, nor was a summary of the findings of this study included. This is a serious deficiency in the Draft EIS. Chapter 200 of Title 11, EIS Rules, requires that the analysis of alternatives "shall be sufficiently detailed to allow the comparative evaluation of the environmental benefits, costs, and risks of the proposed action...." We believe that a revised Draft EIS should be prepared, so that this deficiency may be rectified.

Thank you for the opportunity to comment on this document.

Yours truly,



John Harrison  
Environmental Coordinator

cc: Department of Accounting & General Services  
DHM, Inc.  
L. Stephen Lau  
Kem Lowry  
Chuck Gee  
Duane Preble  
Yu-Si Fok  
C. Anna Ulaszewski

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 7, 1989

Dr. John Harrison  
Environmental Coordinator  
Environmental Center  
University of Hawaii  
2550 Campus Road, Crawford 317  
Honolulu, Hawaii 96822

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Dr. Harrison:

Thank you for your comments on the dEIS for the Hawaii Film Facility Expansion.

Archaeology

No new archaeological study was conducted on the project site for the dEIS since there have been three archaeological studies conducted in the area. The Historic Sites Section of the Department of Land and Natural Resources, based on the findings of these studies and their own research, determined that no archaeological sites could have survived in this area. We understand, however, the concern that the possibility still does exist that archaeological remnants may be found on the project site. Therefore, the departmental guidelines of the Historic Sites Section will be complied with. These include immediate cessation of work and notification of the Historic Sites Section should any archaeological findings be made. In addition, monitoring will be provided, if necessary, during construction.

Visual Quality

Because of the Diamond Head Special Design District provisions, careful consideration has been given to visual impacts of and from Diamond Head by the architects during the design of this project. Even though the proposed soundstages are 50' in height, the proposed buildings will be approximately the same height as the existing soundstage because of topographical differences. The existing soundstage does not presently interfere with views of or from Diamond Head, nor does it impede views from Kapiolani Community College. Buildings have been carefully located in relation to these valuable viewplanes. A visual impact analysis with sectional view analysis will be included in final EIS.



Dr. John Harrison  
April 7, 1989

Page 2

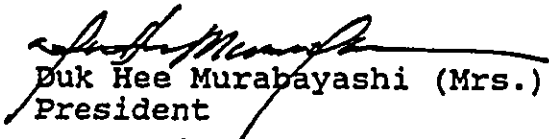
Alternatives

A brief discussion of the initially selected site is included in the dEIS. A copy of the Overview Study will be included in the final EIS as an appendix.

Your comments are appreciated and will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.

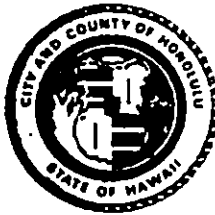
  
Duk Hee Murabayashi (Mrs.)  
President

DEB

cc: Department of Accounting and General Services  
OEQC

DEPARTMENT OF GENERAL PLANNING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU HAWAII 96813



FRANK F. FASI  
MAYOR

DONALD A. CLEGG  
CHIEF PLANNING OFFICER

GENE CONNELL  
DEPUTY CHIEF PLANNING OFFICER

KK/DGP 2/89-541

February 27, 1989

Honorable Marvin T. Miura, Director  
Office of Environmental Quality Control  
State of Hawaii  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Hawaii Film Facility Expansion  
Draft Environmental Impact Statement (DEIS)

The applicant has addressed our concerns presented in response to the EIS Preparation Notice.

We do find, however, that Section A of Chapter V, dealing with land use designations, would be more appropriate in Chapter VI, Relationship of the Proposed Action to Land Use Plan, Policies and Controls for the Affected Area. This section should be relocated in the Final EIS.

Thank you for the opportunity to comment on this matter.

Sincerely,

  
DONALD A. CLEGG  
Chief Planning Officer

DAC:js

cc: ✓ DHM, Inc.  
Department of Accounting and General Services

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 7, 1989

Mr. Donald A. Clegg  
Chief Planning Officer  
Department of General Planning  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Mr. Clegg:

Thank you for your comments on the dEIS for the Hawaii Film  
Facility Expansion.

Section A of Chapter V, dealing with land use designations will  
be relocated in Chapter VI, Relationship of the Proposed Action  
to Land Use Plan, Policies and Controls for the Affected Area, in  
the final EIS.

Your comments are appreciated and will be included in the final  
EIS.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB:lt

cc: Department of Accounting & General Services  
OEQC

DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813 • (808) 527-4432

FRANK FASI  
MAYOR

RECEIVED

'89 MAR -9 P12:18



JOHN P. WHALEN  
DIRECTOR

BENJAMIN B. LEE  
DEPUTY DIRECTOR  
89/EC-3 (ask)

OFC. OF ENVIRONMENTAL  
QUALITY CONTROL March 8, 1989

Marvin Miura, Ph. D., Director  
Office of Environmental Quality Control  
State of Hawaii  
Kekuanaoa Building, Room 104  
465 South King Street  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Hawaii Film Facility Expansion  
Draft Environmental Impact Statement

We have reviewed the subject document and offer the following questions and comments:

Traffic

The traffic assessment doesn't appear to consider those visitors not arriving by bus. Will all site visitors arrive by bus? If not, how will the facility accommodate individuals utilizing alternate methods of transportation and will the conclusions of the traffic impact analysis be altered?

Cumulative impacts of Kapiolani Community College and the proposed film facility may require modifications to planned road improvements in the area.

Parking

Calculations of the required number of parking spaces should be shown.

Infrastructure

Drainage, water, and sewer plans should be coordinated with the appropriate City agency.

Dr. Marvin Miura, Director  
Page 2

#### Grading

What will be done with the excavated material (28,500 cubic yards)? Will all of it be used on site?

#### Land Use Policies

The Department of Land Utilization (DLU) is very concerned that the visual impacts of the project violate the policy and intent of both the Special Management Area and the Diamond Head Special District.

Structures which exceed 25-feet are inconsistent with the existing height limits. A waiver or variance must be obtained from the DLU.

#### Surrounding Land Use

Kapiolani Community College (KCC) was recently granted approval to construct an Educational/Media Center (Building F2). Are there any plans to coordinate student instruction at KCC with the film facility?

The DEIS should mention that this proposal will preclude expansion of KCC at the site.

#### Views

The Environmental Assessment does not adequately address potential view impacts of all of the proposed structures. A visual impact assessment should be conducted to identify the greatest potential impacts to views of Diamond Head, views from the residential area along 18th Avenue and views along Diamond Head Road. A photo-montage, with line-of-sight photographs and outlines of proposed structures, is one method of identifying potential visual impacts.

Will electrical lines to the site from 22nd Avenue via Puu Panini be underground? If not, the visual impacts of the overhead lines should be addressed.

Although proposed structures may not totally obstruct a particular view they will create a negative visual impact. The environmental assessment should discuss landscape, architectural and design measures intended to mitigate visual impacts.

Dr. Marvin Miura, Director  
Page 3

Noise

Predicted noise levels at the south boundary will exceed State Department of Health and Land Use Ordinance noise limits. What measures might be taken to mitigate noise levels?

Thank you for the opportunity to comment on this project. If you have any questions, please contact Ardis Shaw-Kim of our staff at 523-4077.

Very truly yours,

*John P. Whalen*

JOHN P. WHALEN  
Director of Land Utilization

0231N

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 19, 1989

Mr. John P. Whalen  
Director  
Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Mr. Whalen:

Thank you for your comments to the dEIS for the Hawaii Film Facility Expansion.

Traffic

The traffic assessment does not include an evaluation of the impact of visitors to the film facility site who do not arrive on a bus since only invited visitors would be allowed onto the site and the number of invited visitors would be minimal. In general, a no visitor policy will be enacted. This is a standard policy for film facilities. It is, therefore, expected that the small number of invited visitors will not impact the traffic levels in the area.

Parking

The calculations for the required number of parking spaces will be included in the final EIS.

Infrastructure

Drainage, water and sewer plans have all been coordinated with the appropriate City agencies. An Application for Sewer Connection has been submitted to, and approved by, the Division of Wastewater Management. All other applications will be submitted and regulations complied with.

Grading

Most of the estimated 28,500-29,000 cubic yards of excavated material will be used on site during Phase I construction. Depending on the quality of the material, a portion may be disposed of at a site approved by the City and County of Honolulu. All necessary permits will be obtained prior to the disposal of any excavated material.

Mr. John P. Whalen  
April 19, 1989

Page 2

Land Use Policies

The proposed film facility expansion has been determined by DLU to be a public facility per the attached DLU letter to Robert Luersen dated September 8, 1988.

Surrounding Land Use

There are presently no plans to coordinate student instruction at KCC with the film facility. However, the concept has been informally mentioned and further discussion is possible. The final EIS will indicate that the film facility expansion will preclude KCC expansion.

Views

A view impact analysis will be included in the final EIS which will include sectional view analysis of the proposed project.

Because of the anticipated electrical requirements of the film facility, the 12 kV distribution line from 22nd Avenue to 18th Avenue via Puu Panini Avenue will be extended to service the film facility. According to the attached informational letter from the Hawaiian Electric Company, the lines will be underground and will not create a visual impact.

The final EIS will also include landscape, architectural and design measures to be utilized to mitigate visual impacts.

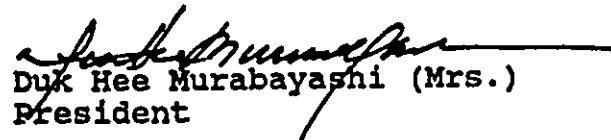
Noise

The technical building has been relocated from 25 feet to 100 feet from the south boundary along Diamond Head Road. This will reduce the impact from noise at the south boundary. A re-evaluation of the decibel level at this location will be included in the final EIS.

Your comments are appreciated and will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB

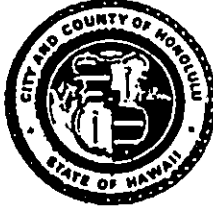
cc: Department of Accounting and General Services  
OEQC



DHM, Inc.

DEPARTMENT OF TRANSPORTATION SERVICES  
**CITY AND COUNTY OF HONOLULU**

HONOLULU MUNICIPAL BUILDING  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK F. FASI  
MAYOR

JOSEPH M. MAGALDI, JR.  
ACTING DIRECTOR

TE-792  
PL1.1461

March 10, 1989

Office of Environmental Quality Control  
State of Hawaii  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Attention: Marvin T. Miura, Ph.D.

Gentlemen:

Subject: Hawaii Film Facility Expansion  
Draft EIS  
TMK: 3-1-42: POR. 9

We have reviewed the subject document and have the following comments to offer:

1. Full frontage improvements should be provided in conjunction with the proposed project and should include the 10-foot road widening setback along 18th Avenue.
2. The two existing access gates should be consolidated into one driveway directly opposite the Diamond Head Memorial Park driveway, as indicated on page B-7 of the traffic impact report.

Questions may be referred to Mark Kikuchi of my staff at 523-4199.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph M. Magaldi, Jr.", written over a circular stamp or mark.

JOSEPH M. MAGALDI, JR.

cc: Department of Accounting  
& General Services  
DHM, Inc.

**DHM inc.**

April 7, 1989

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

Mr. Joseph M. Magaldi, Jr.  
Acting Director  
Department of Transportation Services  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Mr. Magaldi:

Thank you for your comments on the dEIS for the Hawaii Film Facility Expansion.

1. Full frontage improvements will be provided with the proposed project. These include sidewalks, curbs, gutters, pavement, necessary drainage and sewage improvements, any utility pole movement and property line adjustments.

The 10-foot road widening setback is a requirement by the Department of Transportation Services to permit a total right-of-way width of 60 feet. However, existing 18th Avenue right-of-way width is 56 feet in front of the project site. Therefore, a 4-foot widening of the road on the project side is required and is already incorporated into the project design. Please see attached March 22, 1989 memorandum regarding the phone conversation with DTS concerning this issue.

2. The project design does consolidate the access gates into one driveway located opposite the Diamond Head Memorial Park driveway. It leads into the proposed project between the parking structure and the support/administration buildings.

Your comments are appreciated and will be included in the final EIS.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB

cc: Department of Accounting and General Services  
OEQC  
Attachment

ENGINEERING CONCEPTS, INC.

MEMORANDUM

TO: Files

FROM: Kay Muranaka

DATE: March 22, 1989

SUBJECT: Diamond Head Film Facility  
Telephone Conversation with Mark Kikuchi, Department  
of Transportation Services (DTS) on March 20, 1989

=====

Call was made to question comment no. 1 of the attached letter dated March 10, 1989 from DTS to the Office of Environmental Quality Control.

Mark stated that the widening setback for 18th Avenue was to obtain a total right-of-way width of 60 feet. Since the existing width is 56 feet, the proposed 4-foot widening on the facility side of the road is all that is required.

The 10-foot road widening setback along 18th Avenue is probably applicable to the residential areas mauka of Kilauea Avenue, but does not apply to the section along the film facility site.

KM/bs

cc: ✓ DHM, Inc.  
Roy Kimura, DAGS  
Robert Luersen, JTLL



William A. Bonnet  
Manager  
Environmental Department

ENV 2-1  
JA/G

March 1, 1989

Mr. Marvin T. Miura  
Office of Environmental Quality Control  
465 South King St., Rm 104  
Honolulu, Hawaii 96813

Dear Mr. Miura

Subject: Site Plan Review for Environmental Impact Statement  
(EIS) for Hawaii Film Facilities Expansion

We have reviewed the site plan for the subject EIS and have the following comments:

1. An existing HECO overhead distribution line is located adjacent to the project along 18th Avenue (overhead line is depicted in red in Attachment 1). Electrical service to the existing facilities is tapped off of this line.
2. We do not anticipate major conflicts with the project and this existing overhead line. However, since these facilities are energized the following HECO notes are to apply to this project:
  - a. The contractor shall exercise extreme caution whenever construction crosses or is in proximity of our line, and shall maintain adequate clearance when operating equipment within or under it.
  - b. The contractor shall comply with the State of Hawaii's Occupational Safety and Health Law (DOSH).
  - c. When trench excavation is adjacent to or beneath our existing structures or facilities, the contractor is responsible for:
    - \* Sheeting and bracing the excavation to prevent slides, cave-ins and settlements.
    - \* Protecting existing structures or facilities with beams, struts, or under-pinning.
  - d. For pole bracing instructions, the contractor shall call the HECO District Construction Superintendent at 543-7745 a minimum of 72 hours in advance.

An HEI Company

Mr. Marvin T. Miura  
March 1, 1989  
Page 2

- e. Any damage to HECO's facilities will be reported immediately to HECO's Trouble Dispatcher at 543-7838.
- f. Costs for damages to HECO facilities may be borne by the contractor. This repair work shall be done by HECO, or by the contractor under HECO's supervision.

Sincerely,

*Will Borchardt*

Attachment

cc: Division of Public Works (w/o attachment)  
Department of Accounting & General Svcs.  
Diane Borchardt, DHM, Inc. (w/o attachment)



**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 7, 1989

Mr. William A. Bonnet  
Manager  
Environmental Department  
Hawaiian Electric Company, Inc.  
P.O. Box 2750  
Honolulu, Hawaii 96840

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Mr. Bonnet:


Thank you for your comments on the dEIS for the Hawaii Film Facility Expansion.

1. We concur with your statements which are included in the dEIS.
2. Necessary precautions will be taken when work is in the proximity of HECO lines. In addition, all State of Hawaii Occupational Safety and Health Law rules and regulations will be complied with.

Your comments are appreciated and will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB:lt

cc: Department of Accounting & General Services  
OEQC

1130 Kamookoa Place  
Honolulu, HI 96825  
March 23, 1989

Received

MAR 29 1989

DHM inc.

Received

MAR 29 1989

DHM inc.

Ms. Diane Borchardt  
DHM, Inc.  
1188 Bishop St. Suite 2405  
Honolulu, HI 96813

Dear Ms. Borchardt:

Even before the Diamond Head campus of Kapiolani Community College was built, I have had great interest in its existence and design. I testified at the State Legislature as a faculty member, when funds were being sought to build the campus. I have worked with campus committees and with the architect, Mr. Matsushita, on design principles. I have worked constantly with the State Foundation on Culture and the Arts to acquire works of art in harmony with the location. Currently I serve as co-chair of the Art Advisory Committee and as member of the Art and Environment Committee at the campus. In the fall, I will be chair of the Department of Humanities, which oversees the large art, music, and sports programs of our college. The projected film studio and its impact on my college are therefore of great concern to me, as well as to the members of the above committees and to other members.

I must say plainly that I and many other faculty members see no advantages to our college from the presence of the film studio. Rather, the contrary. The land that we intended for playing fields, athletic facilities, and maintenance buildings was taken away from the college. The film studio had only been just tolerated because it was small and because we were told that it would be temporary. What has happened has produced feelings of bitterness and much regret.

We are horrified to now read that on the corner of what was, until recently, our campus, there will be crammed into seven acres buildings that the Legislature (in its original appropriation) envisioned spreading over a site of sixty acres. The height of the buildings will surpasses the height limitations in the unique Diamond Head area--intelligent limitations which our campus has worked hard to abide by. Unless the studio buildings are submerged 25 feet (and are well landscaped), they will destroy views of our campus and of the mountains, when viewed from Diamond Head Road. They will also seriously mar the views from our campus to the ocean and to the slopes of Diamond Head. In addition, they will be buildings of huge dimensions and of ugly concrete, with a concrete parking structure. This kind of thing may be appropriate for the airport area or Kakaako, but not for Diamond Head. These buildings will go directly against what we have worked so hard esthetically to achieve with our campus: a beautiful, model college campus that is sensitive to the environment.

I totally oppose the building of film studio buildings at this site. However, if the studio buildings will be built at this site, I urge

that everything possible be done to make them less obtrusive--if such a thing is even possible. The colors should blend in with those of our college buildings, which are the red-brown color of the earth of Kaimuki. The roofs should be interesting in treatment--gabled, and probably painted green or dark brown, to minimize their appearance from our campus. We do not want to be looking down on warehouses. All buildings must be well sound-proofed, and all set construction must be done inside. All cables and electrical lines should be underground. Our excellent architect, Robert Matsushita, should be the major architect of the project, or at least a consultant with real power, since the studio project is geographically an extension of our campus.

A second concern is that of noise coming from below. As you know, sound rises. Many of our buildings are naturally ventilated, and this includes many classrooms. Sources of noise from the film studios could include those from film-making, set construction, and traffic.

A third concern is that of increased car and bus traffic. The presence of the college already strains the roads in the area. More traffic would be hard on our students, no matter what road-widening would be done.

A fourth concern is that of parking. Our college already does not have enough parking spaces for its students. It is inevitable that people going to the studios would make use of our parking lots, or vice versa.

A fifth concern is lack of athletic facilities and of space for any expansion of our college.

A sixth concern is that the movie studios also will be unable to expand; and some people fear that they will try to take more of our campus or will expand to other sides of Diamond Head Road.

A seventh concern is that the construction of large warehouse-like buildings will set a precedent for construction of more buildings of a like type in what is now a quiet residential and parklike area.

The word "campus" in Latin literally means "field" or "meadow." This has been a guiding idea in the construction of our college. If your project could be accomplished, and still allow for quiet, peace, and natural beauty, then I could be for it. Otherwise, I and my fellow committee members must be opposed.

Lastly, I should mention that University and Community College administrators are silent because they do not want to endanger funding for the rest of our campus. But their silence does not mean consent. I am troubled that they do not feel free to speak out. The fact that their honest ideas are strangled by political considerations seriously flaws the whole idea of valid response to an environmental impact statement.

Sincerely,



Michael Molloy

158

Co-chair, Art Advisory Committee



**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 11, 1989

Mr. Michael Molloy  
1130 Kamookoa Place  
Honolulu, Hawaii 96825

SUBJECT: Draft Environmental Impact Statement (dEIS)  
Hawaii Film Facility Expansion

Dear Mr. Molloy:

We received your March 28, 1989 letter regarding the dEIS for the Hawaii Film Facility Expansion. Even though your comment was received after the March 25, 1989 deadline, we will respond to your concerns. All the answers to your questions are within the dEIS but for your better understanding, the following answers will be repeated here.

There has been considerable effort by the architect to site the film facility buildings for minimum impact on views of and from Diamond Head and Kapiolani Community College (KCC). Even though the proposed soundstages are taller than the 25' height limit in the area, because of topographical differences, the proposed soundstages will be approximately the same height as the existing soundstage. The existing soundstage does not currently impede views from KCC. In addition, the proposed soundstages will not rise above the lowest KCC parking area which is considerably lower than the lowest KCC buildings. A view impact analysis will be included in the final EIS which will include sectional view analysis.

The soundstages will be totally soundproofed, a necessity for the function of these buildings. Set construction will occur within the technical building. This building is located 200' from the north boundary and 650' from the closest KCC building, Building G, which is an administration building. The KCC classrooms are located further away than Building G. The proposed soundstages are sited between the technical building and the KCC campus which further reduces possible noise impacts to the campus. Noise levels within the technical building are expected to range from 65 dB to 85 dB at the operator's position. Predicted noise impacts to KCC buildings range from 25 dB to 55 dB. To put these decibel ranges into perspective, according to The Noise Guidebook (U.S. Department of Housing & Urban Development), 25 dB cannot be heard by humans and 55 dB is equivalent to standard office noise. Therefore, the risks of adverse noise impacts to KCC are considered minimal, if any.

Mr. Michael Molloy  
April 11, 1989

Page 2


The average number of employees at the film facility is 100. The worse case would be an estimated 35% of the employees arriving during the morning peak hour which would be approximately 40 employees. No vehicles will be leaving the facility during the morning peak hours since they will have left prior to morning peak traffic. The afternoon traffic leaving the studio will be staggered beginning at approximately 3:00 p.m. which results in a minimal impact to the afternoon peak traffic. The traffic impact analysis concluded that the film facility expansion will not change the level of service (LOS) for Diamond Head Road or 18th Avenue. The projected change in slightly poorer LOS on these roads is due to the result of traffic growth due to anticipated KCC enrollment increases.

Sufficient parking will be provided for the number of people utilizing the film facility. It is not anticipated that KCC parking lots will be used for film facility parking.

Thank you for your concern and your comments will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB

cc: Department of Accounting and General Services  
OEQC



**THE OUTDOOR CIRCLE**

*Established 1912  
A Non-profit Organization*

**RECEIVED** 200 No. Vineyard Blvd., Suite 506, Honolulu, HI 96817  
(808) 521-0074

89 MAR 29 12 48 PM '89

OFC. OF ENVIRONMENTAL  
QUALITY CONTROL

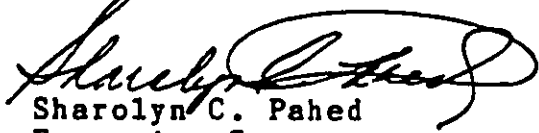
Mr. Marvin Miura, PH.D., Director  
Office of Environmental Quality Control  
State of Hawaii  
465 S. King Street  
Honolulu, Hawaii 96813

Dear Mr. Miura:

Enclosed you will find a copy of our statement to Mrs. Murabayashi regarding the Draft EIS on the Hawaii Film Facility Expansion.

Please include this with your list of comments and apologies for our tardiness.

Mahalo,

  
Sharolyn C. Pahed  
Executive Secretary

**BRANCHES**

KANEHOHE      KAUAI      KONA      LANI-KAILUA      NORTH SHORE      MAUI      WAI MOMI (AIEA)

**GARDEN CIRCLES**

HAWAII-KAI      KOHOLA, HAWAII      LANI-KAI      WAIALAE-KAHALA



# THE OUTDOOR CIRCLE

Established 1912  
A Non-profit Organization  
200 No. Vineyard Blvd., Suite 506, Honolulu, HI 96817  
(808) 521-0074

January 12, 1989

Mrs. Duk Hee Murabayashi, President  
DHM INC.  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813

SUBJECT: Review of Hawaii Film Facility  
Environmental Assessment -  
at Kapiolani Community College,  
Diamond Head.

Dear Mrs. Murabayashi:

The Outdoor Circle is deeply concerned with the proposed expansion of the film facility at its present Diamond Head site. We can find no justification for the location chosen.

Our organization has no objection to the statement of purpose or the need to develop the film industry and a film facility, however, we cannot help but question the use of tax dollars for such a purpose.

The existing 12,000 sq. ft. soundstage has always been considered a temporary structure and temporary use. The present facility has been tolerated because it was to be just that -- temporary!

The proposed buildings will be over three and a half times the size of the existing structure. Further, they are proposed to go from the present height of 22 feet to 50 feet. Page 25 states "the proposed studio facilities will be one to two stories high". How can the proposed 50 foot high buildings (page 8) be considered one or two story buildings?

This proposed cluster of buildings would include two gigantic fortress-like concrete block sound facilities 50' in height and each 16,500 sq. ft. in area. No amount of landscaping (see page 21) could offset the negative impact of this proposal. We believe this is totally incompatible with the surrounding residential neighborhood.

			BRANCHES			
KANEOME	KAPA	KONA	LANI-KAILUA	NORTH-SHORE	MAUI	WAINOMI AREA
			GARDEN CIRCLES			
HAWAII KAI		KOHALA-HAWAII		LAIE-KAI		WAIALAE-KAHALA

Mrs. Duk Hee Murabayashi  
January 12, 1989  
Page 2

The Kapiolani Community College development is a tremendous asset to the State of Hawaii and its development has been sensitive to the residential character of this area. The surrounding area, bordering the Diamond Head State Monument, falls within the Diamond Head Special District Ordinance with a height limit of 25 feet. The college has kept the height of its buildings within one or two feet of this 25 foot limit. They have taken into consideration the contour of the land and the need for open space and tree cover as a proper setting for Diamond Head.

This proposed project would take over 15% of the land originally set aside for the completion of the community college. The loss of these lands precludes any real future expansion of the college, and certainly would be confining to the industry also.

The Outdoor Circle seriously questions this commercial use of these state lands at Diamond Head. Thank you for your consideration of our concerns.

Sincerely,

*Luci Pfaltzgraff*  
Luci Pfaltzgraff,  
Diamond Head Chairperson

*Susan L. Fristoe*  
Susan Fristoe,  
1st Vice President

**DHM inc.**

land use  
and environmental  
planning

1188 Bishop Street  
Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9855

April 13, 1989

Ms. Luci Pfaltzgraff  
Diamond Head Chairperson  
The Outdoor Circle  
200 No. Vineyard Boulevard, Suite 506  
Honolulu, Hawaii 96817

Dear Ms. Pfaltzgraff:

We received your March 29, 1989 letter regarding the dEIS for the Hawaii Film Facility Expansion. Even though your comment letter was received after the March 25, 1989 deadline and it is the same letter submitted for comment to the EISPN, we will respond to your concerns.

The proposed 50-foot high soundstages will be located 220 feet back from 18th Avenue. The approximate elevation at the top of the proposed soundstages is 154 feet. Even though the proposed soundstages are taller than the existing 25-foot soundstage, due to topographical differences in the project site, the top of the roofs of the proposed soundstages and the existing soundstage will be approximately the same height.

The ground elevations at the lower KCC parking lot, the upper KCC parking lot and the closest KCC buildings are 136 feet, 160 feet and 180 feet, respectively. The view from the lower KCC parking lot will be somewhat impacted. A person standing at the upper KCC parking lot would not have his long range view interrupted by the soundstages. This is because the top of the soundstages is 6 feet lower than the ground elevation of the upper KCC parking lot and, in addition, the upper KCC parking lot is approximately 500 feet mauka of the proposed soundstages. The view plane from the KCC administration building also will not be interrupted since the administration building is at a higher ground elevation than the upper KCC parking lot. A visual impact analysis of the proposed project with sectional view analysis will be included in the final EIS.

The proposed expanded film facility has been designated a public use facility by the Department of Land Utilization according to Article 9, "Public Use and Structures" of the Land Use Ordinance.

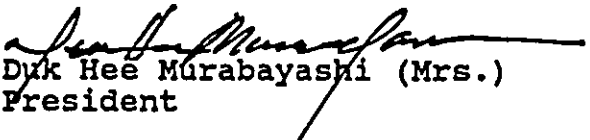
Ms. Luci Pfaltzgraff  
April 13, 1989

Page 2

Your comments and cover letter are appreciated and will be included in the final EIS.

Sincerely,

DHM inc.

  
Duk Hee Murabayashi (Mrs.)  
President

DEB:lt

cc: Department of Accounting & General Services  
OEQC

UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SOIL  
CONSERVATION  
SERVICE

P. O. BOX 50004  
HONOLULU, HAWAII  
96850

March 28, 1989

Dr. Marvin Miura, Director  
Office of Environmental Quality Control  
State of Hawaii  
465 South King Street, Room 104  
Honolulu, HI 96813

Dear Dr. Miura:

Subject: Draft Environmental Impact Statement (DEIS) -  
Hawaii Film Facility Expansion, Diamond Head, HI

We have no comments to offer at this time; however, we would appreciate the opportunity to review the final EIS.

Sincerely,

*Warren M. Lee*  
WARREN M. LEE  
State Conservationist

cc:  
Department of Accounting & General Services, Project Management Branch,  
Division of Public Works, 1151 Punchbowl Street, Honolulu, HI 96813  
Diane Borchardt, DHM, Inc., 1188 Bishop Street, Ste. 2405,  
Honolulu, HI 96813





DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
BUILDING 230  
FT. SHAFTER, HAWAII 96858-5440

March 24, 1988

REPLY TO  
ATTENTION OF:  
Planning Branch

Dr. Marvin Miura  
Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) for Hawaii Film Facility Expansion, Diamond Head, Honolulu, Hawaii. The following comments are offered:

- a. A Department of the Army permit is not required for this project.
- b. The flood hazard information presented on page 71 of the DEIS (section VI.A.1., "Federal Flood Insurance Program") is accurate.

Sincerely,

  
Kisuk Cheung  
Chief, Engineering Division

Copies furnished:

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

✓DHM, Inc.  
ATTN: Diane Borchardt  
1188 Bishop Street, Suite 2405  
Honolulu, Hawaii 96813



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
PACIFIC ISLANDS OFFICE

P.O. BOX 50167  
HONOLULU, HAWAII 96850

ES  
Room 6307

FEB 15 1989

Dr. Marvin T. Miura  
Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Re: Draft Environmental Impact Statement, Hawaii Film Facility  
Expansion, Diamond Head, Honolulu, Hawaii

Dear Dr. Miura:

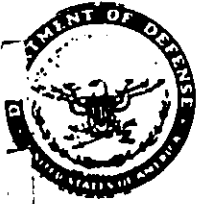
This responds to your letter of February 1989. To the best of our knowledge, no listed or proposed endangered species, migratory birds, or anadromous fishes within our jurisdiction occur in the proposed project area(s). However, due to current manpower and budget restrictions, the Office of Environmental Services cannot devote the time necessary to conduct a thorough review of fish and wildlife concerns associated with the referenced action at this time. We strongly recommend that you consult directly with the State Department of Land and Natural Resources.

Please be advised that this notification does not represent Service approval of, or support for, the proposed activity. The Service may review future actions related to this proposal should administrative constraints be alleviated or if adverse impacts to significant fish and wildlife resources are identified. Please continue to keep this office apprised of the project's status.

Sincerely yours,

*Ernest R. Kosaka*  
for Ernest Kosaka  
Field Office Supervisor  
Environmental Services

cc: DLNR  
Dept. of Accounting & General Svcs.  
✓DHM, Inc.



DEPARTMENT OF THE NAVY

COMMANDER  
NAVAL BASE PEARL HARBOR  
BOX 110  
PEARL HARBOR, HAWAII 96860-5020

IN REPLY REFER TO

5090 (109B)  
Ser 032/422  
10 Feb 1989

Marvin T. Miura, Ph.D.  
Office of Environmental Quality Control  
465 South King St., Rm 104  
Honolulu, HI 96813

Gentlemen:

HAWAII FILM FACILITY EXPANSION

The Draft Environmental Impact Statement (DEIS) for Hawaii Film Facility Expansion has been reviewed, and we have no comments to offer. Since we have no further use for the DEIS, it is being returned to your office.

Thank you for the opportunity to review the draft.

Sincerely,

W. K. LIU  
Assistant Base Civil Engineer  
By direction of  
the Commander

Encl  
(1) DEIS

Copy to: (w/o encl)  
Dept of Acctg & General Svcs  
Project Management Branch  
Division of Public Works  
1151 Punchbowl St.  
Honolulu, HI 96813

✓DHM, Inc  
1188 Bishop St., Ste 2405  
Honolulu, HI 96813

REPRODUCED AT GOVERNMENT EXPENSE

(P)1155.9

FEB 28 1989

Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Attention: Dr. Marvin T. Miura

Gentlemen:

Subject: Hawaii Film Facility Expansion  
Draft Environmental Impact Statement

We have reviewed the subject document and have no  
comments to offer.

Very truly yours,



TEUANE TOMINAGA  
State Public Works Engineer

SM:jnt  
cc: DHM  
PMB

JOHN WAIHEE  
GOVERNOR



YUKIO KITAGAWA  
CHAIRPERSON, BOARD OF AGRICULTURE  
SUZANNE D. PETERSON  
DEPUTY TO THE CHAIRPERSON

State of Hawaii  
DEPARTMENT OF AGRICULTURE  
1428 So. King Street  
Honolulu, Hawaii 96814-2512

Mailing Address:  
P. O. Box 22159  
Honolulu, Hawaii 96822-0159

April 21, 1989

MEMORANDUM

To: Dr. Marvin T. Miura, Director  
Office of Environmental Quality Control

Subject: Draft Environmental Impact Statement (DEIS) for  
Hawaii Film Facility Expansion  
Department of Accounting and General Services  
TMK: 3-1-42: por. 9 Honolulu, Hawaii  
Area: 7.477 acres

The Department of Agriculture has reviewed the subject document and has no comments to offer.

Thank you for the opportunity to comment.

*Yukio Kitagawa*  
YUKIO KITAGAWA  
Chairperson, Board of Agriculture

cc: DAGS  
DHM Inc. ✓





**DEPARTMENT OF BUSINESS  
AND ECONOMIC DEVELOPMENT**

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813

JOHN WAIHEE  
GOVERNOR  
ROGER A. ULVELING  
DIRECTOR  
BARBARA IOM STANTON  
DEPUTY DIRECTOR  
LESLIE S. MATSUBARA  
DEPUTY DIRECTOR

February 10, 1989

Dr. Marvin T. Miura  
Office of Environmental Quality Control  
650 South King Street  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Subject: Hawaii Film Facility Expansion, Diamond Head,  
TMK: 3-1-42: Por 9

Thank you for the opportunity to review the Draft EIS. We have  
no comments to offer at this time.

Sincerely,

MAURICE H. KAYA  
Energy Program Administrator

MHK/hk

cc: Department of Accounting & General Services  
✓ Diane Borchardt, DHM, Inc.

JOHN WAIHEE  
GOVERNOR



JOSEPH K. CONANT  
EXECUTIVE DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT  
HOUSING FINANCE AND DEVELOPMENT CORPORATION

IN REPLY REFER

TO:

P. O. BOX 23360  
HONOLULU, HAWAII 96820-1760  
March 2, 1989

89:PLNG/709B JT

MEMORANDUM

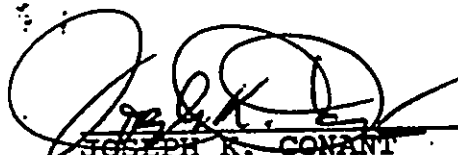
TO: Dr. Marvin T. Miura, Director  
Office of Environmental Quality Control

FROM: Joseph K. Conant

SUBJECT: Draft Environmental Impact Statement for the Proposed  
Hawaii Film Facility Expansion

Thank you for the opportunity to review the subject draft  
EIS. We have no comments to offer.

As we have no further use for the EIS, we are returning it  
to your office.

  
JOSEPH K. CONANT  
Executive Director

Enclosure

cc: Department of Accounting and General Services  
DHM, Inc.

STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
3010 Kalia Road Honolulu, Hawaii 96841

FEB 9 1983

Engineering Office

Office of Environmental Quality Control  
465 S. King Street, Room 104  
Honolulu, Hawaii 96813  
Attn: Marvin T. Miura, Ph.D

Dear Dr. Miura:

Hawaii Film Facility Expansion  
Diamond Head, Honolulu, Hawaii TMK: 3-1-42:Por 9

Thank you for providing us the opportunity to review the subject project.

We have no comments to offer at this time regarding this project.

Sincerely,

SIGNED

Jerry M. Matsuda  
Major, Hawaii Air  
National Guard  
Contr & Engr Officer

Enclosures

cc: DACS, Project Management Branch  
DHK, Inc., Diane Borchardt ✓



JOHN WAIHEE  
GOVERNOR OF HAWAII



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

JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

In reply, please refer to:  
EPHSD

March 6, 1989

MEMORANDUM

To: Dr. Marvin T. Miura, Director  
Office of Environmental Quality Control

From: Deputy Director for Environmental Health

Subject: Draft Environmental Impact Statement (DEIS) for Hawaii Film Facility  
Expansion, Diamond Head, Honolulu, Hawaii, TMK 3-1-42: Por. 9

Thank you for allowing us to review and comment on the subject DEIS. We do not have any comments at this time.

  
BRUCE S. ANDERSON, Ph.D.

cc: DAGS  
DHM, Inc. ✓

JOHN WAIHEE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION AND COMMENT  
HONOLULU, HAWAII 96813

FEB 17 1989

EDWARD Y. HIRATA  
ENGINEER

DEPUTY DIRECTORS  
JOHN K. UCHIMA  
RONALD N. HIRANO  
DAN T. KOCHI  
JEANNE K. SCHULTZ

IN REPLY REFER TO

HWY-PS  
2.5061

DECEMBER

'89 FEB 22 AM 12:29

11 11 11  
11 11 11

MEMORANDUM

TO: Office of Environmental Quality Control  
ATTN: Marvin T. Miura, Ph.D.  
FROM: Director of Transportation  
SUBJECT: DRAFT EIS, HAWAII FILM FACILITY EXPANSION  
DIAMOND HEAD, HONOLULU, HAWAII  
TMK: 3-1-42: POR 9

The proposed film facility is remotely located from our State highway system and is not anticipated to directly affect our roadways.

Thank you for the opportunity to review and comment on the subject DEIS.

  
EDWARD Y. HIRATA

BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU



COPY

March 7, 1989

Marvin T. Miura, Ph.D.  
Office of Environmental Quality  
Control  
465 South King Street, Rm. 104  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Subject: Your Letter Received on February 8, 1989 on the  
Environmental Impact Statement for Hawaii Film  
Facility

We have no additional comments on the proposed project. Our previous comments, which are included in the report, are still valid and applicable to the project.

If you have any questions, please contact Lawrence Whang at 527-6138.

Very truly yours,

KAZU HAYASHIDA  
Manager and Chief Engineer

cc: Dept. of Accounting and General Services  
DHM, Inc.

PB 89-150

February 23, 1989

Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Attn: Marvin T. Miura, Ph.D

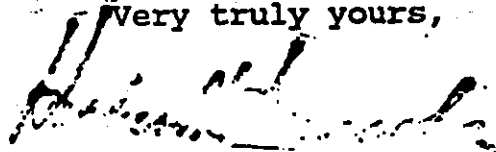
Gentlemen:

Subject: Draft Environmental Impact Statement  
Hawaii Film Facility Expansion  
TMK: 3-1-42:9 (Portion)

We have reviewed the draft EIS for the proposed Hawaii Film Facility Expansion project and have no comments.

Thank you for the opportunity to review the document.

Very truly yours,

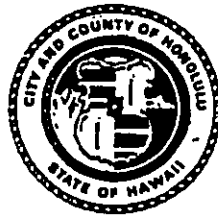


HERBERT K. MURAOKA  
Director and Building Superintendent

TH:ly  
cc: J. Harada  
Dept. of Accounting &  
General Services  
DHM, Inc.

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 5TH FLOOR  
HONOLULU, HAWAII 96813  
PHONE: 523-4427



FRANK F. FASI  
MAYOR

MIKE N. SCARFONE  
DIRECTOR

HIRAM K. KAMAKA  
DEPUTY DIRECTOR

March 8, 1989

Marvin Miura, Ph.D.  
Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Subject: Draft Environmental Impact Statement  
Hawaii Film Facility Expansion  
Diamond Head, Honolulu, Hawaii

Thank you for the opportunity to review and comment on the Draft EIS for the Hawaii Film Facility Expansion.

We have no comments at this time. We will retain a copy of the Draft EIS for our files.

Sincerely,

A handwritten signature in cursive script, reading "Michael N. Scarfone".

MICHAEL N. SCARFONE  
Director

cc: Department of Accounting and  
General Services  
✓DHM, Inc.

DEPARTMENT OF PARKS AND RECREATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

FRANK F. FASI  
MAYOR



WALTER M. OZAWA  
DIRECTOR

March 29, 1989

Dr. Marvin Miura, Director  
Office of Environmental Quality Control  
State of Hawaii  
Kekuanaoa Building, Room 104  
465 South King Street  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Subject: Draft Environmental Impact Statement for the Proposed  
Hawaii Film Facility Expansion

The proposed Hawaii Film Facility Expansion project will not have any adverse impact on recreation facilities in proximity to the project site.

Thank you for the opportunity to review the Draft Environmental Impact Statement.

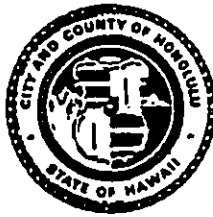
  
WALTER M. OZAWA, Director

WMO:ei

cc: ✓DHM, Inc.  
Project Management Branch  
Department of Accounting & General Services

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK F. FASI  
MAYOR

SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER

In reply refer to:  
ENV 89-28(449)

March 1, 1989

Mr. Marvin T. Miura, Ph.D.  
Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

Dear Dr. Miura:

Subject: Draft Environmental Impact Statement  
for the Hawaii Film Facility Expansion  
(TMK: 3-1-42: Por. 9)

We have reviewed the subject draft environmental impact statement and have the following comments:

1. Existing municipal sewers are available and adequate for the proposed film facility expansion.
3. We do not have drainage comments at this time.

Very truly yours,

A handwritten signature in cursive script that reads "Sam Callejo".

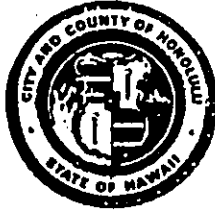
SAM CALLEJO  
Director and Chief Engineer

cc: Department of Accounting and  
General Services  
/DHM, Inc.

FIRE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

1455 S. BERETANIA STREET, ROOM 305  
HONOLULU, HAWAII 96814

FRANK F. FASI  
MAYOR



FRANK K. KAHOOHANOHANO  
FIRE CHIEF

LIONEL E. CAMARA  
DEPUTY FIRE CHIEF

February 10, 1989

Office to Environmental Quality Control  
465 S. King St., Room 104  
Honolulu, Hawaii 96813

ATTENTION: Marvin T. Miura, Ph.D

Dear Sir:

SUBJECT: Hawaii Film Facility Expansion  
Diamond Head, Honolulu - TMK: 3-1-42:por. 9

We have reviewed the EIS draft and have no additional comments.

Should you have any questions, please contact Battalion Chief Kenneth Word of our Administrative Services Bureau at 943-3838.

Very truly yours,

  
FRANK K. KAHOOCHANOHANO  
Fire Chief

HA:ny

Attachment: EIS draft

Copy to: Dept. of Accounting & General Services  
Project Management Branch  
Division of Public Works  
1151 Punchbowl Street, Honolulu 96813

✓ DHM, Inc.  
1188 Bishop Street, Suite 2405  
Honolulu 96813  
Attn: Diane Borchardt



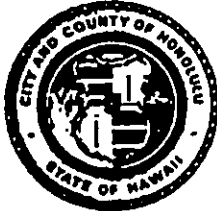
POLICE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

1455 SOUTH ULIKI TANIA STREET  
HONOLULU, HAWAII 96814 - AREA CODE (808) 943-3111

FRANK F. FASI  
MAYOR

DOUGLAS G. GIBB  
CHIEF

WARREN FERREIRA  
DEPUTY CHIEF



ES-LK

OUR REFERENCE

March 3, 1989

Mr. Marvin T. Miura, Ph.D.  
Office of Environmental Quality Control  
465 South King Street, Room 104  
Honolulu, Hawaii 96813

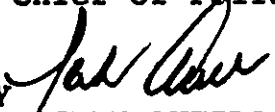
Dear Dr. Miura:

We have reviewed the environmental impact statement for the proposed expansion of the Hawaii Film Facility at Diamond Head. The project should not result in any significant increase in calls for police service in the area, and we have no comments to offer on the proposal.

Sincerely,

DOUGLAS G. GIBB  
Chief of Police

By

  
JOSEPH AVEIRO  
Acting Assistant Chief of Police  
Support Services Bureau

cc: Department of Accounting  
and General Services  
DHM, Inc.

22nd AVENUE COMMUNITY ASSOCIATION  
c/o John H. Sato  
1018 Ipo Place  
Honolulu, HI 96816

(14)  
RECEIVED  
DIRECTORS OFFICE  
FEB 27 10 26 AM '89  
BUSINESS & ECONOMIC  
DEVELOPMENT

February 22, 1989

Mr. Roger A. Ulveling, Director  
Department of Business and Economic Development  
P. O. Box 2339  
Honolulu, Hawaii 96804

Subject: Draft Environmental Impact Statement For  
Hawaii Film Facility Expansion Project

Dear Mr. Ulvelings:

Thank you for the opportunity to review the subject matter.

A serious concern of our association has been the drainage problem in the general area of the film facility. However, this appears to have been well addressed in the proposal for this project.

Therefore, in view of the many benefits that would accrue to the various segments of our local economy, we wish to advise you of our support for this project.

Yours very truly,

22nd AVENUE COMMUNITY ASSOCIATION

  
John H. Sato, President

cc: Brian Yanagi, Chairman  
Kaimuki Neighborhood Board

# Chapter XV

XV. COMMENTS PERTAINING TO THE PUBLIC HEARINGS

During the dEIS review period the proposed project was presented to the following community organizations:<sup>57</sup>

Kaimuki Neighborhood Board	-	March 30, 1989
Diamond Head Neighborhood Board	-	April 06, 1989
East Diamond Head Association	-	April 19, 1989
Waialae-Kahala Neighborhood Board	-	April 20, 1989

The Hawaii Film Facility Expansion project was presented at each of the community meetings by representatives of the Film Industry Branch (DBED), Johnson Tsushima Luersen Lowrey Inc., and DHM inc. Each of the neighborhood board meetings consisted of a presentation by the above mentioned team followed by questions and comments from the audience and the Board members. Action was then taken to present the issue for vote by the Board members.

1. Kaimuki Neighborhood Board

After extensive audience and Board questions and comments, the Kaimuki Neighborhood Board was divided on the issue of the proposed project and was not able to take a position for or against the film facility expansion.

Of the approximate 40-50 residents in the audience, a vote indicated this group was also divided on the proposed project.

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57. Copies of meeting agendas, letters and, where available, minutes of meetings are included at the end of this Chapter.

2. Diamond Head Neighborhood Board

After audience and Board questions and comments, the Board voted in opposition to having a film facility funded by the State due to the inappropriate location of the proposed site.


3. East Diamond Head Association

This community informational forum had a range of guest speakers in support of and opposed to the proposed project. Comments and questions concerning the proposed project included height, visual impacts, traffic, association with KCC and architectural design. No consensus of support or opposition was requested.

4. Waiālae-Kahala Neighborhood Board

After audience and Board comments and questions, the Board agreed to pass on a vote at the time of the April 20th meeting. A sub-committee was formed to re-evaluate a decision made at the March 16, 1989 meeting recommending, 1) the proposed project remain within the present height restrictions of the area, and 2) the buildings be designed in a similar fashion to the KCC buildings.

**Kaimuki Neighborhood Board No. 4**  
INVITES YOU TO A PRESENTATION ON THE:



# Proposed State Film Studio

AT THE CORNER OF 18th AVENUE AND DIAMOND HEAD ROAD

SPEAKER: Georgette Deemer  
Director  
State Film Industry Branch

THURSDAY, MARCH 30, 1989

7:30 P.M.

KAIMUKI LIBRARY  
1041 Koko Head Avenue

Come and Listen!



Ask Questions!

FOR INFORMATION, CALL THE NEIGHBORHOOD COMMISSION OFFICE AT 523-4768.

Hilton also noted that studies elsewhere have shown that reforms have been successful when agreements were reached on agreeing there is a problem, on what the problem is, and on how to solve the problem.

Questions, answers and comments followed:

1. Senator Bert Kobayashi reported that the Senate is working on appropriating the entire \$90 million for the facilities maintenance fund. Earlier in the session, the proposed appropriation was substantially less.

Hilton was thanked for attending the meeting.

VARIANCES:

SIGN VARIANCE REQUEST BY HONOLULU ASSEMBLY OF GOD FOR A CROSS - Rev. Hendrick addressed the Board and guests. Hendrick reported that the church is seeking a variance from the City's sign ordinance to replace and relocate an existing cross from the side of the church to the roof. The new, non-illuminated cross would be approximately six feet higher than the existing cross.

Discussion followed where it was noted that the Outdoor Circle is on record as opposing the granting of a variance. Yamane moved and Iwasa seconded that the Board support the granting of a variance for the cross. Discussion followed. The motion failed to pass, 5-3. Yea: Lum, Yamane, Iwasa, Imada, Cater. Nay: Lao, Caldwell, Loomis.

20TH AVENUE AND LUAWAI AVENUE -Cater reported receipt of an application for a variance. Anyone interested may see him for details.

\* PROPOSED STATE FILM STUDIO AT 18TH AVENUE AND DIAMOND HEAD ROAD - Vice Chair Cater introduced Georgette Deemer from the State Department of Business and Economic Development. Deemer introduced members representing the State's proposal; Roy Kimura from Department of Accounting and General Services; Cynthia Umetsu from the architectural firm for the project; Diane Borchardt and Duk Hee Murabayashi from the consulting firm of DHM, Inc.

Deemer reported that the State's objective is to provide a film studio to create new jobs and taxes for the local economy and to encourage the tourism industry. The State proposes to develop the studio as private industry is not willing to take the risk.

The site at the mauka-ewa (north-west) corner of 18th Avenue and Diamond Head Road is 7.5 acres, was chosen from ten possibilities. Once dropped from consideration due to non-availability, it is now available due to a land transfer from the University of Hawaii to the State. The State would manage the studio through a management team hired by the Hawaii High Tech Development Corporation.

Architect Cynthia Umetsu reported the studio would feature:

1. Retention of the existing soundstage.
2. Addition of up to two additional soundstages.
3. Replacement of the existing warehouse.
4. Replacement of wooden structures being used as offices.
5. Construction of a two-level parking structure.
6. Improvements to 18th Avenue including widening, access, and a sidewalk.

Phase I of the development would include the construction of one soundstage and technical buildings, offices, and parking lot. Other facilities including the parking structure would be built at a later date.

The site would be developed to minimize the impact of the structures on the surrounding area.

1. The soundstage(s) would be approximately 110 x 150 x 50 feet high at the roof's ridge, would be no taller than the existing soundstage, and the tallest point would be at the level of Diamond Head Road. The feasibility of a reduced height soundstage that could serve 95% of industry needs is being explored. Also included would be a detached building for electrical equipment, etc.
2. Technical buildings for set construction and storage would be separated from the soundstages and be approximately 50 x 115 feet, and would be set back from Diamond Head Road.
3. Three new office buildings would be constructed at the 18th Avenue and Diamond Head Road corner of the lot.
4. The proposed two-level parking structure, required by DLU to meet parking requirements would face and be set back from 18th Avenue. It and the property would be heavily landscaped.

Diane Borcharot from DHM, Inc. reported on the Draft Environmental Impact Statement.

Studies for the EIS identified no endangered plants on the site, but on the nearby slopes of Diamond Head.

Three studies, the last two in 1981 and 1988 for the development of Kapiolani Community College and by the State Department of Land and Natural Resources identified no significant archeological or historic sites. If any are found during construction, a halt would be called for an evaluation to be made.



Board member Loomis left at this time.

Questions, answers and comments followed:

1. Economically, the facility would create indirect benefits to the State's economy - jobs, businesses, taxes, etc. from production company's operation.
2. The entrance to the facility on 18th Avenue would be opposite the entrance to the cemetery across the street. Setbacks will allow for road widening.
3. Other sites evaluated for the film studio included: Bouganville Industrial area, Kailua Girl's Home, Waiialae Drive In, slopes of Diamond Head, Queens Beach, a Hawaii Kai Valley, Aina Haina, the shooting range near Koko Head, this existing site last used by the Magnum P.I. TV series, and the Kapiolani Park Golf Driving Range.
4. Problems with flooding, access and costs limit siting the buildings below grade only to a limited extent.
5. Viewplanes of Diamond Head will not be affected, the buildings will not be taller than any existing structures.
6. Economic benefits to the State by a TV series such as Magnum P.I. were approximately \$50 million annually.
7. Other sites were not favored by the industry - too far from stars' and production crews' residences or location shooting sites.
8. This site is away from air traffic which is on the other side of Diamond Head.
9. The loss of land for this project that was to be used by Kapiolani Community College (KCC) was questioned as well as any educational and/or financial benefits of the studio on to KCC/University of Hawaii students and adverse impacts such as traffic, noise, esthetics, future expansion, setting a precedent for a commercial activity in a non-commercial, residential area.
10. The politics involved in the site selection.
11. Possible support if mitigation measures are taken. Noted was the standards for the development of Kapiolani Community College to minimize impacts on the area.
12. Desirability to develop the studios to the full 50 foot height rather than a smaller, less usable one.

KAIMUKI NEIGHBORHOOD BOARD NO. 4  
MINUTES OF REGULAR MEETING  
MARCH 30, 1989  
PAGE 8

13. Limitations due to the small size of the site. It was noted that this site does not include outdoor, back lot type sets as were proposed at one time.
14. A show of hands indicated divided community support/opposition to the proposal.
15. Development process includes Special Management Area and Diamond Head Special Design District Permits.
16. Suggestion that the studios be developed in Ewa, as part of the second city development.

Iwasa moved and Leo seconded that the Board not support the film studio at this location. The motion failed, 4-3. Yea: Iwasa, Lum, Leo, Cater. Nay: Imada, Caldwell, Yamane.

KAIMUKI RADIO TRANSMISSION INTERFERENCE - Resident Mae Yoshida reported on experiences with radio transmission interference being heard on her telephones. Discussion followed, and continued after the meeting on the installation of filters on the phone lines by the telephone company.

STATE GENERAL FUND SURPLUS - \$200 INCOME TAX REBATE - Vice Chair Cater reported there was no new information to report on this proposal.

UNFINISHED BUSINESS: Deferred.

ADJOURNMENT: The meeting was adjourned at 10:07 p.m.

Submitted by,

John Cater  
Vice Chair

Robin Fern Loomis  
Secretary

Dean Chu  
Neighborhood Assistant

- 3) Residents with suggestions or comments are welcomed to call HPD's Security Watch.
- 4) Discussion ensued on the problem of gang related incidents in the neighborhood.

B. HONOLULU FIRE DEPARTMENT - Firefighter Komine reported that the Waikiki Fire Station received a new ladder truck.

Questions, answers, and comments followed:

- 1) The Honolulu Fire Department was commended for their wonderful job in the community.
- 2) Since January 1989, there have been about 30 to 40 alarms in the area.

Board member Kenneth Chang arrived at this time.

C. MAYOR'S REPRESENTATIVE - Ted Jurg reported the following:

- 1) The adjacent lot frontage makai of 1336 St. Louis Drive is scheduled to be cleaned of the overgrown weeds.
- 2) The Department of Transportation Services will be implementing a left turn from Monsarrat Avenue onto Paki Avenue. The road will be restriped, instead of widened. This left turn is only an experimental study.
- 3) Mayor Fasi opposed the deletion of the Kapiolani Park Expansion from the Primary Urban Center Development Plan Public Facilities Map. But, since this particular amendment was in a package with a number of needed amendments, Mayor Fasi signed it into law.

D. PRESENTATION BY DIANA BORCHARDT (DHM INC.): PROPOSED FILM STUDIO EXPANSION AT 16TH AVENUE AND DIAMOND HEAD ROAD - Borchardt stated that one major objective for having a film studio is to provide a permanent studio facility (in Hawaii) for the film industry. Furthermore, the studio would contribute millions of dollars to the economy. Benefits of the film studio include: (1) compliments the visitor industry, (2) creation of jobs, (3) major productions will use local businesses, and (4) it will start an educational training for Hawaii's young people who are interested in a career in television. The film studio will be managed by the State.

A 1986 feasibility study looked at ten possible sites for the film studio. Two recommended sites were located in Hawaii Kai. The Kapiolani Community College (KCC) site was included in the study, however, was dropped from consideration due to non-availability of the land. Due to a land transfer from the University of Hawaii to the State, the KCC site is now available.

The proposed film studio is planned to be located on approximately 7.5 acres of land. The film studio expansion would include the following: (1) addition of two sound stages, (2) the existing sound stage, (3) a technical building, (4) three administration/support buildings, and (5) a parking structure, 20

feet high, to accommodate 200 cars. The buildings will be painted in muted tone colors (similar to KCC's buildings), with pavement around the buildings. The sound stages are double walled constructed buildings that are designed to be soundproofed.

The roofs of the sound stages will be about the same elevation as Diamond Head Road. People on the KCC campus will be able to see over the roofs of the studios and there will be no surface reflection from the roofs.

The Draft Environmental Impact Statement (DEIS) for this project addressed the following: (1) environmental conditions, (2) public facilities and services, and (3) socio-economic conditions. The following concerns were raised:

-- Vegetation: The State Dept. of Land & Natural Resources (DLNR) informed the developers that a native plant located on the outer slope of Diamond Head is considered an endangered species. DLNR was concerned that in the event of a fire, the plant would be destroyed. DLNR was informed that the plant would not be affected because there are extensive fire services near the site.

-- Archeological: A separate archeological survey was not done on the site because the developers based their findings on three previous surveys' conclusion that there were no historic or archeological remembrance on the site.

Other concerns that were expressed and addressed in the DEIS were traffic, noise, and building locations. The technical building will be about 650 feet from the nearest KCC classroom. Borchardt covered the various decibel levels that were determined for the site.

At this time, Michael Molloy (chair of the KCC Art Advisory Committee) and Representative Fred Hemmings were given the opportunity to speak in opposition to the proposed site for the film studio.

Molloy stated that he opposes the proposed site because traffic in the area would increase (there is already a parking shortage in the area), loud set-construction noise is predicted from the technical building, and the proposed buildings are not esthetically sound for the area. Molloy also opposed the exemption of height limits for the proposed buildings. If the studio will be exempted from these limits, then it will create a precedence for higher buildings on the site in the future.

Molloy feels that the proposed site would be too small for a film industry to prosper. The best site for the film studio would probably be Hawaii Kai Valley or the Waiialae Drive-In (close to Waikiki hotels). Molloy stated that there has been a lack of a democratic process and community input on this project.

Representative Fred Hemmings stated that the proposed site should be used for recreation and education, and the film studio should be located in an area where it could grow. Hemmings recommended that the private sector, instead of the government, develop the project.

Discussion centered on the following: (1) clarifications to the involvement of Universal Studios with the film industry in Hawaii, (2) why Hawaii needs a film studio, (3) problems to having facilities constantly being built near Waikiki (the hotels), (4) possible alternate sites for the project, and (5) how unavailable land (the proposed KOC site) all of a sudden became available.

APPROVAL OF THE MARCH 2, 1989 REGULAR MEETING MINUTES: The following corrections were made:

Page 2 - Under Item D, #1, the sentence should read "Having the state subsidize private religious day care. . ."

Page 3 - Board member Newton opposed the minutes, under "Questions, answers, and comments followed:", in that this section should be strongly drawn against the proposed convention center.

Ross moved and Setliff seconded that the Board approve the minutes as corrected. The motion passed unanimously.

TREASURER'S REPORT: Nancy Sadler read the financial report for the month of March:

Accounts:	<u>Operating</u>	<u>Central</u>
Previous Balance	\$974.09	\$ .00
Current Expenses	43.07	.00
Balance	\$931.02	\$ .00

The report was filed as read.

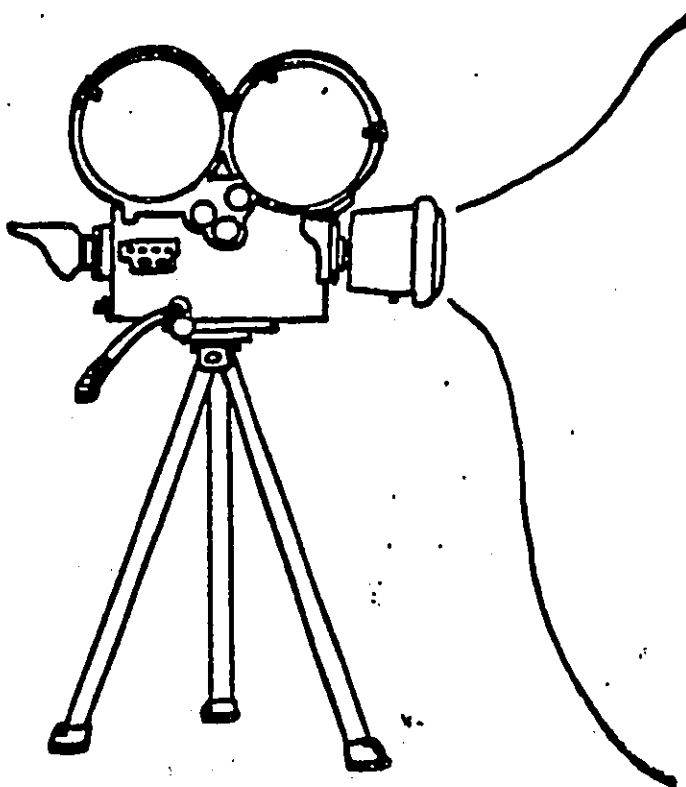
SUBDISTRICT REPORTS:

- A. SUBDISTRICT 1 - No report.
- B. SUBDISTRICT 2 - No report.
- C. SUBDISTRICT 3 - There was no action taken on S.B. 597 (regarding Kapiolani Park boundaries), which will be deferred until the next Legislative session.

UNFINISHED BUSINESS:

- A. BEVERAGE CONTAINER BILL - Senator Bert Kobayashi reported that there is no specific beverage container bill at the Legislature. Representative Calvin Say noted that the House passed a bill that would give a tax credit to recycling companies.
- B. BUS STOP ISSUE/1336 ST. LOUIS DRIVE - As mentioned previously, the tall weeds will be cleared.
- C. PROPOSED FILM STUDIO COMPLEX AT 18TH AVENUE AND DIAMOND HEAD ROAD - Ross moved and Newton seconded that the Board oppose having a film studio funded by the State due to the inappropriate location of the proposed site. Discussion followed. The Board commented on the following concerns: (1) location

**THE EAST DIAMOND HEAD ASSOCIATION**  
Invites You To  
A Community Forum On  
**THE PROPOSED DIAMOND HEAD FILM FACILITY**  
and  
**THE FUTURE OF HAWAII'S FILM INDUSTRY**



**Guest Speakers Include:**

**BRUCE SHURLEY,**  
*Production Manager*  
*Magnum, Hawaii 5-0*

**GEORGETTE DEEMER,**  
*DBED, Film Industry Branch*

**LEROY JENKINS,**  
*International*  
*Production Coordinator*

**LUCI PEALTZGRAFF,**  
*Outdoor Circle*

**RANDY SPANGLER,**  
*Location Manager*

**PATTY AMARAL,**  
*UH, Media Lab*

**DIANE BORCHARDT,**  
*DHM Planners, Inc.*

**WEDNESDAY, APRIL 19, 1989**  
**KAPIOLANI COMMUNITY COLLEGE**  
**DIAMOND HEAD CAMPUS, OHIA DINING ROOM**  
**7PM**  
**Ample Free Parking Available**

**For Information Call**  
**ANDY MIRIKITANI, PRESIDENT**  
**East Diamond Head Association, 732-0357**

Andrew K. Mirikitani c/o  
CHAR HAMILTON CAMPBELL & THOM  
ATTORNEYS AT LAW  
A LAW CORPORATION

SUITE 2100, GROSVENOR CENTER  
737 BISHOP STREET  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 524-3800  
FAX (808) 523-1714

Ms. Georgette Deemer  
Department of Business and Economic Development  
220 South King Street, Suite 919  
Honolulu, Hawaii 96813  
April 17, 1989

Re: East Diamond Head Association State Film Studio Forum

Dear Ms. Deemer:

On behalf of the East Diamond Head Association, I would like to take this opportunity to thank you for being one of our guest speakers at the informational forum this Wednesday evening at the Kapiolani Community College, Diamond Head Campus, Ohia Dining Room at 7:00 p.m.

Enclosed for your information and review is a map and informational flyer. Please arrive before 6:45p.m. so that we may prepare the panel and answer any questions which you may have. With regard to the structure of the forum, I will be serving as the moderator and will be introducing the meeting and guest speakers. Members of the public will be asked to hold any questions until after all guest speakers have given their presentations. Your assistance in this regard would be appreciated.

The order of speakers will be as follows: Georgette Deemer, State Department of Business and Economic Development, Film Industry Branch; Bob Leurison and Diane Borchardt, DHM Planners and Architect; Luci Pfaltzgraff, Outdoor Circle; Bruce Shurley, Production Manager (major productions); Leroy Jenkins, Production Coordinator(international productions); Randy Spangler, Location Manager; Patty Amaral, University of Hawaii Media Lab(student education); and Bob Hampe, Chairman, Hawaii Film and Video Council.

As I have discussed with you, the purpose of this forum is to provide as much information to the public and members of our community regarding your background and involvement in the industry and your perspective of the proposed film facility for the development of Hawaii's film industry and the broadening of Hawaii's economic base, employment and educational opportunities.

Please call me at 524-3824 if you have any questions or if I can be of any assistance to you in preparing for the forum. Thank you once again for your time and assistance.

Very truly yours,

  
Andrew Mirikitani  
President EDHA





Received

MAY 2 1989

DHMI inc.

CHAR HAMILTON CAMPBELL & THOM

ATTORNEYS AT LAW  
A LAW CORPORATION

SUITE 2100, GROSVENOR CENTER  
737 BISHOP STREET  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 524-3824  
FAX (808) 523-1714

May 20, 1989

Ms. Diane Borchardt  
DHM Planners, Inc.  
1188 Bishop Street  
Suite 2405  
Honolulu, Hawaii 96813

Dear Ms. Borchardt:

On behalf of the East Diamond Head Association, I wish to thank you once again for being a guest speaker at our community forum, and providing our residents with the opportunity of obtaining a broader and fair perspective of the needs of Hawaii's film industry and the efforts of the State to develop this very important industry. The contribution of your time and assistance in this regard has been greatly appreciated.

Through your participation and efforts, it is my hope that the residents of our and other communities have become more fully aware that the issues involve more than one community, one producer or one college, and that they require careful consideration of broader needs and matters of State social and economic policy to diversify Hawaii's economy and to provide educational and employment opportunities for Hawaii's people.

Please feel free to contact me should you have any questions or comments, or if I can be of any assistance to you in the future. Thank you once again for your time and assistance.

Very truly yours,



Andrew K. Mirikitani  
President  
East Diamond Head Association

AKM:ctm

WAIALAE-KAHALA NEIGHBORHOOD BOARD NO. 3  
P. O. BOX 10435  
HONOLULU, HAWAII 96818



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HONOLULU, HAWAII

REGULAR MEETING AGENDA  
THURSDAY, APRIL 20, 1989  
WESLEY UNITED METHODIST CHURCH  
1350 HUNAKAI STREET  
7:30 P.M.

- I. CALL TO ORDER
- II. INTRODUCTION OF MEMBERS AND GUESTS
- III. APPROVAL OF THE MARCH 16, 1989 MEETING MINUTES
- IV. TREASURER'S REPORT
- V. REPORTS/PRESENTATIONS
  - A. HONOLULU POLICE DEPARTMENT
  - B. HONOLULU FIRE DEPARTMENT
  - C. MAYOR'S REPRESENTATIVE
  - D. PRESENTATION BY MAJOR JERRY MATSUDA: RENOVATION/BEAUTIFICATION OF THE NATIONAL GUARD FACILITY ON DIAMOND HEAD ROAD
  - E. PRESENTATION BY DHM INC: PROPOSED FILM STUDIO COMPLEX AT 18TH AVENUE AND DIAMOND HEAD ROAD
- VI. UNFINISHED BUSINESS
  - A. APPLICATION FOR OPERATING A PRESCHOOL (KINDER CAMPUS) AT THE CORNER OF AINAKOA AVENUE AND ALIIKOA STREET
  - B. PROPOSED FILM STUDIO COMPLEX AT 18TH AVENUE AND DIAMOND HEAD ROAD
  - C. ABSENTEE HOME OWNERSHIP IN WAIALAE-KAHALA
  - D. FIVE STORY OFFICE BUILDING PLANNED FOR KAHALA SITE
  - E. PLANS FOR WAIALAE DRIVE-IN THEATRE
  - F. ASSESSED VALUE OF PROPERTY TAX IN WAIALAE-KAHALA
  - G. OHANA ZONING REPORT
  - H. STATE DEPARTMENT OF TRANSPORTATION STATEWIDE HELICOPTER PLAN
  - I. SPEEDING VEHICLES ON HALEKOA DRIVE
  - J. HIDDEN STREET SIGNS OFF KILAUEA AVENUE ABOVE WAIALAE AVENUE
- VII. NEW BUSINESS
  - A. ZONING CHANGE APPLICATION FROM PRESERVATION TO RESIDENTIAL FOR A NINE ACRE PARCEL ATOP WAIALAE NUI RIDGE
- VIII. CORRESPONDENCE
- IX. ADJOURNMENT

chemical used to maintain the landscaping. The dying trees will be cut down some time in June or July of this year and be replaced by three Monkey Pod trees. The trees with live branches will be saved. Red hibiscus plants were also ordered to take the place of the dying hibiscus plants. Lilies and purple bouganvillas will also be planted. Residents with complaints or concerns may call 735-3522.

Major Matsuda gave the following responses to questions raised:

1. The National Guard will only maintain up to 10 feet from the edge of the sidewalk on the Diamond Head Crater/Cannon Club side of the road.
2. The National Guard Facility is working out an agreement to share the facility's parking lot with civilians.

E. PRESENTATION BY DHM INC: PROPOSED FILM STUDIO COMPLEX AT 18TH AVENUE AND DIAMOND HEAD ROAD - Diane Borchardt introduced members representing the State's proposed film studio: Georgette Deemer (State Dept. of Business & Economic Development), Cynthia Umetsu (Johnson, Tsushima, Lureusen, Lowrey, Inc.- JTLL), Bob Lureusen (JTLL), Duk Hee Murabayashi (DHM Inc.), Roy Kimura (Dept. of Accounting & General Services), and J. Yamamoto (Dept. of Business & Economic Development).

Georgette Deemer reported that the State plans to use the existing studio (that was used for Magnum P.I.) and to expand on the Diamond Head/18th Avenue site where it is located. One objective for having a film studio is to provide a major studio for productions in Hawaii. Economic benefits include the millions of dollars it would generate and the image of Hawaii that would be projected on the screen; this would draw more productions to Hawaii.

The State does not plan to go beyond the 7 1/2 acre site. The Diamond Head Road/18th Avenue site was selected because it is centrally located near Waikiki (hotel rooms), quiet, and records show the site as being successful for a film industry. The \$7 million appropriated for the film studio will only be enough to construct the first phase of the development, which includes a technical building, new sound stage, parking structure, and office complex. If the film industry grows, then the private sector will take over.

Bob Lureusen provided the following information regarding the architectural aspect of the development:

- A park/greenbelt currently exists along the Diamond Head side of the proposed site.
- The existing sound stage is about 1200 square feet. The new sound stage will be about 6500 square feet and 32-33 feet high.
- The parking structure will accommodate 200 vehicles.
- The planned landscaping on the site will act as screening buffers. Trees will be strategically placed on the site, including in front of the site along 18th Avenue.

- Since the Draft Environmental Impact Statement (DEIS), the technical building was moved more towards the interior of the site, which resulted in it being dropped lower.
- The sound stages will be about 230 feet from 18th Avenue.
- Instead of catwalks, the sound stages will feature cables that will be able to be lowered when the lights need to be changed. This will result in the sound stages being 8 to 10 feet lower than the original plan.
- The color scheme of the buildings will be similar to the buildings on the Kapiolani Community College Campus. The trees, when fully grown, will make it hard to see the studio buildings' rooftops.
- Power and utility lines will be installed underground.
- The proposed theater, used for potential audience shows, will be sound-proof.

Borchardt reported on the following comments that were made regarding the Draft Environmental Impact Statement:

- An endangered plant is located on the outer slopes of Diamond Head. A fire incident at the film studio will not impact the plant because there are two fire stations located near the site and their response time is 2 to 5 minutes.
- An archeological survey on the site was not conducted because the developers based their findings on three earlier surveys' conclusions that there were no historic or archeological remembrance on the site.
- A traffic study concluded that the film studio will not have an effect on the traffic in the area. People will not be going to the studio in individual cars. An average of 100 people will be entering and exiting the site during off hours.
- Acoustic engineers are working on bringing down the noise levels from the film complex. The technical building is about 50 feet away from the closest KOC classroom. Sounds from the studio will not be carried to the KOC classrooms. The studio will follow the State Department of Health decibel standards.

Board member Turbin reviewed the following correspondence regarding the film studio:

- To John Foster, Environmental Affairs Branch, Dept. of Land Utilization, from Chair Brown regarding the Board's resolution opposing the location of the proposed film studio.
- To Chair Brown from Sam Allison regarding his opinions and concerns concerning the film studio.
- To Rep. Fred Hemmings from John Whalen, Dept. of Land Utilization regarding the effects of the studio and permits for the project.

-- Packet regarding the State's plans for a film studio at Diamond Head.

A lengthy question, answer and comment period followed:

- Only invited guests will be allowed to enter the studio site. People will meet at designated points to be bussed into the site.
- The number of people on the site will depend on the activity in process. The film crew is expected to be at the facility only about two days out of a week. During the other days, they will be filming on location. If filming is taking place in the studios, then about 100 technicians will be using the stages.
- The parking structure will be used by crew and cast members.
- There needs to be an assurance that the studio will be able to be used at a reasonable cost by Hawaii students and small local independent businesses.
- Taxpayers will probably need to cover the studio's deficit.
- The studio buildings' eave line will be at 32 feet. The studios roof top will be at about 44-45 feet, which is the same elevation as the existing sound stage.
- The film studio will not be able to expand on the proposed site.
- The developers are not interested in state of the art equipment.
- A 1985 feasibility study selected several sites on Oahu. Kamilonui Valley in Hawaii Kai was the original preferred site.
- Trucks transferring equipment to and from the site will probably take the Kaimuki route.
- If large trucks plan to use the roads around the area, then the State should improve these roads.
- An extensive drainage study concluded that the drainage system in the area is inadequate. The State should have a proposal to deal with this problem.

It was noted that changes were done to the drainage system and retention basins were constructed.

- Kapiolani Community College (KCC) committees worked hard in designing the KCC buildings so that the students would be able to learn in and out of the classrooms. The proposed film studio site is now being planned for buildings that are large and not aesthetically pleasing.
- Since KCC does not have a film industry program, the land should be used to retain and expand on existing programs.

- The Kakaako area should be looked at as an alternative site for the film studio.
- If taxpayers are expected to subsidize a film complex that is average, won't grow, does not have state of the art equipment, etc., then how is it expected to generate money? More solid data is needed. Why should taxpayers subsidize something that is not solid and is used by profit making companies.
- Why does the film industry need more facilities if the Magnum P.I. series was able to use just one sound stage?

With the one existing studio, it was costly to film Magnum P.I.

- If the private sector is expected to take over the film industry, then why wasn't the Magnum P.I. series enough to stimulate the industry?
- If the originally preferred site was 60 acres in Hawaii Kai, how will the industry plan to suddenly squeeze the studio complex on only 7.5 acres of land?

Of the 60 acres of land in Hawaii Kai, only 20 acres were usable.

- The film industry should aim for something that is similar to Universal Studios, which is a money making business, conducts tours, etc.. All that is necessary is a larger parcel of land.

- The film studio assumes the following - that it can only be located on the KCC site, that there is a need for expansion, it will create jobs, and that it can be fitted with the education plans of KCC.

- The film studio does not plan to exceed their \$7 million budget.

- When the private sector eventually takes over the industry, what will the taxpayers get in return?

The money generated from the industry will cover the \$7 million cost.

- The Diamond Head site was selected because it is centrally located, the crew will not have to travel very far to shoot on location, other sites were not economically feasible, and the cast needs to be near hotel rooms.

- DHM Inc. and the other film studio representatives were thanked for their presentation.

The Board decided to set up a committee regarding the film studio. Turbin will chair this committee and bring it up for discussion at the Board's next meeting.

UNFINISHED BUSINESS:

- A. APPLICATION FOR OPERATING A PRESCHOOL (KINDER CAMPUS) AT THE CORNER OF AINAKOA AVENUE AND ALIIKOA STREET - Neill Hinze, representing Kinder Campus, reported that the school is currently working with architects to meet safety

**DHM inc.**

and use  
and environmental  
planning

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Suite 2405  
Honolulu, HI 96813  
Ph. (808) 521-9655

May 18, 1989

Mr. Kenneth Brown  
Chair  
Waialae-Kahala Neighborhood Board No. 3  
P.O. Box 10435  
Honolulu, Hawaii 96816

Dear Mr. Brown:

We have received the April 20, 1989 minutes of the Waialae-Kahala Neighborhood Board meeting. In regards to the presentation by DHM inc. on the film studio complex, we request the following changes be made in the minutes.

1. The first phase of the development will not include the parking structure or the office complex. During the first phase development, an on-grade, paved parking lot for approximately 100 cars will be constructed. In addition, the five on-site wooden buildings will be relocated to the site of the ultimate office complex during phase one.
2. The existing soundstage is not 1,200 sq.ft. but is 12,000 sq.ft. The proposed soundstages will be approximately 16,800 sq.ft. and not 6,500 sq.ft. in size. In addition, they will be approximately 46 feet in height at the peak and will be approximately 32 feet at the eaves.
3. There is no theater proposed for the film facility. If a studio audience is requested for a particular production, it can be accommodated in the proposed soundstages and the soundstages will be soundproof. All members of a studio audience would meet at designated locations and would be bussed to the film facility. Individual guests of the film facility will be allowed to park at the film facility and are expected to few in number.
4. The developers are interested in the "state of the art" equipment for the proposed film facility.
5. The drainage study was very extensive and indicated specific proposals to provide a complete drainage system for the film facility site. The drainage system also included drainage flow from KCC. The retention basin is already in existence and is incorporated into the proposed drainage system.

We would appreciate these changes be incorporated into the minutes and, again, thank you for allowing us to present this project to the Waiialae-Kahala Neighborhood Board.

Sincerely,

DHM inc.

*Diane E. Borchardt*  
Diane E. Borchardt  
Project Manager

cc: Neighborhood Commission  
Georgette Deemer  
Robert Luersen  
Roy Kimura

DEB





WAIALAE/KAHALA NEIGHBORHOOD BOARD NO. 3

P.O. BOX 10435 • HONOLULU, HAWAII 96816

May 31, 1989

Michelle Wilson-Wong  
Legislative Coordinator  
Dept. of Business & Economic Development  
P.O. Box 2359  
Honolulu, HI 96804

Dear Ms. Wilson-Wong,

At its May 18, 1989 regular meeting, the Waiialae-Kahala Neighborhood Board unanimously passed the following resolution regarding the proposed film studio complex at 18th Avenue and Diamond Head Road:

"Be it resolved that as presently planned, the proposed film studio on 18th Avenue is unacceptable to the Waiialae-Kahala Neighborhood Board because of its inappropriateness and incompatibility with our neighborhood, the overcrowding and traffic problems it would cause, the clutter of many large buildings on a small site, building height violations, and lack of room for expansion.

The Board strongly urges the relocation of the film studio to another and larger site, and the return of the 18th Avenue site to Kapiolani Community College for their use."

Sincerely,

Kenneth Brown  
Chair

cc: Governor John Waihee  
Senator Bert Kobayashi  
Representative Barbara Manimoto  
Councilmember Leigh-Wai Doo  
Councilmember John Henry Felix  
DHM Inc.  
Kaimuki Neighborhood Board  
John Morton, KCC Provost  
Neighborhood Commission

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Oahu's Neighborhood Board System-Established 1973

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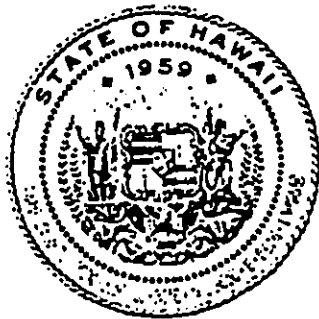
# Appendix A

APPENDIX A

Due to the length of the Overview Study of the Hawaii Motion Picture Industry and the Feasibility of a Studio Facility and the lower level of direct relevance of some sections to this Environmental Impact Statement the following selected sections have been included as Appendix A:

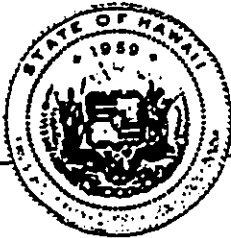
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If a review of the complete document is desired, please contact the State Library or Department of Business and Economic Development, Film Industry Branch, 548-4535.



**OVERVIEW STUDY OF THE  
HAWAII MOTION PICTURE INDUSTRY  
AND THE FEASIBILITY OF  
A STUDIO FACILITY**

**CINELECTRONICS DEVELOPMENT CORPORATION  
PEAT, MARWICK, MITCHELL & CO.  
ARCHITECTS HAWAII, LTD.  
JANUARY 1986**



# DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

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## PREFACE

The State of Hawaii is continually searching for desirable industries to diversify and expand the State's economy. The motion picture, television film, video and audio production industry is an ideal industry for Hawaii. It is a non-polluting, creative industry with a high-value product. It also helps to promote Hawaii as a visitor destination.

The Thirteenth State Legislature, recognizing the importance of this industry, requested that the Department of Planning and Economic Development (DPED) contract for a feasibility study and site analysis for Hawaii film production facilities. Section 22, Act 300, Session Laws of Hawaii, 1985 appropriated the sum of \$100,000 for this purpose.

DPED invited input from local industry representatives, determined the scope of the study, and sent out a formal Request for Proposals (RFP) to more than 20 consultants. Six proposals were received and evaluated by a committee which selected the firm of Cinelectronics Development Corporation to conduct the study.

The contract between DPED and Cinelectronics requested that the consultant study and define the production industry in Hawaii; assess its relationship to other markets; survey industry-specific resources, personnel, services, and facilities; assess the feasibility, type, location, costs, financing methods, operations, and ownership and management of any proposed facility; and provide any recommendations for the preferred future of this industry. This report addresses those concerns.

The statements, findings, conclusions, recommendations, and other data in this report are solely those of the consultant. They do not necessarily represent the position of DPED or the State of Hawaii. However, DPED believes that the study and its recommendations are valuable and merit serious consideration.

Kent M. Keith  
Director of Planning  
and Economic Development



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## INTRODUCTION

### BACKGROUND

This study is the result of Section 22, Act 300, SLH 1985, which appropriated \$100,000 to PED 102, Commerce and Industry, to be used for a feasibility study and site analysis for a Hawaii film production facility.

In addition to the facility evaluation, the DPED has expanded the purpose of the study to include an analysis of the motion picture industry as it relates to Hawaii, and a general overview of the industry.

### OBJECTIVES

#### General

This study intends to set forth pertinent facts, figures and subjective commentary by qualified professionals, which will assist in the determination of the State's degree of participation in the effective growth of the motion picture industry in Hawaii.

The "business of art" provokes subjective opinion about both the "art" and the "business." This report is only intended to provide the user with a general understanding of the motion picture industry, and will not represent all opinions pertaining to the industry.

#### Specific

In the order of priority listed, this study will address the following:

1. Assess the feasibility, type, location, development costs, financing methods, operations, and ownership and management of a studio facility as defined by market demand.
2. Define and prioritize additional aspects of the motion picture industry which will enhance Hawaii's potential to become a production center.
3. Define and prioritize aspects of the industry which act as "draws" in attracting production companies to work in Hawaii.
4. Propose considerations for the coming decade which will benefit industry growth.

#### APPROACH

This type of study is not one of "public" opinion, but one for which qualified professional opinions must be sought. Our approach to the study was therefore based on obtaining access to a small group of very highly qualified persons who are leaders within the motion picture industry, surveying their opinions, comparing them, then reducing the results to statistical data.

Additionally, the general research about the industry - its methods of operation and its future - was conducted utilizing public records, trade publications, industry contracts, cost sheets, permit data, media-buy records, legislative testimony, and pertinent annual reports. Sources included the Academy of Motion Picture Arts and Sciences Research Library, the Library of Congress, the Department of Commerce, the Department of Labor,

and other information sources associated only with the industry.

Based upon the objectives listed above, the first step was to set forth definitions which would focus the study.

Finally, we tried to restrict the scope of the study to the relationship between State government and the industry. The report does not attempt to define relationships that various elements of the industry might establish among themselves to institute industry growth. Such a task would be far beyond the scope of this study.

#### UNDERLYING PLANNING ASSUMPTIONS

The reader should be aware of certain underlying planning assumptions regarding the scope of the study. They are:

1. That State government does not want to compete with active private enterprises which are working toward the same goals. It is for this reason that the facility herein discussed is of a size and design for which private enterprise has no present intentions.
2. That State government wants to know the most efficient and effective ways of interfacing with the industry on a local, national, and international level.

#### REPORT ORGANIZATION

First, any disclaimers and conditions are presented which identify the report for the tool that it is meant to be. Second, common points of reference throughout the text are defined. Third, more specific aspects of the studio facility are

discussed. Fourth, concerns to be addressed in the coming decade are presented.

#### REPORT CONDITIONS

Four conditions are called to the reader's attention:

1. The scope of this study calls for information about many aspects of the industry. A complete study on any one of these aspects could utilize the entire time and all funds allocated for this study. Therefore, certain information contained within this study is based on the accumulated experience of the Project Manager and/or qualified co-consultants who are contributing to the study. Not all information presented is the result of surveys or market research conducted solely for this study.
2. The financial analysis presented will not be similar to that found in a standard feasibility study. The motion picture industry operates as a project-by-project industry. There is no definite and assured market demand for its product nor for the facilities or services which provide for the production of that product. This subject is explained in full in the body of this report.
3. No market research was done pertaining to a facility that is smaller than that necessary to house at least one Hawaii-based, major television series. Data indicate that any facility smaller than the one described herein would be classified within the present

and future interests of private enterprise, and that government interest in such facilities would constitute direct competition. The market demand for smaller facilities offers potential income sources which a larger facility would not attract. The larger facility can operate at a loss, if owned by a public entity, because the secondary and indirect economic benefits to the overall economy by having production present offset the direct financial loss the facility incurs. If a facility is privately owned, the facility itself must be profitable for the business to survive.

4. Records which provide accurate economic and employment details about motion pictures produced in Hawaii have never been necessary, therefore, have not been kept. The only possible sources of such data are the filming permits which are filed for public land use, and the memories of those people who worked on those past productions. Unfortunately, permit information tends to be inaccurate because location scouts who are responsible for obtaining the permits often overprotect themselves from the current permit application process. Presently, there is usually a maximum of a 48 hour turn-around for obtaining a permit for DLNR-administered land use. Due to the nature of the motion picture business, bad weather, or any of many other factors, necessitate location or schedule changes. The location scout responsible for obtaining



permits does not want to take the chance that the company will move to a location for which it has no permit. Therefore, when initially filing, (s)he will list every possible location he can think of that the company might want to use on any given day, even though the company will most probably use only one of those sites listed. Obviously, this leads to inaccurate information about how many and exactly which locations are used, eliminating any hope of determining the true social impact the industry has on public lands. The same problem arises in determining how many days of use a property has seen or how much money the State has derived as an indirect benefit of having the industry use its land. The duplication of information or the compilation of such inaccurate data leads to incorrect assumptions. It is also important to realize that unless a production company has need to use public land, there is no assurance that any written record of that production will even be available. On the other hand, if we rely on people's memories, there is no way of knowing whether their information is a duplicate of data already compiled from the permit files. There is also the possibility that two or more people will provide conflicting information regarding the same production. Another concern is that no local industry person may have worked on a particular production, or that no public land was required by the production, so

there is no record that the production was even here. For the purpose of this study, COMPILATION OF DATA AND ANY CONCLUSIONS OR RECOMMENDATIONS HAVE BEEN BASED UPON SUBJECTIVE EVALUATION OF THE AVAILABLE DATA PROVIDED BY QUALIFIED INDIVIDUALS. Verification of the accuracy of all of that data is beyond the scope of this study. The lesson to be learned from this is that there must be some form of accurate record keeping developed for the future.

## EXECUTIVE SUMMARY

### The Motion Picture Industry

- o The motion picture industry is utilized by nearly every country in the world for entertaining, educating, or documenting information and data.
- o The "industry" aspect lies in the fact that there is profit potential in the production of motion picture products.
- o Secondary motivations for the industry's existence include power and influence - through the use of the medium as a sales or propaganda tool - and artistic expression.
- o The industry cannot be defined by standard business definitions because there is no accurate method by which to project the success of a motion picture product yet, the full cost of production must be expended just to have the product to sell. The determining factor for success is "public taste" and there is no way to test market a product except after the total production budget has been spent. The industry continues to attract money and attention though operating at a 40% success rate for feature films and less for television products. No other industry functions in this manner.
- o The scope of the industry is very broad. It can be categorized for analysis in many different ways, depending on one's purpose for analysis. For this report, "Forms of

Exhibition" was used. The following "components" were identified and then sub-categorized as indicated:

Theatrical Features

High-budget - \$7+ million production cost.

Medium-budget - \$3 - 6 million production cost.

Low-budget - Less than \$3 million production cost.

(Note: These are generally accepted figures within the industry, though many contract negotiations use other figures. See Section 1 for a detailed explanation)

Television

Broadcast television

Network television

Syndicated television

Pay service cable television

Closed circuit television

Home viewing video cassettes and disks

Mini systems (e.g. military bases, oil rigs)

Commercials

A component unto itself, production of commercials crosses the exhibition lines. Any commercial production is good for Hawaii, from an industry standpoint.

Library Distribution

This component has no hard-line sub-categories. Within it are films which are shown on college campuses, to community organizations, in schools,

and for non-profit fund raising functions. Many student-produced films are distributed this way.

- o Any component relies on the "tripod" of creative product: Financing, Production, and Distribution. Any two of the "legs" will not stand without the support of the third. For a motion picture product to become a marketable commodity, all three legs must exist.
- o The criteria for a city or state to be defined as a "production center" is the presence of all three legs within that city or state. A less preferred way to qualify is to have one or two legs sufficiently established so that the second and/or third is provided by another production center.
- o Presently, Hawaii does not qualify as a production center because it lacks all three legs. The strength of the industry, as it now exists in Hawaii, is the availability of trained technical personnel and equipment for "distant location" work by import production.
- o Appreciation of the motion picture as an art form is important in the creation of a production center. The creation of the Hawaii International Film Festival has done much in this regard.
- o The key to success as a production center is to enable each element of the industry to grow freely in a "parallel" fashion without undue restrictions. For the industry to grow, support services must be able to grow, land use

restrictions must be minimized (retaining protection of the environment, of course), and an active, politically powerful film industry council should be continually evaluating methods for improvement and growth of the industry.

- o Establishment of training programs and courses for students interested in the feild is vital for the future of a Hawaii motion picture industry. This can be done through the UH system or private entities, but however the State can help to maintain these courses, it should do so.
- o Although the future of any specific project or production center cannot be projected, the indications for the future of the industry, as a whole, are positive. The ancillary markets of home video cassettes and other cross-cultural outlets for motion picture product have opened avenues for financial stabilization of the industry. As advances in technology continue to increase the methods of product exhibition, the industry may change in form, but its volume of product will only grow.

#### The Hawaii Motion Picture Industry

- o There are two aspects which comprise the Hawaii industry: "Import" production and "Local" production. These terms are used to define the origin of the product and the location to where the profit from the product will finally revert.
- o "Import industry" may be explained as follows: The term "import", means that the producing entity is not from

Hawaii, the idea and financing of the product did not originate in Hawaii, and the profits from the product will not be realized by any Hawaii entity. Contrarily, the term "industry" means that there are benefits derived by Hawaii's motion picture personnel and support businesses through the use of Hawaii by the visiting producing entity. This can occur through commercial, television, feature, and library productions.

- o "Local industry" refers to the following: the "local" means that a permanent Hawaii tax-paying entity is participating in the production process. "Industry" means that financial benefits are being derived from this participation. The local industry includes production companies that work solely for Hawaii advertising agencies and Hawaii companies, production companies that work for the import productions, individual freelance personnel who work for the import productions and/or the local production companies, trade union personnel who work for the import productions and/or the local production companies, and the rental houses and studio facilities that rent to the import productions and/or the local productions.
- o One can think of the import industry as an income source for the local industry, and the local industry as a supplier to the import industry. It does not work the other way around.
- o According to data from the 1980 census and the 1982 report on the National Endowment for the Arts, Hawaii is ranked

among the 50 states as:

5th as a permanent residence for actors and directors

2nd as a permanent residence for dancers

2nd as a permanent residence for musicians

1st as a permanent residence for photographers

3rd as a permanent residence for fine art painters and  
sculptors

2nd in State appropriations to the arts

- o Hawaii's reputation within the motion picture community is as a distant location. The backdrop that Hawaii provides is unique in the United States. If the quality of Hawaii's land and water should deteriorate, the industry will no longer be attracted.
- o Import productions provide for only 22% of the industry's total employment but account for 80 - 85% of the production expenditures in Hawaii. Averaging 1982 - 1985, these expenditures were more than \$43.8 million per year.
- o Based on current recorded figures, Hawaii residents comprised an average of 66% of the total employment of those portions of import productions filmed in Hawaii. This means that the import companies brought 34% of their personnel with them. Our data indicate that the totals representing numbers of employees must represent employment occurrences, and do not reflect year-round employment provided by the import industry, yet the percentage comparison would be correct.



- o There are presently six Hawaii trade unions which act as bargaining units for persons who provide services to the motion picture industry. They are: 1) Screen Actors' Guild (SAG) with 400+ members; 2) Screen Extras Guild (SEG) with 585 members; 3) International Alliance of Theatrical and Stage Employees (IATSE or IA) with 280 members; 4) Teamsters (members who work with motion pictures will vary depending on project requirements; 5) American Federation of Radio and Television Artists (AFTRA); and 6) International Brotherhood of Electrical Workers (IBEW) with 1,260 members of which 300 are associated with motion picture work.
- o The local production element of the industry supports approximately 688 year-round jobs annually.
- o The import production element supports roughly 122 jobs. However, because of the long hours which are standard for this industry, these 122 jobs are the equivalent of 174 regular jobs. See Section 2 for a detailed explanation.
- o On-camera jobs represent approximately 15 year-round jobs, excluding newscasters. The number is so small because the average length of employment for the 585 SEG members is 7 days per year, and the average length of employment for the 396 SAG members is 1.4 days per year.
- o The two types of income sources which finance production in Hawaii are: 1) The "new money dollar"; and 2) the "roll over dollar." The new money dollar is the more beneficial to the

State's economy because it is money from sources outside of Hawaii. This money provides for growth. The roll over dollar, on the other hand, is money in Hawaii which simply changes hands, contributes to a stable economy but is limited in its contribution to growth.

- o The total income of the local production industry is estimated to have been \$11.4 million in 1985.
- o Minimum economic benefit to the State from this money is estimated to be \$417,240 in the form of general excise tax revenues.
- o Annual tax revenues generated from the \$43+ million expended by the import industry is estimated to be between \$2.5 and \$4 million based on the State of Hawaii Data Book which equates \$3.54 million of tax revenues to \$38.2 million in production expenditures. The variation in \$2.5 to \$4 million is to reflect the possible change from one year to the next.
- o Environmental impact of the local production element is minimal. Environmental concerns should be focused on major productions which may possibly alter landscape and build permanent structures.
- o There are presently in Hawaii 44 companies or individuals which refer to themselves as production companies. There were 28 in 1981; 31 in 1982; 37 in 1983; and 42 in 1984.
- o Income growth of the local industry is estimated to be

between 7% and 10% per year since 1980, except for an estimated 15% decline in 1985.

- o The Diamond Head studio facility is presently the only facility which offers sufficient stage space, support buildings, and proximity to Waikiki to cater to a Hawaii-based television series. Construction noise from the Kapiolani Community College campus is disrupting the use of this facility.
- o There are two facilities which have served as stage space sufficient to produce products other than a series. They are: 1) The Gentry Waipio Producer Service Facility; and 2) The Hawaii International Studios, each with an 8,000 square foot stage. Neither facility is currently used due to distance from Waikiki, limited size, traffic congestion, and other such reasons given by potential users. Many of the reasons are misperceptions on the part of those parties. The Hawaii International Studios facility is currently leased as a warehouse, but the design remains suitable for one to exist.
- o There are two privately owned facilities in the planning stages, neither of which is sufficient to accommodate a filmed television series. Their market is music video production, commercial production, video specials, and syndicated programming production. One of these facilities is in the Kakaako area, the other in the Salt Lake area.

- o The other stage facilities in Hawaii are owner-operated facilities which are used for production of commercials and local specials. These studios rent space/equipment packages for a cost of \$350 to \$500 per hour. The equipment is operated by the facility's own personnel, whose services are included in the price. These stages are rarely available to outside renters looking for space rental only.
- o From 1980 through 1984, there was an average of 63 productions per year, excluding commercials, which utilized public lands - if one counts each episode of series production as an individual production. It is estimated that commercial production accounts for 60% of public land use. According to State sources, 300 commercials were filmed or taped in the state in 1984.
- o The average duration of filming on public lands varies from year to year, but the 2 to 6 day category is by far the most common.
- o Use of State of Hawaii Department of Land and Natural Resources (DLNR)-administered land totaled 626 days in 1984. Only 381 days of State land use was recorded in the first 9 months of 1985 but that number did not reflect KARATE KID II or BLOOD AND ORCHIDS. Land use information for City-owned parks, State harbors, and Honolulu International Airport can be found on page 79.

### The Market Survey

- o The data for this report were collected from a relatively small group of highly qualified sources. See Section 3 for a detailed explanation.
  
- o Specific objectives for the study were:
  1. Identify a market demand for a studio facility.
  2. Determine a design of a facility which would satisfy that demand.
  3. Determine a marketable location for the facility.
  4. Determine the management/ownership structure of the facility.
  5. Determine the methods of financing the facility.
  6. Determine how the facility would influence the Hawaii market as a location or production center.
  
- o Subjective data sought included opinions on:
  - a. Market demand for a Hawaii production facility.
  - b. Description of the perfect "distant location" facility.
  - c. The source's perception of Hawaii's reputation as a production location.
  - d. Why the reputation is what it is.
  - e. Ways in which a host government can best serve a production company while it is on distant location.
  - f. Whether or not a studio facility is a "draw" to a distant location.
  - g. Maximum drive time from hotels to a shooting location or studio.
  - h. Cost increase percentages while shooting in Hawaii.
  - i. The necessity of an effective Film Commission.
  - j. A description of the ideal Film Council composition.
  - k. The future of the motion picture industry.

- o Where there is a reference to "points," the numeric value earned by each answer is not significant in itself, but is for comparative purposes only. When a number for "total possible points" is referred to, it represents the highest numeric value any single answer could have received in relation to that specific group of possible answers. A weight factor of 12 was used in all cases. This means that each "first choice" was valued at 12, each "second choice" was valued at 11, each "third choice" was valued at 10, and so forth. Each answer's grand total becomes its point value.

Key findings

- o The following findings pertain to the industry as a whole:
  - a. Hawaii's reputation among the "import" producers as a location was: 66.6% favorable, 25% unfavorable, and 8.4% had no opinion
  - b. The 3 major reasons for the favorable attitude were:
    - 1. The scenic beauty.
    - 2. The convenience and proximity of accommodations and locations.
    - 3. The availability of equipment and technical personnel compared to "many" other distant locations.
  - c. The unfavorable attitude stemmed from:
    - 1. "Gouging" by local residents and businesses when they hear the word "movie."
    - 2. Having to negotiate with local unions (this applied to any distant location, not only Hawaii).
    - 3. Lack of equipment and technical personnel (interesting to compare to #3 above).
  - d. 73.3% of the randomly selected production managers had worked in Hawaii.

- e. A preferred "maximum speed-limit drive time" to a studio or location is 27 minutes from the hotel being used by the company.
- f. Contrary to popular belief, though dependent on length of production, 83.3% of the production managers surveyed said that "night life was not a necessity."
- g. Data indicated that a marketing campaign about Hawaii as a location or production center should be addressed to: first (126 pts.), Producers; second (116 pts.), Executive Producers; third (113 pts.), Production Managers; fourth (92 pts.), Writers; fifth (79 pts.), Network Executives; and sixth (65 pts.) Distributors.
- h. A State-owned facility received the following response:
1. An excellent idea = 21.4%
  2. A good idea = 21.4%
  3. A poor idea = 28.5%
  4. No opinion = 28.5%
- (Note: This does not reflect the attitude of the local market which rated "A poor idea" at more than 70%)
- i. The increase in production cost for filming in Hawaii rather than in Los Angeles averages 22% on Oahu, and, depending on the size of the show, an additional 3% - 13% on the Neighbor Islands.
- j. Of the production managers surveyed, 84.6% preferred working in a "right-to-work" state and said that they would select it if all other circumstances (i.e. "the look") were equal.
- k. On a scale of 1 to 10, 10 being the highest, production managers felt the following need for a proficient and effective Film Commission (Film Industry Branch):

Rating:

10	=	58.3%
9	=	16.6%
8	=	8.3%
7	=	0
6	=	0
5	=	8.3%
4-2	=	0
1	=	8.3%

1. 92.3% of the production managers stated that difficulty in securing permits could be a reason for not utilizing a distant location.
- m. The overall response from "import" production personnel regarding the securing of permits in Hawaii was: 1) "not difficult"; 2) "no more difficult than anywhere else"; and 3) "expensive."
- n. The local contingent, usually the ones responsible for obtaining the permits responded that the permits were: 1) "very time consuming"; 2) "too many restrictions"; and 3) "too little government flexibility" (The fourth response was that they were "too expensive due to DOCARE costs")
- o. It was found that based on a 1 to 10 scale, 10 being "most important," a company on distant location rated its needs to be the following:
  1. 8.42 = Trained technical personnel
  2. 8.33 = Film Office cooperation
  3. 8.08 = Transportation equipment availability
  4. 7.67 = Availability of grip and electric equipment
  5. 7.58 = Proximity of hotels and studio or locations
  6. 6.25 = Camera and sound equipment availability
  7. 5.25 = Studio/stage facility availability
- p. The following is the priority listing of required support services selected:
  1. (136 pts.) Hotels
  2. (131 pts.) Food services
  3. (117 pts.) Airport
  4. (113 pts.) Lumber yard
  5. (93 pts.) Hardware facility
  6. (85 pts.) Laundry facilities
  7. (78 pts.) Medical facilities
  8. (68 pts.) Auto mechanic shop
  9. (60 pts.) Clothing stores

(Note: Total possible points were 156.)
- q. The three reasons a studio facility would be unsuccessful are:
  1. Poor management
  2. Poor design
  3. Poor location



r. Interestingly, the three reasons it would be successful turned out to be the above in the positive form:

1. Excellent management
2. Good design
3. Prime location relative to support services

s. The following Film Authority/Council composition was most highly recommended by production personnel:

- 7 members total
- 1 private citizen
  - 1 business community leader
  - 2 elected officials of State government
  - 2 local industry members (incl. Film Comm.)
  - 1 "import" industry representative

Data indicated bi-monthly meetings as a minimum.

o The following information was obtained through data collection and questionnaires.

a. Feature Films

Demand for studio facilities is slight. Feature producers use stage space on distant location only as "cover set" facilities. Unless rain or some other reason drives the production indoors, stage space is not needed. The expense of housing and feeding those crew members from the studio's home city while on distant location here in Hawaii is continued only as long as absolutely necessary.

According to feature film production managers, the following are services/assistance which they recommend Hawaii provide to a production while .on distant location in our State:

- (121) 1. Location site search
- ( 99) 2. Offer air travel and hotel accommodations at savings of more than 30%
- ( 89) 3. Provide all permit services  
(Tied with)
- ( 89) 3. Location site negotiation and community P.R.
- ( 76) 4. Assign a political power figure to act as liaison with government, military, and the community  
(Tied with)
- ( 76) 4. Offer, at minimal cost, fixed-site production offices which include installed telephones and a copy machine
- ( 69) 5. Furnish free police and security
- ( 56) 6. Furnish free firemen, if required
- ( 53) 7. Offer, at minimal cost, a fixed-site, 1,500 amp, air-conditioned studio/stage facility
- ( 50) 8. Offer free use of government-owned tractors, trucks, or other specialty vehicles
- ( 47) 9. Offer, at minimal cost, a fixed-site, furnished mill near locations used

(Note: The numbers in parenthesis are the points earned from a possible 144 points.)

b. Hawaii-based Television Series (US)

Historically, Hawaii-based TV series have required a stage larger than those spaces offered by the local television stations. Therefore, efforts to market a studio should recognize this component as the primary target.

Additionally, the TV series market is amenable to the longest lease term for studio facilities.

Production Managers from the television industry suggest the following services/assistance be provided by Hawaii sources to attract a distant location series to Hawaii:

- (85) 1. Offer air travel and hotel accommodation cost reductions of more than 30%
- (72) 2. Provide all permit services
- (63) 3. Assign a political power figure to act as liaison with government, military, and community
- (62) 4. Location site search services
- (59) 5. Offer, at minimal cost, fixed-site production offices which include installed telephones and a copy machine
- (57) 6. Offer, at minimal cost, a fixed-site, air-conditioned, 1,500 amp stage facility
- (56) 7. Location site negotiations/community PR
- (55) 8. Furnish free police and security
- (45) 9. Offer, at minimal cost, a fixed-site, furnished mill near your locations
- (43) 10. Furnish free firemen (if required)
- (41) 11. Offer free use of government-owned specialty vehicles, tractors, and trucks
- (27) 12. Offer free use of a parking lot for basing all production vehicles used for a production

(Note: The numbers in the parenthesis are the points earned from a possible 108 points.)

The Hawaii-based television series provides the most stable and longest duration employment of any other component of the industry.

c. Episodic Television - The One Episode Visit

Studio facility use by visiting one-episode productions will be insignificant. This element utilizes Hawaii as a location backdrop for special episodes of a series which is based somewhere outside of Hawaii. All permanent sets are located "back home" and most of the creative and technical personnel come from unions based in that home city. The use of a stage facility for this element is for "cover sets" or specialty sets.

This element will continue to be a source of "spot" employment and indirect advertising for the State, but does not in itself offer any sustained or stabilized form of economic diversity.

Production Managers from this element of the television component suggest the following services/assistance to attract a distant location episodic production to Hawaii:

- (88) 1. Location site search
- (84) 2. Offer air fare and hotel accommodations cost reductions of more than 30%
- (77) 3. Location site negotiations/community PR
- (69) 4. Provide all permit services
- (56) 5. Assign a political power figure to act as liaison with government, military, and community
- (54) 6. Offer, at minimal cost, fixed-site production offices including telephones and copy machine
- (51) 7. Furnish free police and security
- (44) 8. Furnish free firemen (if required)
- (41) 9. Offer free use of government-owned specialty vehicles, tractors, and trucks
- (37) 10. Offer, at minimal cost, a fixed-site, 1,500 amp, air-conditioned stage facility
- (36) 11. Offer, at minimal cost, a fixed-site, furnished mill near your major location
- (32) 12. Offer free use of a parking lot for basing all of your vehicles throughout production

(Note: The number in parenthesis is the points earned from a possible 108 points.)

- o There is a belief within the local industry and government that a facility will "draw" production to Hawaii. The data indicate that such is not so. The survey of Production Managers indicates that 69.3% do not consider a facility a "draw" to any location, while 30.3% do. There are many

other elements of location production which are more important as "draws". Data indicate the following in descending priority:

- (131) 1. "The look"
- (100) 2. Trained technical personnel
- ( 90) 3. Proximity of hotels/restaurants/desired locations
- ( 75) 4. Film Office cooperation
- ( 72) 5. Grip and electric equipment availability  
(Tied with)
- ( 72) 5. Favorable climate
- ( 71) 6. Transportation equipment availability
- ( 51) 7. Studio/stage facility availability
- ( 44) 8. No language barrier
- ( 32) 9. Good drinking water
- ( 28) 10. Low cost-of-living index

(Note: The number in parenthesis reflect the points earned from a possible 156 points.)

#### Studio Facility Feasibility Assessment

- o A "stage" is the single building or portion of floor space within a building in which principal photography for motion pictures occurs.
- o A "studio" is the multi-building complex of stage(s) and support buildings; or, if located within one building, the totality of stage and support services floor space utilized for the production of motion pictures.
- o Any facility constructed by the State should not duplicate any existing facility, nor should it be of a nature that is within the interest of private enterprise. Such duplication of sources will not enhance the growth of the industry.
- o There is no identifiable market demand for a studio facility in the State of Hawaii. This means that the success of a

facility in Hawaii is directly proportional to the sellability of projects which are produced in Hawaii, and since the motion picture industry is a project-by-project enterprise, with no assurance that a project will have a market or, if it finds one, be successful, the only accurate statement regarding demand is: "Currently, upon the completion of Universal Studios' television series, MAGNUM, P.I., there is no identifiable demand for a motion picture facility."

- o Import feature films do not require a studio facility in Hawaii. Producers of such product state that it would be a convenience, but not a necessity.
- o Import Hawaii-based series producers do require a facility once their show "goes to series" with at least 22 episodes, including the pilot. Any shorter duration would not justify the expense of studio construction. The presence of such a series can justify the construction of a studio complex if the justification to build is based on economic benefit to the State as a whole due to the presence of the series, and not on a belief that the facility will earn a profit from the series.
- o Import commercial production does not require a studio facility. It would be a convenience, but not a necessity.
- o The visiting one-episode television production has no need for a studio except as a possible "cover set" facility.

- o To evaluate the potential markets, an "average historical scenario" was used. It reflects the belief that a Hawaii-based series will continue to be present.
- o Two additional potential markets besides the Hawaii-based series are the local feature and the Asian television markets.
- o Three different types of facilities were examined:
  1. The unimproved facility without support buildings.
  2. The unimproved facility with support buildings.
  3. The improved facility.
- o Our research indicates that the ideal "minimum need" facility is the unimproved facility with support buildings. It consists of:
  - a. Two 15,000 sq. ft. stages - Butler Buildings - air conditioned and soundproofed with master power installed (min. 1,500 amps).
  - b. One "mill" building - shell only - no equipment furnished. This building will house the paint shop and other such support services.
  - c. Two office wings with sufficient air-conditioned space to house two full-time, Hawaii-based series being produced simultaneously. Finished walls and floor coverings, proper plumbing for kitchenettes at each end of the wing, and a master communications switchbox or panel should be included. Furniture, draperies, telephone instruments, and copying machines should not be included. It will be a "bare wall" facility. Each wing is separated by an unequipped kitchen facility.
  - d. One air-conditioned dressing room/wardrobe/set dressing wing. Walls and floors should be finished and telephone jacks installed. A bar sink should be installed in each dressing room. There should not be any furniture, draperies, or telephone instruments. This, too, is a "bare wall" offering.

- e. Fencing must be included.
- f. Paving must be included.
- g. No landscaping should be included.

(Note: Bathrooms are obviously included within the construction of the wings, stages, and mill)

- o Site selection was based upon four sets of criteria. They were: 1) Industry Requirements; 2) Economic Considerations; 3) Architectural Considerations; 4) Social Considerations
- o Data indicate that a first major production facility should be located on Oahu because the most significant market is the Hawaii-based series. For economic reasons and proximity to support industries, any television series which has based in Hawaii has chosen to do so on Oahu.
- o Ten preliminary sites were selected on the basis of information gathered during an intensive three-month search for a studio location in 1984 by the Project Manager. The search showed that no existing buildings met the requirements for a studio facility, so only land parcels were further considered. All data pertaining to these sites were verified and any new prospects were added and evaluated. The sites selected included:
  - a. The Bougainville Industrial Park in Salt Lake
  - b. The Kailua Girls Facility in Kailua
  - c. The Waiialae Drive-in Theatre in Kaimuki
  - d. The Northeast side of Diamond Head Crater
  - ✓ e. The current MAGNUM, P.I. Facility at Diamond Head
  - f. The back of Aina Haina Valley
  - g. The back of Kamilo Nui Valley in Hawaii Kai
  - h. The police shooting range in Koko Head Park
  - i. Queen's Beach/Makapuu
  - j. Kapiolani Park Driving Range next to Waikiki Shell



- o Through value assignments by the consultants, historical data, and on-site evaluations, the preliminary list was reduced to four finalists.
  - a. The Bougainville Industrial Park
  - b. The Kailua Girls Facility
  - c. The back of Kamilo Nui Valley
  - d. The police shooting range
  
- o From the four, two "preferred" sites were selected.
  - a. The police shooting range
  - b. The back of Kamilo Nui Valley
  
- o Data revealed that State ownership of a studio facility is acceptable and makes economic sense. However, State management of the facility was unacceptable to both the import and local contingents. It is our recommendation that a Film Authority or if more economically advantageous, a Film Development Council, be established, and that a sub-committee of no more than three members manage the facility, using any consultants deemed necessary.
  
- o Data indicate that it is imperative for the facility to be able to house two major productions simultaneously, and that neither lessee acts as management of the facility.

Preliminary Financial Analysis

- o All financial data are based on the assumption that the facility owner will only be a landlord and will not participate in post-production, equipment leasing, purchasing or selling of materials, nor production financing of the products made at the facility.

- o The financial analysis was designed for the Kamilo Nui site because the economic considerations include all those which must be evaluated for the shooting range site plus those which are unique to a privately owned site. Since this property is owned by the Bishop Estate and the development rights are controlled by Kaiser Development, annual lease rent must be paid and development rights purchased. If the police shooting range is used, it is assumed that a land trade between the State and the City and County of Honolulu (the proper owner) would occur.
- o The development rights purchase would be for the entire 60+ acres and would cost approximately \$1,960,000. A 30 year lease agreement is expected to be negotiated with Bishop Estate with a fixed lease for the first 15 years. It is estimated that such a lease will cost \$500/acre/year.
- o Off-site preparation of the valley site is expected to cost \$1,494,700 including a 10% contingency.
- o On-site improvements of either site are estimated at \$1,644,300 including a 10% contingency.
- o Building costs are estimated to be \$4,463,000 including a 10% contingency.
- o Total project cost is estimated to be \$9,562,000 before construction period interest.
- o Construction period interest is estimated to be \$682,500.

- o Total project cost is estimated to be \$10,245,000.
- o Rental rates for the facility should be set by a Film Authority or a Film Development Council after all data have been evaluated. For this report, there were two types of rates applied. The long-term rate of \$26,300 per month that MAGNUM has been paying for the Diamond Head facility was used as a "grandfather" rate for that specific production. Other productions (including those by Universal Studios) would negotiate a rate based upon length of use and support building occupancy.
- o An average estimated rate for a single stage is \$1,200 per day, which reflects a charge of \$1,000 to \$1,800 per day depending on project size and scope.
- o Total estimated revenues for one stabilized year of operations are \$348,000.
- o Total estimated operating expenses for that year are \$262,000. This figure could increase to an estimated \$314,000 if an autonomous body were to be financed to manage the facility.
- o Operating income before depreciation, amortization, and debt service is estimated to be \$86,000. This figure could decrease to \$34,000 if an autonomous body were financed.
- o Debt service expense will depend on which form of financing is utilized to pay for the facility. The alternatives are:

1. Private Sector
  - a. Investor Equity
  - b. Conventional Mortgage
  - c. Private Contributions
2. Public Sector
  - a. Special Purpose Revenue Bonds
  - b. General Obligation Bonds
  - c. Special Improvement Bonds
  - d. Federal Funding

Each of these methods offers benefits and drawbacks. For details of each, refer to Section 5.

- o The facility's inability to be self-supporting in the current market environment severely limits the funding alternatives. While private participation is a possibility, the financial feasibility is expected to rely on the availability of public funds. In evaluating the public financing alternatives, the following factors should be considered:
  1. Effective borrowing cost including front-end costs, reserve requirements, guarantees and loan servicing.
  2. Specific security requirements including usage of revenue and user taxes, pledge of assets and restricted covenants.
  3. Ease of issuance.
- o Including the debt service, the annual payment of three examples of financing would be:
 

a. Conventional	-	\$962,800
b. Revenue Bond	-	\$893,300
c. Obligation Bond	-	\$852,700

- o The economic impact of having a studio facility will occur in two areas: employment and tax revenues. The indirect impact associated with the presence of the motion picture industry is significant, but a detailed analysis is beyond the scope of this study.
- o Employment will be generated in both the construction and film industries. Assuming that half of the construction costs represent labor, then \$3.8 million will provide construction employment opportunities for a period of 14 months. Within the film industry, the existence of the facility contributes to the chances of having a Hawaii-based series which employs an average of 70 full-time employees from the Hawaii work force at an average salary of \$52,000 per year. Facility use by companies other than Hawaii-based series producers is estimated to contribute an additional 15 days of employment to 50 employees at \$250 per day, or a total of \$190,000.
- o Tax benefits are estimated to total \$610,000. Short-term benefit in the form of general excise tax is estimated at \$38,000. Long-term benefit in the form of State income tax from individuals is estimated to be \$572,000.

#### Considerations for the Coming Decade

- o The most vital need presently is the creation of an authoritative body whose singular responsibility will be to create and institute plans for industry improvement and growth.

- o Diversification of the industry is a vital step toward self-sufficiency.
- o "Parallel development" is a key factor in improving the industry. This means that steps should be taken to assure that all necessary requirements for creating a complete "tripod" are present and being fulfilled simultaneously so that the lack of one does not hinder the growth and development of the industry.
- o The restructuring of the permit system is essential. For example, consideration should be given to an "earned-points" system which would duly reward the conscientious filmmaker through easing his application process.
- o The current insurance requirements should be re-examined. A system more favorable to the still photographers and the "mom and pop" film/video operations which have the slightest impact on public lands should be adopted. A waiver system could possibly replace the heavy insurance requirement now mandated in the permitting process.
- o The "right-to-work" issue, which is a political hot potato, should be evaluated in regard to the motion picture industry. The survey showed that 85% of the import production managers prefer working in a right-to-work state.
- o Another vital element for the future of Hawaii's motion picture industry is the establishment of courses and programs to create an even larger pool of qualified artistic

and technical personnel and which offer advanced training to the current talent pool. This can be done within the UH system, or with State assistance through private sources.

As one will read in the body of the report, various elements of the motion picture industry are closely interwoven. A simple answer or solution cannot be found without generating other questions, problems, and issues. If it is desired that a motion picture industry be created in Hawaii, then certain direct actions must be taken. There are so many benefits to be derived - yet also, so much to be done. The time is right for thought out, well-planned action.

## STUDIO FACILITY FEASIBILITY ASSESSMENT

### DEFINITIONS

For your reference, the following definitions will apply:

Stage - The single building or portion of floor space within a building in which principal photography occurs for a motion picture.

Studio - The multi-building complex of stage(s) and support services buildings; or, if located within one building, the totality of stage and support services floor space utilized for the production of motion pictures.

### PURPOSE OF A FACILITY

The purpose of constructing a studio facility is to enhance Hawaii's status as a filmmaking location and as a potential production center. Availability of such a facility could help the industry expand and contribute greater benefits to the State.

If existing facilities are duplicated, or if the State is entering into competition with the private sector, then no true expansion is occurring nor will there be added benefits.

Therefore, the current and/or potential market which cannot be serviced by existing facilities must be identified and assessed. Then, if such assessment finds that action by the State is warranted, the specific requirements of that market should guide decisions regarding the type of facility, its location, and its management and ownership arrangements.

This section will not address facility users' personal



perceptions - or misperceptions - which have kept existing facilities from being used. Some of the possible reasons for those perceptions are discussed in Section 2. It will be assumed that current uses of facilities set forth in Section 2 will also be the future uses, based on the market demand and industry activity defined below.

#### MARKET DEMAND

When it comes to the use of stage, mill, or office space, the motion picture industry is a "per project" industry. That means that if there are no projects which require stage, mill, or office space in Hawaii, there will be no use of those facilities. However, if the projects do exist, a facility may be used 365 days a year. The projects that determine that use range from feature films to local commercials, with none of the production entities being able to guarantee facility rental until scripts are completed, budgets are finalized, and production requirements are examined. Within any given calendar year, there is no way to determine how many projects will find financing, nor how many of those which come to Hawaii from other geographical locations will require studio space while on "distant" location here in Hawaii.

Although many people believe that the building of a facility will attract business to a particular location, our survey indicates that such is not the case. When asked directly whether or not a studio facility is a "draw" to a particular location, 69.3% of the responding Production Managers stated "no." The Local Industry Producers stated that facility use would depend totally

on budget. To date, large studio need has been no more than 5-10 shooting days per year, and no guarantee could be made for added use.

The best case for potential use came from the episodic television series component which stated that once a facility has been selected as satisfactory for a particular show's use, then utilization of such a facility will usually last for the duration of the show. The problem lies in the fact that the producer of an episodic series has no control over the show's duration. That is determined by public taste and the network management. This is why a major studio will not commit to the capital outlay necessary to build studio facilities in each of the regions in which single series have been produced or for which pilot films are written.

In short, there is no guarantee that a stage facility will be utilized and there is also no guarantee that it will not be utilized!

So, it is impossible to identify "market demand," when evaluating the feasibility of a stage facility.

Therefore, for the purpose of this study, and for the financial analysis which is part of it, the only accurate market demand statement which can be made is:

"Currently, upon the completion of Universal Studios' television series, MAGNUM, P.I., there is no identifiable demand for a motion picture facility."

To present the financial analysis, an "average historical scenario" was used.

With no identifiable market demand, it became even more important to know the relative importance of a studio facility compared to other elements of the industry such as "the look," permits, etc. As indicated in Section 3, the need for a facility varied with the particular component of the industry.

Feature films - 7th in priority  
Hawaii-based television series - 6th in priority  
Visiting episodic (one episode) - 10th in priority  
National commercial campaign - 10th in priority  
Local production - Insignificant use

This indicates that "parallel development" of the industry is a critical factor in establishing a market demand for and in justifying the construction of a studio facility.

#### IDENTIFIABLE POTENTIAL MARKETS

Data to determine the potential markets for a studio facility was of a subjective nature other than that which was utilized as part of the "average historical scenario" presented in the financial analysis in Section 5. There are potential markets, and their existence is based solely on evaluations by qualified industry professionals who are familiar with the Hawaii market, its personnel, its equipment, and its production history.

There are three identifiable potential markets which would benefit from the existence of a studio facility in Hawaii offering 30,000 square feet of stage space. They are: 1) a Hawaii-based episodic TV series; 2) the local feature industry; and, 3) Asian television production.

### A Hawaii-based Episodic Television Series

This is the single market - one member of which is currently utilizing a studio facility on a full-time basis - which potentially offers the heaviest use of a facility over the next three years. Construction of a new motion picture facility might be justified because of the existence of this market in Hawaii. However, its continued presence in the Islands is currently in jeopardy. Universal Studios' filming of MAGNUM, P.I. interiors and recording of audio voice-over tracks in the Diamond Head facility is hampered by noises from construction going on next door. If MAGNUM were cancelled, another production would not risk using the facility knowing that construction next door is scheduled to extend over the next several years. The facility would then be useless for motion picture production.

A Hawaii-based series offers two considerations: 1) a potentially long-term lease of a facility; and 2) the capital it is capable of spending on permanent improvements to the facility. This has been the case with Universal and the Diamond Head facility. This concept as well as a general overview of the benefits and disadvantages accompanying a Hawaii-based series is examined in Section 2.

Once a producer gets "picked up" by the networks for more than 13 episodes (the pilot plus 12), that production company/major studio is willing and able to expend large sums of money to assure the comfort and convenience of its

personnel. Any studio capable of housing a series prefers that its personnel establish residency. The existence of a facility does not guarantee that a series will house at that facility even if it does select Hawaii as a location. Nor does the existence of a facility "draw" a series to Hawaii. However, once a series does decide to use Hawaii as a location, it must have a facility out of which to work, or there is a good chance that the show will decide to film only second unit backgrounds in Hawaii (e.g. HAWAIIAN EYE and ALOHA PARADISE) and film the major portion of the series in Los Angeles or the production company's city of origin.

Subjective data indicate that a "general rule of thumb" is that once a pilot filmed at a distant location (Hawaii) is sold, there is a 50/50 chance that the series will be produced at that location if there is no facility available in which to base the production. If a facility is available, there is a 90/10 chance that it will be filmed at that location. Most production companies hope to have at least one show on location because the networks find them exotic and an effective marketing tool ("We'll go to the end of the world to bring you the finest in entertainment"). Therefore, the availability of a facility can increase Hawaii's chances to be utilized as the home for a series (or two) from 50% to 90%. If a standard one-hour series spends \$12-16 million per season at a distant location, and an ideal facility were to cost \$6-10 million, is the 40% greater chance worth the expenditure? Even if the "rule of

thumb" is incorrect and the actual increase in odds is only 20%, is that 20% increase worth the expenditure? That is a decision which must be made by the State authorities.

#### The Local Feature Industry

This market does not currently exist. However, as a potential market for facility use, it is second only to the Hawaii-based series.

Every indication leads to the establishment of a local feature industry within the next three years. Although their budgets will initially be small, the volume of these productions should increase as the international success of the products warrants continued financing and distribution. Such success may take several years to accomplish, if it occurs at all. However, it is a fact that at least four small feature productions are currently seeking financing. Each has the potential upon which to build a credible local feature industry.

The one drawback with facility use is that the local industry needs will be primarily short-term and ala carte rental, rather than in package deals which may include offices and storage space. The actual rental of the facility will depend solely on the scripts and until there are products with larger budgets, there may be little need for a facility at all.

New Zealand has produced over 156 small-budget features over

the past five years and has no studio facility other than small video stages and one "production village" which is basically a post-production resource. It is virtually impossible to establish an actual market demand number which reflects the income potential from this market. However, it should be recognized that qualified industry personnel project that this market will be significant within the decade.

#### Asian Television

If suitable visa arrangements are reached among the Federal Immigration and Naturalization Service, the local trade unions, the Japanese and Asian production companies and their local representatives, the market share of facility use by these production entities could be significant.

It is reported by the Japanese Coordinators Association that currently there are at least two Japanese production companies which have considered producing Hawaii-based television series requiring studio space for at least 60 days per year. If those series are successful, others may follow. If those production entities find that Hawaii provides a pleasant and efficient production environment, the volume of import television specials and commercial production would indeed increase. Again, by the very nature of the industry, there is no definite market demand parameter for this element of the market. There is only an estimate by qualified sources. It is a fact that the

Japanese market plays a significant role in the Hawaii production marketplace (See Section 2).

Other Elements

Based on their current requirements, other elements of the industry - "import" features, one-episode visits by television series, national commercial campaigns produced by visiting production entities, local commercials, local television programming, documentaries, industrials, and educational films - have very little, if any, need for a major studio facility.

ALTERNATIVE FACILITIES EXAMINED

To determine a cost-effective investment, the requirements for each of the potential markets were surveyed and analyzed. We interviewed and surveyed a focus group of industry leaders, who oversee production for six of Hollywood's major studios, as well as a number of respected Production Managers who are members of the Directors' Guild of America. Within their capacity as Production Managers, these individuals have a working knowledge of site, physical plant, and market requirements for all components of the industry. From the results of these surveys, together with the survey results of the existing local industry, a "minimal need" definition was formulated. Keep in mind that the following text pertains only to government's interfacing with the industry and does not limit any additional role private enterprise wants to play toward the betterment of the facility.

The data suggest that three types of facilities be examined:



#### Unimproved Without Support Buildings

This facility would fulfill the need for stage space and mill space only. It would consist of two 15,000 sq. ft., air-conditioned, soundproofed stages wired for 1,500 amps each; a mill building shell; paving; fencing; and minimal land preparation (no landscaping). This is the type of facility that would be offered to a lessee who would be willing to supply his own support buildings or to use a hotel room for his production office. The benefits of this facility are its relative low cost and its easy conversion to alternative uses if the motion picture industry does not support its existence. On the other hand, the shortcomings are the absence of office space for companies unable to provide their own, the lack of dressing rooms for companies unable to secure adequate mobile homes or dressing trailers due to several productions occurring in town at the same time, and the facility's lack of appeal in attracting the industry elements that are considering Hawaii production. Building cost, excluding any interest, land cost, or site preparation, is approximately \$1,922,800.

#### Unimproved With Support Buildings

This facility would provide all necessary floor space for any type of production. This includes 30,000 square feet of stage, offices, mill, paint shop, support shops, dressing rooms, storage space, and kitchen. The grounds would be paved and fenced, but not landscaped. There would be no interior decorations of any kind, nor kitchen.

equipment, or office equipment. A master communications switch box would be installed, but no telephone instruments are provided. Each stage would be air-conditioned and wired for 1,500 amps. The advantage of this facility lies in its completeness as a sales tool for industry promotion. It would be attractive to a television series which may have sold only 6 episodes and is hesitant about shooting in Hawaii because of the heavy start-up costs that would come with having to short-term lease dressing trailers and office trailers, work out of a hotel facility, and travel to the stage. The shortcomings do not involve the facility itself, but in the cost of the additional construction. Building cost excluding any interest, site preparation, or land cost is approximately \$4,462,920.

#### Improved Facility

This facility would provide all of the physical structures mentioned above plus grounds that are fully landscaped, and furnished office space, mill, and kitchen that are fully equipped. This "total" facility will be very attractive. However, such a "complete package" forces a single "taste" upon the clients, it adds greatly to the costs for equipment that most long-term lessees would be willing to purchase or lease themselves. It most certainly places the State in direct competition with private enterprise which sells or leases office furniture, kitchen facilities, and tools; and it adds to grounds maintenance costs that are unnecessary at this stage of the industry's growth. In short, this type of

facility is not practical and not one that is preferred by the industry. Building and furnishing cost excluding land costs and site preparation expenses is approximately \$5,300,000.

#### SITE SELECTION

The site analyses was conducted using four sets of criteria:

- a. Industry Requirements
- b. Architectural Considerations
- c. Economic Considerations
- d. Social Considerations

All data indicate that a first facility for the motion picture industry should be located on Oahu. However, if there is growth in the industry and the first facility is sufficiently utilized, and if many features continue to be produced on the Neighbor Islands, then the construction of a neighbor island single stage facility should be explored. However, unless a television series is developed especially for one of the Neighbor Islands, it would not be wise to construct a major facility there prior to one on Oahu.

Under the above conditions, ten preliminary sites on Oahu were selected on the basis of information gathered during an intensified three-month search for a studio location by the Project Manager. This was done while the Project Manager was involved in scouting for a location for a production -- Universal Studios' television series, HAWAIIAN HEAT. Since the data showed that no existing buildings met the facility requirements, only

the land parcels were considered for further evaluation. The data pertaining to these sites were reconfirmed and new prospects were added to the preliminary list. These sites included:

- o The Bougainville Industrial Park (TMK 9-9-71)
- o The Kailua Girls Facility (DOC) (TMK 4-2-06)
- o The Waialae Drive-in (TMK 3-3-12)
- o The Northeast side of Diamond Head Crater (TMK 3-1-42)
- o The current "MAGNUM, P.I. Facility" (TMK 3-1-42)
- o The back of Aina Haina Valley - 100 acres (TMK 3-6-04)
- o The back of Kamilo Nui Valley - 60+ acres (TMK 3-9-08)
- o The police shooting range in Hawaii Kai (TMK 3-9-12)
- o Queen's Beach/Makapuu (TMK 3-9-11)
- o Kapiolani Park Driving Range (TMK 3-1-43)

### Criteria

The conclusions drawn from a general site analysis conducted by the Project Manager and the Architectural Consultants were added to the survey data regarding the "minimum need" facility.

The criteria used to evaluate the sites were:

#### Industry

1. Noise level comparisons
  - a. Air traffic
  - b. Street traffic
  - c. Neighborhood noise
  - d. Ambient sound of nature
2. Speed limit drive times from 2400 Kalakaua (Waikiki)  
Note: Data indicates that a drive time of 27 minutes from major hotels to a studio facility is acceptable to producers.
3. Acreage  
Note: Based upon the "minimum need" facility described by data, the studio site should be at least 10.5 acres, with an additional minimum of 10 acres for growth potential and back lot capacity.
4. Proximity to "star quality" housing  
Note: Currently, this is from Diamond Head to Hawaii Kai/Portlock. (There are Waikiki area high rises which are also often selected.)
5. Proximity to the quadrant of the island in which the majority of production occurs

Note: This is the triangle formed by the Pali Lookout, the airport, and Makapuu Point.

6. Proximity to suppliers, (hardware, lumber yards, etc.)
7. Zoning restrictions for growth of support industries
8. Highway/freeway accessibility for large trucks

The considerations within these criteria are based upon "standard practices" of the motion picture industry. There are certain environmental conditions that must be present in order for a site to be suitable for a motion picture facility. Though the words used to define these conditions may vary, the requirements are generally accepted by every major studio manager, using the specific information - "drive times," "noise levels," etc. - pertinent to each particular facility.

In rating the sites, we assigned a numeric "maximum value" to each requirement, according to its relative importance. The ranking of the requirements was by our experience as well as the input of qualified professionals who were surveyed.

Each of the four highest rated sites (see below) was then evaluated through on-site observations, historical data research, document research, and by the subjective data collected. For those requirements that could be assigned comparative values through objective data - i.e., FAA flight path charts, audio decibel readings, Board of Water Supply data, Department of Public Works data, etc. - a relative

matrix provided the assignment of values. For those requirements calling for a subjective assignment of values, the Project Manager and Architectural Consultants concurred on the proper assignment.

Since each requirement was compared among the different sites, no special knowledge or qualification was required in assigning these values. This is stated to dispel any concern that perhaps more "industry" personnel should have been involved in the value assignments.

#### Architectural Considerations

1. Acreage (see above)
2. Cost of grading and site preparation
3. Environmental conditions for fabricated building structures

The decisions based on this criterion did not require any elaborate matrix assignment of values. The sites were evaluated by the Architectural Consultants, based on their experience and on data collected during a studio evaluation trip to Los Angeles, and decisions were made pertaining to which two sites were the best suited for construction.

#### Economic Considerations

Note: This criterion consisted of economic considerations of a given site made on behalf of the industry, (i.e., construction costs, land purchase costs, lease costs, and the economic effect on the immediate neighborhood). Only the two "preferred sites" listed below were evaluated

because other criteria eliminated all of the other sites.

#### Social Considerations

This criterion is very important for an industry which is so dependent on community support for its very existence. The motion picture industry requires the same environment as a residential community. The conflicts that sometimes arise between the industry and the communities in which studio facilities are located do not occur as a result of what happens on the studio lot, but occur as a result of the auto and truck traffic entering and exiting the lot at early morning and late night hours. There is nothing that occurs on a stage that would disrupt a residential community. If a back lot is later established, there could be certain elements of production to which the community might object - e.g. gun fights and controlled fires - but the element with most impact is traffic and the noise it produces. We did not attempt to evaluate the benefits a community would reap from having a studio built within it. Such evaluation has no basis unless employment for the studio is restricted to members of that community, or purchases made for the studio occur only within the community's business centers. Such is not the case.

#### Preliminary Evaluation

From a preliminary evaluation, the following sites were eliminated for the following reasons:

- o Waialae Drive-in (Zoned R-6 54/2-113 Var. pmt #246)
  - a. Too little acreage (Approx. 6 acres)

- b. Highway traffic noise apparent
- c. Possible negative social impact
- o Northeast side of Diamond Head Crater (Zoned P-1 25')
  - a. Expensive grading and grubbing - large trees
  - b. Certain negative social impact
  - c. Federal Government involvement
  - d. Limited acreage (Approx. 10 acres)
- o Current MAGNUM Facility (Zoned R-3 25')
  - a. KCC construction occurring - sound problems
  - b. Limited acreage (As permitted at 4.2 acres)
  - c. UH Regents control property - wish to retain it
  - d. Certain negative social impact if facility enlarged
  - e. Storm drain construction over next several years
- o Aina Haina Valley (Zoned P-1/R-4)
  - a. Poor soil conditions
  - b. Expensive grading and grubbing
  - c. Construction of formal covered drainage ditch
  - d. Potential negative social impact
- o Queen's Beach/Makapuu (Zoned P-1)
  - a. Elevation below satisfactory flood protection level
  - b. Expensive removal of boulders
- o Kapiolani Park Driving Range
  - a. Potential negative social impact
  - b. Too close to tourist population
  - c. Limited acreage (Approx. 10 acres)
  - d. Depletion of park space within highly populated area

Comparative Evaluation of Finalists

Once a comparative analysis was made utilizing all of the criteria, two other sites were eliminated for the following reasons:

- o The Bougainville Industrial Park (Zoned I-1 Cond.75/2)
  - a. Intermittent air traffic noise
  - b. H-1 Freeway construction traffic delays to continue over next year or more
  - c. Traffic congestion between Waikiki and Downtown during morning and afternoon rush hours
  - d. Constrictive building requirements
  - e. Poor rating by potential studio users based on their perception



- o The Kailua Girls Facility (DOC) (Zoned AG-1)
  - a. Rolling landscape expensive to grade for large-area construction
  - b. Highway traffic noise more than satisfactory
  - c. Rain potential
  - d. Pali traffic redirectioning is uncertain condition
  - e. Poor rating by potential studio users based on their perception
  - f. Early loss of sun behind mountains

It must be stated that either of these above sites would be suitable if economic or political considerations unknown at the present time preclude either of the following two sites. Much will be said about truth vs. misperception within the target market, but it should be reiterated that if the market doesn't want it, no facility, no matter how fair and well planned it might be, will be used. When there is no market demand beyond the existence of MAGNUM, obviously, any site could be selected. Universal would then either go wherever the facility is located or arrange for its own facility elsewhere. Motive must be examined when dealing with a matter as subjective as this.

"Preferred Sites"

Though there were strong negative aspects to the two sites remaining, they rated as the two "preferred sites" for the following reasons:

- o The Police Shooting Range within Koko Head Park (TMK 3-9-12 Zoned P-1)

Positives:

- a. Total isolation from community
- b. 20+ acres  
This acreage would allow a 10.5 acre studio facility, enough expansion room for two additional studios and 9 or 10 acres of back lot.

- c. The bowl shaped topography of the crater in which this site sits  
 This topography provides the opportunity for waterfall construction using natural setting, protects from environmental noises, assists in security of the premises, and offers backdrop capacities utilizing minimum construction for support.
- d. Existing 4" water line onto the property.
- e. Close proximity to sewer connections.
- f. Minimal site preparation.  
 The property has already been graded into various levels which are suitable for studio construction as currently designed.
- g. Direct access to state highway without need to pass a single private residence.
- h. Proximity to Job Corps site for future tourist attraction expansion.  
 If it were ever considered, the adjacent Job Corps site offers a very satisfactory site for the various boutiques, displays and attractions which could comprise a motion picture studio "tour attraction" of a nature commensurate with the type of facility proposed. By the simple addition of a tram road that enters the studio site from the Job Corps site, tours of studio activity could be given, but because the major attractions for daily tourist activity would be over the ridge from the studio, filming activity could choose not to be disturbed by proper scheduling. The main access to the attraction could be by way of the existing road which enters across from the Hanauma Bay entrance, if a sound-retaining wall is built for the short distance that the road passes the rim of the studio site. Something to consider.
- i. Property currently owned by City and County  
 It is assumed that a trade could be arranged which could cost the State nothing.
- j. Located in proper quadrant of island.
- k. Adjacent to "star quality" housing.
- l. 11.3 miles from 2400 Kalakaua - 25 minutes in speed-limit drive time.

- m. Decibel reading of 42.9 for 90% of the time as indicated through automatic sampling.
- n. Out of FAA current commercial air traffic patterns.
- o. Relatively dry climate all year.

**Negatives:**

- a. Use of site would cause displacement of existing shooting range.  
Note: There are more centrally located areas for shooting activity.
- b. Use of the site would mean rezoning preservation land for commercial activity.
- c. Site is not centrally located to all island points.
- d. There will be occasional private tour air traffic over the site because of its proximity to Hanauma Bay and Sandy Beach.
- e. There is potential negative reaction from the surrounding community.

**o Kamilo Nui Valley (Hawaii Kai) - The Back 60+ Acres (TMK 3-9-19 Zoned P-1)**

**Positives:**

- a. Quietest of all the sites
- b. Acreage (60+)  
There is sufficient acreage for the designed facility plus any future expansion, including a major back lot and a tour attraction potential.
- c. Located behind existing agricultural area so there is no immediate neighborhood to be negatively affected by activity on the lot itself.
- d. Out of all current air traffic patterns.
- e. Located in proper quadrant of the island.
- f. Located near "star quality" housing.
- g. 12.2 miles from 2400 Kalakaua - 29 minutes speed

limit drive time.

- h. Relatively dry climate all year.
- i. Outright land development right purchase available.
- j. There is no current activity on the property.

Negatives:

- a. Cost of land development rights add \$1.96 million to project price.
- b. On-going lease rent payment to be made to Bishop Estate of approximately \$500/acre/yr.
- c. Off site preparation will cost \$1.36 million to bring water, sewer, and power up to property line
- d. Studio auto and truck traffic must pass directly behind several private residences and on streets through residential areas.
- e. Site not centrally located to all island points.
- f. Possible negative community reaction to rezoning.

A major concern which will affect both sites is the construction which is planned for the Kalaniana'ole Highway and which may begin within the next 3 years. It is highway construction which adds much of the industry professionals' negative perception about sites located toward Pearl City. One of the major factors discovered in the evaluation of the sites in Hawaii Kai was that the industry professionals perceived them to be favorably located as opposed to sites located near Pearl City or Kailua.

ALTERNATIVE USES

The ideal use of any studio facility is a long-term use which assures a negotiated income over at least a six month period. This would be the equivalent of the preparation time and

production schedule of a two-hour pilot plus 12 episodes of a major television series. Normally, however, a pilot will not justify the expense of major set construction which requires a stage; the preference is to use "practical locations" (actual homes, offices, etc.) for photography. Once the pilot sells, then allocations will be made for set construction, and the search for a stage will begin. In the case of long-term use of a stage, it is customary within the industry to allow a discount in the daily rate if the show's producer also owns the studio lot. Discounts are rarely given if the renter is not the lot owner.

It sounds strange for a company to charge a studio rental for its own productions. However, one must understand that the negotiated license fee paid for the right to air a show is partially based on the cost of the show. If the producer can show a legitimate fee associated with stage use, a higher license fee may be negotiated. After all, the ownership of real estate should not affect how the buyer of a show looks at the value of the product. Some studios choose to take the risk of owning studios because they feel that they can sell enough product to warrant such ownership. Other studios which may not have the clout to assure the airing of sufficient numbers of their products may wish to only rent studio space. Fortunately for a publicly- or privately-owned Hawaii facility's use, (but unfortunately for the industry), there are no production companies that own studio facilities here which are of the type proposed herein. This assures use of the one facility by even the most competitive of production entities while two or more of

them are working in Hawaii, provided that the facility meets their requirements for particular projects.

Inasmuch as price structures for various facilities across the country as well as internationally do change often due to changing value of the dollar, the rise and fall in interest rates, or because of changes in union contracts, negotiated price of a facility in Hawaii should remain evaluated as near to the actual use of the facility as possible. The current rate that the State charges Universal Studios for the MAGNUM, P.I. facility at Diamond Head should be carried over to any new facility with some minor adjustments. This is because MAGNUM's budget is established around that figure. Once the facility is completed, the management should then negotiate with each new show's producer a fair market value fee independent of what the MAGNUM production is paying - even if the new show is another Universal production. This is not to say that the price for the facility will automatically be higher, but simply that the fee should be evaluated at the time of negotiations. The fee negotiations must take into account the benefits Hawaii derives from having the production here.

Most of the growth of the industry will occur through short-term use of the stage facility. These users will include the developing local feature element, the "import" commercial producers, the music video element, Asian commercial production entities, and syndicated television specials which are produced by Hawaii producers.

The short-term rental is based on a daily rate, with any "extras" costing more. The importance of the short-term leases is that it is through the personnel of those productions that the word spreads through the industry that a facility is available in Hawaii: The long-term lessor prefers not to make this fact known in order to avoid undue disruption on the lot. With proper design, the facility should be able to accommodate at least two productions simultaneously, and preferably more. For the purposes of financial analysis, we have estimated that the short-term use of the facility for the first year will equal 15 days of stage rental at an average rate of \$1,200/day.

#### RECOMMENDED FACILITY

This study does not recommend for nor against the construction of a studio facility in Hawaii, as explained in Section 5 and in the Introduction of this presentation. We do, however, set forth the following "minimum need" requirements which outline the ideal components of a facility if one were to be built in Hawaii. The assumptions for the contributing data were: 1) the current level of rental equipment availability would increase very slowly due to need of private financing; 2) more than one production would be occurring simultaneously; 3) the product for which they are in Hawaii is not a long-term episodic series, but is one requiring more than a two week shooting schedule; and 4) performers' and technicians' union regulations would apply pertaining to working conditions and drive times.

Should the decision be made to construct a studio facility in

Hawaii, then the "ideal" facility is that one described above as the Unimproved Facility With Support Buildings. Such a facility consists of:

Recommended Facility

- a. Two 15,000 sq. ft. stages - Butler Buildings - air conditioned and soundproofed with master power installed (min. 1,500 amps).
- b. One "mill" building - shell only - no equipment furnished. This building will house the paint shop and other such support services.
- c. Two office wings with sufficient air-conditioned space to house two full-time, Hawaii-based series being produced simultaneously. Included should be finished walls and floor coverings, proper plumbing for kitchenettes at each end of the wing, and a master communications switchbox or panel. Not to be included are furniture, draperies, telephone instruments, and copying machines. It will be a "bare wall" facility. Each wing is separated by an unequipped kitchen facility.
- d. One air-conditioned dressing room/wardrobe/set dressing wing. Walls and floors should be finished and telephone jacks installed. Bar sinks should be installed in each dressing room. There should not be any furniture, draperies, or telephone instruments. This, too, is a "bare wall" offering.
- e. Fencing must be included.
- f. Paving must be included.
- g. No landscaping should be included.

(Note: Bathrooms are obviously included within the construction of the wings, stages, and mill.)

We believe that anything less than this facility would cater only to long-term lessees who have the budget and time to arrange for trailer offices and dressing rooms to be installed, and that absence of these buildings will discourage the use of the facility, most especially if available trailer facilities are



not of good quality or installation of them cannot meet required production schedules. Additionally, if the installation of such support buildings is left to the lessees, then any long-term lessor is not going to install trailers for other companies to use, unless a profit can be made. This sets up a lessee as a sub-lessor which may complicate management. One owner should be responsible for the structures on the facility, with maintenance being the variable for price negotiations of the lease.

#### FACILITY MANAGEMENT

It is strongly recommended that management of the facility not fall within the jurisdiction of the bureaucratic system. The motion picture industry is a very fast paced industry and requires quick decisions. Data indicate that industry professionals are in favor of, or have no opposition to, a State owned facility, but are opposed to the State bureaucratic system managing the facility. It is recommended that an autonomous film industry governing body be established, and that a sub-committee of three members oversee the management of the facility, using any consultants they deem necessary. Such consultants might be property management firms, accountants, industry professionals, maintenance firms, or attorneys. If the governing body is created as an "Authority" (e.g. Aloha Stadium Authority), its only function should be to oversee the facility operations. A second body (Council, Advisory Committee, etc.) should be established to work toward industry advancement. This body should include elected officials, but can function through the Film Industry Branch of the DPED.

PLAN DRAWING

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## LEGEND

---

- 01 Sound Stage
- 02 Loading Dock
- 03 Wardrobe
- 04 Set Dressing
- 05 Laundry
- 06 Dressing room
- 07 Producers off./ Production Off.
- 08 Exec. Dining
- 09 Dining
- 10 Kitchen
- 11 Scene dock
- 12 Transportation Garage
- 13 Special Effects Garage
- 14 Covered Equipment Parking
- 15 Drivers Shack
- 16 Transportation Office
- 17 Paint Shop
- 18 Mill
- 19 Electrical Shop
- 20 Set Up Area
- 21 Set decoration Storage
- 22 Camera/ Sound Storage
- 23 Prop Room
- 24 Utility Room
- 25 Toilet
- 26 Executive Parking
- 27 Employee Parking
- 28 Equipment Parking

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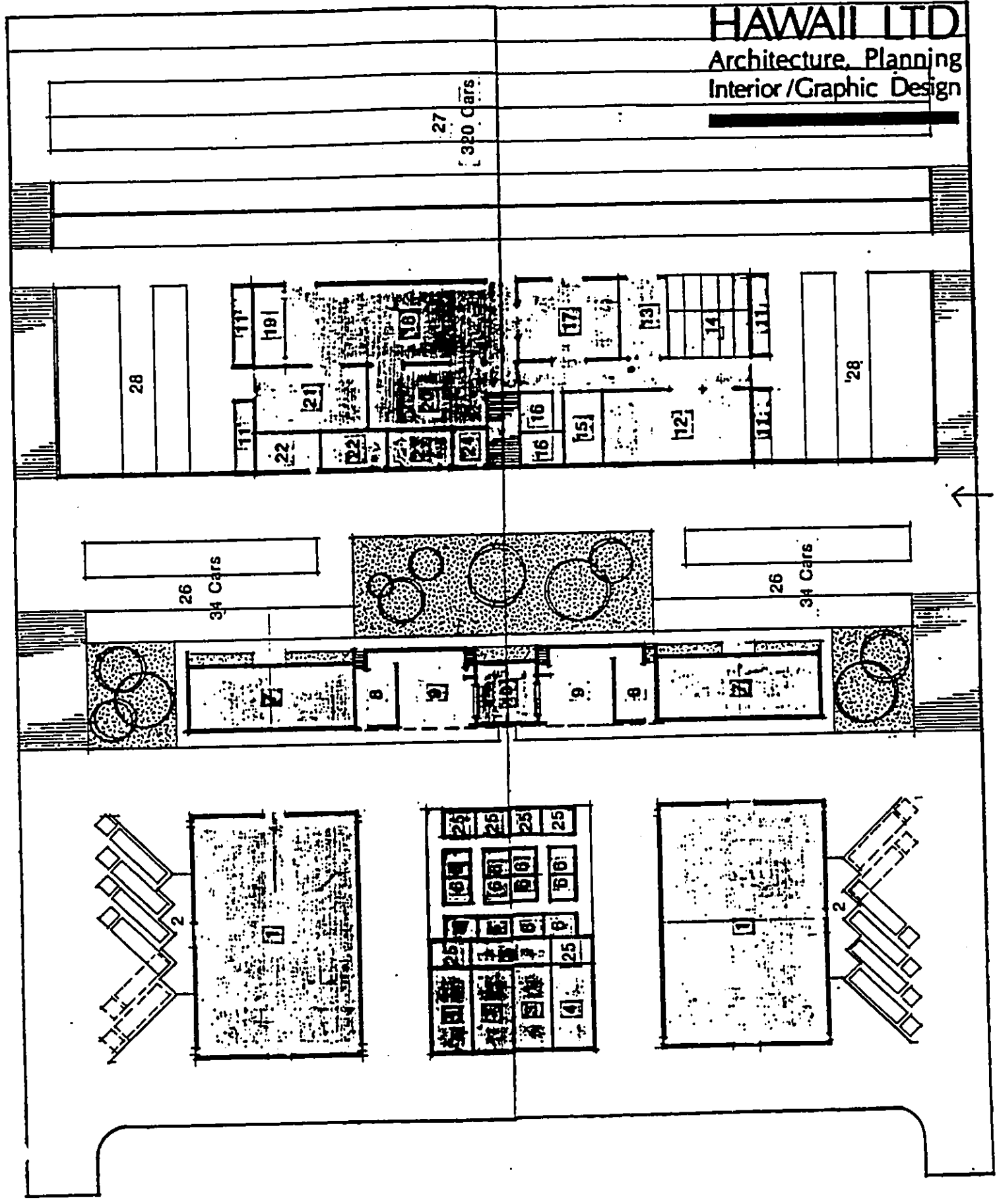
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# Appendix B

**JOHNSON  
TSUSHIMA  
LUERSEN  
LOWREY**

Architecture  
Planning  
Interior Architecture

7 July 1989

DAGS - HAWAII FILM FACILITY  
Diamond Head, Hawaii

#### **BUILDING DESCRIPTION**

##### **A. SOUNDSTAGE**

Each soundstage will be 110' x 150' in overall dimensions and have a clear interior height of 28' throughout. Motorized grid pods are provided in lieu of catwalks, allowing for quick and easy adjustment of the stage lighting. Double particle board floors enable sets to be nailed or braced to the floor.

Openings will consist of one 16' x 20' high acoustically insulated service door and four personnel doors, one at each corner with sound lock vestibules.

Mechanical, electrical power and dimmer rooms are to be located adjacent to each soundstage.

##### **SOUNDSTAGE STRUCTURE:**

Exterior walls will be precast/tilt-up concrete wall panels. Steel trusses spaced at approximately 18'-9" o.c. allow a clear span of the interior space for maximum flexibility. Steel purlins support the metal deck with concrete topping and a built-up roof.

Steel beams attached to the bottom of the roof trusses will support the movable grid system.

Continuous concrete footings will support the heavy exterior walls. The 4" thick concrete floor slab will be structurally isolated for sound control.

##### **SOUNDSTAGE ACOUSTICS:**

The dense concrete exterior walls will minimize sound transmission of most of the exterior noises. However, some control of on-site noises may be necessary during filming of the quieter scenes.

Sound transmission thru the roof will be controlled by the concrete topping as well as the acoustically insulated suspended ceiling.

To minimize reflected noise within the soundstage itself, a layer of acoustically absorptive material will line all the interior wall and ceiling surfaces.

1001 Bishop Street - Pauahi Tower - Suite 750 - Honolulu Hawaii 96813 - Telephone 808 524-1070

The isolated floor slab will prevent sound transmission thru the floor and the wood floor will help reduce reflected sounds from the floor.

#### **SOUNDSTAGE AIR CONDITIONING:**

Estimated air conditioning load per soundstage is 100 tons. Each soundstage will have 2 remote air-cooled 50 ton chillers. The chillers are connected to two air handlers to be located in mechanical rooms adjacent to the soundstage. To achieve the required "quiet air" as stated in the PDR, the air distribution system will utilize oversized round ducts in the soundstage, duct silencers, special elbows and turns.

In addition, a special exhaust ventilation system shall be disposed of any intentional smoke that may be created for special effects during special film scenes via ducts in the vestibule ceilings.

#### **SOUNDSTAGE PLUMBING:**

Fixtures required within each soundstage include (1) drinking fountain and (2) service sinks.

Along the perimeter of the soundstage 6 trailer utility hook ups will be water and sewer connection capabilities for hook up to mobile dressing trailers.

Crew toilets will be provided in the vicinity of the Soundstages.

#### **SOUNDSTAGE AUTOMATIC FIRE SPRINKLER SYSTEM:**

A wet pipe automatic fire sprinkler system is required for the soundstages.

#### **SOUNDSTAGE ELECTRICAL SYSTEM:**

The soundstage will be served by 2 transformers in order to isolate power for stage lighting and dimming requiring 1152 KVA, and general power and a.c. requiring 500 KVA.

#### **SOUNDSTAGE FURNISHINGS:**

Furnishing for the soundstage is to include the motorized grid pods, patch panel and lighting dimmers, and a portable control center for power and lights.

## B. TECHNICAL BUILDING

The technical building will be 50' x 115' in overall dimensions with a 20' minimum clear interior height. It will basically be one large space with a prefab separated paint booth shop, overhang at front will shade and protect during endowment weather. Service doors will be 10' X 20' roll-up doors.

### TECHNICAL BUILDING STRUCTURE:

Rigid steel frames will span 50' with a 12' cantilevered front overhang. Reinforced concrete footings will be tied together under the floor slab with concrete tie beams. A masonry wall will retain the earth at the sides and rear. All other walls and the roof will be standard corrugated metal on steel purlins.

### TECHNICAL BUILDING INTERIOR:

Sound absorbtive material on the interior wall will absorb some of the noise generated by the shop equipment.

### TECHNICAL BUILDING MECHANICAL:

Automatic fire sprinklers will be provided throughout. Plumbing is required for wash up areas, the drinking fountain and emergency eye-wash/shower. A remote compressed air units will located outside with outlets for power tool. Portable dust collecting units.

The paint room will have a specialized air filtering system to remove dust and paint particles and be set up for hook up of compressed air system.

### TECHNICAL BUILDING FURNISHINGS:

The technical building will be furnished with standard shop type equipment and a prefab paint spray booth.



### C. SUPPORT BUILDING COMPLEX

The support building complex will be made up of four buildings, the Administration & Support Building and three office type buildings.

#### 1. ADMINISTRATION & SUPPORT BUILDING:

This main structure, will housing the facility's administration offices as well as and all of the shared amenities to be provided by the facility. These amenities include a conference room, copy room, make-up and hairdressing areas, wardrobe work room, and office toilets and maintenance rooms.

#### 2. OFFICE BUILDINGS:

The two office buildings will have interiors divided into generic office spaces of approximately 150 s.f. each with some larger spaces of about 250 s.f. each. These spaces will be simply finished with painted walls and carpeted floors.

#### SUPPORT STRUCTURE:

Foundations consist of a concrete slabs with exterior plaster walls. Wood framed roof system with fiberglass shingle roofing.

#### SUPPORT INTERIOR:

Interior walls will be typically gypsum board on metal studs with acoustical insulation where needed and finishes as appropriate for the use. A suspended acoustical ceiling will finish the interior.

#### SUPPORT MECHANICAL AND ELECTRICAL:

Remote air-cooled chillers will provide chill water lines to air handler units located within the attic space. Typical office type power and lighting will be provided.

#### FURNISHINGS:

The Administration & Support Building will be fully furnished. The Office Buildings will be provided with simple office type furnishings and one kitchenette per building.

(1068/MEMO/BLDG2)

# Appendix C

JOHNSON  
TSUSHIMA  
LUERSEN  
LOWREY

Architecture  
Planning  
Interior Architecture

HAWAII FILM FACILITY EXPANSION  
19 April 1989

FULL DEVELOPMENT

A. PARKING CALCULATIONS

1. Existing Soundstage  
12,000 S.F. divided by 400 S.F./stall = 30 stalls
2. Soundstage No. 1 with studio audience of 250 max.
  - a. Audience  
3,750 S.F. divided by 75 S.F./stall = 50 stalls  
(or 1 per 5 seats)
  - b. Soundstage  
13,097.6 S.F. divided by 400 S.F./stall = 32.7 stalls
  - c. Accessory Areas  
3,663.5 S.F. divided by 1,500 S.F./stall = 2.4 stalls
3. Soundstage No. 2 (no audience)
  - a. Soundstage  
16,847.6 S.F. divided by 400 S.F./stall = 42.1 stalls
  - b. Accessory Areas  
3,094.7 S.F. divided by 1,500 S.F./stall = 2.1 stalls
4. Technical Building  
7,130 S.F. divided by 1,500 S.F./stall = 4.8 stalls
5. Administrative/Support  
4,120 S.F. divided by 400 S.F./stall = 10.3 stalls
6. Office No. 1  
5,232 S.F. divided by 400 S.F./stall = 13.1 stalls
7. Office No. 2  
5,232 S.F. divided by 400 S.F./stall = 13.1 stalls
8. Guardhouse  
80 S.F. divided by 400 S.F./stall = 0.2 stalls

9. Covered Area

4,800 S.F. divided by 1,500 S.F./stall = 3.2 stalls

Total Stalls Required 204 stalls

Standard Stalls	123
Compact Stalls	81
Handicap Stalls	(7)

B. LOADING REQUIREMENTS

Floor Area: 79,047.4 S.F.

Requirement: 4 spaces plus 1 additional space  
for each 50,000 S.F. of floor area  
= 6 spaces  
3 - 12' x 35' x 14'h  
3 - 19 x 8-1/2' x 10'h

(1068/87052.01/MEMO/PARKING)

JOHNSON  
TSUSHIMA  
LUERSEN  
LOWREY

Architecture  
Planning  
Interior Architecture

HAWAII FILM FACILITY EXPANSION  
Diamond Head, Hawaii

30 June 1989

REVISED PHASE I DEVELOPMENT PARKING & LOADING CALCULATIONS

A. PARKING CALCULATIONS

1. Existing Soundstage

a. Soundstage  
12,000 s.f. divided by 400 s.f./stall = 30.0 stalls

b. Soundstage Accessory  
303 s.f. divided by 1,500 s.f./stall = 0.2 stalls

2. Existing Offices (4 at 1,056 s.f. ea.)  
4,224 s.f. divided by 400 s.f./stall = 10.6 stalls

3. Existing Casting Office  
1,290 s.f. divided by 400 s.f./stall = 3.2 stalls

4. Existing Warehouse  
13,162 s.f. divided by 1,500 s.f./stall = 9.1 stalls

5. Existing Truck Driver's Office  
392 s.f. divided by 400 s.f./stall = 1.0 stalls

6. Miscellaneous Existing Accessory  
3,142 s.f. divided by 1,500 s.f./stall = 2.1 stalls

7. Soundstage No. 2 with studio audience of 250 max.

a. Audience  
3,750 s.f. divided by 75 s.f./stall = 50.0 stalls  
(or 1 per 5 seats)

b. Soundstage  
13,097.6 s.f. divided by 400 s.f./stall = 32.7 stalls

c. Accessory Areas  
3,095 s.f. divided by 1,500 s.f./stall = 2.1 stalls

8. Miscellaneous Accessory  
569 s.f. divided by 1,500 s.f./stall = 0.4 stalls

9. Guardhouse 0.2 stalls  
80 s.f. divided by 400 s.f./stall =

Total stalls = 141.6 stalls

TOTAL STALLS REQUIRED = 142 STALLS

Standard Stalls 85 stalls  
Compact Stalls 57 stalls  
Handicap Stalls (5) stalls

B. LOADING REQUIREMENTS

Floor Area: 55,104 s.f.

Requirement: 40,001 s.f. - 60,000 s.f. = 4 spaces  
2 - 12' x 35' x 14'h  
2 - 19 x 8-1/2' x 10'h

(1068/87052.01/MEMO/PARKPH1A)

# Appendix D

TRAFFIC IMPACT ASSESSMENT REPORT  
FOR THE PROPOSED HAWAII FILM FACILITY

Honolulu, Oahu, Hawaii  
TMK 3-1-42:9, 31 & 33

December 1988

Prepared for:

Department of Business and Economic Development  
Film Industry Branch

Prepared by:

Pacific Planning & Engineering, Inc.  
1144 Tenth Avenue, Suite 202  
Honolulu, Hawaii 96816



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## APPENDIX

### A. Definition of Level-of-Service and LOS for Unsignalized Intersections

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## EXECUTIVE SUMMARY

This traffic study identifies and evaluates the probable impact of traffic generated by the proposed expansion of the existing Film Studio Facility at Diamond Head. Traffic impacts at the study intersections are described in terms of level-of-service (LOS) of traffic operations.

The State of Hawaii is proposing to expand the existing Film Studio Facility at Diamond Head, Oahu, Hawaii. The project is located near the Northwest corner of the intersection of Diamond Head Road and 18th Avenue.

The study area includes 18th Avenue between Diamond Head Road and Kilauea Avenue. These streets provide the access to the project site. The analysis primarily focuses on the traffic impact at the intersections of 18th Avenue with Diamond Head Road and 18th Avenue with Kilauea Avenue during the morning peak hour between 7 and 8 am when Film Facility traffic is expected to have the most impact.

The existing facility consists of one sound stage, a technical building, a garage, five houses used for support services, and a parking lot. The proposed facility, when fully developed, will consist of three sound stages, a support building, a technical building, and a 265 stall parking lot. The existing sound stage will remain but the rest of the existing facilities will be removed. The project is assumed to be fully developed by the year 1996.

Based on traffic forecast and operations analysis, the proposed Hawaii Film Facility project will *not* significantly impact traffic flow at the intersections of 18th Avenue with Diamond Head Road and 18th Avenue with Kilauea Avenue when the project is completed in 1996. The analysis results indicate that both intersections will operate at an acceptable level-of-service, even with the project traffic.

## PROJECT DESCRIPTION

The Department of Business and Economic Development, Film Industry Branch, is proposing to expand the existing Film Studio Facility at Diamond Head for the Hawaii Motion Picture Industry. The project site is located at Diamond Head, Honolulu, Oahu, on a 7.477-acre portion of the 46.752 acre lot identified by Tax Map Key: 3-1-42: 9, 31 & 33. The site is located at the bottom northeastern slope of Diamond Head Crater, near the Northwest corner of the intersection of Diamond Head Road and 18th Avenue. The project site and the street network in the vicinity is shown in Figure 1.

Plans for the proposed facility will involve two phases - Phase I development and Full Development. Phase I development is expected to start in October 1989 and be completed by December 1990. The Full Development will be highly dependent on the success of the facility and may occur as soon as 5 years from Phase I. For the purposes of this study, Full Development is assumed to occur by the year 1996.

The existing film studio facility consists of one sound stage, a technical building, a garage, five houses used for support services, and a parking lot. Phase I of the development will consist of sound stage #1 (for a total of two sound stages), a technical building, a portion of the support building and an open parking lot. The existing sound stage will remain but the rest of the existing facilities will be removed. Full Development will consist of an additional sound stage #2 and the completion of the support building.

The technical building will contain milling and painting shops for scene construction and the support building will contain administrative offices, wardrobe rooms, and other support services. Approximately 265 parking spaces will be provided for vehicles of employees, actors/actresses, extras, and facility equipment. The site plan of the proposed facility is shown in Figure 2.

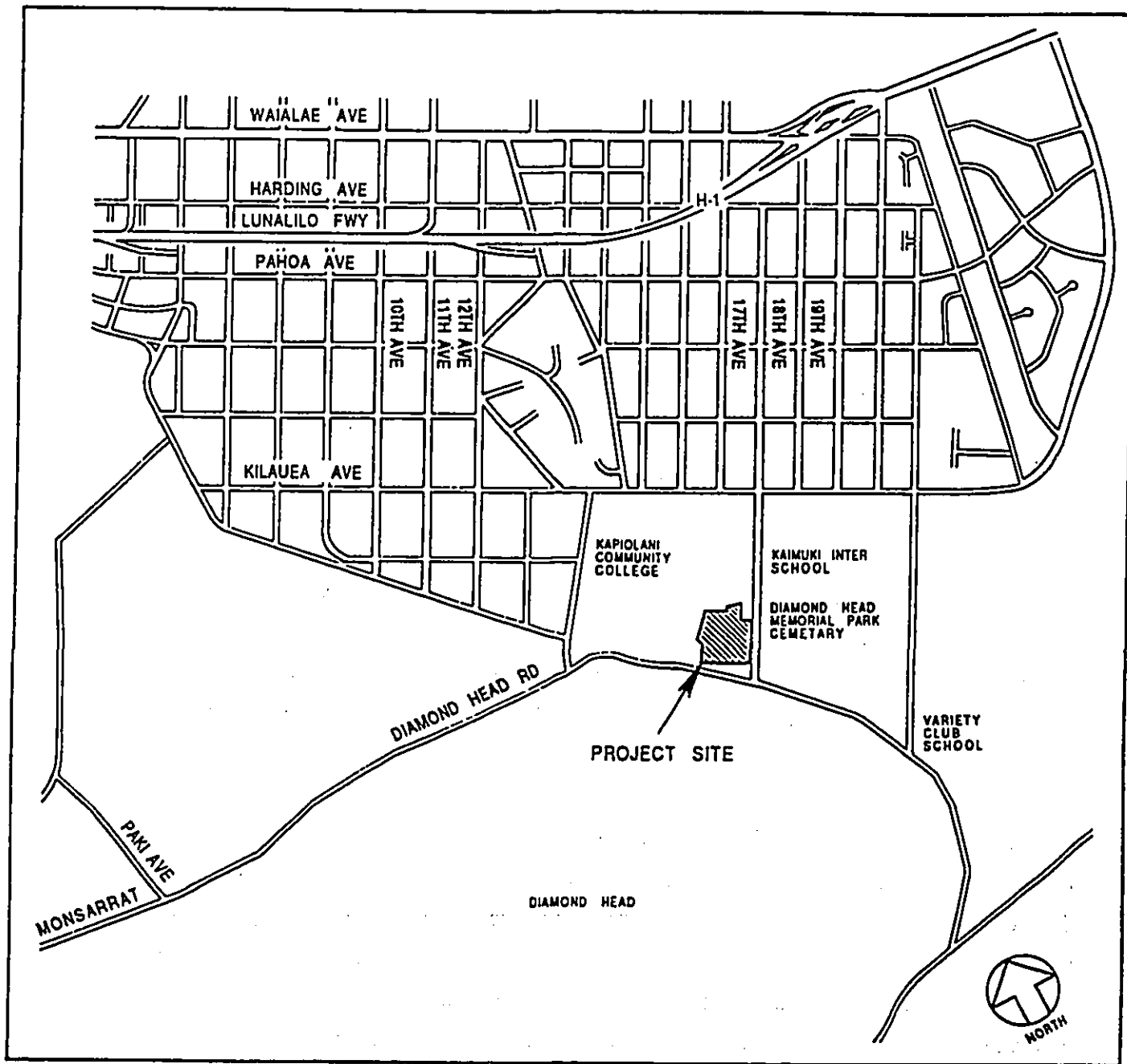
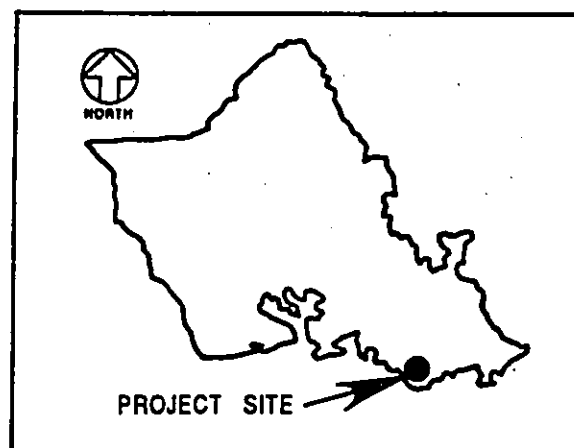


Figure 1. Project Location and Roadway Network



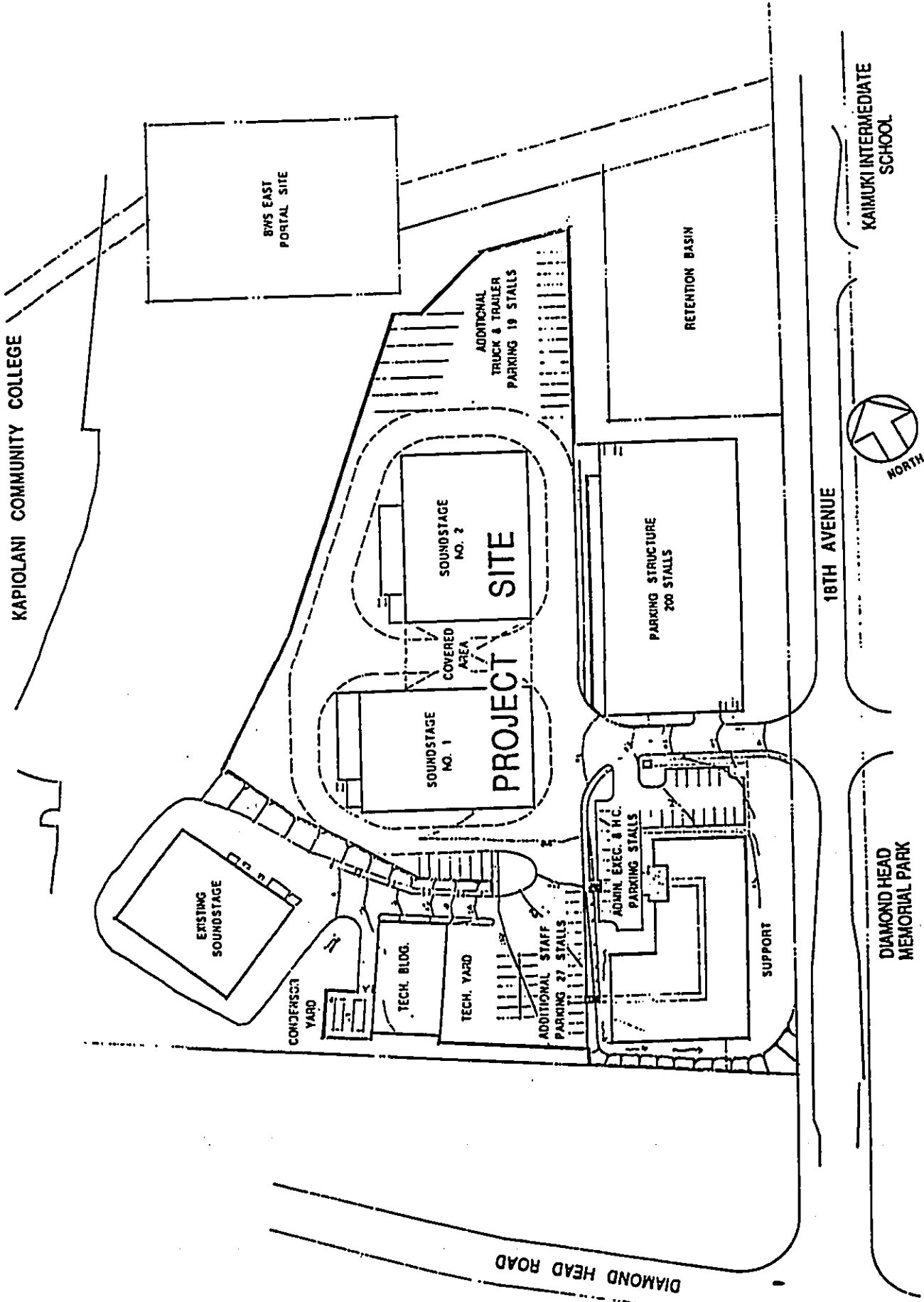


Figure 2. Project Site Plan

## AREA CONDITIONS

### Study Area

The study area includes 18th Avenue between Diamond Head Road and Kilauea Avenue. These streets provide access to the project from all directions. The analysis primarily focuses on the traffic impact at the intersections of 18th Avenue with Diamond Head Road and 18th Avenue with Kilauea Avenue.

### Area Conditions

The land uses immediately surrounding the project site consist mainly of public, governmental, educational, and residential land uses. Kapiolani Community College is located adjacent to the project to the West. To the East across 18th Avenue, there is Kaimuki Intermediate School, Iwalani Place (a residential street), Diamond Head Memorial Park Cemetery and the Variety Club School. To the South is Diamond Head Crater, which is owned by the Federal Government, and Fort Ruger Army Reservation. Immediately North of the project site is a vacant lot. Beyond these public and educational land uses, there are the Kaimuki and Waiialae-Kahala residential areas.

### Future Area Conditions

Kapiolani Community College (KCC) is in the process of relocating its facilities at the Pensacola Street Campus to the Diamond Head Campus. The Diamond Head Campus facilities are planned to be expanded. At present, there are 4200 students enrolled at the Diamond Head Campus. At full capacity by 1992, the enrollment will be 5500 students.

No other significant developments were identified in our research that would affect the traffic conditions through the study area.

#### Existing Roadway System

The project is located adjacent to a generally residential area with a square grid street network. There are several public streets that can be used to access the project site. The three primary streets providing access to the project site are 18th Avenue, Diamond Head Road, and Kilauea Avenue.

Eighteenth Avenue is a two lane paved roadway and is one of the primary avenues in Kaimuki in the north-south direction. It starts from Harding Avenue to the North and ends at Diamond Head Road to the South. 18th Avenue connects with Diamond Head Road at an acute angle (not 90°). It is a stop controlled T-intersection with a stop sign at 18th Avenue. The posted speed limit on 18th Avenue is 25 miles per hour.

Diamond Head Road is a two lane paved roadway which circles Diamond Head Crater. Going East, Diamond Head Road changes to Monsarrat Avenue. A commonly-used route to Waikiki from Kaimuki is East on Diamond Head Road/Monsarrat Avenue, left turn onto Paki Avenue and straight through to Ala Wai Boulevard. The posted speed limit on Diamond Head road is 25 miles per hour.

Kilauea Avenue is a two lane paved roadway which connects to 18th Avenue as a 4-way stop intersection. Kilauea Avenue widens to a four lane divided roadway about 1-1/2 miles East of the intersection. The posted speed limit on Kilauea Avenue near the intersection is 25 miles per hour. Schematic drawings of the two study intersections are depicted in Figures 3 and 4.



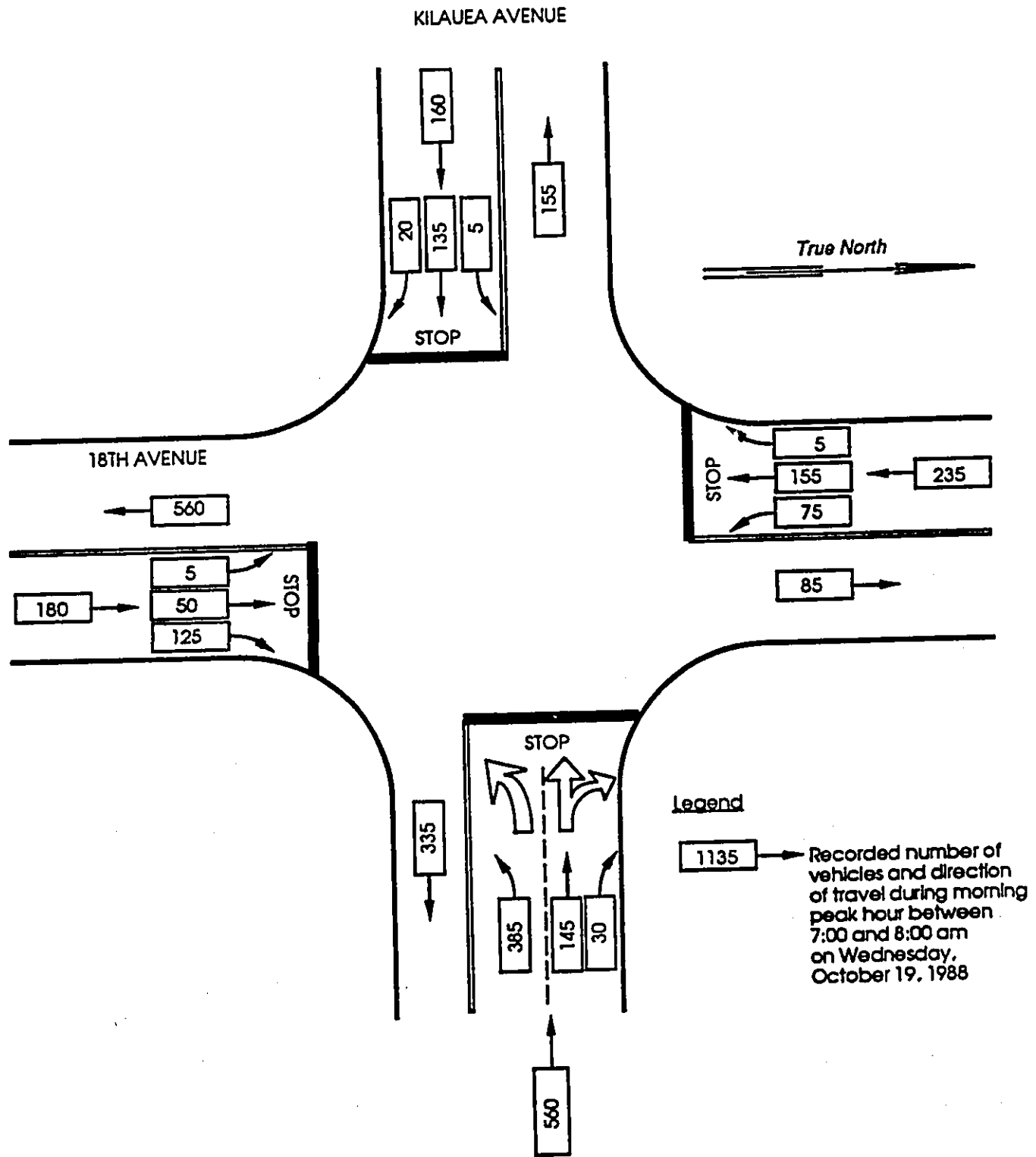


Figure 3. Intersection of Kilauea and 18th Avenue

DIAMOND HEAD ROAD

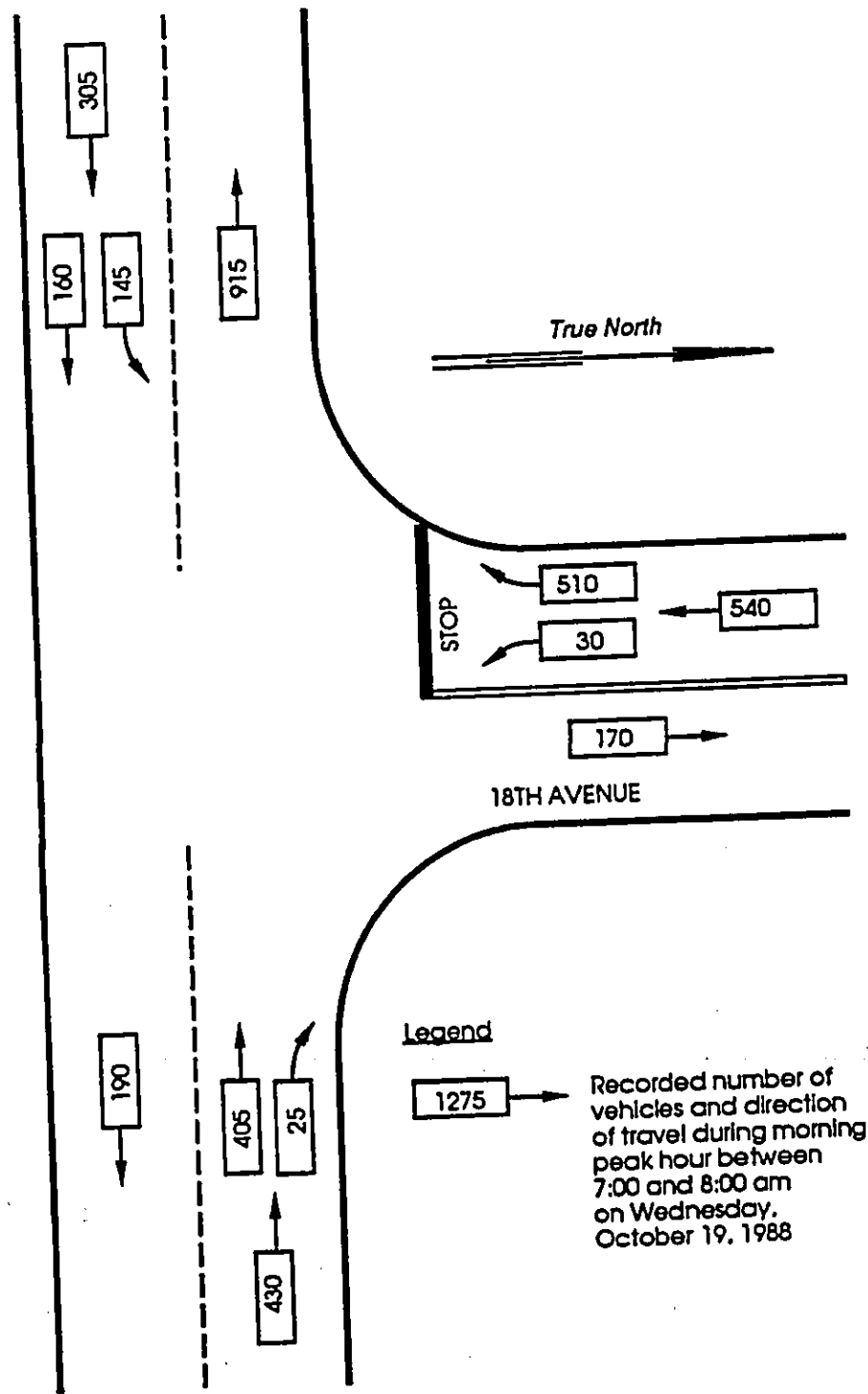


Figure 4. Intersection of Diamond Head Road and 18th Avenue

### Future Roadway System

Presently, the City and County of Honolulu, Department of Transportation Services (DTS) is constructing a left-turn lane on Diamond Head Road at the intersection with 18th Avenue. This will help to improve circulation of traffic through the study area.

Future improvements to 18th Avenue and Kilauea Avenue are being discussed between DTS and Kapiolani Community College, but at this time the extent and timing of these improvements are not known. No improvements are assumed in the analysis, which would amount to a worst case scenario.

### Existing Traffic Conditions

A review of City and County Department of Transportation Services traffic count data in the Diamond Head area indicated that the morning peak hour generally occurs between 7:00 to 8:00 am and the afternoon peak hour generally occurs between 4:30 and 5:30 pm. This data indicates that the morning peak hour traffic is about 10 to 15% heavier than the afternoon. Traffic impacts were therefore assessed during the morning peak hour when traffic from the proposed project is expected to have the most effect on the study intersections.

Field counts and surveys were conducted on Wednesday, October 19, 1988, from 7:00 to 8:00 am. The weather was overcast but roadway pavement was dry. There were no unusual traffic conditions or community activities that affected the traffic observed at the intersections, except for construction work occurring at the corner of Diamond Head Road and 18th Avenue. Construction work was generally confined to the construction site during the survey and did not effect traffic significantly.

Manual counts were taken of passenger car, truck, bus, bicycle, motorcycle and pedestrian volumes by turning movements and approaches at the intersections of 18th Avenue at DHR and 18th Avenue and Kilauea Avenue during these periods. The survey was conducted to establish a baseline condition to compare against estimated future traffic.

Figure 5 shows the volumes and direction of movement at the two intersections as recorded on the field survey. Traffic volumes over one hundred are noted to show the major movements. As shown in the figure, major traffic movement through the study area was Ewa-bound traffic from Kilauea Avenue turning left onto 18th Avenue and then right onto Diamond Head Road.

The following observations were made during the survey:

1. At the intersection of Diamond Head Road and 18th Avenue, the width of 18th Avenue at the mouth of the intersection was wide enough to permit a one passenger car storage for left turns. Since there were relatively few left turning vehicles, right turning vehicles were able to turn without significant delay.
2. The number of vehicles queueing along 18th Avenue at its intersection with Diamond Head Road ranged from 0 to about 10 vehicles. Queues usually occurred behind slow moving vehicles such as buses and trucks.
3. The maximum number of vehicles queueing along Kilauea Avenue at its intersection with 18th Avenue was about 6 vehicles. This usually occurred due to platooning from the preceding signalized intersection on Kilauea Avenue, East of the study intersection.

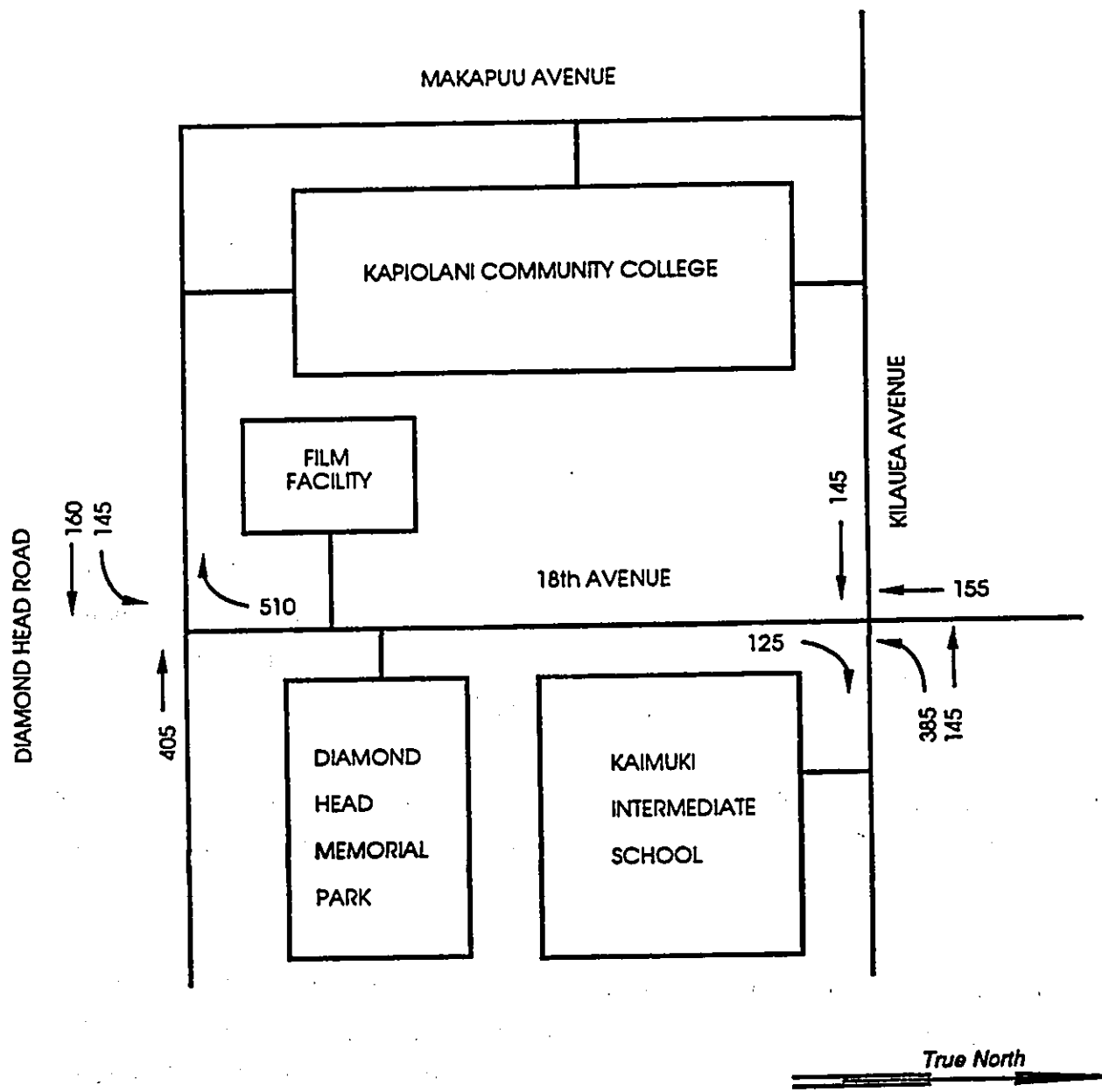


Figure 5. 1988 Traffic Volumes

## TRAFFIC IMPACT ANALYSIS

### Study Methodology

A general review of the Diamond Head Area, the existing roadway network, and plans for future development were conducted for the traffic study. Existing traffic counts were obtained from State Department of Transportation and City and County of Honolulu, Department of Transportation Services. The weekday morning peak hour was selected for analysis as being most representative of the greatest impact on the traffic by the proposed Hawaii Film Facility. Field counts were conducted during the morning peak hour.

Future traffic with and without the proposed development were estimated for 1996 when the film facility is expected to be fully developed. Standard vehicle forecast methods of trip generation, distribution and assignment were used.

Intersection level-of-service analysis at the study intersections were undertaken to assess the impact by comparing the traffic at the intersections with and without the development. The data were compiled for intersection capacity analysis in accordance with the latest Highway Capacity Manual (HCM) analysis techniques (Special Report 209, 1985).

### Future Non-Project Traffic

Future non-project traffic along Diamond Head Road, 18th Avenue, and Kilauea Avenue was forecasted based on estimated traffic generated from future developments, such as the projected expansion of Kapiolani Community College at the Diamond Head Campus, and trend analysis.

Kapiolani Community College (KCC) at the Diamond Head Campus is projected to reach an enrollment of 5500 students by 1992 or an increase of 1300 students from the present. Additional traffic generated by the additional students was estimated using average trip rates from the Trip Generation Report (Fourth Edition 1987) by the Institute of Transportation Engineers.

These average vehicle trip rates are based on average conditions and used to calculate vehicle trips entering and exiting different land uses. The average trip rates using the number of students for Community Colleges were used. During the morning peak hour, it is estimated that 0.149 trips/student or 194 additional vehicles will enter the KCC and 0.023 trips/student or 30 additional vehicles will exit.

These additional trips were distributed to surrounding areas based on the population distribution of the Honolulu District, from Halawa Valley to Makapuu Point. About 85% of the population is distributed to areas West of the Campus and 15% to the East. Therefore an additional 30 trips would enter and 5 would exit to the East along Kilauea Avenue, 18th Avenue, and Diamond Head Road. The additional trips were assigned to the street network based existing observed traffic patterns.

Using traffic count data for the study intersections from 1971 to present, a traffic growth trend was mathematically derived using linear regression and the results of the analysis are shown graphically on Figure 6. The analysis indicates traffic entering the intersection of 18th Avenue and Diamond Head Road grew by less than 1% annually. At 18th Avenue and Kilauea Avenue, the counts indicate traffic grew by about 2% annually.

This method of estimating future traffic based on past trends was used to estimate traffic increases due mainly from developments outside or beyond the immediate area of concern. Future non-project traffic was derived by combining traffic generated by the additional enrollment at KCC and projected traffic increase from trend analysis.

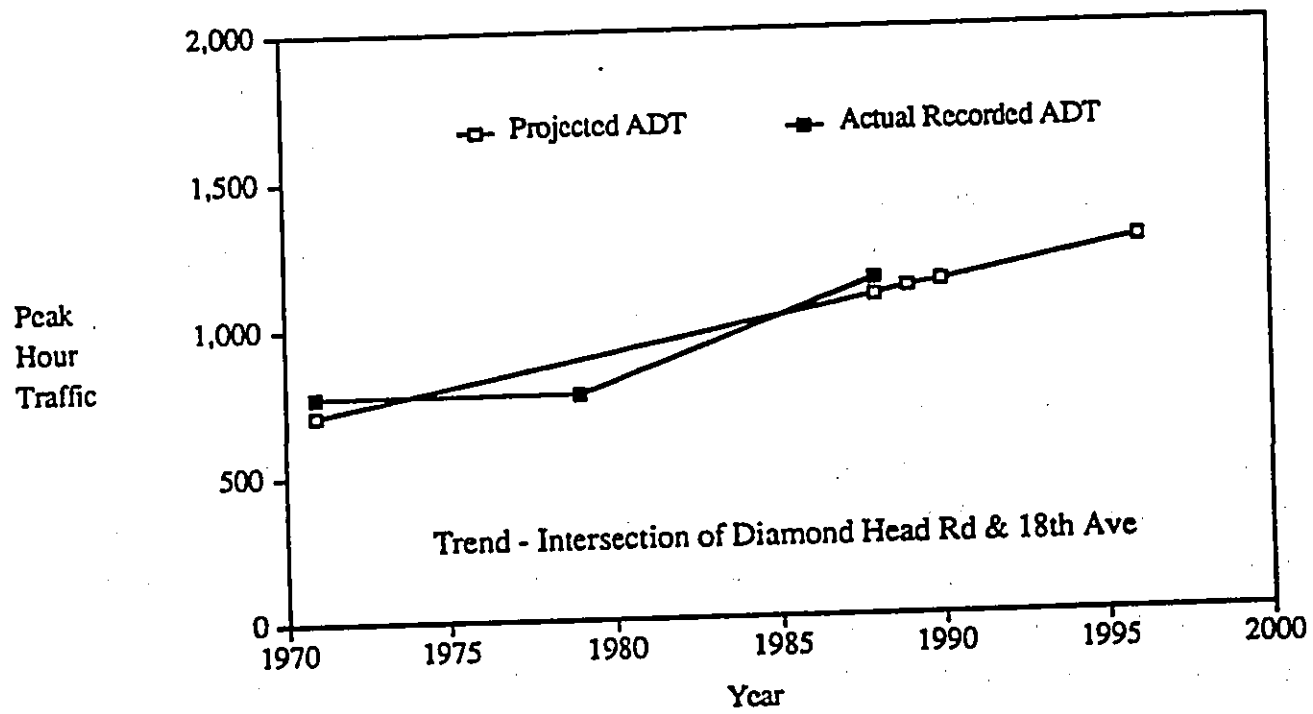


Figure 6. Trend Analysis



### Project Traffic

Trips generated by the proposed project were based on information provided by the motion picture industry and the Trip Generation Report (Fourth Edition, 1987) by the Institute of Transportation Engineers. Universal City Studios (MCA, Inc.) is expected to be one of the primary users of the facility.

According to information provided by Universal Studios of the motion picture industry, the number of employees at the proposed facility would vary according to use of the facility from a low of five to a high of three hundred during the peak season, which is from July to March. The facility would employ one hundred people most of the time. Two production companies would be able to use the facility at one time.

Employees at the facility are expected to start work from 6:00 to 8:00 am. About 15 vehicles per production company would leave the facility from 6 to 7 am when the company is shooting on location (away from the studio). No heavy trucks or vans would travel to the facility during the morning peak hour. At worst case conditions, is estimated that 35% of the employees would arrive during the morning peak hour (7:00 - 8:00 am) using personal vehicles and about 30 vehicles including trucks, mobile trailers and passenger vehicles were assumed to be leaving the studio.

Employees at the facility are expected to finish work at staggered hours beginning at 3:00 pm. Approximately 12 construction workers would leave the facility between 3:00 - 4:00 pm, 5 office workers per production company (approximately 15 maximum ) at 5:00 pm and stage hands, actors, camera crews etc., usually leave one hour after filming is completed for the day. As a result the afternoon peak leaving the studio will be spread over a longer period of time and therefore produce a smaller traffic impact.

Some of the productions at the facility will have studio audiences. The studio audience is expected to consist mainly of tourists. A maximum of 250 people would be bused in on approximately 6 buses from hotels. Based on information provided by the motion picture industry, traffic due to the studio audience would not occur during the peak traffic periods. Generally, the buses would arrive after the morning peak traffic and depart before the afternoon peak traffic periods or arrive and depart after the afternoon peak traffic period.

### Trip Generation

Based on the information provided and the total number of trips generated by the facility for the morning peak hour would be 105 vehicles entering and 36 vehicles exiting. Table 1 was developed showing the number of trip ends generated by the proposed Diamond Head Film Facility.

Table 1. Trip Generation Rates for Hawaii Film Studio

<u>EMPLOYEES</u>	<u>TRIP RATE</u>		<u>VEHICLES</u>	
	<u>IN</u>	<u>OUT</u>	<u>IN</u>	<u>OUT</u>
300	0.35	0.125	105	36

### Trip Distribution

It is assumed that the majority of the vehicles generated by the project will be arriving from the North or from the direction of the H-1 Freeway. Based on an estimated 70% resident employees and 30% non-resident (who would be living in hotels), it was estimated that 67% of the vehicles will be arriving from the North direction with 33% from the South direction. Residents are assumed to arrive mainly via the H-1 Freeway. Non-residents are assumed to be living in hotels mainly in Waikiki and Kahala.

Future traffic growth is assumed to occur in the same relative directions at the intersections as are currently observed. Traffic growth then is estimated by expanding the observed turning movements.

#### Traffic Assignments

Trips generated by the project were assigned to the roadway network based on existing traffic pattern in the area. Most of the trips were assumed to arrive from the North via 18th Avenue and the H-1 Freeway. The rest of the trips from the South were assigned to the Diamond Head Road from Kahala and Waikiki.

Tables 2 and 3 indicate 1996 traffic forecasts without and with the Diamond Head Film Facility at two intersections. The number of vehicles were rounded to the nearest five. The forecasted traffic without and with the project is shown graphically in Figures 7-10.

Table 2. AM Peak Hour Forecast Traffic at Intersection of Kilauea Avenue & 18th Avenue

<u>Turning Movement</u>		<u>1988</u>	<u>1996 w/o Project</u>	<u>1996 w/ Project</u>
<b>Kilauea Avenue</b>				
Eastbound	LT	5	10	10
	TH	135	185	185
	RT	20	20	20
Westbound	LT	385	415	415
	TH	145	200	200
	RT	30	40	40
<b>18th Avenue</b>				
Northbound	LT	5	5	5
	TH	50	55	90
	RT	125	130	130
Southbound	LT	75	80	80
	TH	155	170	240
	RT	5	10	10
<b>Total Volumes</b>		<b>1135</b>	<b>1320</b>	<b>1425</b>

Table 3. AM Peak Hour Forecast Traffic at Intersection of Diamond Head Road & 18th Avenue

<u>Turning Movement</u>		<u>1988</u>	<u>1996 w/o Project</u>	<u>1996 w/ Project</u>
<b>Diamond Head Road</b>				
Eastbound	LT	145	155	175
	TH	160	175	175
Westbound	TH	405	430	430
	RT	25	25	45
<b>18th Avenue</b>				
Southbound	LT	30	30	30
	RT	510	550	585
<b>Total Volume</b>		<b>1275</b>	<b>1365</b>	<b>1440</b>

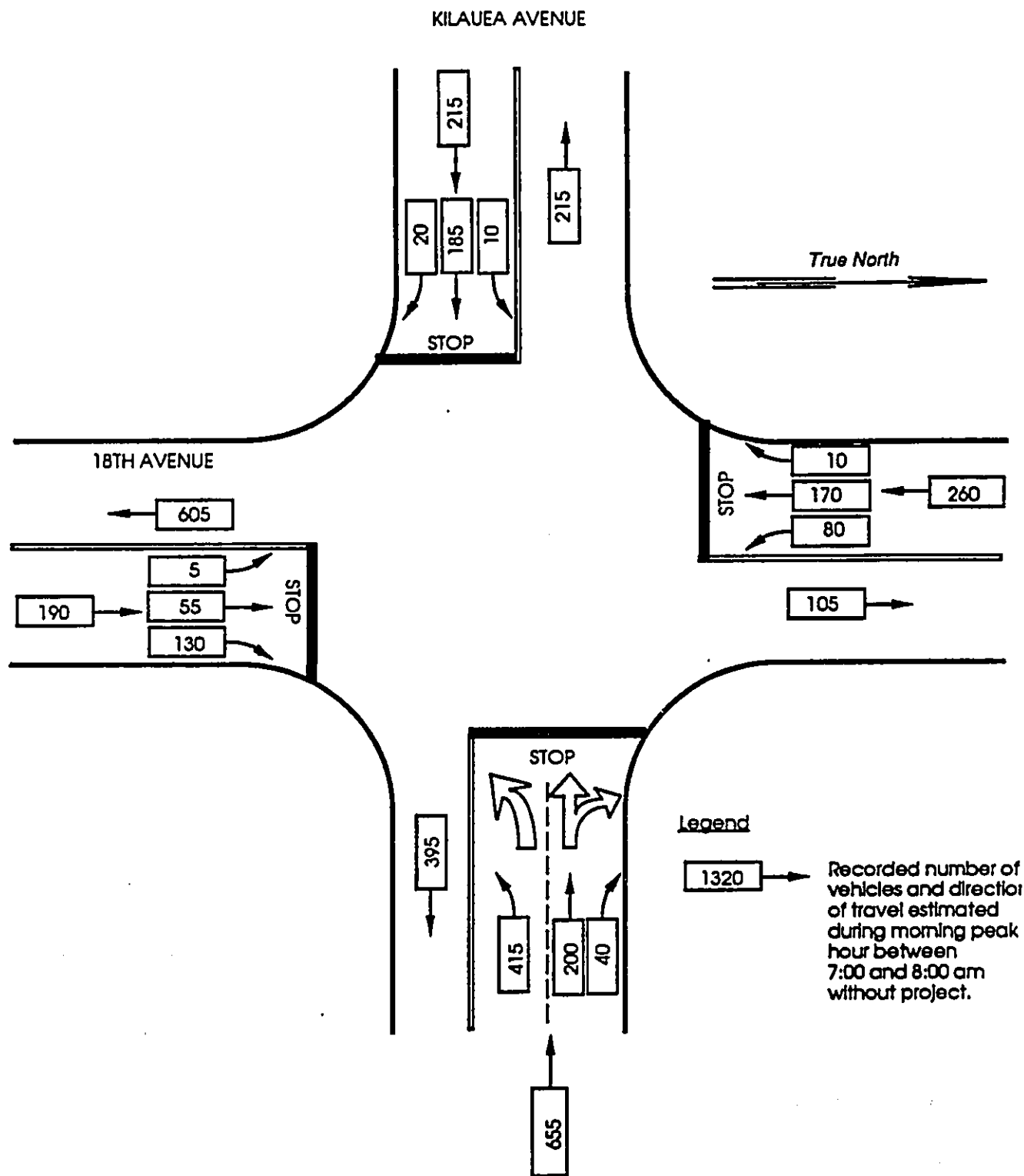


Figure 7. Forecast Traffic at Kilauea and 18th Avenue  
Without Project Traffic

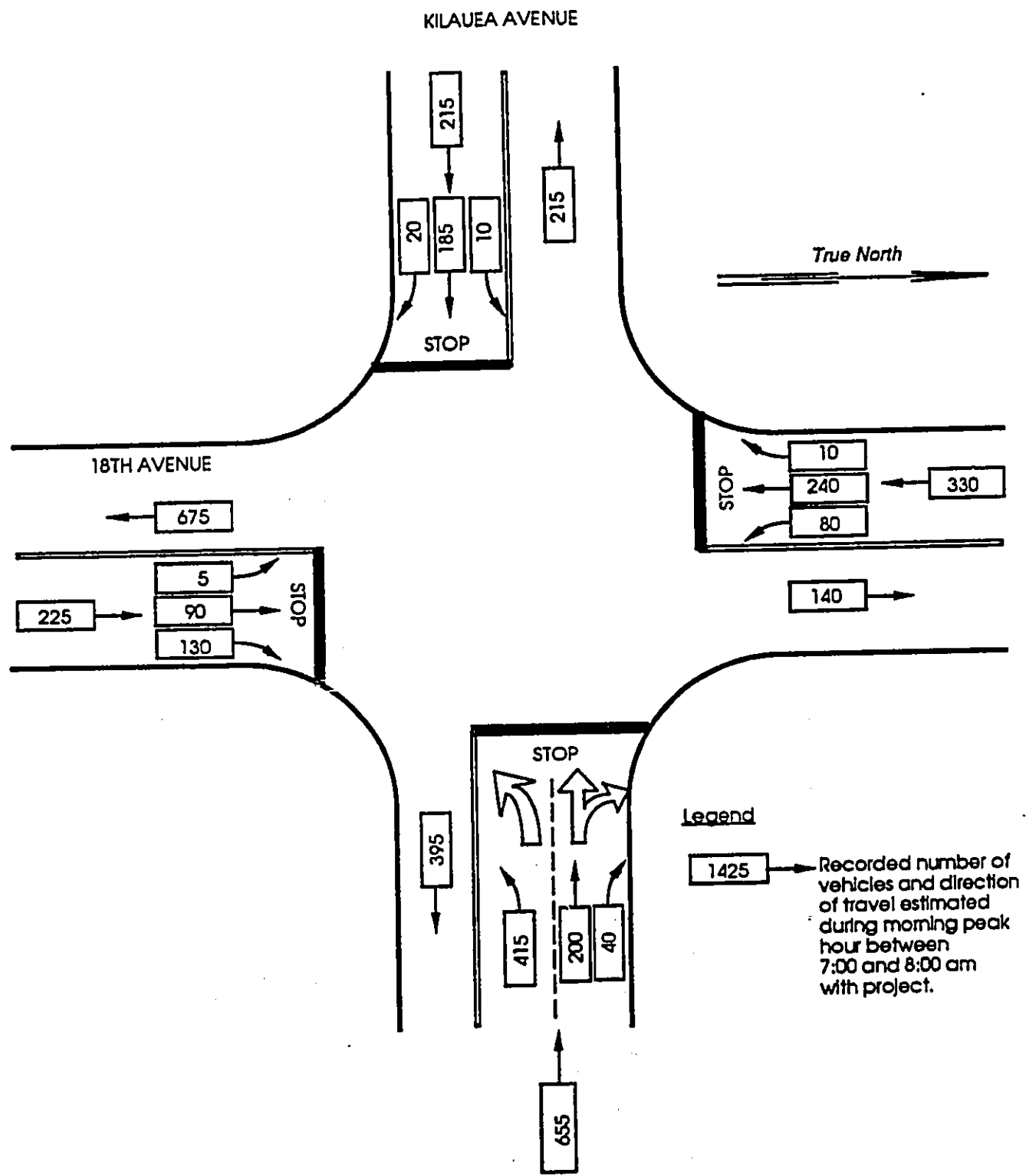


Figure 8. Forecast Traffic at Kilauea and 18th Avenue  
 With Project Traffic

DIAMOND HEAD ROAD

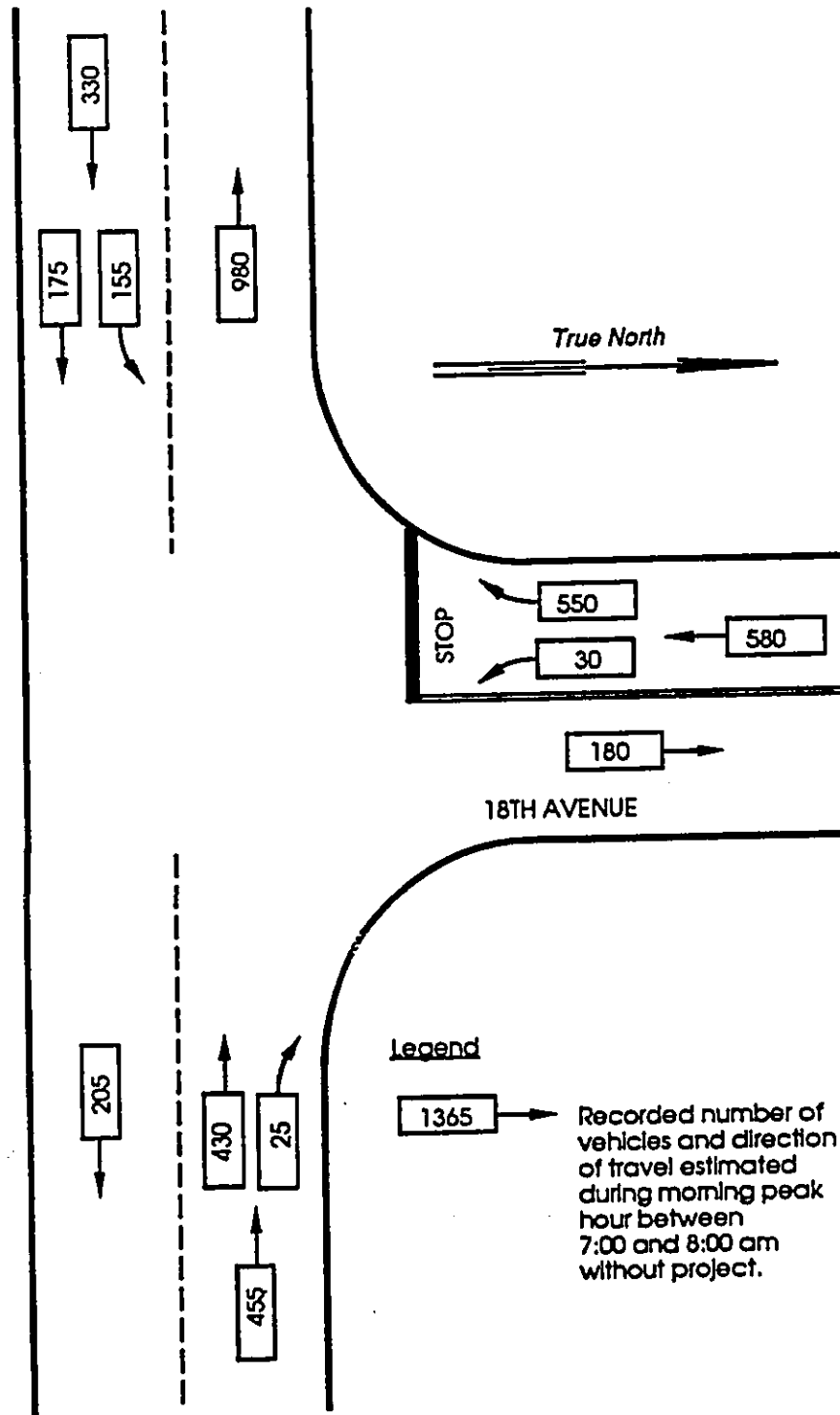


Figure 9. Forecast Traffic at Diamond Head Road and 18th Avenue  
Without Project Traffic

DIAMOND HEAD ROAD

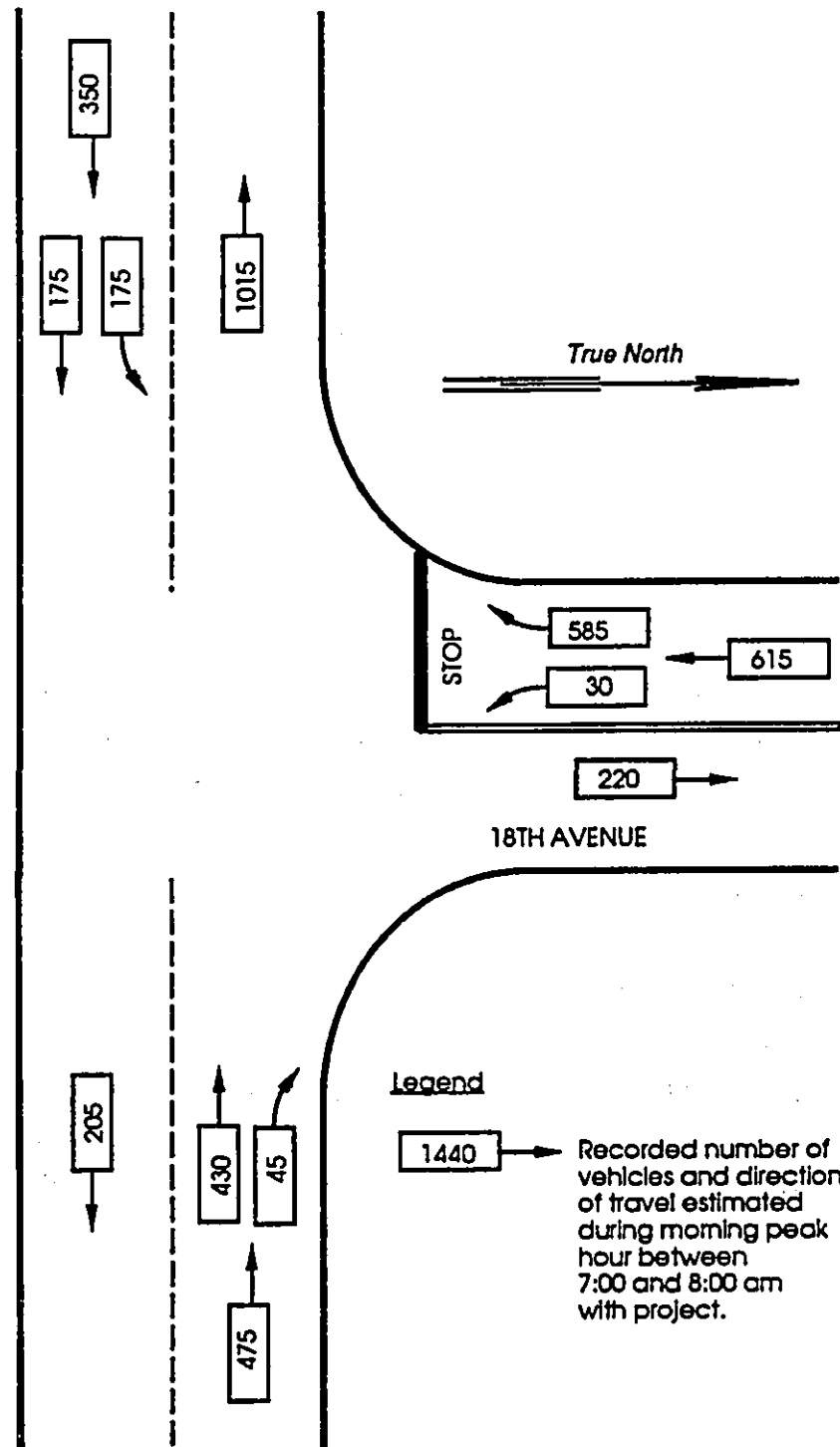


Figure 10. Forecast Traffic at Diamond Head Road and 18th Avenue  
With Project Traffic



### Traffic Impacts

Impacts on traffic resulting from the Hawaii Film Facility are measured by the change in Level-of-Service (LOS) for a given intersection or series of traffic movements for the present conditions, without project, and with the project. The analysis was based on field data from the manual traffic count data, the forecasted traffic volumes, and analysis techniques from the Highway Capacity Manual (HCM) Special Report 209, 1985 Edition.

The LOS for the traffic movements in an intersection is classified into six categories ranging from little or no delay (LOS A) to extreme traffic delays (LOS F). Appendix A provides the definitions for each LOS category.

Table 4 below shows the capacity levels and LOS at the four-way stop intersection of Kilauea and 18th Avenue. The LOS C volume and the capacity (LOS E) were determined by the methods included in the HCM and adjusted to suite the particular conditions of the intersection. The results of the analysis for the T-intersection of Diamond Head Road and 18th Avenue are shown on Table 5.

The results indicate that both intersections will operate at an acceptable level-of-service, even with the project traffic. Future non-project traffic causes the LOS at both study intersections to drop. The intersection of Kilauea and 18th Avenue is expected to operate overall at LOS D. The worst movement at the intersection of Diamond Head Road and 18th Avenue is the right turn movement from 18th Avenue which is expected to operate at LOS D.

Table 4. Capacity and Level-of-Service for  
Four-Way Stop Intersection @ Kilauea & 18th Avenue

	<u>1988</u>	<u>1996 w/o Project</u>	<u>1996 w/ Project</u>
Vehicles Entering Intersection	1142	1317	1431
LOS	C	D	D

Table 5. Levels of Service  
AM Peak Hour Forecast Traffic  
Intersection of Diamond Head Road & 18th Avenue

<u>Turning Movement</u>	<u>1988</u>	<u>1996 w/o Project</u>	<u>1996 w/ Project</u>
Diamond Head Road			
Eastbound LT	A	A	A
18th Avenue			
Southbound LT	B	C	C
RT	C	D	D

## CONCLUSION AND RECOMMENDATION

The proposed Hawaii Film Facility project will not significantly impact traffic flow at the intersections of 18th Avenue with Diamond Head Road and 18th Avenue with Kilauea Avenue when the project is completed in 1996. The intersections will be able to handle the future total traffic demand in 1996, and operate at acceptable levels-of-service. The conclusions are based on available information of planned road improvements, and do not consider possible improvements presently under discussion between the City and Kapiolani Community College. As shown by the analysis results given in the previous chapter, the change to poorer levels of service occurs from ambient growth of traffic and *not* from project's generated traffic.

Periods of poor performance in the form of somewhat greater delays and queuing will be encountered especially during morning peak hour traffic. However, the intersections will continue to operate under capacity. Based on the low traffic activity associated with such a facility, and resultant minor impact, no mitigating actions are deemed necessary.

Traffic due to the studio audience will not significantly impact traffic flow at the study intersections. The buses that carry the studio audience would not travel during the morning or afternoon peak traffic periods.

If the existing pavement width permits, one possible improvement would be to provide lane markings on 18th Avenue, at its intersection with Diamond Head Road, to provide for exclusive left and right turn lanes due to the heavy movement of vehicles turning right from 18th Avenue onto Diamond Head Road.

APPENDIX A

DEFINITION OF LEVEL-OF-SERVICE

AND

LEVEL-OF-SERVICE FOR UNSIGNALIZED INTERSECTIONS

APPENDIX A  
DEFINITION OF LEVEL-OF-SERVICE

The concept of levels of service is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with level-of-service A representing the best operating conditions and level-of-service F the worst.

Level-of-Service definitions--In general, the various levels of service are defined as follows for uninterrupted flow facilities:

Level-of-service A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

Level-of-service B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

Level-of-service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

Level-of-service D represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

Level-of-service E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuver. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

Level-of-service F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go wave, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level-of-service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of the vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level-of-service F is an appropriate designation for such points.

These definitions are general and conceptual in nature, and they apply primarily to uninterrupted flow. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them.

REFERENCE: Highway Capacity Manual (Special Report 209, 1985)

# Appendix E

**AIR QUALITY IMPACT REPORT  
HAWAII FILM FACILITY  
FORT RUGER, OAHU  
November 14, 1988**

Prepared for  
Engineering Concepts, Inc.  
and  
State of Hawaii  
Department of Accounting and General Services

Prepared by  
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**AIR QUALITY IMPACT REPORT  
HAWAII FILM FACILITY**

**1. INTRODUCTION**

The State of Hawaii Department of Accounting and General Services is proposing to construct a film facility for Hawaii's motion picture industry. The facility will be located on a parcel of land (TMK 3-1-42: 9, 31 & 33) at the intersection of 18th Avenue and Diamond Head Road at Fort Ruger on the Island of Oahu (Figure 1). The proposed facility will consist of three sound stages, one technical building, one support building and parking spaces for approximately 220 vehicles.

The purpose of this report is to assess the air quality impact of the proposed development. The project can be considered an "indirect source" of air pollution as defined in the federal Clean Air Act [1] since it will attract mobile sources of air pollution, i.e., motor vehicles. Thus, the primary focus of this analysis is on the project's ability to generate traffic and the resultant impact on air quality. Air quality impact was evaluated for existing (1988) and future (1996) conditions.

During construction of the various buildings and facilities air pollutant emissions will be generated due to vehicular movement, grading and general dust-generating construction activities. These impacts have also been addressed.

**2. AIR QUALITY STANDARDS**

A summary of State of Hawaii and national ambient air quality standards is presented in Table 1 [2, 3]. Note that Hawaii's standards are not divided into primary and secondary standards as are the federal standards.

Primary standards are intended to protect public health with an adequate margin of safety while secondary standards are intended to protect public welfare through the prevention of damage to soils, water, vegetation, man-made materials, animals, wildlife, visibility, climate, and economic values [4].

Some of Hawaii's standards are clearly more stringent than their federal counterparts but, like their federal counterparts, may be exceeded once per year. It should also be noted that in April, 1986, the Governor signed amendments to Chapter 59 (Ambient Air Quality Standards) making the state's standards for particulate matter and sulfur dioxide the same as national standards. In the case of particulate matter, however, this uniformity did not last

long. On July 1, 1987, the EPA revised the federal particulate standard to apply only to particles 10 microns or less in diameter (PM-10) [5], leaving the state once again with standards different than the federal ones.

In the case of the automotive pollutants [carbon monoxide (CO), oxides of nitrogen (NOx), and photochemical oxidants (Ox)], there are only primary standards. Until 1983, there was also a hydrocarbons standard which was based on the precursor role hydrocarbons play in the formation of photochemical oxidants rather than any unique toxicological effect they had at ambient levels. The hydrocarbons standard was formally eliminated in January, 1983 [6].

The U.S. Environmental Protection Agency (EPA) is mandated by Congress to periodically review and re-evaluate the federal standards in light of new research findings [7]. The last review resulted in the relaxation of the oxidant standard from 160 to 240 micrograms/cubic meter (ug/m3) [8]. The carbon monoxide (CO), particulate matter, sulfur dioxide (SO2), and nitrogen dioxide (NO2) standards are currently under review, but final action has not been taken yet [9].

Finally, the State of Hawaii also has fugitive dust regulations for particulate matter (PM) emanating from construction activities [10]. There simply can be no visible emissions from fugitive dust sources.

### 3. EXISTING AIR QUALITY

The State Department of Health maintains a network of air monitoring stations around the state to gather data on the following regulated pollutants:

- o total suspended particulates (TSP)
- o particulate matter - 10 microns (PM-10)
- o sulfur dioxide (SO2)
- o carbon monoxide (CO)
- o ozone (O3)
- o lead (Pb)

In the case of TSP and SO2, measurements are made on a 24-hour basis to correspond with the averaging period specified in state

and federal standards. Samples are collected once every six days in accordance with U.S. Environmental Protection Agency (EPA) guidelines. Carbon monoxide and ozone, however, are measured on a continuous basis due to their short-term (1-hour) standards. Lead concentrations are determined from the TSP samples which are sent to an EPA laboratory for analysis. Note that the lead standard is a quarterly average.

While currently there are no continuous air monitoring stations in the project area, it seems safe to assume that present air quality is good most of the time since there are no large stationary sources in the vicinity, and the immediate area is not highly urbanized. Carbon monoxide (CO) was measured at the nearby Leahi Hospital during 1980-81 and the results of that monitoring are summarized in Table 2. It is evident that during that period CO levels were very low and did not threaten either State or Federal air quality standards.

The most extensive air monitoring has been conducted by the Department of Health at its own building in downtown Honolulu approximately 4.5 miles northwest of the project site. A summary of these data is presented in Tables 3, 4 and 5.

The monitoring results indicate general compliance with state and federal ambient air quality standards. Only carbon monoxide and photochemical oxidants (ozone) occasionally exceed their respective state standards. The State also has been having particulate samples analyzed for lead content, and as indicated in Table 5, airborne lead levels have declined as expected due to the federal program for gradual phaseout of leaded gasoline. Particulate lead accumulated over the years in roadside soils and plants, however, will remain indefinitely in the area and provide inhalation exposure whenever dust is re-entrained in the air as a result of scouring winds or mechanical disturbance due to vehicular motion.

#### 4. CLIMATE & METEOROLOGY

4.1 Temperature & Rainfall. The National Climatic Data Center in its 1982 annual summary for Honolulu notes that:

"Hawaii's equable temperatures are associated with the small seasonal variation in the amount of energy received from the sun and the tempering effect of the surrounding ocean. The range of temperature averages only 7 degrees between the warmest months (August and September) and the coolest months (January and February) and about 12 degrees between day and night. Daily maximums run from the high

70's in winter to the mid-80's in summer, and daily minimums from the mid-60's to the low 70's. However, the Honolulu Airport area has recorded as high as 93 degrees and as low as 53" [11].

Historical rainfall data from the Honolulu International Airport indicate an annual average rainfall of 23 inches. Based on this annual average rainfall and in accordance with Thornwaite's scheme for climatic classification, the area is considered subhumid grassland [12].

**4.2 Surface Winds.** Meteorological records were reviewed from the Honolulu International Airport and Hickam Air Force Base (AFB). It is quite evident that northeast tradewinds predominate during much of the year (Table 6). A closer examination of the data, however, indicates that low velocities (less than 10 mph) occur frequently and that the "normal" northeasterly tradewinds tend to breakdown in the Fall giving way to more light, variable wind conditions through the Winter and on into early Spring. It is during these times that Honolulu generally experiences elevated pollutant levels. This seasonal difference in wind conditions can be seen clearly in Figures 2 and 3.

Of particular interest from an air pollution standpoint were the stability wind roses prepared for the period January 1955 to December 1968 at Hickam Air Force Base [13]. These data indicated that stable conditions, i.e., Pasquill-Gifford stability categories E and F [14], occur about 28% of the time. It is under such conditions that the greatest potential for air pollutant buildup from groundlevel sources exists.

## 5. HIGHWAYS AND TRAFFIC

The principal roadways serving the project site are 18th Avenue and Diamond Head Road. The former would provide access to the H-1 Freeway via Harding Avenue while Diamond Head Road would provide access to the Waikiki area. Both roads are 2-lane asphalt concrete streets with no parking. The critical intersections studied were along 18th Avenue at Kilauea Avenue and at Diamond Head Road (see Figures 4 and 5). Note the proximity of Kaimuki Intermediate School in the southeast corner of the Kilauea Avenue - 18th Avenue intersection.

Existing and projected peak-hour traffic data used in this analysis were provided by Pacific Planning & Engineering, Inc. [15], and are based on historical data, recent traffic counts and traffic generation factors for the proposed film facility.



## 6. MOBILE SOURCE IMPACT

6.1 Emission Factors. Automotive emission factors for carbon monoxide (CO) were generated for calendar years 1988 and 1996 using the Mobile Source Emissions Model (MOBILE-3) [16]. To localize emission factors as much as possible, the August, 1988 age distribution for the City & County of Honolulu [17] was input in lieu of the national statistics normally used.

6.2 Microscale Analysis. Analyses such as this generally involve estimation of concentrations of non-reactive pollutants. This is due to the complexity of modeling pollutants which undergo chemical reactions in the atmosphere and are subject to the effects of numerous physical and chemical factors which affect reaction rates and products. For projects involving motor vehicles as the principal air air pollution source, carbon monoxide is normally selected for modeling because it has a relatively long half-life in the atmosphere (about 1 month) [18], and it comprises the largest fraction of automotive emissions.

In this instance, a microscale screening analysis was performed for the two previously mentioned intersections along 18th Avenue. The updated version of an EPA guideline [19] model CALINE-4 [20] was employed with an array of receptors spaced at 5-meter increments around the intersections. The intersection option of the model was used as well as an assumed 20 mph approach speed. Concentrations of CO impact at the nearby Kaimuki Intermediate School were also estimated.

Since the traffic analysis had focused on the A.M. peak hour and that is normally the time of highest CO concentrations due to a greater likelihood of worst case meteorological conditions, this analysis also addressed the A.M. peak hour. Worst case meteorological conditions of 1 meter per second wind speed, an acute wind/road angle, and "D" stability [14], were all selected to maximize concentration estimates in the vicinity of the intersection.

Maximum one-hour carbon monoxide (CO) concentrations were computed for existing conditions (1988) and future conditions (1996) both with and without the proposed film facility. The results are summarized in Figures 6 - 14.

In conjunction with this study, peak-hour air sampling was conducted in the vicinity of the Diamond Head Road - 18th Avenue intersection during October, 1988. A continuous sampler was emplaced some 27 meters northeast of the intersection and 4 meters from the makai edge of Diamond Head Road. The results are presented in the following table:

DATE	TIME PERIOD	1-HOUR CO CONCENTRATION (mg/m <sup>3</sup> )	WD	WS (m/s)	TEMP (F)	SKY COVER
11 Oct 88	0700 - 0800	4.9 mg/m <sup>3</sup>	E	<1	80	0.2
19 Oct 88	0710 - 0810	5.0 mg/m <sup>3</sup>	0	0	67-76	0.0

#### 7. OFF-SITE STATIONARY SOURCE IMPACT

The estimated 3.9 million kilowatt hours of annual electrical demand by the proposed facility [21] will necessitate the generation of electricity by power plants. Currently, most of Oahu's electrical energy is generated at Hawaiian Electric Company's (HECO) Kahe Generating Station located near Nanakuli on the leeward coast of Oahu. This is currently a six-unit, approximately 650-megawatt facility firing low-sulfur fuel oil. A seventh 150-megawatt unit was proposed by HECO [22], but more recently two outside companies have proposed building new gas- and coal-fired power plants at Campbell Industrial Park and selling power to the utility [23]. For the purposes of this analysis, oil-firing was assumed. Estimates of annual emissions were computed based on EPA emission factors and the fuel required to meet a 3.9 million Kwhr demand. The results are presented below:

#### Estimates of Annual Emissions Due to Electrical Generation

<u>Pollutant</u>	<u>Emissions (T/yr)</u>
Nitrogen oxides	15
Sulfur dioxide	11
Particulate matter	1.1
Carbon monoxide	1
Total hydrocarbons	0.1

#### 8. SHORT-TERM IMPACT

The principal source of short-term air quality impact will be construction activity. Construction vehicle activity will

increase automotive pollutant concentrations along the principal access roads as well as in the vicinity of the project site itself. During off-peak hours, the additional construction vehicle traffic should not exceed road capacities although the presence of large trucks can reduce a roadway's capacity as well as lower average travel speeds thereby contributing to additional air pollution emissions.

The site preparation and earth moving will create particulate emissions as will building and on-site road construction. Construction vehicles movement on unpaved on-site roads will also generate particulate emissions. EPA studies on fugitive dust emissions from construction sites indicate that about 1.2 tons/acre per month of activity may be expected under conditions of medium activity, moderate soil silt content (30%), and a precipitation/evaporation (P/E) index of 50 [24].

Since the onsite soil was predominantly a silty clay loam, in all probability having silt content greater than the 30% cited above, and the computed P/E Index for the area is 39 implying drier conditions than in the EPA case, it may be assumed that there is a potential for fugitive dust problems.

## 9. DISCUSSION AND CONCLUSIONS

9.1 Microscale Analysis. The 1-hour CO concentration estimates for 1988 indicated compliance with the federal standard of 40 mg/m<sup>3</sup> in the vicinity of both intersections and the Kaimuki Intermediate School. Within close proximity (5 meters) to Diamond Head Road, however, there appeared to be a potential for exceedance of the State's 1-hour standard of 10 mg/m<sup>3</sup> under worst case conditions of traffic and meteorology (Figure 8).

The projections for 1996, both with and without the project, indicated compliance with Federal and State standards (Figures 9 - 14). This apparent reduction in ambient impact despite projected increases in traffic exemplifies the effect of the federal motor vehicle control program. In this instance, the projected rate of reduction in emissions per vehicle over the 1988 - 96 period was greater than the projected rate of increase in traffic volume over the same period; thus, a net decrease in cumulative emissions and ambient impact results.

Compliance with federal and state 8-hour standards can also be determined by applying a "persistence" factor of 0.6 to the 1-hour maximum CO values. This "persistence" factor is recommended in an EPA publication on indirect source analysis [25] and has been further corroborated by analysis of carbon

monoxide data in Honolulu which yielded the same 8-hour to 1-hour ratio [26]. When using this approach, any CO concentration greater than 8.4 mg/m<sup>3</sup> would indicate exceedance of the State's 8-hour standard. Similarly, any 1-hour concentration over 15.7 mg/m<sup>3</sup> would indicate exceedance of the federal 8-hour standard. In this case, the procedure suggests possible exceedance of the state standard in 1988 and 1996 both with and without the project in close proximity to the Diamond Head Road intersection. Beyond 5 meters from the road edge, however, no exceedances are predicted.

9.2 Off-Site Stationary Source Impact. The additional emissions resulting from electrical generation for the project may be compared to the 1980 emissions inventory for Oahu (Table 7). Project-related emissions contribute an additional increment of less than 0.4% of power plant emissions and less than 0.04% of the 1980 countywide emissions.

9.3 Short-Term Impact. Since as noted in Section 8, there is a potential for fugitive dust due to the silt content of onsite soils and the dry climate, adequate dust control measures should be employed during the construction period.

This can be accomplished through frequent watering of unpaved roads and areas of exposed soil. The EPA estimates that twice daily watering can reduce fugitive dust emissions by as much as 50%. Dust barriers to shield existing facilities might be considered if problems arise from wind-driven dust. The soonest possible landscaping of completed areas will also help.

9.4 Conclusions. Based on the foregoing analysis, the following conclusions may be drawn:

- Traffic generated by the proposed project will contribute a very small additional increment (<1 mg/m<sup>3</sup>) to predicted ambient CO concentrations in 1996. Both federal and state CO standards will be met beyond 5 meters from the roadway edge at both the Kilauea Avenue and Diamond Road intersections with 18th Avenue.
- The additional electrical demand of the project will result in a small (< 0.4%) increase in pollutant emissions from existing power plants.
- Construction activities will have a small impact on local air quality due to the additional construction vehicle activity. Fugitive dust from construction activities will occur but can be reduced by thorough and frequent dust control measures.

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**T A B L E S**

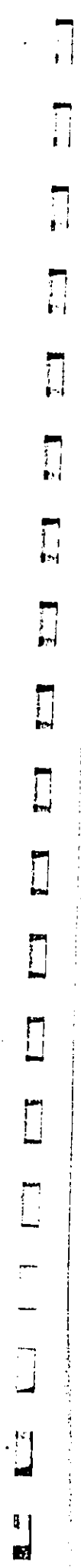


TABLE 1  
SUMMARY OF STATE OF HAWAII AND FEDERAL  
AMBIENT AIR QUALITY STANDARDS

POLLUTANT	SAMPLING PERIOD	FEDERAL STANDARDS		STATE STANDARDS
		PRIMARY	SECONDARY	
1. Total Suspended Particulate Matter (TSP)  (micrograms per cubic meter)	Annual Geometric Mean	--	--	60
	Maximum Average in Any 24 Hours	--	--	150
2. PM-10  (micrograms per cubic meter)	Annual	50	50	--
	Maximum Average in Any 24 Hours	150	150	--
3. Sulfur Dioxide (SO2)  (micrograms per cubic meter)	Annual Arithmetic Mean	80	--	80
	Maximum Average in Any 24 Hours	365	--	365
	Maximum Average in Any 3 Hours		1,300	1,300
4. Nitrogen Dioxide (NO2)  (micrograms per cubic meter)	Annual Arithmetic Mean		100	70
5. Carbon Monoxide (CO)  (milligrams per cubic meter)	Maximum Average in Any 8 Hours		10	5
	Maximum Average in Any 1 Hour		40	10
6. Photochemical Oxidants (as O3)  (micrograms per cubic meter)	Maximum Average in Any 1 Hour		240	100
7. Lead (Pb)  (micrograms per cubic meter)	Maximum Average in Any Calendar Quarter		1.5	1.5



TABLE 2

SUMMARY OF CARBON MONOXIDE  
MONITORING AT LEAHI HOSPITAL  
1980-81

	<u>1980</u>	<u>1980</u>
Period of Sampling:	12	11 months
Number of samples:	329	216
Range of values:	0-4.6	0-3.5 mg/m <sup>3</sup>
Mean value:	0.6	1.2 mg/3

SOURCE: Department of Health

TABLE 3

SUMMARY OF AEROMETRIC DATA COLLECTED  
AT THE DEPARTMENT OF HEALTH BUILDING

1978 - 1987

		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
<b>TOTAL SUSPENDED PARTICULATES</b>											
(24-hr values, ug/m3)		12	12	12	8	12	12	12	12	12	12
Period of sampling (mos.):		60	8	61	35	55	56	60	59	57	53
Number of samples:		14-53	22-62	23-103	23-75	11-42	14-58	11-48	10-48	11-61	14-59
Range of values:		29	32	37	40	29	26	25	24	25	25
Mean of values:		0	0	1	0	0	0	0	0	0	0
Number of times State AQS exceeded:											
<b>SULFUR DIOXIDE</b>											
(24-hr values, ug/m3)		12	12	12	8	12	12	12	12	12	12
Period of sampling (mos.):		61	57	58	38	50	56	58	53	57	54
Number of samples:		<5-44	<5-42	<5-60	<5-44	<5-38	<5-16	<5-45	<5-45	<5-6	<5-11
Range of values:		18	22	18	19	11	<5	<5	<5	<5	<5
Mean of values:		0	0	0	0	0	0	0	0	0	0
Number of times State AQS exceeded:											
<b>PHOTOCHEMICAL OXIDANTS</b>											
(Daily 1-hr maxima, ug/m3)		10	12	11	12	12	12	12	12	12	12
Period of sampling (mos.):		284	337	295	314	335	348	296	341	348	342
Number of samples:		10-84	10-80	10-84	10-104	0-151	0-123	0-104	8-198	10-88	4-84
Range of values:		33	39	38	37	32	46	44	43	39	38
Mean of values:		0	0	0	1	2	2	1	3	0	0
Number of times State AQS exceeded:											

TABLE 4

SUMMARY OF AEROMETRIC DATA COLLECTED  
AT THE DEPARTMENT OF HEALTH BUILDING

1971 - 1987

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980-87
<b>NITROGEN DIOXIDE</b>										
(24-hr values)										
Period of sampling (mos.):	10	12	12	12	12	3	n.d.	n.d.	n.d.	n.d.
Number of samples:	83	113	99	90	91	22				
Range of values:	<20-159	<20-236	<20-95	<20-95	16-70	12-63				
Mean of values:	56	56	46	37	33	35				
Number of times State AQS exceeded:	1	2	0	0	0	0				

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
<b>CARBON MONOXIDE</b>										
(Daily 1-hr maxima)										
Period of sampling (mos.):	12	8	n.d.	n.d.	n.d.	6	12	12	12	12
Number of samples:	365	208	n.d.	n.d.	n.d.	169	318	342	348	345
Range of values:	0-20.7	0-17.3	n.d.	Station moved to	Station moved to	0-8.6	0.6-10.9	0.0-10.4	0.2-13.5	0.3-11.1
Arithmetic mean of daily maximum values:	3.1	3.0		Kaimuki		2.4	2.4	1.5	2.2	1.7
Number of days State AQS exceeded:	19	10	10			0	1	1	3	1

TABLE 5  
LEAD MONITORING DATA  
HONOLULU, OAHU  
1970-87

AVERAGE CONCENTRATION (micrograms/cubic meter)

YEAR	1st QUARTER	2nd QUARTER	3rd QUARTER	4th QUARTER
1970	0.78	0.81	0.65	0.92
1971	1.65	0.63	0.65	1.05
1972	--	0.75	0.65	0.48
1973	0.52	0.52	0.72	0.55
1974	0.84	0.61	0.70	0.92
1975	0.65	0.81	0.59	1.05
1976	0.91	0.65	0.99	1.00
1977	0.89	0.59	0.48	0.80
1978	--	--	--	0.72
1979	0.39	0.25	0.26	0.42
1980	0.41	0.23	0.21	0.20
1981	0.25	--	--	--
1982	0.21	0.16	0.09	0.21
1983	n/a	n/a	n/a	n/a
1984	0.3	0.2	0.2	0.3
1985	0.1	0.03	0.02	0.1
1986	0.1	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0

Source: State of Hawaii  
Department of Health

TABLE 6  
HONOLULU INTERNATIONAL AIRPORT  
ANNUAL WIND ROSE

Direction	Wind Speed (Kts)						TOTAL
	0 - 3	4 - 7	8 - 12	13 - 18	19 - 24	>24	
N	0.0149	0.0261	0.0075	0.0020	0.0002	0.0000	0.0506
NNE	0.0114	0.0219	0.0106	0.0046	0.0005	0.0000	0.0490
NE	0.0114	0.0449	0.0829	0.0853	0.0204	0.0018	0.2466
ENE	0.0088	0.0637	0.1559	0.1209	0.0224	0.0014	0.3731
E	0.0039	0.0179	0.0329	0.0210	0.0023	0.0001	0.0782
ESE	0.0021	0.0056	0.0050	0.0015	0.0003	0.0001	0.0146
SE	0.0021	0.0059	0.0091	0.0049	0.0006	0.0002	0.0228
SSE	0.0023	0.0074	0.0123	0.0038	0.0008	0.0002	0.0268
S	0.0025	0.0104	0.0127	0.0033	0.0005	0.0003	0.0296
SSW	0.0011	0.0041	0.0053	0.0017	0.0003	0.0000	0.0125
SW	0.0007	0.0031	0.0058	0.0022	0.0003	0.0001	0.0122
WSW	0.0006	0.0017	0.0031	0.0022	0.0005	0.0001	0.0082
W	0.0019	0.0030	0.0021	0.0009	0.0002	0.0001	0.0082
WNW	0.0027	0.0051	0.0012	0.0003	0.0001	0.0000	0.0094
NW	0.0084	0.0153	0.0031	0.0008	0.0003	0.0000	0.0279
NNW	0.0087	0.0166	0.0041	0.0012	0.0002	0.0000	0.0308
<b>TOTAL:</b>	<b>0.0835</b>	<b>0.2527</b>	<b>0.3534</b>	<b>0.2567</b>	<b>0.0496</b>	<b>0.0043</b>	<b>1.0002</b>

SOURCE: Reference 13

TABLE 7  
1980 EMISSIONS INVENTORY  
CITY & COUNTY OF HONOLULU

SOURCE CATEGORY	EMISSIONS (Tons/Year)				
	PM	SO <sub>x</sub>	NO <sub>x</sub>	CO	HC
Steam Electric Power Plants	2092	36,736	12,455	1,065	184
Gas Utilities	14	0	199	0	0
Fuel Combustion in Agricultural Industry	1088	579	358	0	31
Refinery Industry	622	7,096	2,149	266	2,584
Petroleum Storage	0	0	0	0	1,261
Metallurgical Industries	28	96	40	0	0
Mineral Products Industry	6,884	1,883	597	0	31
Municipal Incineration	42	145	2,029	0	184
Motor Vehicles	1,413	1,014	17,270	239,198	22,853
Construction, Farm and Industrial Vehicles	184	193	2,507	3,729	338
Aircraft	382	145	1,751	5,594	1,476
Vessels	42	386	438	533	123
Agricultural Field Burning	1,399	0	0	15,982	1,692
<b>TOTAL:</b>	<b>14,191</b>	<b>48,274</b>	<b>39,792</b>	<b>266,367</b>	<b>30,758</b>

SOURCE: State Department of Health

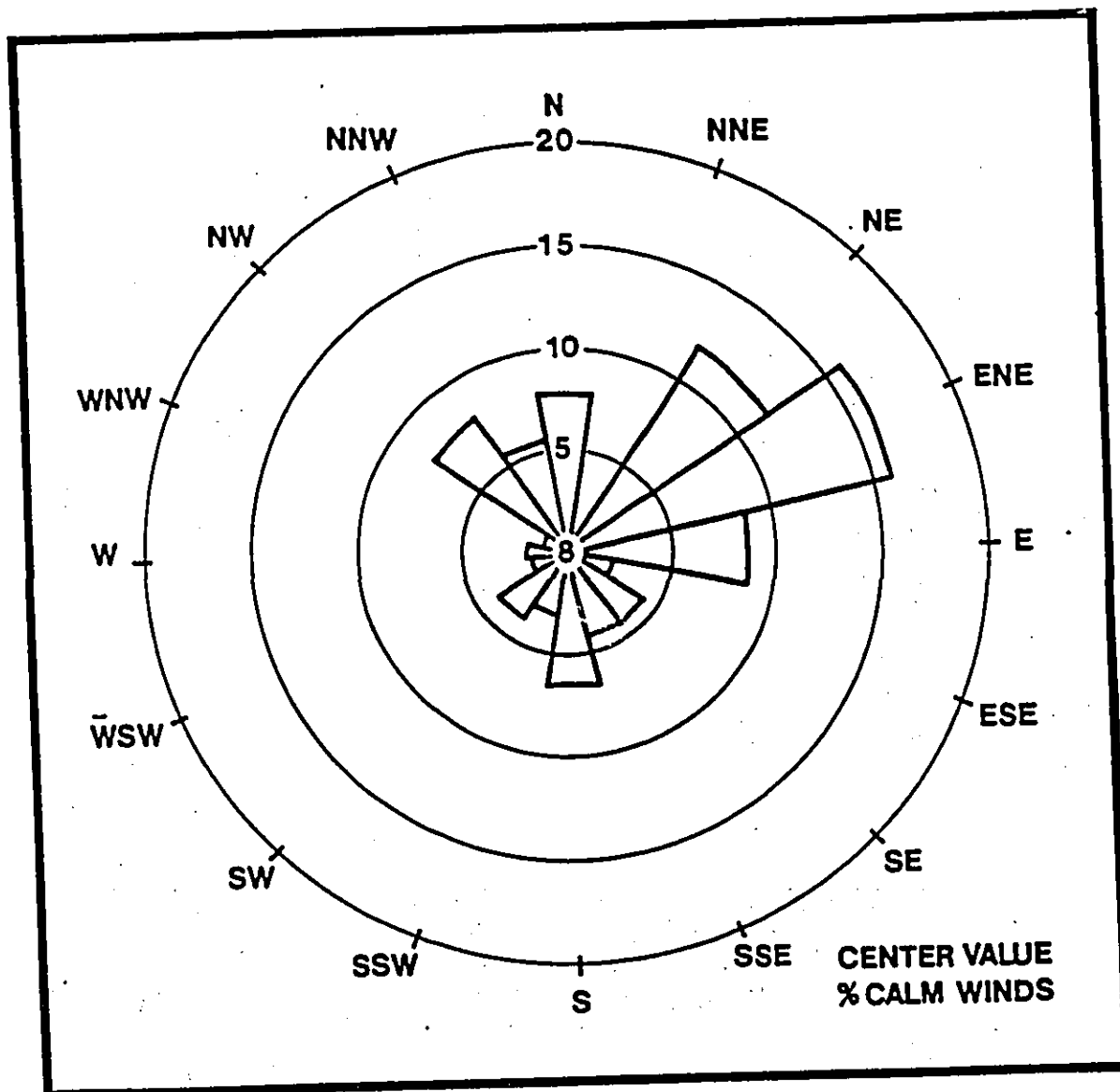
**FIGURES**

FIGURE 1  
PROJECT LOCATION



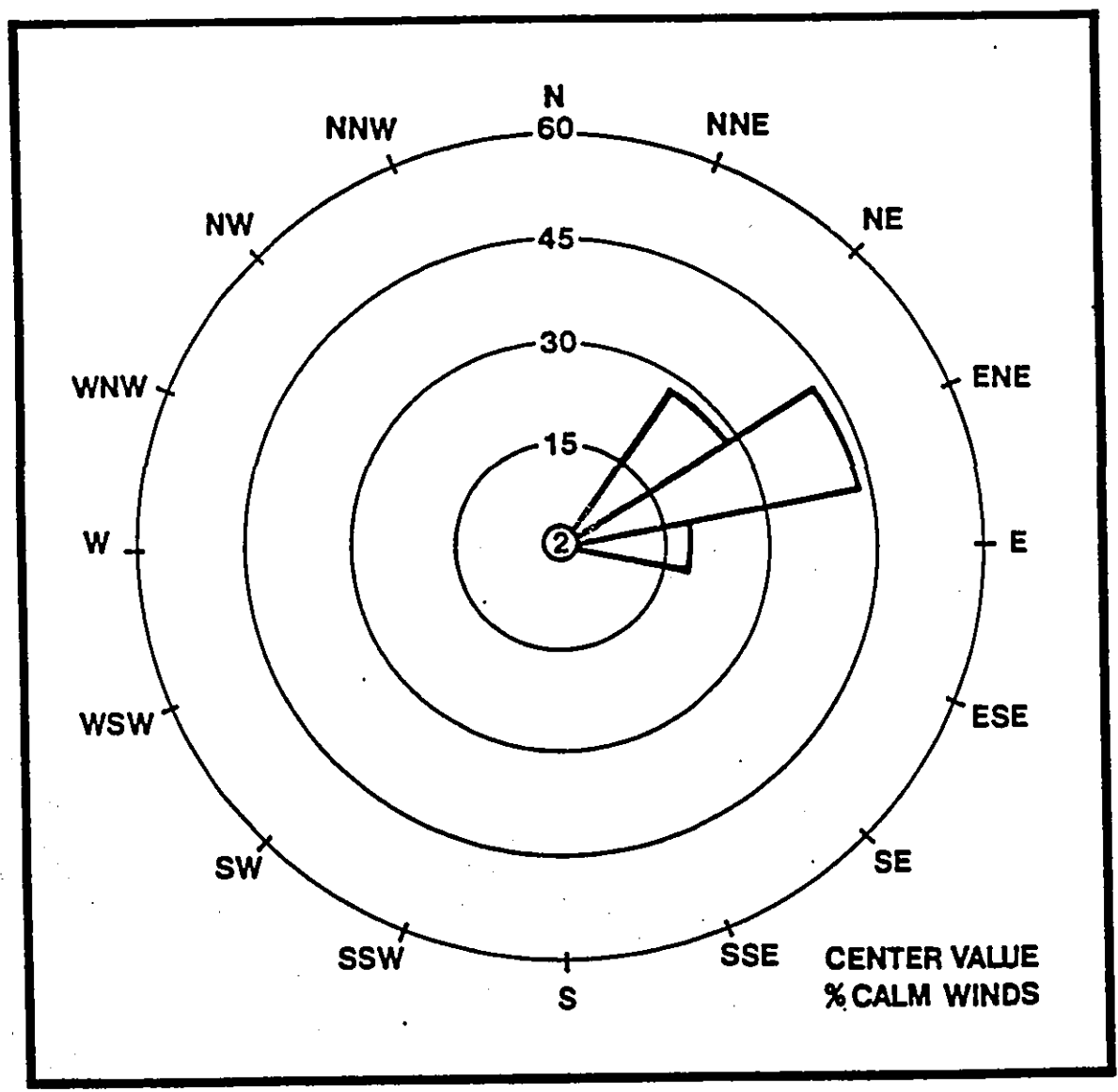


FIGURE 2  
 JANUARY WINDROSE  
 HONOLULU INTERNATIONAL AIRPORT



SOURCE: National Weather Service (1940-67)

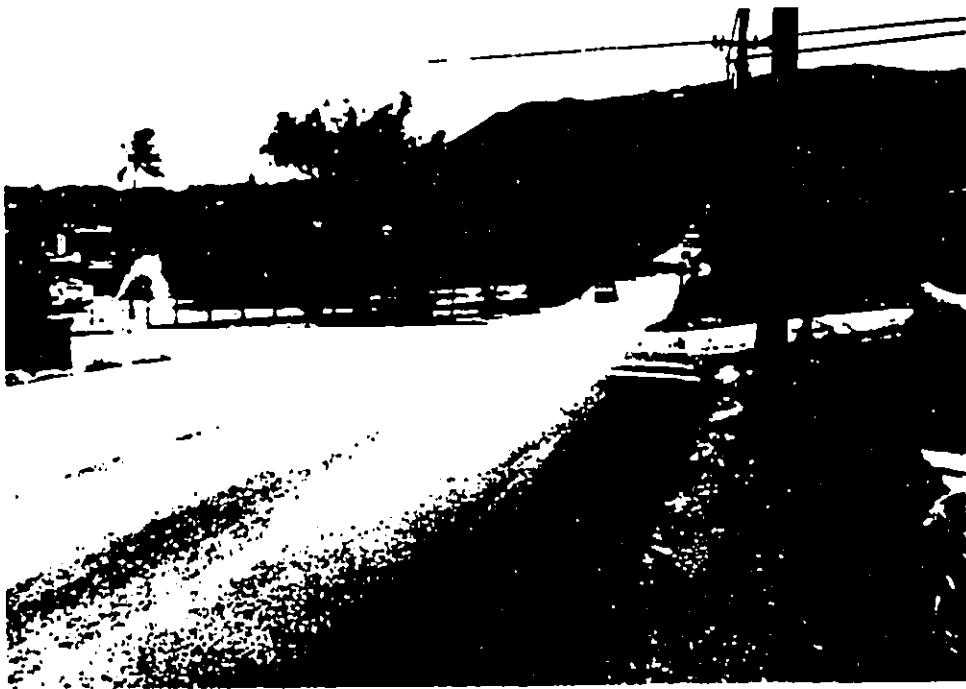
FIGURE 3  
 AUGUST WINDROSE  
 HONOLULU INTERNATIONAL AIRPORT



SOURCE: National Weather Service (1940-67)

FIGURE 4

KILAUEA AVENUE - 18TH AVENUE INTERSECTION



Facing southwest  
down 18th Avenue



Facing southeast  
down Kilauea Avenue

FIGURE 5

DIAMOND HEAD ROAD - 18TH AVENUE INTERSECTION



Facing northeast  
down 18th Avenue

Facing northwest  
down Diamond Head  
Road



FIGURE 6

ESTIMATES OF MAXIMUM 1-HOUR  
CARBON MONOXIDE CONCENTRATIONS

KILAUEA AVENUE AT 18TH AVENUE  
1988 (A.M. PEAK-HOUR)

26 deg   azimuth	18th Avenue	8.2	6.2	5.5	5.2
		4.9	5.7	6.0	5.9
		6.4	8.1	7.5	7.2

Kilauea Avenue

Kaimuki  
Intermediate  
School

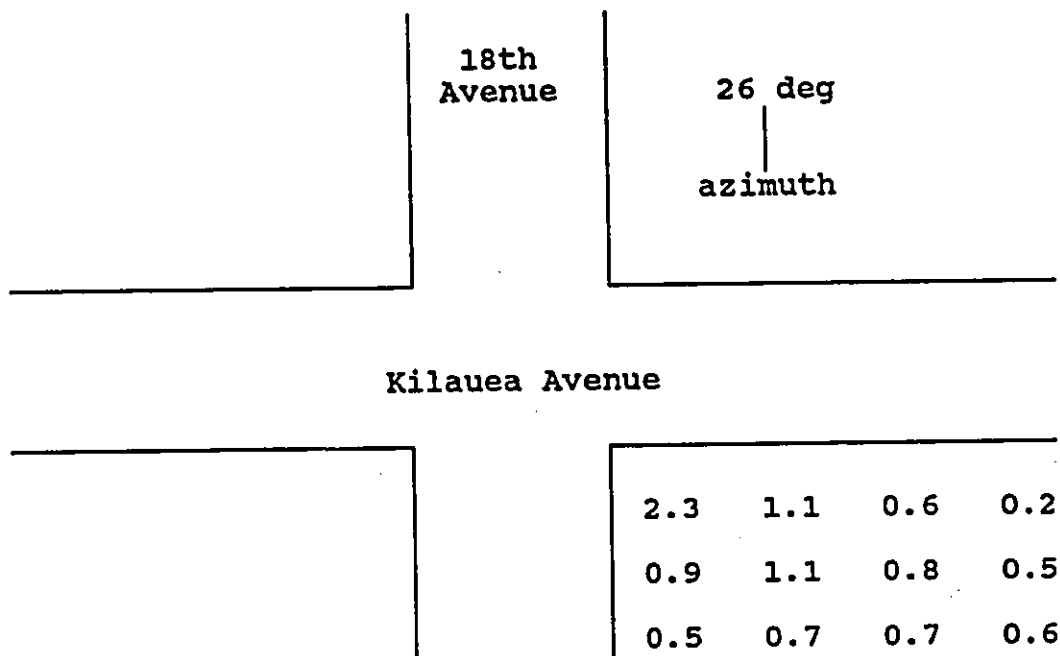
NOTES

CO concentrations = milligrams/cubic meter  
Receptor spacing = 5 meters  
Wind direction = 266 deg  
Wind speed = 1 m/sec  
Atmospheric stability = "D" (P-G Class 4)  
Background CO concentration = 0.1 mg/m<sup>3</sup>  
Diffusion model = CALINE-4  
Emissions model = MOBILE-3

FIGURE 7

ESTIMATES OF MAXIMUM 1-HOUR  
CARBON MONOXIDE CONCENTRATIONS

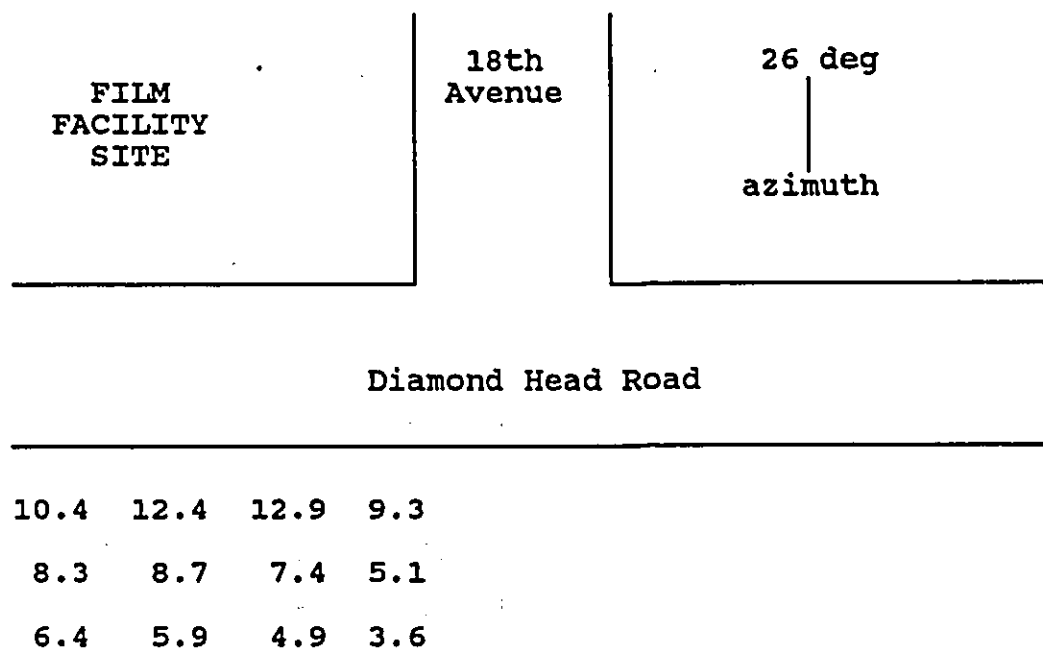
KAIMUKI INTERMEDIATE SCHOOL  
1988 (A.M. PEAK-HOUR)



NOTES

CO concentrations = milligrams/cubic meter  
Receptor spacing = 5 meters  
Wind direction = 341 deg  
Wind speed = 1 m/sec  
Atmospheric stability = "D" (P-G Class 4)  
Background CO concentration = 0.1 mg/m<sup>3</sup>  
Diffusion model = CALINE-4  
Emissions model = MOBILE-3

**FIGURE 8**  
**ESTIMATES OF MAXIMUM 1-HOUR**  
**CARBON MONOXIDE CONCENTRATIONS**  
**DIAMOND HEAD ROAD AT 18TH AVENUE**  
**1988 (A.M. PEAK-HOUR)**



**NOTES**

CO concentrations = milligrams/cubic meter  
 Receptor spacing = 5 meters  
 Wind direction = 86 deg  
 Wind speed = 1 m/sec  
 Atmospheric stability = "D" (P-G Class 4)  
 Background CO concentration = 0.1 mg/m<sup>3</sup>  
 Diffusion model = CALINE-4  
 Emissions model = MOBILE-3

**FIGURE 9**  
**ESTIMATES OF MAXIMUM 1-HOUR**  
**CARBON MONOXIDE CONCENTRATIONS**  
**KILAUEA AVENUE AT 18TH AVENUE**  
**1996 WITHOUT PROJECT (A.M. PEAK-HOUR)**

18th Avenue	5.2	3.9	3.6	3.4
	3.3	3.9	4.2	4.0
	4.4	5.7	5.4	4.4

Kilauea Avenue

Kaimuki  
Intermediate  
School

**NOTES**

CO concentrations = milligrams/cubic meter  
 Receptor spacing = 5 meters  
 Wind direction = 266 deg  
 Wind speed = 1 m/sec  
 Atmospheric stability = "D" (P-G Class 4)  
 Background CO concentration = 0.1 mg/m<sup>3</sup>  
 Diffusion model = CALINE-4  
 Emissions model = MOBILE-3



FIGURE 10

ESTIMATES OF MAXIMUM 1-HOUR  
CARBON MONOXIDE CONCENTRATIONS

KILAUEA AVENUE AT 18TH AVENUE  
1996 WITH PROJECT (A.M. PEAK-HOUR)

18th Avenue	5.4	3.8	3.4	3.3
	3.2	3.5	3.8	3.8
	3.8	5.1	4.8	4.4
Kilauea Avenue				
				Kaimuki Intermediate School

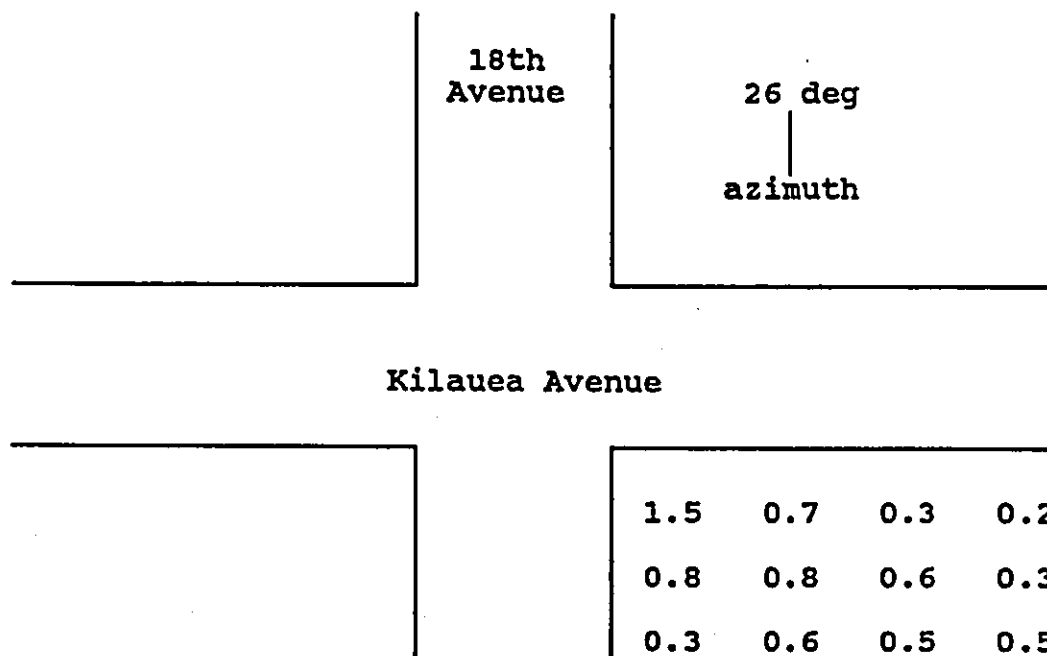
NOTES

CO concentrations = milligrams/cubic meter  
Receptor spacing = 5 meters  
Wind direction = 266 deg  
Wind speed = 1 m/sec  
Atmospheric stability = "D" (P-G Class 4)  
Background CO concentration = 0.1 mg/m<sup>3</sup>  
Diffusion model = CALINE-4  
Emissions model = MOBILE-3

FIGURE 11

ESTIMATES OF MAXIMUM 1-HOUR  
CARBON MONOXIDE CONCENTRATIONS

KAIMUKI INTERMEDIATE SCHOOL  
1996 WITHOUT PROJECT (A.M. PEAK-HOUR)



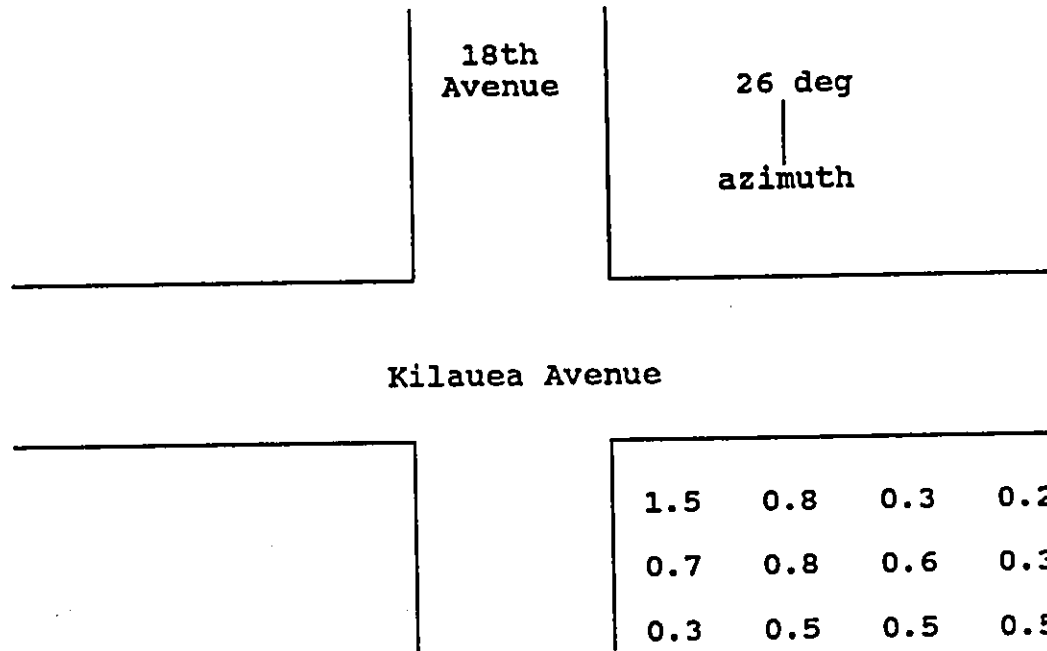
NOTES

CO concentrations = milligrams/cubic meter  
Receptor spacing = 5 meters  
Wind direction = 341 deg  
Wind speed = 1 m/sec  
Atmospheric stability = "D" (P-G Class 4)  
Background CO concentration = 0.1 mg/m<sup>3</sup>  
Diffusion model = CALINE-4  
Emissions model = MOBILE-3

FIGURE 12

ESTIMATES OF MAXIMUM 1-HOUR  
CARBON MONOXIDE CONCENTRATIONS

KAIMUKI INTERMEDIATE SCHOOL  
1996 WITH PROJECT (A.M. PEAK-HOUR)



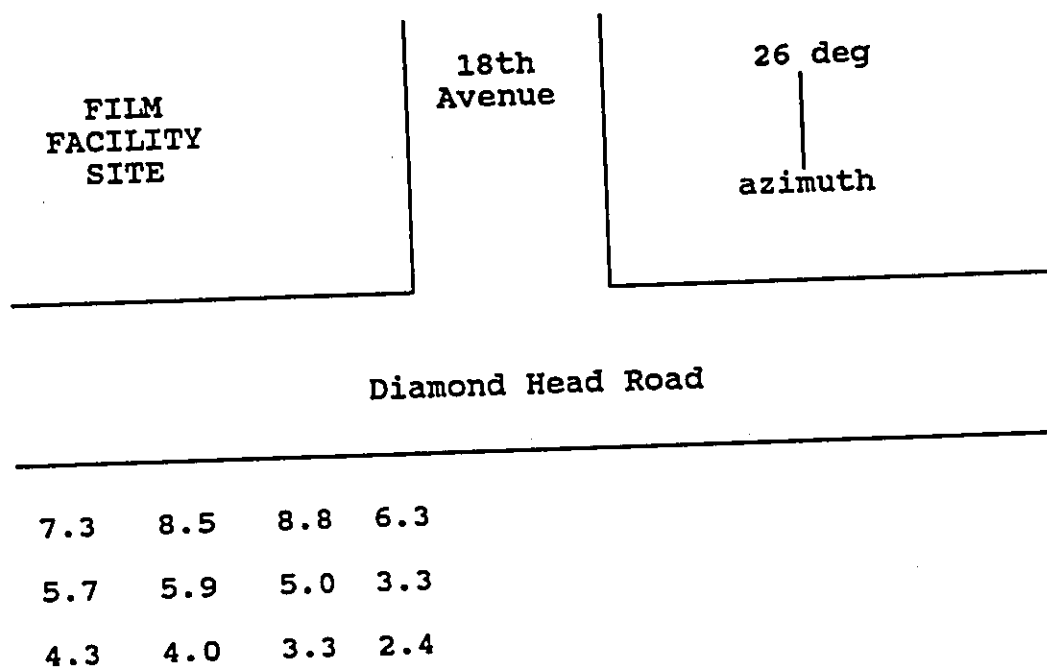
NOTES

CO concentrations = milligrams/cubic meter  
Receptor spacing = 5 meters  
Wind direction = 341 deg  
Wind speed = 1 m/sec  
Atmospheric stability = "D" (P-G Class 4)  
Background CO concentration = 0.1 mg/m<sup>3</sup>  
Diffusion model = CALINE-4  
Emissions model = MOBILE-3

FIGURE 13

ESTIMATES OF MAXIMUM 1-HOUR  
CARBON MONOXIDE CONCENTRATIONS

DIAMOND HEAD ROAD AT 18TH AVENUE  
1996 WITHOUT PROJECT (A.M. PEAK-HOUR)



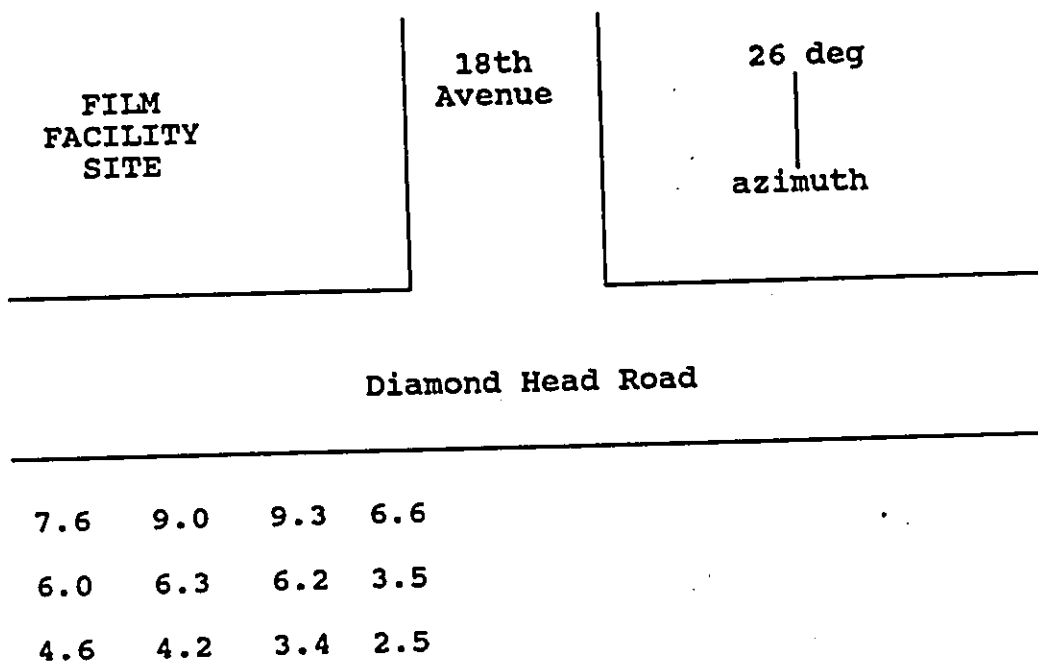
NOTES

CO concentrations = milligrams/cubic meter  
Receptor spacing = 5 meters  
Wind direction = 86 deg  
Wind speed = 1 m/sec  
Atmospheric stability = "D" (P-G Class 4)  
Background CO concentration = 0.1 mg/m<sup>3</sup>  
Diffusion model = CALINE-4  
Emissions model = MOBILE-3

FIGURE 14

ESTIMATES OF MAXIMUM 1-HOUR  
CARBON MONOXIDE CONCENTRATIONS

DIAMOND HEAD ROAD AT 18TH AVENUE  
1996 WITH PROJECT (A.M. PEAK-HOUR)



NOTES

CO concentrations = milligrams/cubic meter  
Receptor spacing = 5 meters  
Wind direction = 86 deg  
Wind speed = 1 m/sec  
Atmospheric stability = "D" (P-G Class 4)  
Background CO concentration = 0.1 mg/m<sup>3</sup>  
Diffusion model = CALINE-4  
Emissions model = MOBILE-3

# Appendix F

NOISE STUDY  
FOR THE PROPOSED IMPROVEMENTS TO  
THE HAWAII FILM FACILITY  
FORT RUGER, OAHU

PREPARED FOR  
ENGINEERING CONCEPTS, INC.

BY  
Y. EBISU & ASSOCIATES

NOVEMBER, 1988

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## CHAPTER 1. SUMMARY

The existing and future traffic noise levels in the vicinity of the existing recording studio facility at Diamond Head, Oahu, were evaluated for their relationship to current federal noise standards and for potential noise impacts on surrounding residents and classroom facilities. The traffic noise level increases on streets which would service the project traffic were calculated for the CY 1996 planning period, when the proposed project is expected to be fully developed. Increases in traffic noise of approximately 0.4 to 2.2 Ldn units were predicted to occur between now and CY 1996 as a result of both project and non-project traffic. Project traffic is expected to add contributions of approximately 0.1 to 1.2 Ldn to total traffic noise levels on the roadways of Diamond Head Road and 18th Avenue. The most significant increases in traffic noise levels are predicted to occur along the project's entrance roadway on 18th Avenue, primarily because the entrance roadway is currently used infrequently.

By CY 1996, a single family residence at the northeast corner of Iwalani Place and 18th Avenue is expected to be exposed to traffic noise levels at the federal standard of 65 Ldn as a result of both project and non-project traffic. However, mitigation of the increase in traffic noise levels resulting from the project traffic is possible with a 6 FT high sound attenuating wall if considered necessary.

Extraordinary sound attenuation measures are not required for the Technical Building, which will house noisy fabrication shops. The proposed siting of the building, and the planned construction of the sound stage structures with their noise shielding effects, will minimize risks of adverse noise impacts at the nearest classrooms and residences. As necessary, sound attenuation measures will be applied to the structure to comply with state and county noise regulations.

## CHAPTER II. PURPOSE

The purposes of this study were to evaluate the future noise impacts associated with the proposed renovations and improvements to the existing film studio facility at Fort Ruger, Oahu and to recommend noise mitigation measures as required. The existing facility, which has recently been operated by Universal Studios, is expected to be expanded to ultimately increase the number of soundstages from the one, currently, to three.

### CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

The noise descriptor currently used by federal agencies to assess environmental noise is the Day-Night Average Sound Level (Ldn). This descriptor incorporates a 24-hour average of instantaneous A-Weighted Sound Levels as read on a standard Sound Level Meter. The minimum averaging period for the Ldn descriptor is 24 hours (by definition). Additionally, sound levels which occur during the nighttime hours of 10:00 PM to 7:00 AM are increased by 10 decibels (dB) prior to computing the 24-hour average by the Ldn descriptor. A more complete list of noise descriptors is provided in APPENDIX B to this report.

TABLE 1, derived from Reference 1, presents current federal standards and acceptability criteria for residential land uses exposed to various levels of environmental noise. Noise levels typical of communities on Oahu are shown in FIGURE 1. As a general rule, noise levels of 55 Ldn or less occur in rural areas, or urbanized areas which are shielded from high volume streets. In urbanized areas, Ldn levels generally range from 55 to 65 Ldn, and are usually controlled by motor vehicle traffic noise. Residences which front major roadways are generally exposed to levels of 65 Ldn, and as high as 72 Ldn when the roadway is a high speed freeway. Due to noise shielding effects from intervening structures, residences which are located within interior lots are usually exposed to lower noise levels of 60 Ldn or less.

For the purposes of determining noise acceptability for funding assistance from federal agencies (FHA/HUD and VA), an exterior noise level of 65 Ldn or lower is considered acceptable. This standard is applied nationally (see Reference 2), including Hawaii. Because of our open-living conditions, the predominant use of naturally ventilated dwellings, and the relatively low exterior-to-interior sound attenuation afforded by these naturally

TABLE 1  
 EXTERIOR NOISE EXPOSURE CLASSIFICATION  
 (RESIDENTIAL LAND USE)

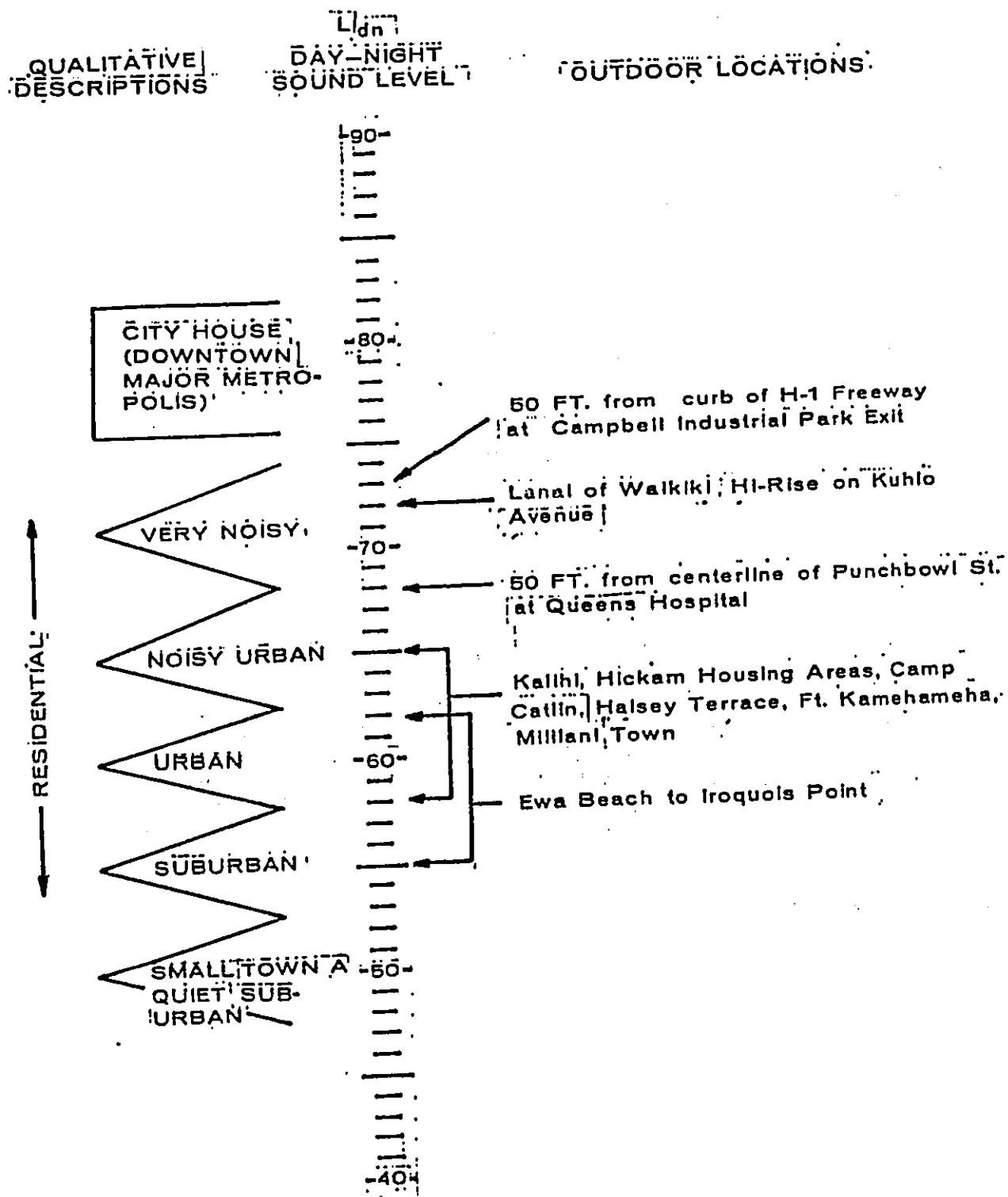
Noise Exposure Class	Day-Night Sound Level	Equivalent Sound Level	Federal Standard <sup>(1)</sup>
Minimal Exposure	Not Exceeding 55 Ldn	Not Exceeding 55 Leq	Unconditionally Acceptable
Moderate Exposure	Above 55 Ldn But Not Above 65 Ldn	Above 55 Leq But Not Above 65 Leq	Acceptable <sup>(2)</sup>
Significant Exposure	Above 65 Ldn But Not Above 75 Ldn	Above 65 Leq But Not Above 75 Leq	Normally Unacceptable
Severe Exposure	Above 75 Ldn	Above 75 Leq	Unacceptable

Note: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the Leq instead of the Ldn descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours.

Source: Reference 1.

# RANGE OF EXTERIOR BACKGROUND AMBIENT NOISE LEVELS



ventilated structures, an exterior noise level of 65 Ldn does not eliminate all risks of noise impacts. For these reasons, and as recommended in Reference 3, a lower level of 55 Ldn is considered as the "Unconditionally Acceptable" (or "Near-Zero Risk") level of exterior noise. However, after considering the cost and feasibility of applying the lower level of 55 Ldn, government agencies such as FHA/HUD and VA have selected 65 Ldn as a more appropriate regulatory standard.

State Department of Health (DOH) noise regulations (References 4 and 5) apply on the island of Oahu, and are intended to minimize noise impacts from stationary as well as motor vehicle noise sources. These regulations would apply to all noise sources within the boundaries of the project site, as well as to light and heavy vehicles which would travel to and from the site on public roadways (or trafficways). Unless the routes used by heavy vehicles to and from the project site are designated as truck routes by the Director of Health, heavy vehicles traveling to and from the project facilities will be required to comply with the vehicle noise emission limits of Reference 5. The most stringent limit of Reference 5 is the requirement that heavy vehicles of 10,000 pounds or greater gross weight not emit noise levels exceeding 73 dBA at 50 FT distance if operated during the hours from 10:00 PM to 6:00 AM on a public trafficway.

#### CHAPTER IV. GENERAL STUDY METHODOLOGY

Existing background ambient noise measurements were obtained to determine the potential intrusiveness of project noise sources at existing residences east of the proposed project site at 18th Avenue and on Diamond Head Road. Predictions of traffic noise along the roadways to be used by motor vehicles associated with the proposed project were performed using the Federal Highway Administration (FHWA) Noise Prediction Model (Reference 6). Sound level measurements of production vehicles exiting the existing Universal Studio facility at 18th Avenue were also performed. Base Year (CY 1988) traffic data along the access roadways to the proposed facility (Diamond Head Road and 18th Avenue) were obtained from the project traffic study performed by Pacific Planning & Engineering, Inc. (Reference 7). For existing and future traffic, it was assumed that the AM Peak Hour Leq(h) was equal to the 24-hour Ldn. This assumption was verified by computing the Ldn of traffic noise along the section of Diamond Head Road west (Ewa) of the 18th Avenue intersection.

Along the planned traffic routes to and from the studio facility, the future traffic noise levels were predicted for the CY 1996 period, when the expanded facility is expected to be fully operational. The increases in traffic noise levels attributable to project related traffic were calculated, and noise impact risks evaluated. Possible noise mitigation measures to minimize traffic noise impacts were described.

The potential for adverse impacts from noise emissions from the proposed Technical Building, which is anticipated to contain wood and paint shops, was also evaluated by estimating the radiated noise level from the shops toward future classrooms of the Kapiolani Community College. Suggestions for minimizing potential noise impacts from these shops were provided.



## CHAPTER V. EXISTING NOISE ENVIRONMENT

The existing noise environment in the project environs are in the "Moderate Exposure, Acceptable" category along 18th Avenue and along Diamond Head Road to the east of the project site. Along Diamond Head Road to the west of the project site, traffic noise levels are higher and "Significant Exposure, Normally Unacceptable" category. Existing background ambient noise levels in the project area are controlled by traffic on 18th Avenue and Diamond Head Road.

Minimum instantaneous background ambient noise levels during low wind conditions were measured at approximately 41 dB at the intersection of 18th Avenue and Diamond Head Road. Average traffic noise levels measured along Diamond Head Road during the early Tuesday morning of January 19, 1988 (see Table 2) were 60.8 Leq(h), 63.1 Leq (h), and 61.7 Leq(h) for the hour long periods ending at 7:00, 8:00, and 9:00 AM. Measured maximum noise levels of trucks and buses ranged from 80 to 84 dB, with an average value of 82 dB.

Average traffic noise levels measured along 18th Avenue during the early Saturday morning of September 24, 1988 (see Table 2) were 58.0 dB and 60.4 dB during the hour long periods ending at 7:00 and 8:00 AM. Measured maximum noise levels of heavy trucks and buses ranged from 73 to 81 dB, with an average value of 77 dB.

Maximum noise levels of light and medium trucks which were measured while departing the existing Universal Studio facility on 18th Avenue during the Magnum production in October, 1987 ranged from 67 to 61 dB at 40 FT distance. These light and medium trucks were all gasoline engine driven, and were not accelerating at high engine RPM. The camera truck was believed to be the only heavy diesel truck in the studio's fleet at that time, but its noise level was not measured. Old technology, accelerating diesel trucks have maximum emission levels in the order of 86 dB, while

TABLE 2

TRAFFIC NOISE MEASUREMENTS  
(JANUARY AND SEPTEMBER, 1988)

Location	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume—			Measured Leq (dB)	Predicted Leq (dB)
			Auto	Med. Truck	Heavy Truck		
1. 50 FT from centerline of Diamond Head Road across street from the American Red Cross.	0700 TO 0800	35	491	5	5	63.1	62.7
2. 50 FT from centerline of Diamond Head Road across street from the American Red Cross.	0800 TO 0900	35	412	4	4	61.7	61.9
3. 50 FT from centerline of 18th Avenue at driveway to existing studio facility.	0700 TO 0800	22	245	6	6	58.0	57.9
4. 50 FT from centerline of 18th Avenue at driveway to existing studio facility.	0800 TO 0900	22	423	11	11	60.4	60.3

new technology diesel trucks are approximately 10 dB quieter. U.S. Environmental Protection Agency limits for new production, heavy trucks range from 83 to 80 dB at 50 FT.

TABLE 3 presents the hourly traffic volume, speed, and mix assumptions for the 1988 (existing) period, with computed hourly average noise levels (Leq) at 50 FT distance from the centerlines of Diamond Head Road and 18th Avenue in the vicinity of the project site. Traffic volumes used were based on intersection movements reported in Reference 7. Existing traffic noise (in Ldn) at 50 FT distance from the roadways' centerlines were estimated to be equal to the AM Peak Hour Leq's shown in TABLE 3.

The existing setback distances of the 60, 65, and 70 Ldn contours from the centerlines of the street of interest are shown in TABLE 4 under worst case, unobstructed line of sight conditions. Existing traffic noise levels at 50 FT setback distance along 18th Avenue and along Diamond Head Road to the east of the project site are currently in the "Moderate Exposure, Acceptable" category. Along Diamond Head road west of the 18th Avenue intersection, existing traffic noise levels are in the "Significant Exposure, Normally Unacceptable" category.

TABLE 3  
 COMPARISONS OF EXISTING AND FUTURE TRAFFIC NOISE LEVELS  
 ALONG ACCESS ROADS TO PROJECT SITE  
 (50 FT FROM ROADWAY CENTERLINES)

LOCATION	SPEED (MPH)	VPH	***** HOURLY LEQ IN dB ****			
			AUTO	MT	HT	ALL VEH
<b>EXISTING AM PEAK HR. TRAFFIC:</b>						
18th Avenue (At Project)	22	725	56.2	52.8	60.5	62.4
18th Ave (Mauka of Kilauea)	22	275	52.0	48.6	56.3	58.2
Diamond Head Rd. (Ewa)	35	1,220	64.3	55.9	61.7	66.6
Diamond Head Rd. (Koko Hd.)	35	615	61.3	52.9	58.8	63.6
<b>CY 1996 AM PEAK HR. TRAFFIC:</b>						
18th Avenue (At Project)	22	853	56.9	53.5	61.2	63.1
18th Ave (Mauka of Kilauea)	22	455	54.2	50.8	58.5	60.4
Diamond Head Rd. (Ewa)	35	1,346	64.6	59.3	63.0	67.6
Diamond Head Rd. (Koko Hd.)	35	679	61.7	53.4	59.2	64.0
Entrance Road to Project	22	152	48.4	55.5	54.5	58.5

**Notes:** Assumed traffic mix of 98% autos, 1% medium trucks, and 1% heavy trucks used for non-project traffic on Diamond Head Road.

Assumed traffic mix of 95% autos, 2.5% medium trucks, and 2.5% heavy trucks used for non-project traffic on 18th Avenue.

Assumed mix of 75% autos, 22% medium trucks, and 3% heavy trucks used for project traffic.

TABLE 4

EXISTING AND FUTURE DISTANCES TO 60, 65, AND 70 Ldn CONTOURS

STREET SECTION	60 Ldn SETBACK (FT)		65 Ldn SETBACK (FT)		70 Ldn SETBACK (FT)	
	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
18th Avenue (At Project)	72	80	34	37	16	17
18th Ave (Mauka of Kilauea)	38	53	18	25	8	11
Diamond Head Rd. (Ewa)	137	160	64	74	30	35
Diamond Head Rd. (Koko Hd.)	87	93	40	43	19	20
Entrance Road to Project	N/A	40	N/A	18	N/A	9

Notes: All setback distances are from the roadways' centerlines. See TABLE 3 for traffic volume, speed, and mix assumptions. Ldn assumed to be equal to AM Peak Hour Leqs. Setback distances are for unobstructed Line-of-Sight conditions.

## CHAPTER VI. FUTURE TRAFFIC NOISE ENVIRONMENT

Predictions of future traffic noise levels along Diamond Head Road and 18th Avenue were made using the traffic volume projections for CY 1996 which were contained in Reference 7. The results of these predictions for the condition of project plus non-project traffic are shown in TABLES 3 and 4. In developing these predictions, it was assumed that 50 percent of the heavy and medium film crew and production trucks would use the Ewa section of Diamond Head Road, depart the studio before 7:00 AM, and return to the studio before 10:00 PM. The remaining 50 percent of the heavy and medium studio trucks would use 18th Avenue, leave the studio after 7:00 AM, and return before 10:00 PM. Increases in traffic noise along Diamond Head Road and 18th Avenue by CY 1996 with the expanded film facility completed are predicted to range from approximately 0.4 to 2.2 dB, which are considered to be insignificant to moderate. Traffic noise along the less sensitive section of Diamond Head Road west of the studio are expected to remain in the "Significant Exposure, Normally Unacceptable" category. In addition, an existing single family residence at the northeast corner of the intersection of Iwalani Place and 18th Avenue will begin to be exposed to noise levels of approximately 65 Ldn by CY 1996 as a result of project and non-project traffic.

The contribution of project traffic noise to the total traffic noise increases in CY 1996 is predicted to range from 0.1 to 0.7 dB along Diamond Head Road, and from 0.4 to 1.0 dB along 18th Avenue. The larger increases of 0.7 to 1.0 dB are expected to occur on the section of 18th Avenue north of Kilauea Avenue, and on the section of Diamond Head Road west of the studio. Despite these increases, traffic noise levels at the residential areas along 18th Avenue north of Kilauea Avenue and east of the studio along Diamond Head Road are expected to remain in the "Moderate Exposure, Acceptable" category. The smaller increases of 0.1 to

0.4 dB are expected to occur on the busier street sections of 18th Avenue fronting the project site and Diamond Head Road west of the studio, where the noise from non-project traffic is significantly greater than the noise from forecasted project traffic. For these reasons, traffic noise impacts from the expanded studio facility are not expected to be significant.

**CHAPTER VII. PREDICTED NOISE LEVELS FROM  
THE PROPOSED TECHNICAL BUILDING**

The proposed Technical Building is anticipated to house the facilities' mill and paint shop, where background scenes and props are expected to be fabricated. These work activities, which will involve the use of powered tools and machinery, are expected to generate noise levels in the order of 65 dB to 95 dB at the operator positions. Hearing damage criteria for any workplace is approximately 85 dB, and it is possible that noise levels in the workplace environment may ultimately be at or below the 85 dB level. However, it is not likely that equipment such as powered saws and nail drivers, or the noise from hammering will be quieted to levels below 85 dB in the near future. Therefore, it is reasonable to assume that noise levels in the Technical Building will occur within a band of values, of approximately 65 to 85 dB, with levels intermittently exceeding 85 dB.

The extent to which the noise from the proposed activities in the Technical Building leaks out to adjoining properties to the south depends upon the construction and openness of the building's envelope (exterior walls, doors, windows, and roof), and the setback distances to the property boundaries. It is possible to totally enclose a workplace to prevent the noise from escaping to the adjoining properties. However, considerations such as ventilation, material flow, and use of material transport vehicles can make total enclosure impractical.

The proposed Technical Building is sited approximately 105 FT from the south property boundary line, and in excess of 550 FT from the nearest classroom or residence to the north. Predicted noise levels at the south boundary are predicted to be less than 64 dB, for the condition of a naturally ventilated Technical Building. These predicted levels along the south boundary may exceed the State Department of Health and Honolulu Land Use Ordinance noise limits, but risks of adverse noise impacts to the



south are considered minimal due to the open space in that direction. At the nearest future classroom of the Kapiolani Community College, predicted noise levels range from 25 to 55 dB for the condition of a naturally ventilated Technical Building. Because of the planned location of the Sound Stage structures between the Technical Building and the noise sensitive properties to the north, risks of adverse noise impacts from the activities at the Technical Building are considered to be minimal toward the direction north from the facility.

## CHAPTER VIII. POSSIBLE NOISE MITIGATION MEASURES

Traffic volume and/or noise level increases associated with project traffic along the streets in the project environs are predicted to be moderate to insignificant. Along the section of 18th Avenue north of Kilauea Avenue, traffic noise increases associated with project traffic are predicted to be the greatest, primarily due to the relatively low current traffic volume on this roadway. However, in absolute terms, predicted traffic noise levels along this low volume street are expected to be in the "Moderate Exposure, Acceptable" noise exposure category, and noise mitigation measures are not considered mandatory by existing regulatory standards. The section of Diamond Head road west of the studio has noise levels which exceed current regulatory standards, but the area is non-residential and not considered to be noise sensitive.

Along the section of 18th Avenue fronting the project site, a single family residence is expected to be exposed to levels of 65 Ldn by CY 1996 as a result of project and non-project traffic noise increases of 0.4 and 0.3 Ldn, respectively (see Chapter VI). Because it is a single story residence, a possible mitigation measure which is capable of producing a minimum 3 dB (or 3 Ldn) reduction in traffic noise levels is the construction of a 6 FT high, sound attenuating wall along the property line fronting 18th Avenue. This wall may be constructed of CMU or any material which has a minimum surface weight of 5 pounds per square foot, as long as see-through openings or large cracks do not exist in the wall. However, because non-project traffic noise is expected to be the primary contributor (at least 91 percent) to total traffic noise at this residence, the costs of traffic noise mitigation measures should not be borne solely by the studio project.

Minimization of possible noise impacts from the noisy activities in the proposed Technical Building has been accomplished by

the proposed siting of the building in excess of 650 FT away from existing or proposed noise sensitive properties, and by the planned location of the Sound Stage structures between the Technical Building and the noise sensitive properties to the north.

#### APPENDIX A. REFERENCES

- (1) "Guidelines for Considering Noise in Land Use Planning and Control," Federal Interagency Committee on Urban Noise, June 1980.
- (2) "Environmental Criteria and Standards, Noise Abatement and Control, 24 CFR, Part 51, Subpart B," U.S. Department of Housing and Urban Development, July 12, 1979.
- (3) "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," Environmental Protection Agency, EPA 550/9-74-004), March 1974.
- (4) "Title 11, Administrative Rules, Chapter 43, Community Noise Control for Oahu," State Department of Health, November 6, 1981.
- (5) "Title 11, Administrative Rules, Chapter 42, Vehicular Noise Control for Oahu," State Department of Health, October 27, 1981.
- (6) Barry, T. and J. Reagan, "FHWA Highway Traffic Noise Prediction Model," FHWA-RD-77-108, Federal Highway Administration, Washington, D.C., December 1978.
- (7) Worksheets of existing and future traffic projections for Hawaii Film Facility traffic impact assessment report; Pacific Planning & Engineering, Inc.; November, 1988.



APPENDIX B

TEXT

EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table 1. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table 1.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table 1 was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E,....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the  $L_{Cdn}$  with the  $L_{Adn}$ .

Although not included in the tables, it is also recommended that "L<sub>PN</sub>" and "L<sub>EPN</sub>" be used as symbols for perceived noise levels and effective perceived noise level, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the

term "equivalent". Hence,  $L_{eq}$  is designated the "equivalent sound level". For  $L_d$ ,  $L_n$ , and  $L_{dn}$ , "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristic of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, dBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level ( $L_{PN}$  was found to be 75 dB.  $L_{PN} = 75$  dB.) This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighted Loss of Hearing" (PHL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

TABLE 1: A-Weighted Recommended Descriptor List

Term	Symbol
1. A-Weighted Sound Level	$L_A$
2. A-Weighted Sound Power Level	$L_{WA}$
3. Maximum A-Weighted Sound Level	$L_{max}$
4. Peak A-Weighted Sound Level	$L_{Apk}$
5. Level Exceeded x% of the time	$L_x$
6. Equivalent Sound Level	$L_{eq}$
7. Equivalent Sound Level over Time (T) (1)	$L_{eq}(T)$
8. Day Sound Level	$L_d$
9. Night Sound Level	$L_n$
10. Day-Night Sound Level	$L_{dn}$
11. Yearly Day-Night Sound Level	$L_{dn}(y)$
12. Sound Exposure Level	$L_{SE}$

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is  $L_{eq}(1)$ ). Time may be specified in non-quantitative terms (e.g., could be specified a  $L_{eq}(WASH)$  to mean the washing cycle noise for a washing machine.)

APPENDIX B (CONTINUED)  
TABLE 11: Recommended Descriptor List

TERM	A-WEIGHTING	ALTERNATIVE(1)		(2) UNWEIGHTED
		A-WEIGHTING	OTHER WEIGHTING	
1. Sound (Pressure) (3) Level	$L_A$	$L_{pA}$	$L_B, L_{pB}$	$L_p$
2. Sound Power Level	$L_{WA}$		$L_{WB}$	$L_W$
3. Max. Sound Level	$L_{max}$	$L_{Amax}$	$L_{Bmax}$	$L_{pmax}$
4. Peak Sound (Pressure) Level	$L_{Apk}$		$L_{Bpk}$	$L_{pk}$
5. Level Exceeded x% of the time	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$
6. Equivalent Sound Level	$L_{eq}$	$L_{Aeq}$	$L_{Beq}$	$L_{peq}$
7. Equivalent Sound Level Over Time(T) (4)	$L_{eq(T)}$	$L_{Aeq(T)}$	$L_{Beq(T)}$	$L_{peq(T)}$
8. Day Sound Level	$L_d$	$L_{Ad}$	$L_{Bd}$	$L_{pd}$
9. Night Sound Level	$L_n$	$L_{An}$	$L_{Bn}$	$L_{pn}$
10. Day-Night Sound Level	$L_{dn}$	$L_{Adn}$	$L_{Bdn}$	$L_{pdn}$
11. Yearly Day-Night Sound Level	$L_{dn(y)}$	$L_{Adn(y)}$	$L_{Bdn(y)}$	$L_{pdn(y)}$
12. Sound Exposure Level	$L_S$	$L_{SA}$	$L_{SB}$	$L_{Sp}$
13. Energy Average value over (non-time domain) set of observations	$L_{eq(e)}$	$L_{Aeq(e)}$	$L_{Beq(e)}$	$L_{peq(e)}$
14. Level exceeded x% of the total set of (non-time domain) observations	$L_x(e)$	$L_{Ax(e)}$	$L_{Bx(e)}$	$L_{px(e)}$
15. Average $L_x$ value	$L_x$	$L_{Ax}$	$L_{Bx}$	$L_{px}$

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,..... weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is  $L_{eq(1)}$ ). Time may be specified in non-quantitative terms (e.g., could be specified as  $L_{eq(WASH)}$  to mean the washing cycle noise for a washing machine).

- 0 -

# Appendix G

WATER SYSTEM  
FOR THE  
PROPOSED HAWAII FILM FACILITY  
KAPAHULU, HONOLULU, OAHU, HAWAII

TMK: 3-1-42:9

Prepared by:

Engineering Concepts, Inc.  
250 Ward Avenue, Suite 206  
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December 1988



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## INTRODUCTION

The State Department of Business and Economic Development is proposing to expand the existing Diamond Head Film Studio adjacent to the Kapiolani Community College (KCC) campus. Expansion of this film studio to a state-of-the-art facility will increase the attractiveness of filming in Hawaii while diversifying the employment base. The site encompasses approximately 7.5 acres on the mauka-ewa corner of Diamond Head Road and 18th Avenue (see Figure 1). Ground elevations at the proposed film facility range from 85 feet fronting 18th Avenue to 130 feet toward the KCC campus.

The film facility will be composed of three sound stages (including one existing), support buildings (office space for script writers and administrative staff, dressing and makeup areas, wardrobe work room), and a technical building (equipped to build sets).

The film facility will be equipped to accommodate up to three production companies (with a maximum of 100 employees each) and 250 studio audience members. It is estimated that production companies will spend 80 percent of the time away from the site, filming on location. Studio audiences, when required, will be present for only a few hours at a time. Therefore, the maximum number of people present at the site will be approximately 300 over the course of a normal working day. For the majority of the time, the working force will vary between 5 and 100 persons.

## PURPOSE AND SCOPE

The purpose of this report is to present the proposed water system plan for the Hawaii Film Facility. This proposed plan is based on existing conditions and water demand requirements.

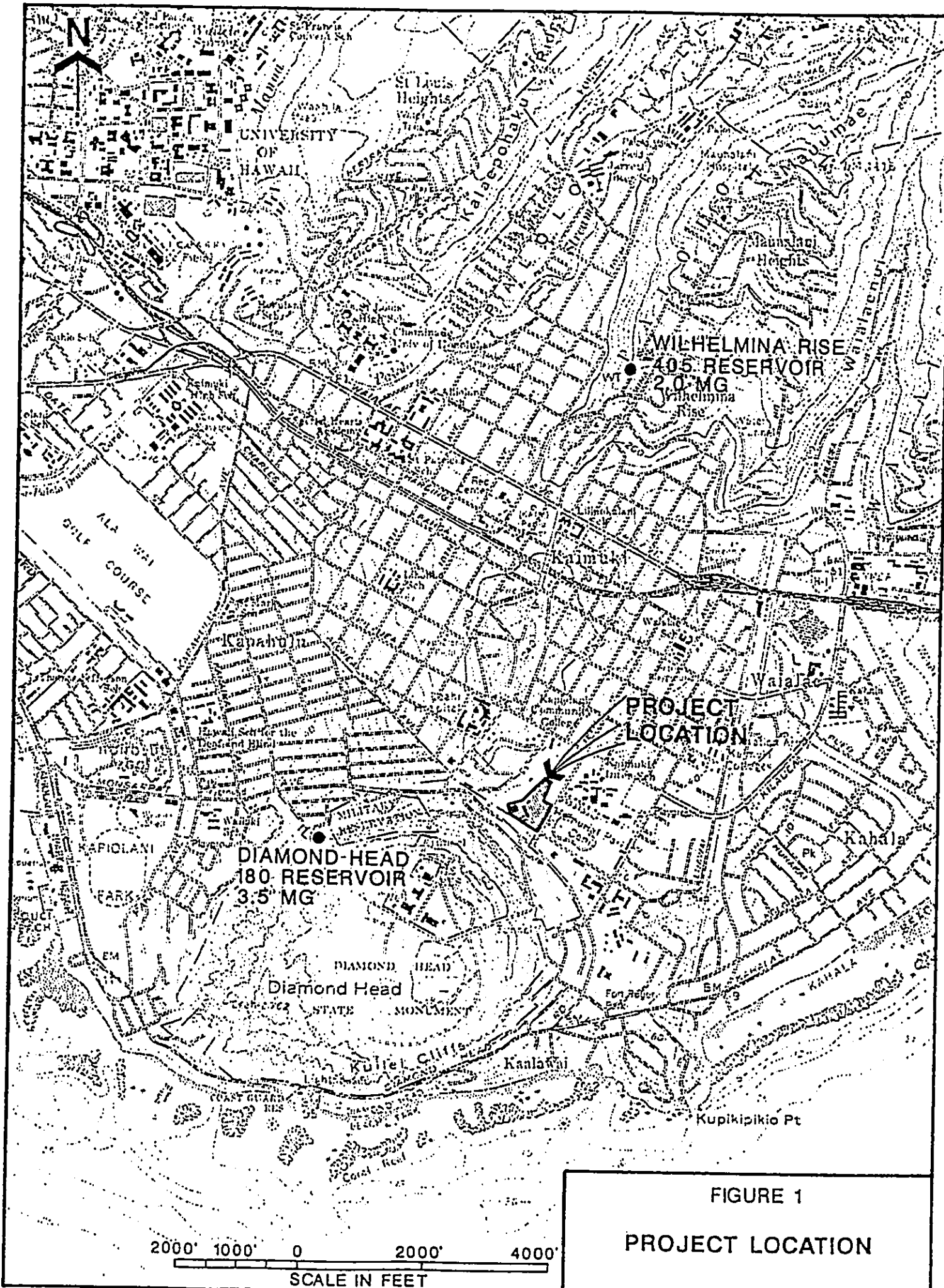


FIGURE 1  
PROJECT LOCATION

## EXISTING CONDITIONS

The existing water distribution system in the vicinity of the project site is operated and maintained by the Board of Water Supply (BWS). The distribution system is currently divided into two service areas designated "low service" and "high service." The boundary between the two service areas is located at an elevation of approximately 80 feet (see Figure 2).

Diamond Head reservoir provides service to the lower area between elevations 0 and 80 feet. The reservoir has 3.5 MG capacity and spillway elevation at 180 feet (see Figure 1 for reservoir location). A six-inch low service water line is located along 18th Avenue from Kilauea Avenue to Iwalani Street, in the vicinity of the project site. Diamond Head Mortuary and Kaimuki Intermediate School are neighboring properties that utilize the low service system for their domestic water needs.

The high service system in the vicinity of the project site is part of the BWS 405 system. All reservoirs with spillway elevation of 405 feet from Kalihi to Kaimuki are interconnected, providing the storage capacity for this system. Wilhelmina Rise reservoir no. 1 (2.0 MG storage capacity) is the closest 405 reservoir to the project site, servicing areas between elevation 80 and 305 feet. High service water mains from Wilhelmina Rise reservoir no. 1 are located along Koko Head Avenue, 12th Avenue, and Alohea Avenue to Diamond Head Road. A 12-inch main along Diamond Head Road at 18th Avenue is the closest connection point to the project site. Kapiolani Community College's Diamond Head Campus, adjacent to the project site, taps off the high service system for its water supply.

Due to ground elevations at the proposed film facility site ranging from 85 to 130 feet, connection to the high service system is required.

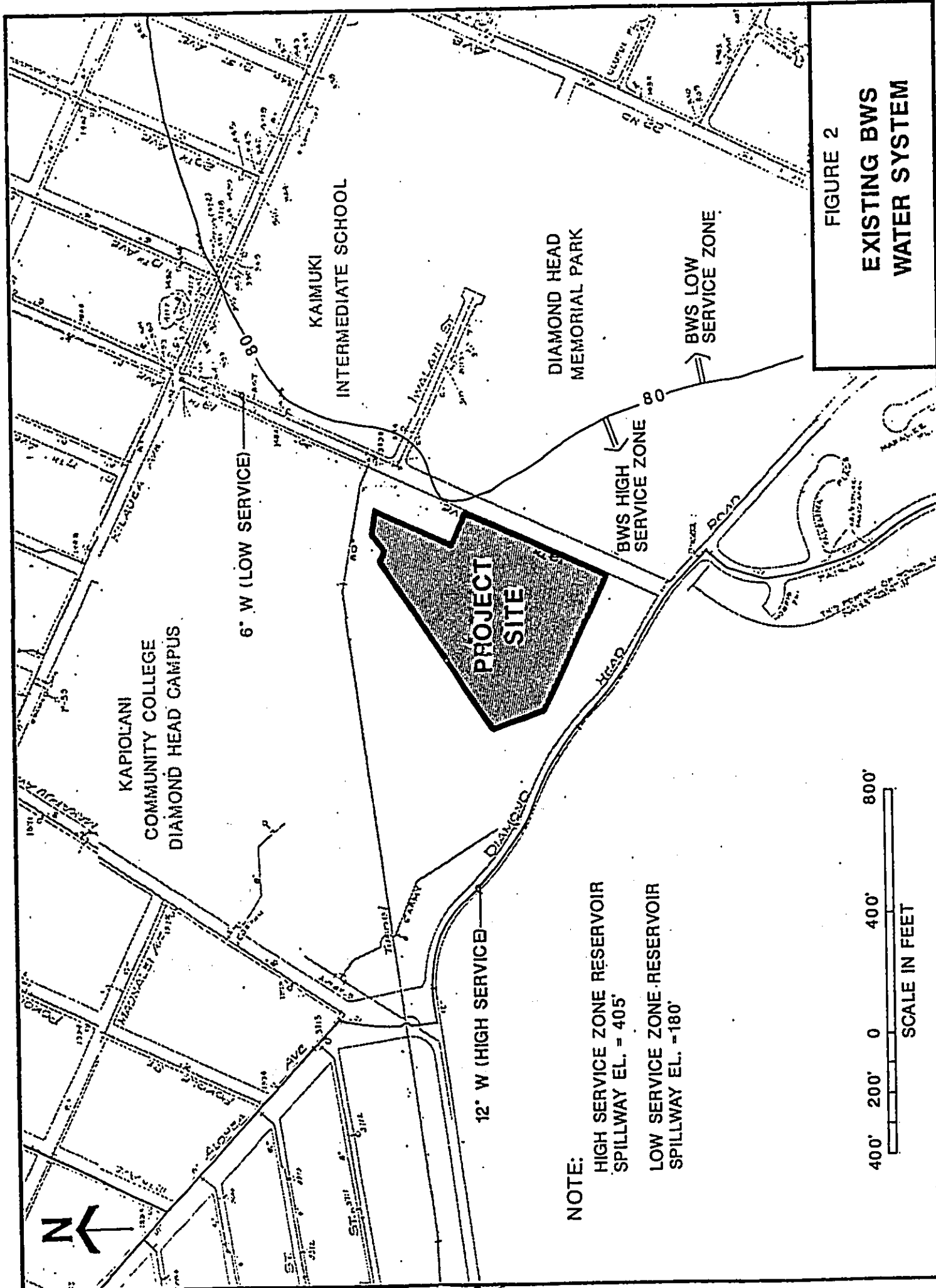


FIGURE 2  
EXISTING BWS  
WATER SYSTEM

NOTE:  
HIGH SERVICE ZONE RESERVOIR  
SPILLWAY EL. = 405'  
LOW SERVICE ZONE RESERVOIR  
SPILLWAY EL. = 180'

400' 200' 0 400' 800'  
SCALE IN FEET

## WATER REQUIREMENTS

Calculations of domestic water demand and fire flow requirements for the proposed film facility are based on the BWS Water System Standards, Volume 1 (1985).

The proposed film facility can be considered a commercial use. According to the BWS Water System Standards, the average domestic water demand (including irrigation) for commercial areas is 3,000 gallons per acre per day (gpad). The project site is situated over approximately 7.5 acres. Based on 6 acres of commercial area (not including parking areas), the estimated average domestic water demand for the project is 20,000 gpd.

Fire flow requirements for the proposed film facility are based on requirements for schools, neighborhood businesses, small shopping centers, hotels, and high-rise apartments since there are no specific requirements for film facilities. The BWS Water System Standards has a fire flow requirement of 2,000 gpm over a two-hour duration for the above designated land uses. Based on fire flow requirements, the calculated storage volume in case of a fire at the site is 240,000 gallons. Fire hydrants should be spaced at 250-foot intervals, with the last hydrant located at one-half the spacing distance (125 feet) from the last structure.

## PROPOSED WATER SYSTEM

The proposed water system plan for the film facility includes:

1. Connection to an existing 12-inch water main on Diamond Head Road at the intersection with 18th Avenue to convey high service water to the site.

2. Installation of two individual water lines within the project site, one for domestic use and irrigation and the second for fire flow.
3. Installation of a water meter and detector check on the domestic water line and fire line respectively.

Components of the proposed water system are illustrated on Figure 3.

### IMPACTS AND MITIGATION

Impacts due to construction of the proposed water system may include the following:

1. Traffic disturbance on Diamond Head Road and 18th Avenue. Construction of the offsite waterline may cause temporary inconveniences to pedestrians and motorists traveling on these streets. Any construction impact will be short term and can be minimized by implementation of an approved traffic control plan. Other mitigative measures are limitations on construction to off-peak traffic hours and coordination of construction with future roadway improvements planned for 18th Avenue.
2. Increased burden on BWS water system. An additional 20,000 gpd is estimated to be required for the proposed film facility for domestic use (including irrigation). In addition, fire demand requires a storage volume of 240,000 gallons. The increase in water demand and storage requirement due to the proposed project is insignificant compared to the requirements of the BWS high service system in the vicinity of the project site. The high service system, serviced by a battery of reservoirs from Kalihi to Kaimuki, should be sufficient to meet the demand and storage requirement created by the proposed development.





YAFOLAH COMMUNITY COLLEGE

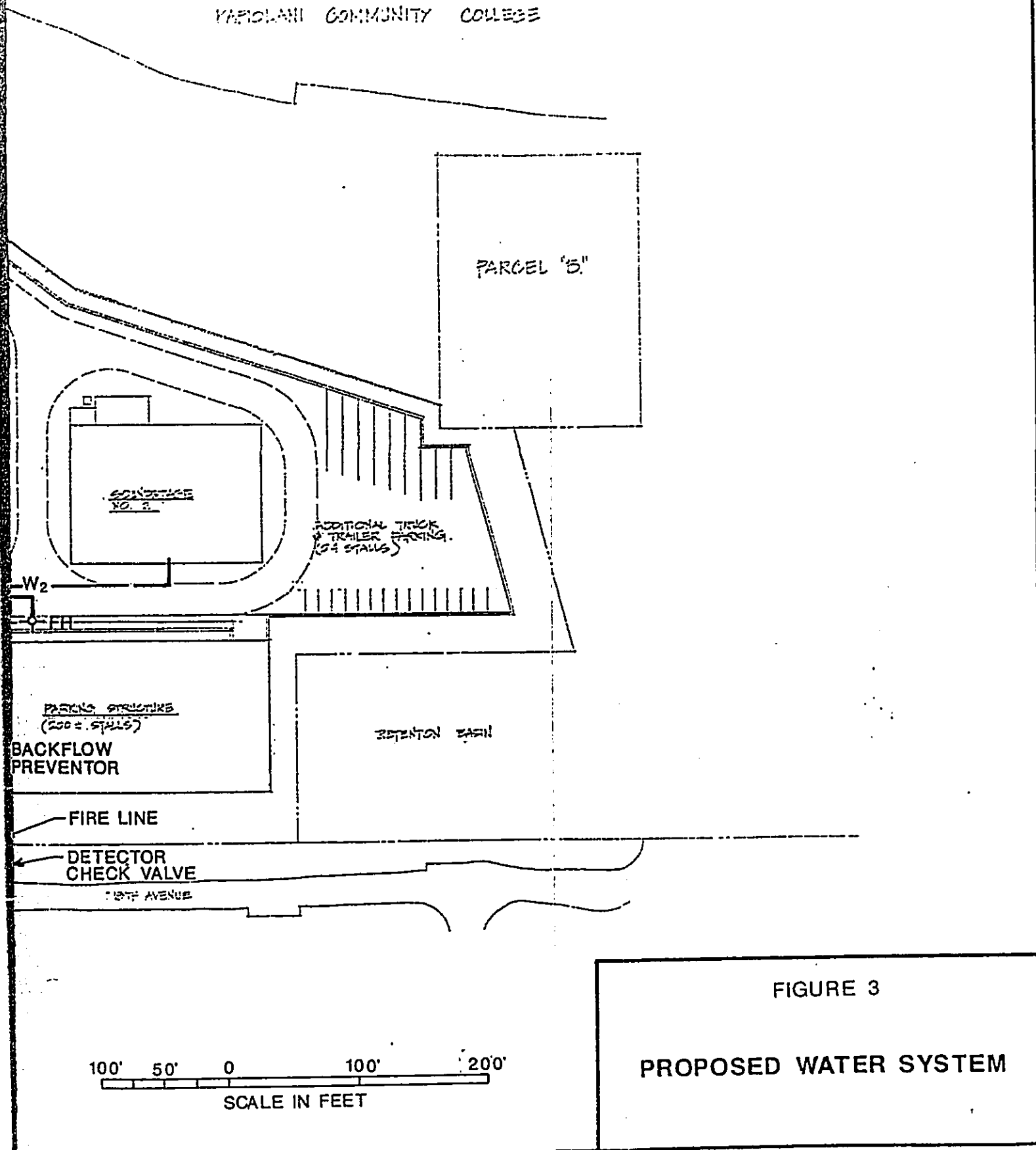


FIGURE 3

PROPOSED WATER SYSTEM

# Appendix H

**DRAINAGE SYSTEM**  
**FOR THE**  
**PROPOSED HAWAII FILM FACILITY**  
**KAPAHULU, HONOLULU, OAHU, HAWAII**  
**TMK: 3-1-42:9**

Prepared by:

Engineering Concepts, Inc.  
250 Ward Avenue, Suite 206  
Honolulu, Hawaii 96814

December 1988

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## INTRODUCTION

The State Department of Business and Economic Development is proposing to expand the existing Diamond Head Film Studio adjacent to the Kapiolani Community College (KCC) campus. Expansion of this film studio to a state-of-the-art facility will increase the attractiveness of filming in Hawaii while diversifying the employment base. The site encompasses approximately 7.5 acres on the mauka-ewa corner of Diamond Head Road and 18th Avenue (see Figure 1).

The film facility will be composed of three sound stages (including one existing), support buildings (office space for script writers and administrative staff, dressing and makeup areas, wardrobe work room), and a technical building (equipped to build sets).

The film facility will be equipped to accommodate up to three production companies (with a maximum of 100 employees each) and 250 studio audience members. It is estimated that production companies will spend 80 percent of the time away from the site, filming on location. Studio audiences, when required, will be present for only a few hours at a time. Therefore, the maximum number of people present at the site will be approximately 300 over the course of a normal working day. For the majority of the time, the working force will vary between 5 and 100 persons.

## PURPOSE AND SCOPE

The purpose of this report is to present the proposed drainage system plan for the Hawaii Film Facility. This proposed plan is based on existing conditions and estimated runoff quantities after development.

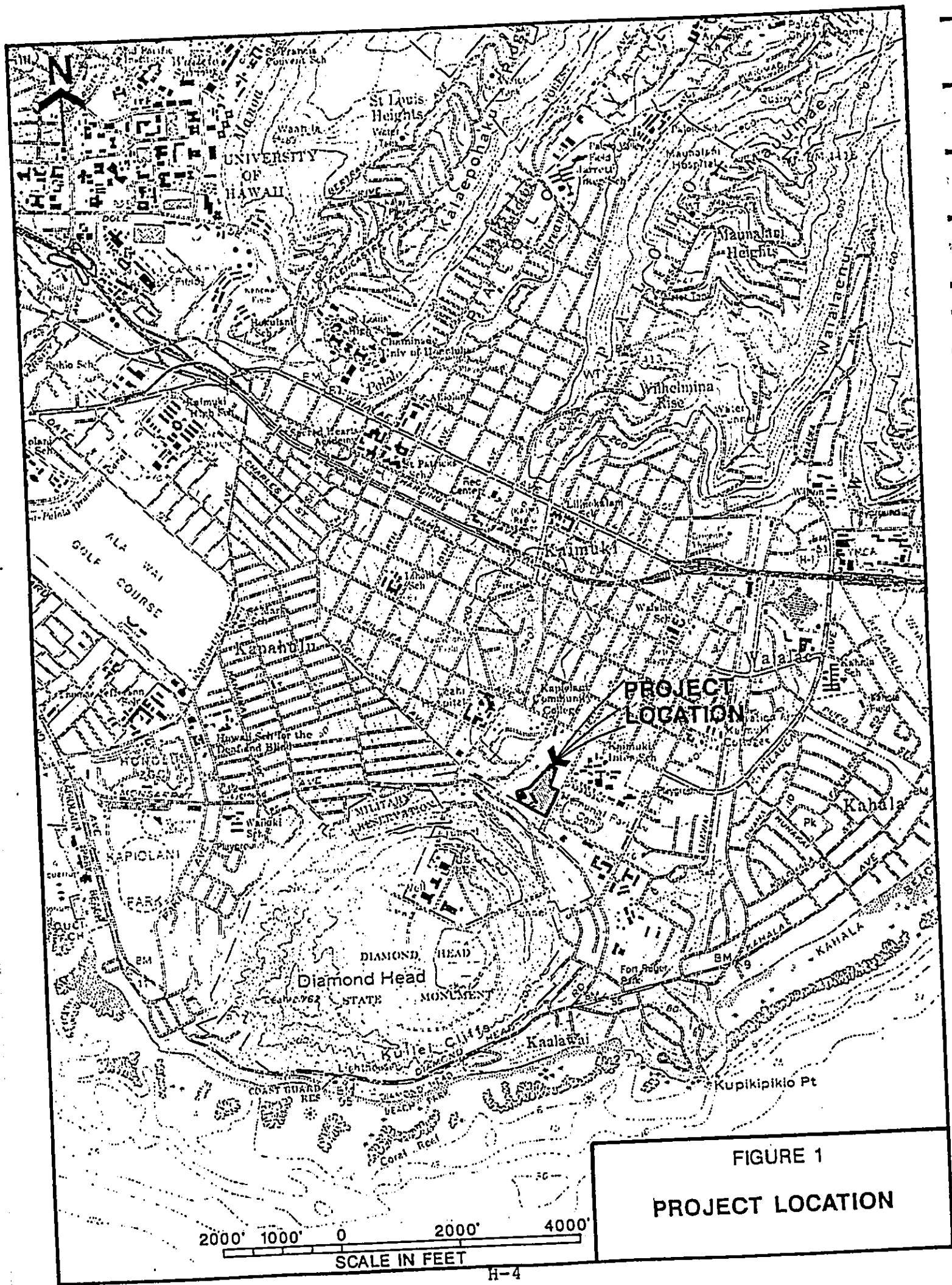


FIGURE 1  
PROJECT LOCATION

## EXISTING CONDITIONS

### Film Facility

The present film facility occupies the western side of this project site. Major structures include one soundstage, six cottages (used for offices), one mill, one separate on-grade executive parking area, and one covered parking garage. The present access to the site is an AC road located in the southern corner of the project site.

### Topographic Conditions

The project site of approximately 7.5 acres slopes moderately at about 5 to 20 percent. Ground elevations range from 85 feet above mean sea level (MSL) fronting 18th Avenue to 130 feet toward the KCC campus. Grass and weeds dominate most of the undeveloped area. A few kiawe trees are scattered throughout the site. The areas around the existing buildings have limited landscaping of wiliwili, kiawe, and eucalyptus. Two large piles of rock are located within the project site. The larger pile, approximately 200 feet long by 50 feet wide by 6 feet high, is located near 18th Avenue next to the offsite retention basin. A second, smaller pile of rocks about 40 feet long by 30 feet wide by 5 feet high is located near the onsite trapezoidal earth ditch. Location of the rock piles near excavated areas suggest they are stockpiles of excavated material.

### Climate

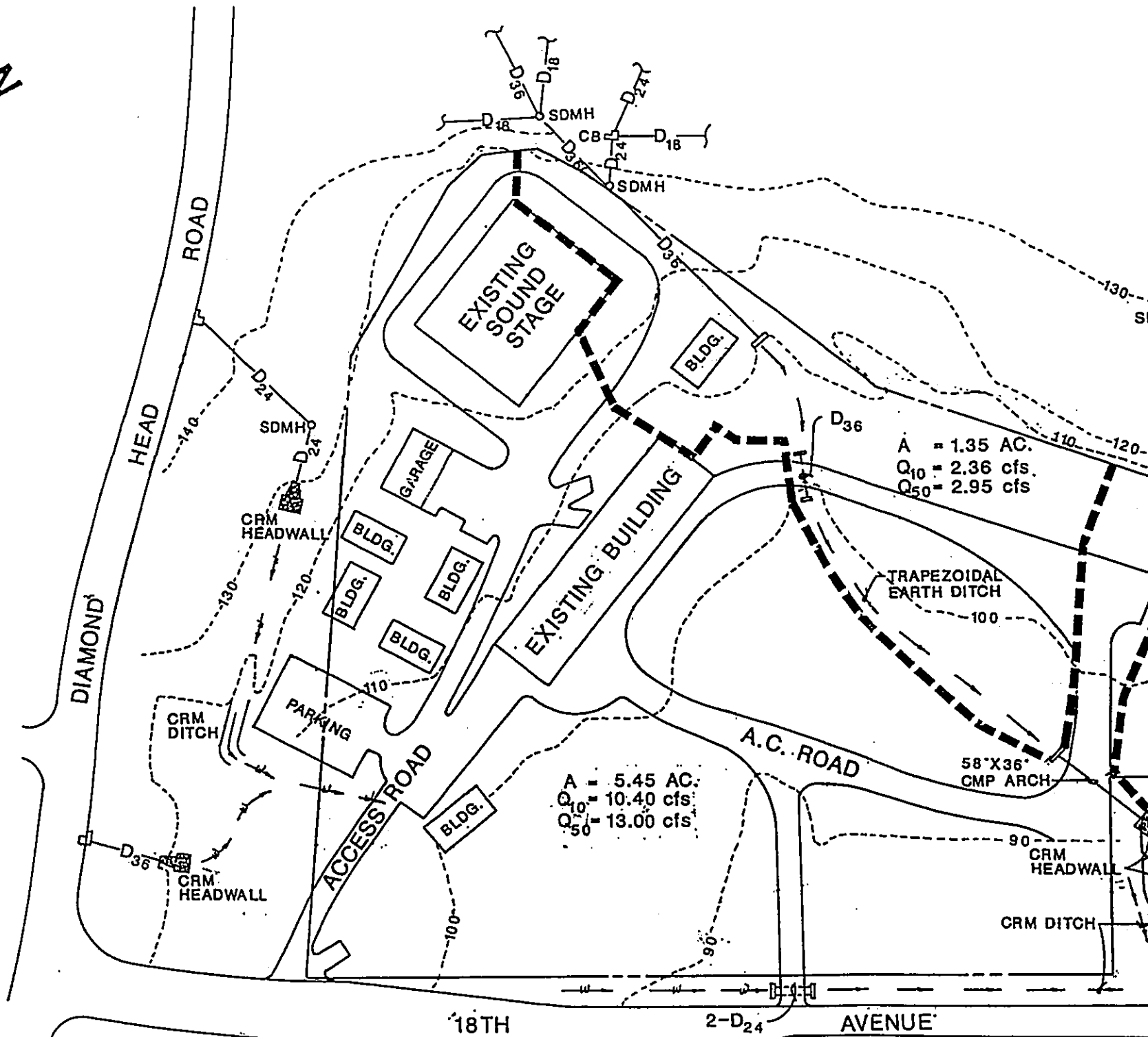
The average annual temperature at the site is 76 degrees F, with an average temperature of 71.9 degrees F in the coolest month and 80.6 degrees F in the warmest month. The average annual rainfall is about 25 inches. Winds prevail from the northeast.

### Onsite Runoff

Runoff generated within the project site is ultimately discharged into the inlet of an existing City and County of Honolulu 36-inch drain located along 18th Avenue (see Figure 2). Onsite runoff reaches the 18th Avenue drain by one of the following routes:

1. Overland flow into an offsite retention basin. The retention basin adjacent to the project site is approximately 70 feet wide by 190 feet long by 5 feet deep. Total storage volume of the basin is about 66,500 cubic feet. The retention basin services the project site and KCC campus. Under present conditions, the maximum storage required is about 17,150 cubic feet for a 10-year storm. Thus, the basin has about 49,350 cubic feet of additional storage capacity. Runoff is discharged into the 18th Avenue drain at a reduced rate due to the dampening effect of the basin. Runoff from approximately 0.7 acres within the site flows directly into the retention basin (0.5 acres via overland flow, 0.2 acres via drainage swale).
2. Overland flow into a trapezoidal earth ditch bisecting the site. The earth ditch intercepts runoff from approximately 1.35 acres within the site and directs it to the offsite retention basin. The ditch also accepts runoff from the KCC campus via a 36-inch drain originating offsite within the KCC campus. Total length of this ditch system is about 490 linear feet, including a 35-foot segment of 36-inch reinforced concrete pipe and a 95-foot segment of 58-inch by 36-inch corrugated metal pipe (CMP) arch.
3. Overland flow into an offsite swale/ditch along 18th Avenue. Runoff is collected within the shoulder of 18th Avenue, bordering the project site,



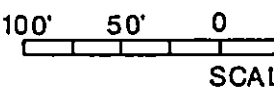


A = 1.35 AC.  
Q<sub>10</sub> = 2.36 cfs.  
Q<sub>50</sub> = 2.95 cfs

A = 5.45 AC.  
Q<sub>10</sub> = 10.40 cfs.  
Q<sub>50</sub> = 13.00 cfs

**LEGEND:**

-  DRAINAGE AREA BOUNDARY
-  FLOW PATTERN



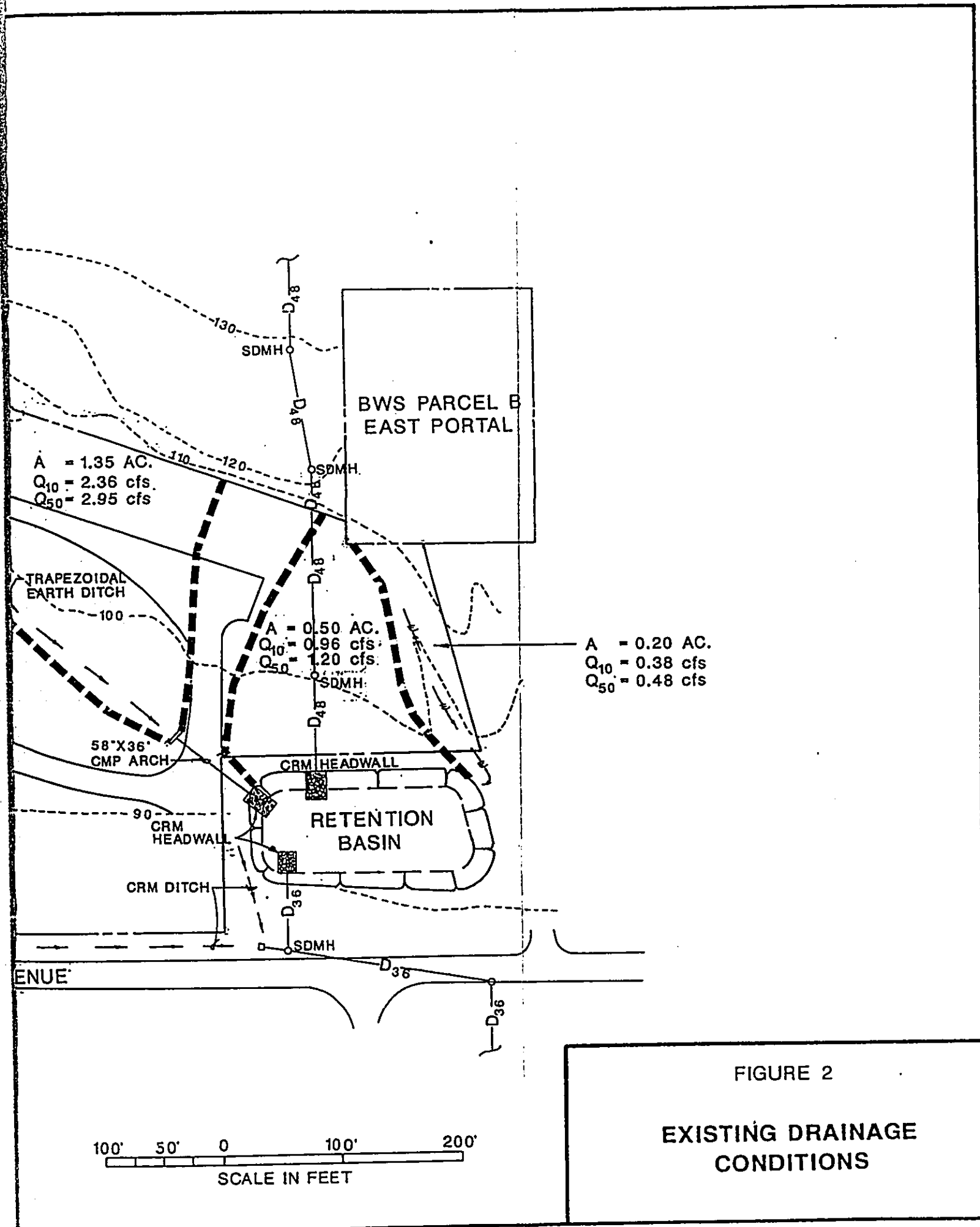


FIGURE 2  
EXISTING DRAINAGE  
CONDITIONS

by a swale and CRM ditch in series. A culvert consisting of two 24-inch pipes enables an existing road to cross the CRM ditch. Runoff generated onsite flows overland into this offsite swale and ditch and is transported to and discharged into an inlet of the 36-inch 18th Avenue drain. Runoff from approximately 5.45 acres within the project site is intercepted by the 18th Avenue swale/ditch.

Based on the Rational Method, the existing runoff from the site is estimated to be 14.1 cfs for the 10-year storm and 17.6 cfs for the 50-year storm. Approximately one-fourth of the onsite runoff will be discharged into the offsite retention basin and three-fourths will flow directly into the 18th Avenue swale/ditch.

#### Offsite Runoff

Runoff from KCC and adjacent state-owned lands between the project site and Diamond Head Road currently traverses the project site before ultimate discharge into the existing 36-inch 18th Avenue drain. Sources of offsite runoff entering the project site are--

1. KCC drain. A 36-inch drain from KCC discharges from an onsite outlet to the upstream end of the onsite trapezoidal earth ditch. The ditch directs onsite and offsite runoff to the retention basin and, ultimately, to the 18th Avenue drain.
2. Overland flow from KCC. Runoff from KCC traverses the northern portion of the site until it is intercepted by the onsite trapezoidal earth ditch. Once in the ditch, runoff is directed to the offsite retention basin for release into the 18th Avenue drain.

3. Overland flow from the area between the project site and Diamond Head Road. Runoff from the area between the project site and Diamond Head Road is presently directed toward the project site via a CRM ditch and drainage swales. The swales converge and discharge over the existing entry road into the site. Runoff then traverses the southern portion of the site from the entry road toward the offsite swale/ditch along 18th Avenue. The ditch directs runoff to the 18th Avenue drain.

## CONDITIONS AFTER DEVELOPMENT

### Proposed Modifications

The following drainage improvements are proposed for the project site and surrounding areas (see Figure 3). These modifications are necessary for development of the project site.

1. Construction of an onsite drainage system to collect runoff generated onsite and diversion to the retention basin.
2. Construction of an offsite inlet with a concrete apron to collect runoff from the area between the project site and Diamond Head Road and diversion to the retention basin.
3. Construction of a perimeter drain on the KCC side of the site to capture runoff presently traversing the site and entering the trapezoidal earth ditch, and diversion directly to the retention basin.
4. Excavation of the retention basin to increase its effective volume.



KAPOLANI COMMUNITY COLLEGE

N

CONNECT TO  
EXIST. DMH

FARCEL 'D'

CONNECT TO  
EXIST. DMH

CONCRETE  
NO. 2

ADDITION  
& TRILER  
FOR STALLS

EXIST. D<sub>48</sub>

PARKING STRUCTURE  
(200 ± SPACES)

RESTROOM BLDG

9TH AVENUE

DMH



FIGURE 3  
PROPOSED DRAINAGE  
IMPROVEMENTS

5. Adjustment of an existing 48-inch drain to accommodate the proposed truck and trailer parking area grading.

#### Future Runoff

The volume of runoff generated onsite is expected to increase after development due to the increase in impervious areas within the site. The runoff potential from the site after development is approximately 26.1 cfs for the 10-year storm and 32.5 cfs for the 50-year storm. After development, approximately three-fourths of the onsite runoff will discharge into the retention basin and one-fourth will flow to the 18th Avenue swale/ditch.

The volume of runoff entering the site from offsite areas should be reduced significantly due to installation of inlets along the perimeter of the site to intercept runoff. Location of the inlets will be coordinated with KCC. The onsite drainage system will be designed to transport the intercepted runoff to the offsite retention basin.

#### **IMPACTS AND MITIGATION**

Potential impacts due to construction of the proposed drainage improvements are--

1. Increased runoff volume to the offsite retention basin. After development, the volume of runoff to the offsite retention basin is expected to increase due to rerouting runoff to the basin via the onsite drainage system (see Table 1). Onsite runoff discharged into the retention basin has the potential to increase by about 16 cfs for the 10-year storm and 20 cfs for the 50-year storm. However, the project site is only about 10 percent of the total drainage area served by the retention basin. Any increase in runoff volume to the basin will be offset by excavation to increase the storage volume. It is estimated that

**TABLE 1**  
**RUNOFF FROM PROJECT SITE BEFORE AND AFTER DEVELOPMENT**

	Runoff to Retention Basin	Runoff to 18th Ave. Swale/Ditch	Total Onsite Runoff
Existing Conditions	A = 2.05 acres Q <sub>10</sub> = 3.70 cfs Q <sub>50</sub> = 4.63 cfs	A = 5.45 acres Q <sub>10</sub> = 10.4 cfs Q <sub>50</sub> = 13.0 cfs	A = 7.5 acres Q <sub>10</sub> = 14.1 cfs Q <sub>50</sub> = 17.6 cfs
After Development	A = 5.05 acres Q <sub>10</sub> = 19.4 cfs Q <sub>50</sub> = 24.2 cfs	A = 2.45 acres Q <sub>10</sub> = 6.66 cfs Q <sub>50</sub> = 8.33 cfs	A = 7.5 acres Q <sub>10</sub> = 26.1 cfs Q <sub>50</sub> = 32.5 cfs



excavation of 40,000 cubic feet (3-foot depth) will be required to offset the increased runoff from a 10-year storm. Excavation to widen the sump will not affect the outlet head or discharge characteristics due to the location of the basin outlet in a sump below the floor of the basin. The total volume of runoff discharged to the 18th Avenue drain is expected to increase slightly; however, the rate of discharge can remain at existing levels and is not expected to have a negative impact on the capacity of the existing 18th Avenue drain.

2. Reduction of runoff rate to 18th Avenue swale/ditch. The proposed onsite drainage system will intercept runoff generated northwest of the proposed support building complex and parking structure. Intercepted runoff will be discharged into the retention basin. Consequently, runoff directed to the 18th Avenue swale/ditch may be reduced by 36 percent after development of the onsite drainage system.

## REFERENCES

1. Imata & Associates, Inc., Drainage Report for Kapiolani Community College - Phase III. Sitework and Buildings F and G, Prepared for Department of Accounting and General Services, State of Hawaii, May 1986.
2. Robert M. Matsushita and Assoc., Architects, Kapiolani Community College, Fort Ruger Campus Master Plan Report, Prepared for Department of Accounting and General Services, State of Hawaii, and University of Hawaii.

# Appendix I

**WASTEWATER COLLECTION SYSTEM  
FOR THE  
PROPOSED HAWAII FILM FACILITY  
KAPAHULU, HONOLULU, OAHU, HAWAII**

**TMK: 3-1-42:9**

**Prepared by:**

**Engineering Concepts, Inc.  
250 Ward Avenue, Suite 206  
Honolulu, Hawaii 96814**

**December 1988**

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## INTRODUCTION

The State Department of Business and Economic Development is proposing to expand the existing Diamond Head Film Studio adjacent to the Kapiolani Community College (KCC) campus. Expansion of this film studio to a state-of-the-art facility will increase the attractiveness of filming in Hawaii while diversifying the employment base. The site encompasses approximately 7.5 acres on the mauka-ewa corner of Diamond Head Road and 18th Avenue (see Figure 1). Ground elevations at the proposed film facility range from 85 feet fronting 18th Avenue to 130 feet toward the KCC campus.

The film facility will be composed of three sound stages (including one existing), support buildings (office space for script writers and administrative staff, dressing and makeup areas, wardrobe work room), and a technical building (equipped to build sets).

The film facility will be equipped to accommodate up to three production companies (with a maximum of 100 employees each) and 250 studio audience members. It is estimated that production companies will spend 80 percent of the time away from the site, filming on location. Studio audiences, when required, will be present for only a few hours at a time. Therefore, the maximum number of people present at the site will be approximately 300 over the course of a normal working day. For the majority of the time, the working force will vary between 5 and 100 persons.

## PURPOSE AND SCOPE

The purpose of this report is to present the proposed wastewater collection system plan for the Hawaii Film Facility. This proposed plan is based on existing conditions and projected wastewater flow rates.

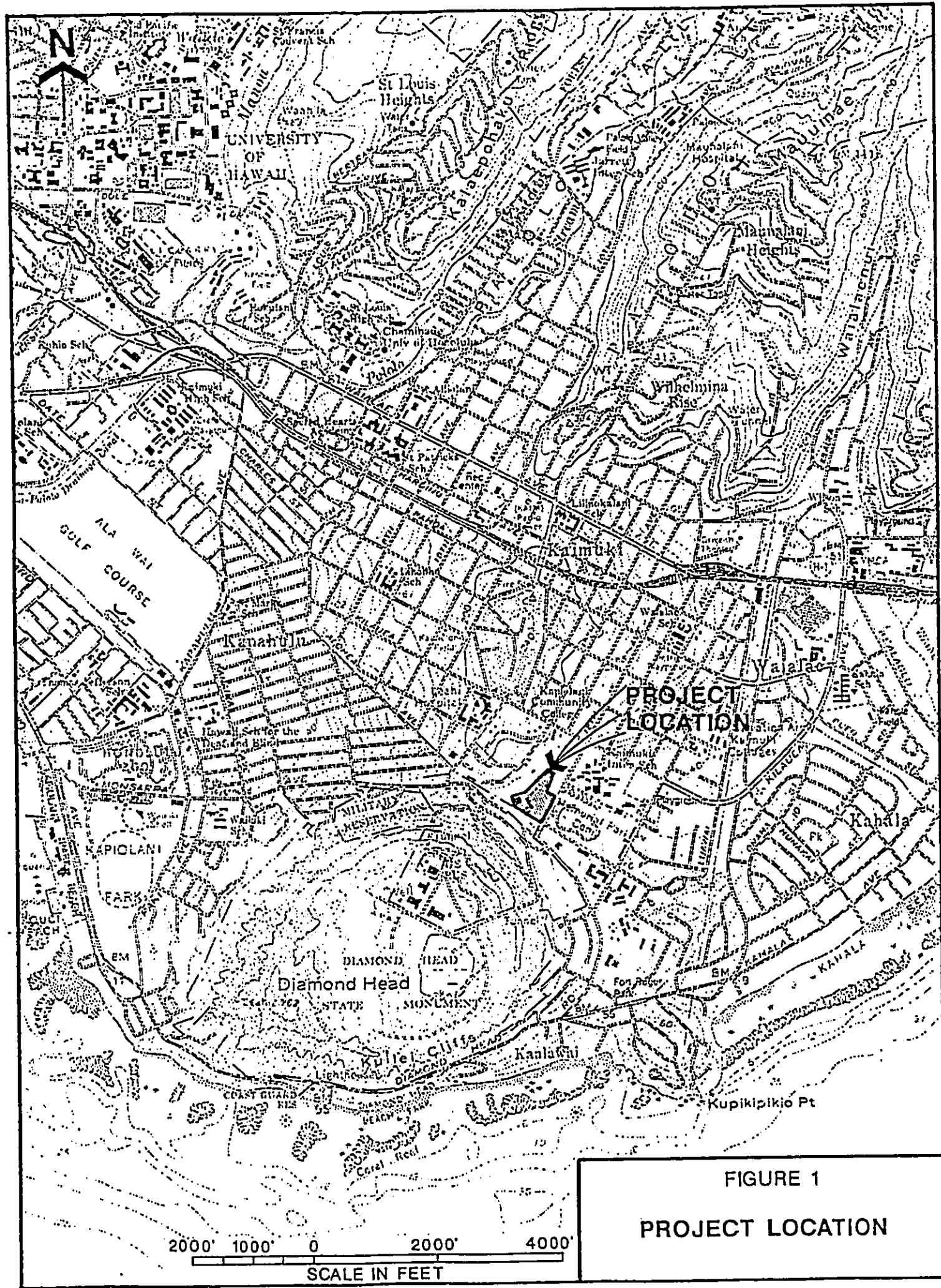


FIGURE 1  
PROJECT LOCATION

## EXISTING CONDITIONS

The project site is within the service area of the existing City and County sewerage system. An existing 8-inch sewer, constructed by the U.S. Army and turned over to the State, traverses the makai portion of the project site. The State sewer transports wastewater from the KCC campus to the City and County sewer in 18th Avenue.

The City and County sewer is an 8-inch vitrified clay pipe sewer located along 18th Avenue fronting the project site. The existing State sewer discharges into this City and County sewer at SMH #72, located near the southeastern corner of the project site. The City and County sewer runs northeast on 18th Avenue from SMH #72 toward Kaimuki Intermediate School to Kilauea Avenue. The sewer travels southeast on Kilauea Avenue, cuts across residential lots on 20th, 21st, and 22nd avenues to Luawai Street, then crosses under the H-1 freeway to the existing City and County deep sewer tunnel. Wastewater collected is ultimately conveyed to the Sand Island Wastewater Treatment Plant for treatment and disposal.

## PROJECTED WASTEWATER FLOWS

The estimated average wastewater flow from the project site is 9,000 gpd, based on a maximum of 300 persons present at the site over the course of a normal working day. Separate restroom facilities for a studio audience will not be required.

Wastewater generated at the project site will be of typical domestic composition, from the following sources:

1. Support Building Complex: Showers, toilets, urinals, lavatories, heavy-duty washers, and hair washing sinks



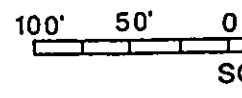
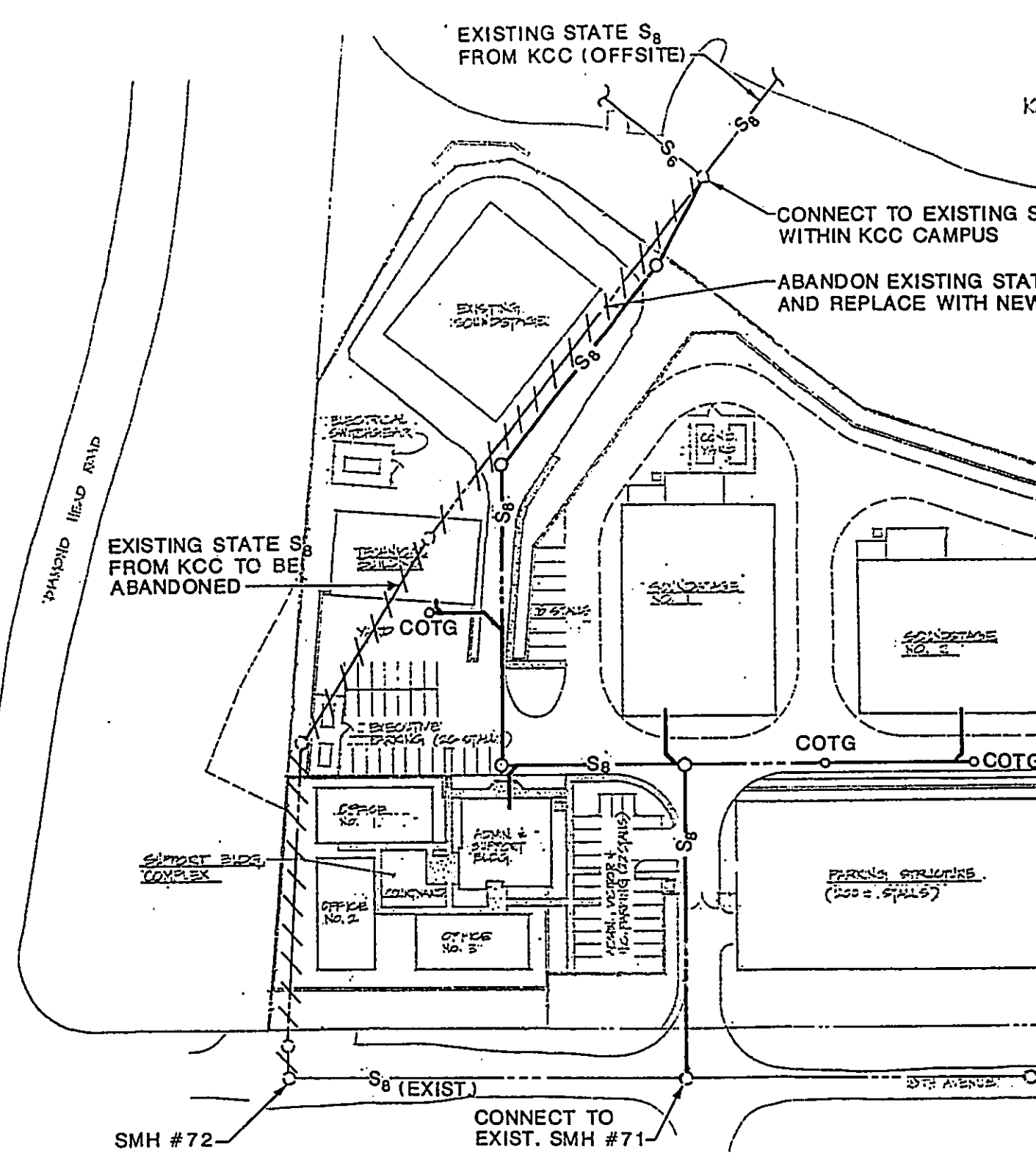
2. Soundstage No. 1: Showers, toilets, urinals, lavatories, drinking fountains and service sinks
3. Soundstage No. 2: Drinking fountains and service sinks
4. Technical Building: Drinking fountain, service sinks, eyewash, and deluge shower

### PROPOSED WASTEWATER COLLECTION SYSTEM

The proposed wastewater collection system for the project is illustrated on Figure 2 and includes--

1. Abandonment of a portion of the existing 8-inch State sewer through the site;
2. Construction of a new onsite 8-inch sewer to replace the existing State sewer. Connection of the new sewer to the existing State sewer is proposed by modification to an existing SMH near the northeastern corner of the existing soundstage within the KCC campus; and
3. Connection to the existing City and County sewer at SMH #71 located at the future intersection of the project access road and 18th Avenue. A modification to SMH #71 is necessary to channelize the flows.

Implementation of the proposed improvements is subject to approval from the City and County of Honolulu Division of Wastewater Management. An Application for Sewer Connection will be submitted, at which time the City and County will evaluate the capacity of the existing sewerage system to accommodate the expected waste-



KAPOLANI COMMUNITY COLLEGE

CONNECT TO EXISTING SMH  
WITHIN KCC CAMPUS

ABANDON EXISTING STATE SEWER  
AND REPLACE WITH NEW S<sub>8</sub>

PARCEL "B"

CONDENSATE  
NO. 2

ADDITIONAL TRUCK  
& TRAILER PARKING  
(24 STALLS)

COTG

COTG

PARKING STRUCTURE  
(200 ± STALLS)

RETENTION BASIN

575 AVENUE

S<sub>8</sub>

(EXIST.)



FIGURE 2

EXISTING AND PROPOSED  
WASTEWATER  
COLLECTION SYSTEM

water flow from the project site. The approved sewer connection application is valid for one year.

The proposed wastewater collection system will be operated and maintained by the State.

### **IMPACTS AND MITIGATION**

Impacts due to construction of the proposed wastewater system may include the following:

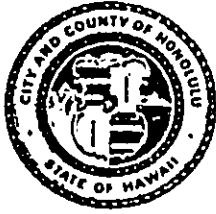
1. Traffic disturbance on 18th Avenue. Connection of the onsite sewer to the 18th Avenue sewer at SMH #71 and modification to SMH #71 may cause temporary inconveniences to pedestrians and motorists. Any construction impact will be short-term and can be minimized by implementation of an approved traffic control plan. Other mitigative measures are limitations on construction to off-peak traffic hours and coordination of construction with future roadway improvements planned for 18th Avenue.
2. Increased burden on the City and County wastewater collection and treatment facilities. The additional 9,000 gpd average wastewater flow from the project site should have an insignificant effect on the capacity of the Sand Island treatment facility. An Application for Sewer Connection has been submitted to the Division of Wastewater Management to evaluate the adequacy of the city's collection system to handle the additional flows. If the City and County system is not adequate, a possible mitigative measure is participation in improving the system to increase its capacity.

3. Replacement of existing 8-inch state sewer from KCC. Improvements to the KCC campus include construction of a new sewerage system. The proposed replacement of the portion of the State sewer traversing the project site will be the final leg in renovation of the KCC sewers. Construction of a new sewer to transport wastewater to the City and County system is a positive impact.

# Appendix J

DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813 • (808) 523-4432



FRANK F FASI  
MAYOR

JOHN P WHALEN  
DIRECTOR

BENJAMIN B. LEE  
DEPUTY DIRECTOR

LUB/88-5744(IM)

September 7, 1988

Mr. Robert A. Luersen, AIA  
Johnson, Tsushima, Luersen, Lowrey  
1001 Bishop Street  
Pauahi Tower, Suite 750  
Honolulu, Hawaii 96813

SEP 8 1988  
JOHNSON TSUSHIMA  
LUERSEN LOWREY INC

Dear Mr. Luersen:

Proposed State of Hawaii Film Studio Facility

This is in reply to your recent inquiry on behalf of the State Departments of Business and Economic Development (DBED) and Accounting and General Services (DAGS).

You indicated that the Film Industry Branch of DBED is proposing to build a new film studio facility on a portion of the Kapiolani Community College, Diamond Head Campus. The land is owned by the State of Hawaii and construction will be through DAGS. The facility will be owned by the State of Hawaii and the private sector will provide management services on behalf of the State.

Based on your description, we have determined that the proposed film studio facility is a public use as defined in Article 9, "Public Use and Structures" of the Land Use Ordinance (LUO).

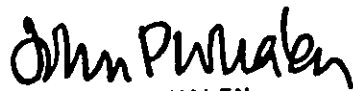
We wish to point out, however, that we have some concerns about the characteristics of film studio use at this sensitive location. The proposed site is within the Shoreline Management Area (SMA) and the Diamond Head Special District. We urge you to consult with our staff at the earliest possible time to address the regulatory and permit requirements of both the SMA and Diamond Head Special District.

Enclosed for your information are a Master Application Form, instructions for filing for a Special Management Area Use Permit and instructions for filing Major and Minor Special Permits in Special Districts.

Mr. Robert A. Luersen  
Page -2-

If you have further questions, please contact Ian McDougall, Chief, Land Use  
Coordination Division, at 523-4254.

Very truly yours,



JOHN P. WHALEN  
Director of Land Utilization

JPW:ap  
0040L  
Attach.



# Appendix K



**DARBY  
& ASSOCIATES**  
ACOUSTICAL CONSULTANTS

#88-34  
April 28, 1989

Johnson, Tsushima, Luersen & Lowrey  
Pauahi Tower, Suite 750  
1001 Bishop Street  
Honolulu, Hawaii 96813

Attention: Mr. Alan Yokata

Subject: Anticipated Noise Impact from the Technical  
Building; DAGS Filming Facility, Honolulu

Dear Mr. Yokata:

There is concern about noise from powered tools and other machinery located in the Technical Building causing adverse impact to naturally ventilated buildings at the Kapiolani Community College (KCC).

The plans show door openings in the naturally ventilated Technical Building ranging from 220 to 280 feet to the property line abutting KCC. The nearest classroom at KCC is about 300 feet beyond the property line.

The existing Soundstage and future Soundstage No. 1 are situated such that they form substantial barriers to noise emanating north. The large structures allow only about a 30° sector from the open doors in the Technical Building for direct sound transmission in the direction of KCC. Also, the Technical Building has been oriented such that the open doors are not directly facing KCC, but are at an angle of about 54° to the property line.

The ceiling and 25% of the walls in the Technical Building will have 2" thick sound absorption treatment such that the interior reverberant noise field should be reduced by about 7 dB. This treatment will substantially reduce the noise buildup within the space, lessen the amount of sound emanating from openings, and allow for localized shielding of sound by temporary barriers and/or structural features of the building.

The worst case occurs when a noise source is closest to the property line, and it essentially outdoors with no localized shielding. Using a three foot reference distance to describe a noise source, it can be shown that the noise level would be reduced by about 36 dB at the property line 200 feet away. Thus, if the DOH noise limit of 55 dBA is not to be exceeded at the property line, then unshielded noise sources at the closest opening should not exceed 91 dBA at three feet. The noise level from the unshielded source experienced at the outside of a KCC classroom 500 feet distant from the source would be approximately 47 dBA or less. Inside the classroom near an open window, the level would probably be 5 to 10 dBA less; or 37 to 42 dBA. Such levels inside should not interfere with typical classroom operations.

Normal operations would have the work being done inside the Technical Building and stationary powered equipment would be located back inside the building away from the open doors.

The noise from most equipment should have at least 10 to 15 dB noise reduction (beyond the worst case with the equipment outdoors) due to localized shielding and absorption of noise by the building. Thus, noise sources causing 101 to 106 dBA at three feet should be able to operate inside the building and not exceed DOH allowable levels.

The following factors should also be considered:

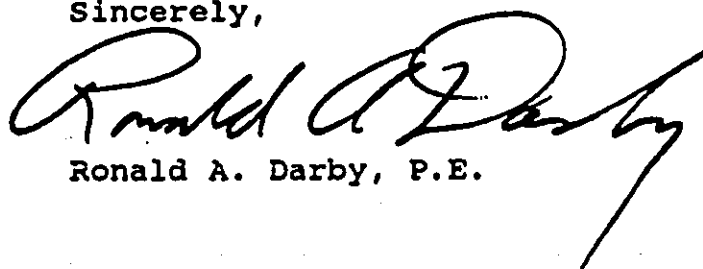
1. The work in the Technical Building will be intermittent and there may be long periods of no activity.
2. Because employee hearing damage criteria uses 85 dBA as a basis where potentially hazardous conditions exist, efforts will be made to limit higher noise levels.
3. If the large 20 foot high roll-up doors are left open to a 7 foot height most of the time, additional noise mitigation can be obtained.
4. Large portable noise barriers could be stored in the Set Storage area and moved to locations such that additional localized shielding could be provided for noisy equipment if certain very noisy jobs must be done near the open doors.
5. Typical ranges of noise levels in dBA at a distance of 3 feet are: ripsaws - 93 to 104 dBA; finger-jointers - 89 to 102 dBA; cut-off saws - 91 to 105 dBA; planers - 95 to 105 dBA; dust collectors - 90 dBA; and air compressors - 81 to 85 dBA. Tables I and II from the Honolulu Waterfront Master Plan dated February 1989 provide other samples of

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noise from various workplaces at open doorways, and at about 3 foot distances respectively. Note that many of the activities shown in the Tables are not expected to occur at the Film Facility, but are given for reference purposes only.

Sincerely,



Ronald A. Darby, P.E.

RAD:dba

enclosures

TABLE I

SUMMARY OF MEASURED WORKPLACE SOUND LEVELS

<u>Business Establishment (Measurement Location)</u>	<u>Background Ambient Noise Level</u>	<u>Transient Noise Sources</u>
Auto Body Repair & Paint Shop (At Doorway)	71	Air Compressor: 78 dB Grinding: 85 dB Hammering: 75 dB
Tire Repair (Outside Entrance)	57	PA System: 80 dB Pneumatic Wrench: 75 dB Pneumatic Jack: 72 dB Hammering: 70 dB
Golf Club Manufacturing (At Doorway)	61	Grinding: 70 dB Spray Painting: 68 dB Hammering: 74 dB
Spray Paint Shop (At Doorway)	61	Air Gun: 74 dB
Upholstery Shop (At Doorway)	55	Stapler: 67 dB Sewing Machine: 63 dB
Auto Repair Shop Below Parking Deck (30 FT from Entrance)	62	Pneumatic Wrench: 74 dB Hammering: 72 dB
Auto Body Repair Shop (Outside and 8' from Entrance)	58	Hammering: 74 dB PA System: 75 dB Grinding: 65 dB
Warehouse (Outside on Sidewalk)	60	Container Loading: 75 dB

TABLE II

## MEASURED SOUND LEVELS OF INDUSTRIAL EQUIPMENT

<u>Operation</u>	<u>Sound Level (dB)</u>
Steam cleaning	109-114
Buffing and polishing	103-104
Use of bed planer	95-97
Use of compressed air for blowdown	102
Use of abrasive cut-off saw	104-108
Operation of paint spray booth	92
Use of large bandsaw	96-97
Operation of Motor Generator sets, Battery Shop	95-102
Use of portable pneumatic sander	96-98
Operation of abrasive cut-off wheels	92-96
Use of pneumatic wire brushes	94-98
Use of 4" belt sander	96-97
Use of saw	100-106
Use of pneumatic hoists	98
Use of surface planer	100
Use of table saws	96-98

wilson jones.

**END**

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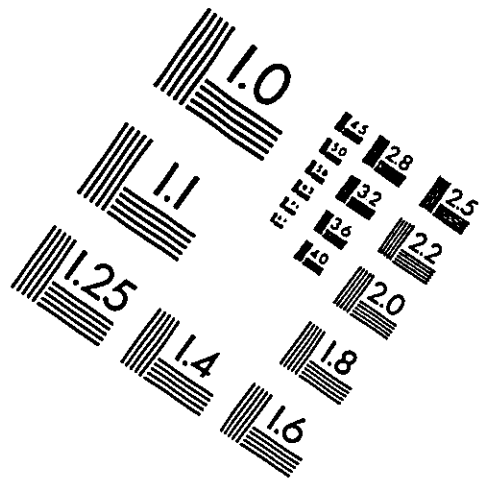
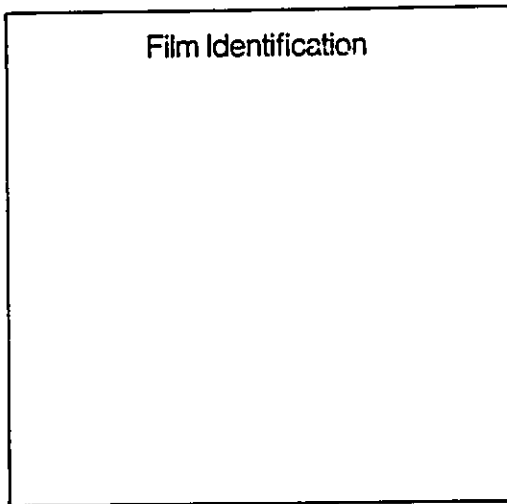
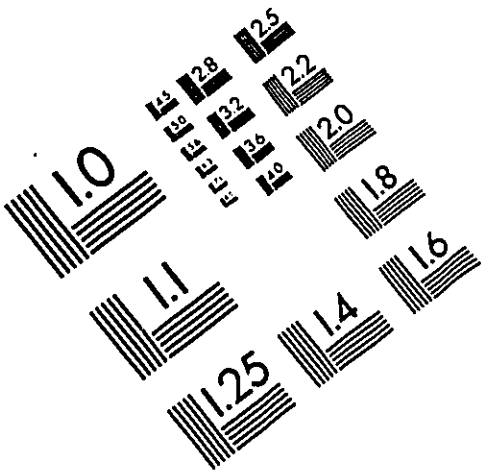
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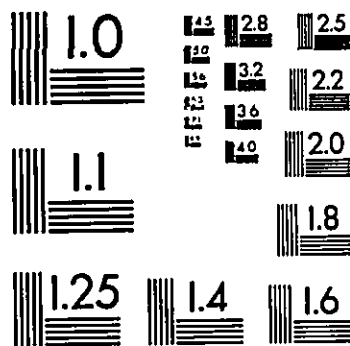
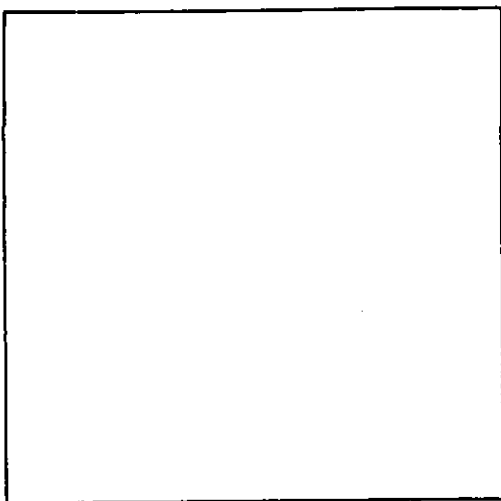
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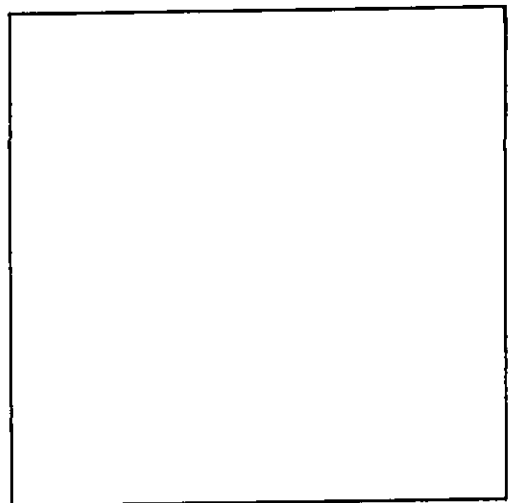
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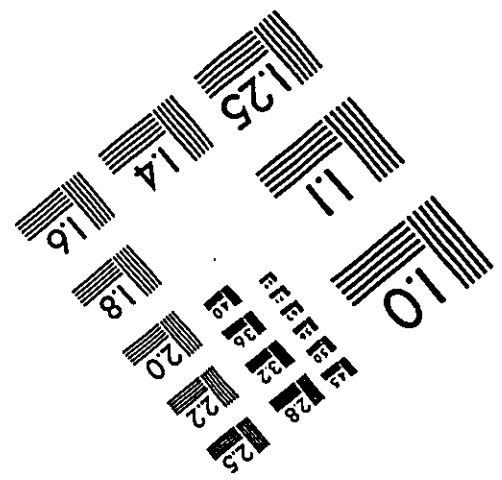
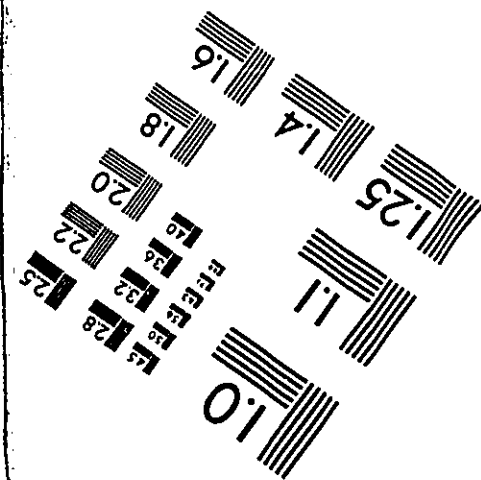


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DENSITY TARGET



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