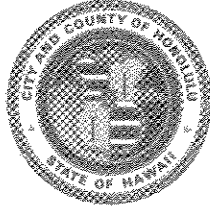


DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

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

FRANK F. FASI
MAYOR



RECEIVED

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OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

DONALD A. CLEGG
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

88/EIS-4(RF)

February 21, 1990

Marvin T. 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:

Final Environmental Impact Statement (EIS)
Waikiki Landmark
Mixed Residential/Commercial Development
S. Sukanto, Bel-Landmark, Inc.
Tax Map Keys: 2-6-14: 39,
41, 43, 44, 49, 50, 52-56, and 59

We are notifying you that the above Final EIS document is ACCEPTABLE,
pursuant to Chapter 343, HRS, and Title 11, Administrative Rules, Department
of Health, Chapter 200, Environmental Impact Statement Rules.

A copy of our Acceptance Report is attached. If you have any questions,
please contact Robin Foster of our staff at 527-5027.

Very truly yours,

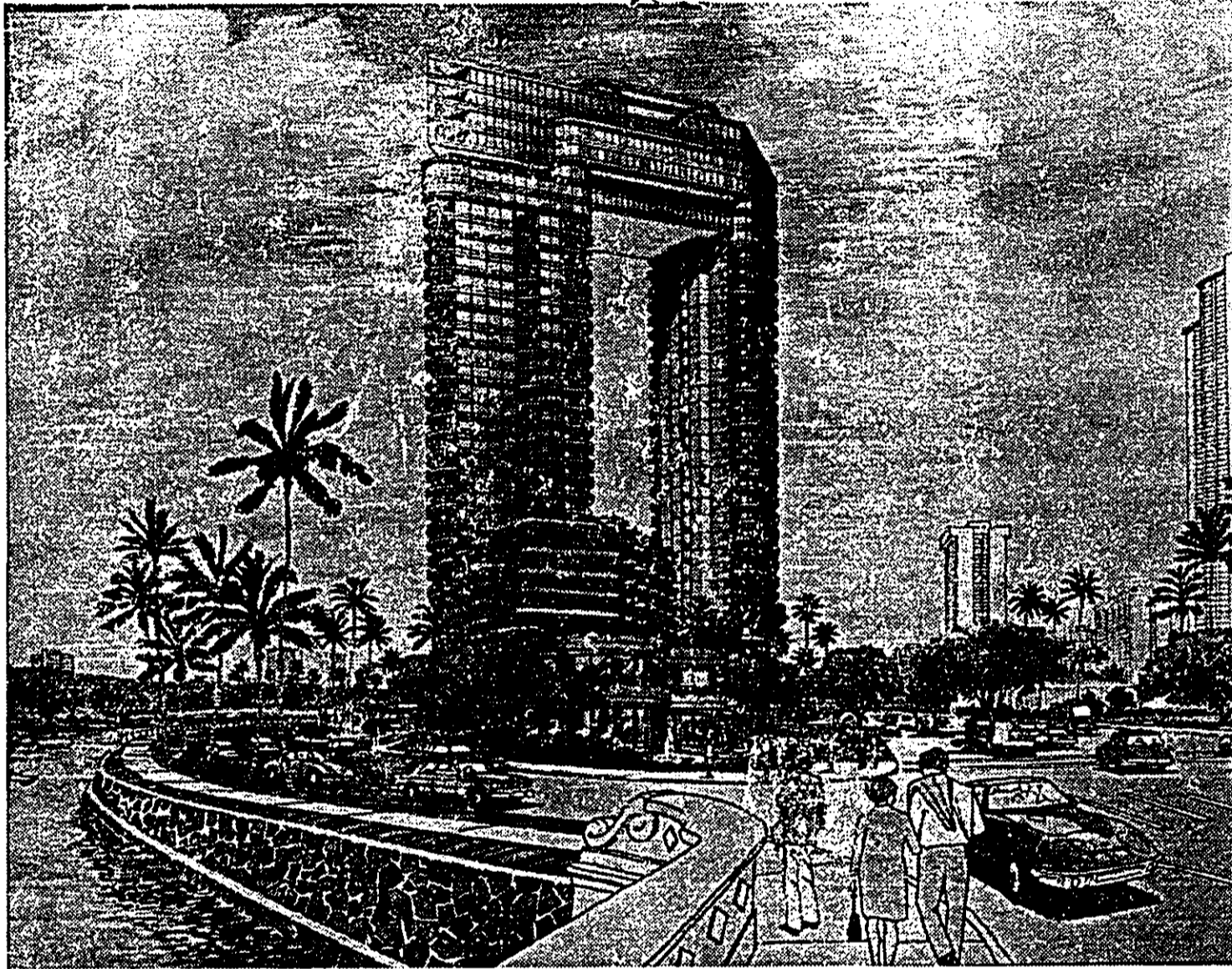
A handwritten signature in cursive script, appearing to read "Donald A. Clegg".
DONALD A. CLEGG
Director of Land Utilization

DAC:s1
0248N/7

attachment: Acceptance Report

cc w/attach.: D.H. Murabayashi, DHM, Inc.

OEQC LIBRARY



Waikiki Landmark

REVISED

**FINAL
Environmental
Impact
Statement**

OA
420C

Bel-Landmark, Inc. • January 1990

WAIKIKI LANDMARK

FINAL
ENVIRONMENTAL IMPACT STATEMENT

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


Duk Hee Murabayashi, President

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

Environmental Planning Consultant for the Applicant:

BEL-LANDMARK, INC.

JANUARY 1990

CONSULTANT TEAM

ARCHITECTS HAWAII, LTD
Architecture

CERMAK PETERKA PETERSEN, INC.
Wind Tunnel Study

DAMES & MOORE
Soil Engineering

DARBY & ASSOCIATES
Noise Impact Study

PACIFIC PLANNING & ENGINEERING
Traffic Impact Study

TRB HAWAII, LTD.
Shadow Impact Study

UNIVERSITY ASSOCIATES, INC.
Air Quality Impact Study

DHM PLANNERS Inc.
Land Use & Environmental Planning

Project Team:

Mrs. Duk Hee Murabayashi
Eric Parker
Lynn Taguchi

WAIKIKI LANDMARK
FINAL ENVIRONMENTAL IMPACT STATEMENT

APPLICANT	Mr. Sukarman Sukamto Bel-Landmark, Inc. 1088 Bishop Street, Suite 4100 Honolulu, Hawaii 96813
CONSULTANT	Mrs. Duk Hee Murabayashi DHM Planners inc. 1188 Bishop Street, Suite 2405 Honolulu, Hawaii 96813 Phone: 521-9855
ACCEPTING AUTHORITY	City and County of Honolulu Department of Land Utilization (DLU)
PROPOSED ACTION	Mixed use residential (90%) and commercial (10%) development: 188 residential condominiums totaling 313,202 net square feet and 30,553 net square feet of commercial space; Maximum height: 320 feet.
PROJECT LOCATION	Waikiki, Island of O'ahu Triangle parcel bordered by Kalakaua Avenue, Ala Wai Boulevard and McCully Street.
TAX MAP KEY	TMK 2-6-14: Parcels 39, 41, 43, 44, 49, 50, 52-56, 59
LOT AREA	124,419 square feet (2.856 acres)
STATE LAND USE	Urban
DP LAND USE	Commercial
ZONING	Resort Commercial Precinct within the Waikiki Special District; also designated as a "Waikiki Gateway."
LANDOWNER	First Hawaiian Bank Trustee, under unrecorded Land Trust Agreement dated March 21, 1980.
LESSEE/ DEVELOPER	Bel-Landmark, Inc. et al.
EIS PREPARATION NOTICE	<u>OEQC BULLETIN</u> , September 23, 1988
REVISED DEIS SUBMITTED	November 20, 1989, Published in <u>OEQC BULLETIN</u> , November 23, December 8, and December 23, 1989

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Chapter I

I. INTRODUCTION

A. BACKGROUND ON THE PREPARATION OF THE ENVIRONMENTAL IMPACT STATEMENT

This Final Environmental Impact Statement (Final EIS) has been prepared to identify and evaluate the existing conditions and potential impacts of the proposed Waikiki Landmark mixed use residential and commercial development. The Revised Draft Environmental Impact Statement (Revised DEIS) for the project was formally submitted to the State Office of Environmental Quality Control (OEQC) and the City and County of Honolulu, Department Land Utilization (DLU) on November 20, 1989. After a public review period of 45 days all written comments received regarding the Revised DEIS were addressed in writing (see Appendix B) and the Final EIS prepared. **Changes contained in the Final EIS which respond to comments made during the 45 day review period are in bold face type.**

The original Draft EIS (DEIS) for the project was formally submitted to the OEQC the DLU on March 23, 1989. After a public review period of 45 days, the first Final EIS was prepared and submitted to the OEQC and the DLU on October 2, 1989. Subsequent to the submittal of the first Final EIS, it became apparent that 1) the potential for the future development of a rapid transit station on a portion of the subject property needed to be addressed in greater detail; 2) existing and pending modifications to the zoning regulations and their relationship to the proposed development needed to be clarified; and 3) additional information on issues such as dewatering was needed in the EIS to better define the development proposal. In order to address these concerns in a Revised DEIS, the applicant formally withdrew the first Final EIS from DLU's consideration on November 2, 1989.

B. PREVIOUS COMMENTS AND RESPONSES

The EIS Preparation Notice for the proposed project was published in the OEQC Bulletin on September 23, 1988. All comment letters received by the applicant during the consultation phase are included in Appendix A. Agencies and organizations submitting comments are listed below.

State of Hawaii

Department of Business and Economic Development
Housing Finance and Development Corporation

Department of Health
Department of Land and Natural Resources
Office of State Planning
Department of Accounting and General Services
Department of Defense
Department of Education
Department of Transportation

City and County of Honolulu

Department of General Planning
Department of Housing and Community Development
Department of Land Utilization
Department of Parks and Recreation
Department of Transportation Services
Board of Water Supply
Building Department
Department of Public Works
Fire Department
Police Department

Others

Office of Hawaiian Affairs

Written responses to the Draft Environmental Impact Statement received during the first public review period (March 23, 1989 - May 8, 1989) and written responses to the Revised Draft Environmental Impact Statement received during the second public review period (November 23, 1989 - January 6, 1990) are included in Appendix B.

Agencies and organizations submitting comments during these periods are listed below.

Federal

Department of the Army
Department of Defense
Department of the Interior
 U.S. Fish and Wildlife Service
Department of Agriculture
 Soil Conservation Service
Department of the Navy

State of Hawaii

Department of Business and Economic Development
Housing, Finance & Development
Department of Land and Natural Resources
Office of Environmental Quality Control
Department of Accounting and General Services, Project Management Branch
Department of Agriculture
Department of Business and Economic Development, Energy Division
Department of Health
University of Hawaii at Manoa, Environmental Center
Department of Hawaiian Home Lands
Department of Transportation

City and County of Honolulu

Department of General Planning
Department of Housing and Community Development
Department of Land Utilization
Department of Parks and Recreation
Department of Transportation Services
Police Department
Board of Water Supply
Building Department
Department of Public Works
Fire Department

Others

American Lung Association of Hawaii
Hawaiian Electric Company, Inc.
Office of Hawaiian Affairs

C. STATEMENT OF PURPOSE AND NEED FOR ACTION

The applicant, Bel-Landmark, Inc. is proposing to build a mixed use residential and commercial development in Waikiki on the island of O'ahu. The proposed development will include approximately 188 residential condominiums and 42,865 gross square feet of commercial space which will help meet some of the demand for residential condominiums and commercial space in Waikiki. Further resort development of the subject property is restricted by the Development Plan (DP) for the Primary Urban Center which limits 30,000 visitor units for Waikiki (Ordinance 81-79, Sec. 2.2b.(2)). Market conditions, however, support the development of a residential/commercial project on the subject property. The project will allow the subject property to be used to its highest and best use.

Chapter II

II. DEVELOPMENT PROPOSAL

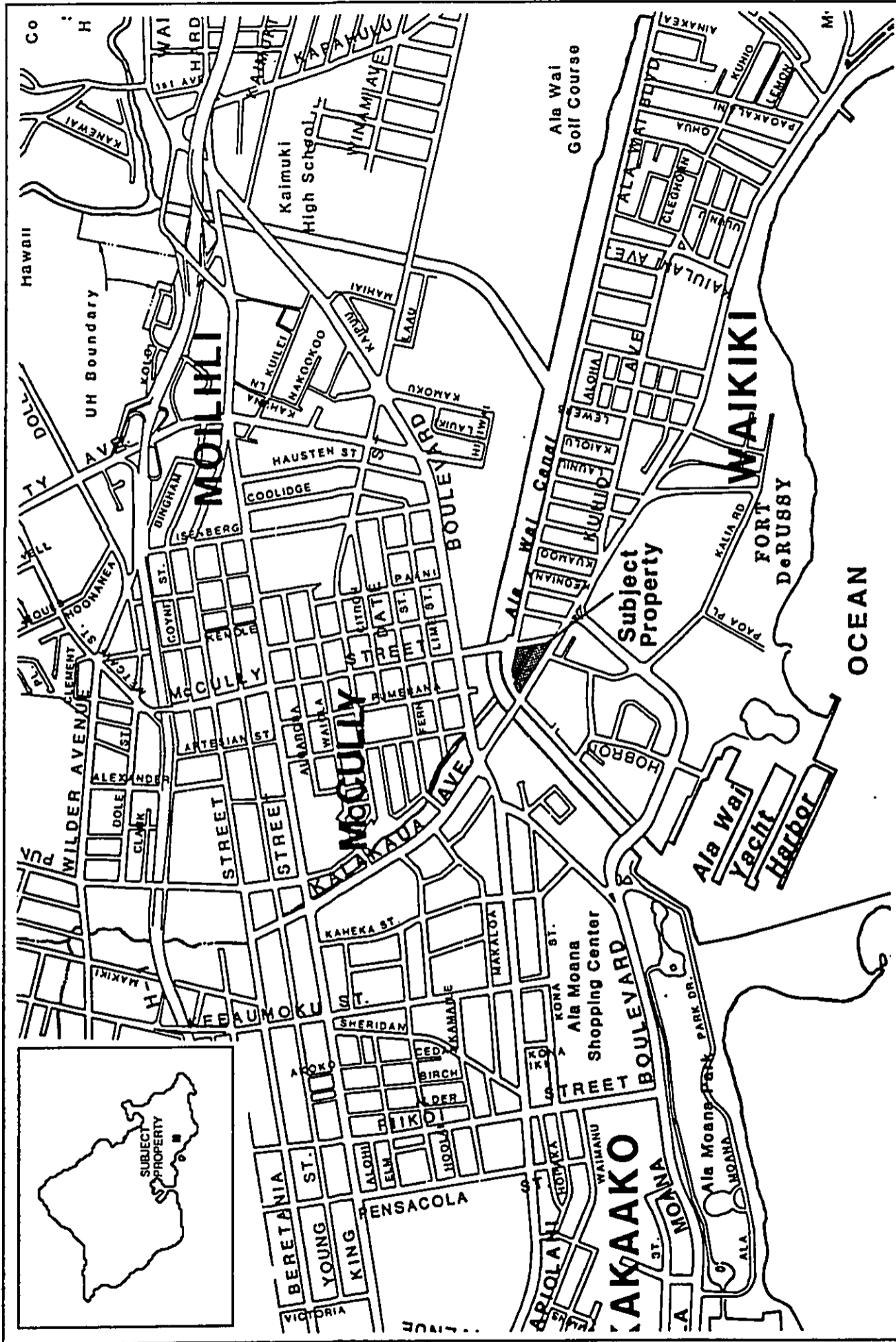
A. LOCATION

The subject property is located in Waikiki, in Honolulu, on the island of O'ahu (see Exhibit II-1). The triangular shaped parcel is identified as TMK 2-6-14: parcels 39, 41, 43, 44, 49, 50, 52-56, and 59 (see Exhibit II-2). The subject property totaling approximately 2.856 acres is bordered by Ala Wai Boulevard, Kalakaua Avenue and McCully Street.

B. HISTORIC PERSPECTIVE

In 1980 the subject property was proposed as the site for a 28-story (320 foot high) office/commercial building, with a five-story, parking-commercial-recreation structure. That proposal included 350 office suites, approximately 60,000 square feet (sf) of commercial space, and 700 parking spaces. An Environmental Impact Statement (EIS) for that project was accepted on April 15, 1980 by the City and County of Honolulu, Department of Land Utilization (DLU).

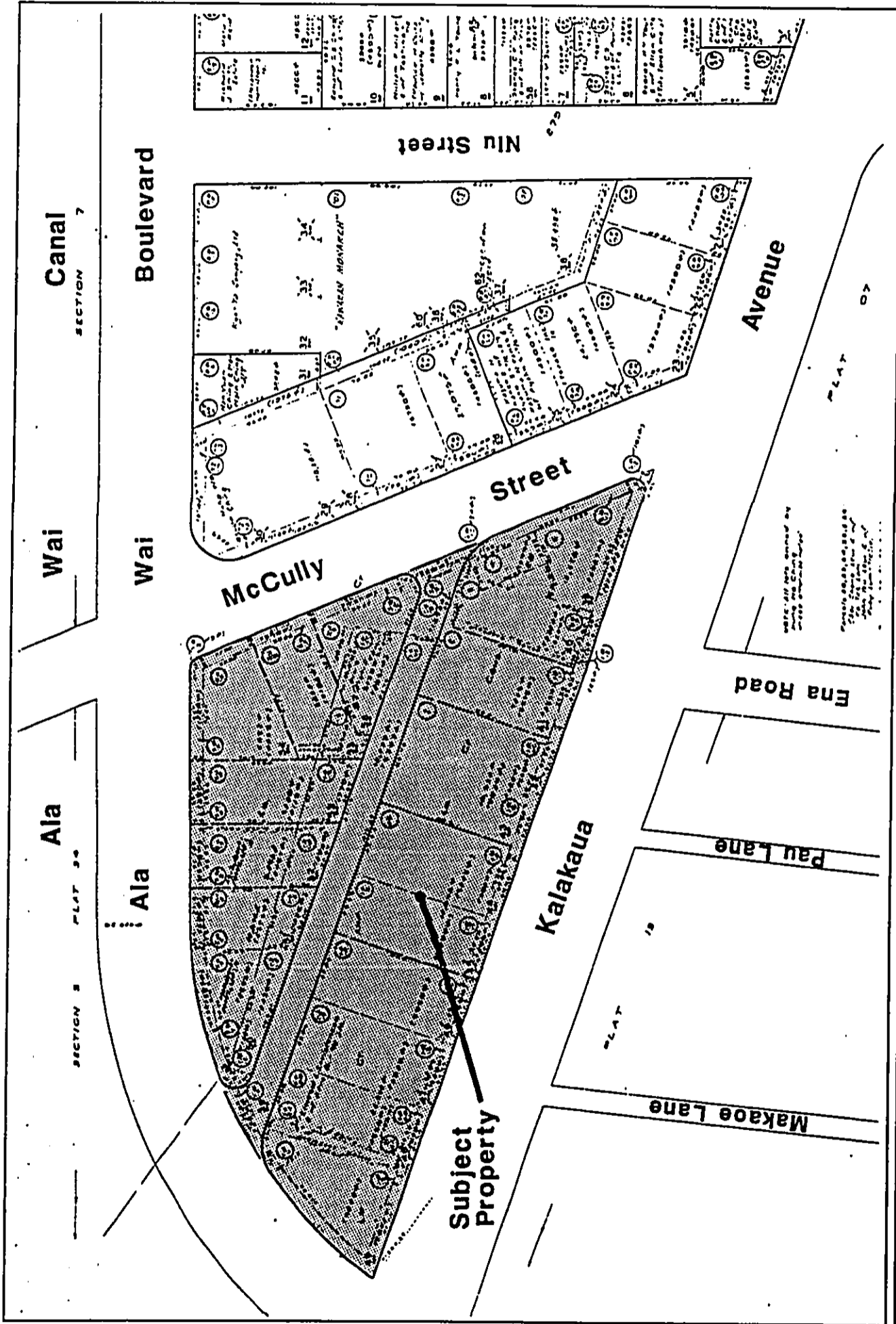
A Development Conformance Certificate was approved for the proposed development on November 18, 1982. However, because a building permit was not obtained within two years of the date of issuance of the certificate, the approval expired and is no longer valid.



DHM inc.
Land Use and
Environmental
Planning



Exhibit II-1
Location Map
WAIKIKI LANDMARK



DHM inc.
 Land Use and
 Environmental
 Planning

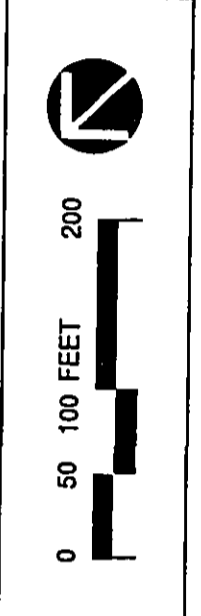


Exhibit II-2
Tax Map (TMK: 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59)
WAIKIKI LANDMARK

C. PROJECT DESCRIPTION

The proposed project is a mixed use residential (90%) and commercial (10%) development, with a total floor area of approximately 427,010 gross sf. The final design will consist of two slender towers connected at the top five floors (see Exhibits II-3 and II-4). Available project information includes the following specifications:

1. Residential Condominiums

A maximum of 188 residential condominiums will be constructed. The total floor area of the residential condominiums, including the lobby area, will be 384,145 gross sf or 313,202 net sf. A breakdown of the individual units type and size is presented below.

<u>Type</u>	<u>Size (net sf)</u>	<u>No. of Units</u>	<u>% of Total No. of Units</u>
1 BR/1 Bath	960	36	19%
2 BR/2 Bath	1,200-2,160	105	56%
2 BR/2.5 Bath	1,575-3,300	47	25%
Total		188 units	

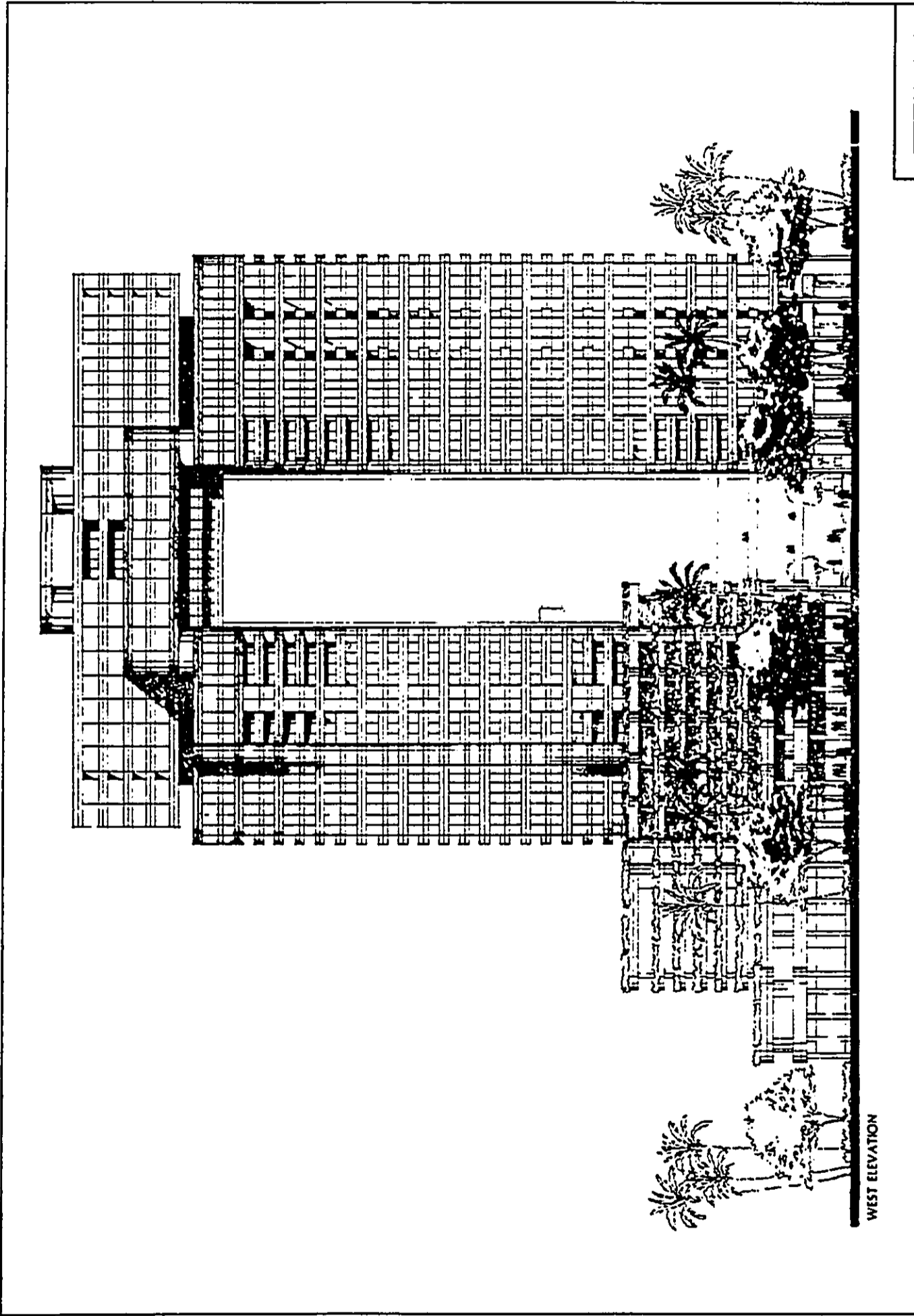
2. Commercial Space

Approximately 10% of the total gross floor area in the proposed development will be leased for retail stores and restaurants on the first two levels of the development. The amount of commercial floor area to be developed will be 42,865 gross sf or 30,553 net sf. Commercial space, and retail stores will comprise 80% of the floor area with the remaining 20% of the floor area being devoted to restaurant use.

3. Parking

The proposed project will provide a total of 589 off-street parking spaces. The parking structure will be designed and situated to minimize noise impacts of autos in the garage on the residential condominium units and surrounding land uses. A breakdown of the planned parking and the LUO parking requirements for the proposed project is provided below.

12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



**ARCHITECTS
HAWAII LTD**
Architecture, Planning
Interior / Graphic Design

**Exhibit II-4
WAIKIKI LANDMARK WEST ELEVATION**

- A total of 454 parking stalls will be provided for residential and commercial uses on the subject property. The off-street parking requirements of the Land Use Ordinance (LUO) for the Waikiki Special District (WSD) (Section 3.70-1, Table 1), require the provision of 1 stall per residential dwelling unit and 1 stall per 800 square feet of commercial area. Based on these standards, the project is required to provide 188 parking stalls for the dwelling units and 54 parking stalls for the commercial space (42,865 sf /800 sf). An additional 212 parking spaces will be provided for residential and commercial use in excess of the number required by the LUO.
- As part of a development agreement, the development will also provide 135 stalls within a 400 foot walking distance for the residents of the Royal Aloha Condominiums, located Diamond Head of the subject property, across McCully Street.

4. Loading Requirements and Parking For the Physically Disabled

The proposed project will be in conformance with all LUO requirements to provide off-street loading spaces and parking for the physically disabled.

5. Ventilation

The proposed development will be centrally air conditioned, with operable windows.

6. Height

The development will have a maximum height of 320 feet, in compliance with the 320-foot height limit specified for this area of the WSD.

7. Floor Area Ratio (FAR)

The density or Floor Area Ratio (FAR) of the proposed development will be in conformance with the LUO requirements for permissible density in the Resort Commercial District of the WSD. Under Section 7.80-6.C of the LUO "the FAR of all buildings and structures on a lot shall not exceed 1.75." With floor area bonuses for the provision of open space and arcade area, the FAR can be increased to a maximum of 3.5 (BIII 155 CD-2).

The maximum permissible floor area for the proposed development is 689,248 square feet. This is derived by multiplying the FAR of 3.5 by the sum of the zoning lot area (124,419 square feet) plus one-half of the abutting right-of-way area of the adjacent public streets (72,509 square feet).¹

As noted in the Project Description, Section II.C, the total floor area of the proposed development will be 427,010 gross square feet. This floor area is well below the maximum permitted area in the Resort Commercial District of the WSD.

8. Setbacks

The proposed development will be in conformance with all applicable setback requirements of the LUO pertaining to development in the Resort-Commercial District of the WSD. There will be a 30-foot setback from both the Ala Wai Boulevard and Kalakaua Avenue, and a 20-foot setback from McCully Street.² The first 10 feet of the setback areas will be restricted to landscaping.

There is also an additional 10-foot City and County of Honolulu road widening setback fronting the subject property along Kalakaua Avenue which will be utilized in accordance with City and County of Honolulu, Department of Public Works standards.

Construction of sidewalks and related landscaping along Kalakaua Avenue will be coordinated with the Kalakaua Avenue Safety and Beautification project, Phase II.

9. Open Space/Park Dedication

The project will conform with all open space requirements specified in the Land Use Ordinance.

The project will comply with Park Dedication Ordinance No. 4621. These regulations require a specified area be devoted to park and playground dedication for multiple family

¹ $[3.5 \text{ FAR} \times (\text{Zoning Lot Area} + 1/2 \text{ Area of Abutting Public Streets})] = [3.5 \times (124,419 + 72,509)] = 689,248$ square feet.

² Land Use Ordinance, Section 7.80-3 General Requirements for the Waikiki Special Design District.

dwellings. The required area is equal to 10% of the maximum permitted floor area, or 110 square feet per dwelling or lodging unit, whichever is less. Based on this requirement a total of 20,680 square feet of area will be required (188 units x 110 square feet).

All recreational areas proposed for park credit will be designed to meet the standards and requirements specified under Rule 10 of the Park Dedication Rules and Regulations. The applicant will coordinate the provision of these facilities with the City and County of Honolulu, Department of Parks and Recreation and the DLU

10. Waikiki Gateway Design Requirements

In compliance with the design considerations for areas designated as a "Waikiki Gateway," the proposed project design will include consideration for open space and architectural treatment as specified in Exhibit 15 of the LUO's Urban Design Controls for the Waikiki Special District. These considerations will be coordinated with the DLU when application for a Major Special District Permit is made (see Section VI.C.4).

D. DEVELOPMENT SCHEDULE

Construction of the proposed development is projected to take approximately 2 years. If all government approvals are obtained as planned, construction is expected to begin in the Summer of 1990, with completion in the Summer of 1992.

E. ESTIMATED COST

The estimated project development cost is \$100-\$130 million.

Chapter III

III. ENVIRONMENTAL CONDITIONS/PROJECT IMPACTS

A. EXISTING USES

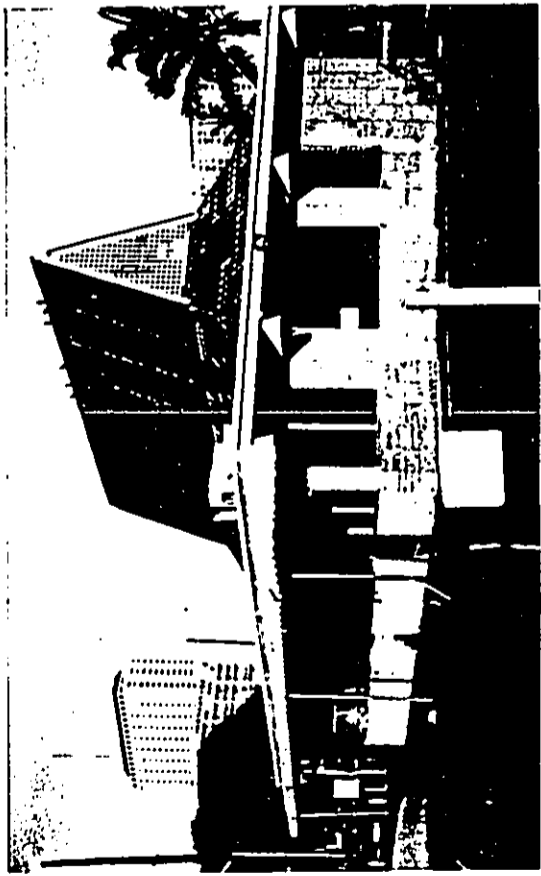
On the subject property there are 12 small businesses (see Exhibits III-1 and III-2):

1. Waikiki Rent-A-Car (car rental company);
2. Honolulu Rent-A-Car (car rental company);
3. AAA Condo Rentals (real estate rentals);
4. Pacific Island Estate Jewelry (pawn shop);
5. AmeriCab (taxi company);
6. Bag's End (pawn shop);
7. Classic Surfboards (surfing equipment retail store);
8. Galaxy TV (TV sales and repair);
9. Noe Realty (real estate sales);
10. Sailor Jack's Tattoo (tattoo parlor);
11. Masquerade/Phaze (night club); and
12. Pro-Park (parking lot) - This parking lot includes 135 spaces for the Royal Aloha Condominium, located across McCully Street.

All of these businesses are on a month-to-month lease and are aware of the pending redevelopment of the subject property.

Project Impacts

The proposed development will result in the displacement of the existing activities on the subject property (see Section V.A). To assist existing businesses in finding alternative sites tenants will be given adequate notice of the property's redevelopment prior to the end of their lease. Once all applicable government approvals have been obtained existing buildings on the property will be demolished and cleared in accordance with approved methods.



USO Group Corporation



2-Story Commercial Building (Mauka View)



Waikiki Rent-A-Car



2-Story Commercial Building (Makai View)

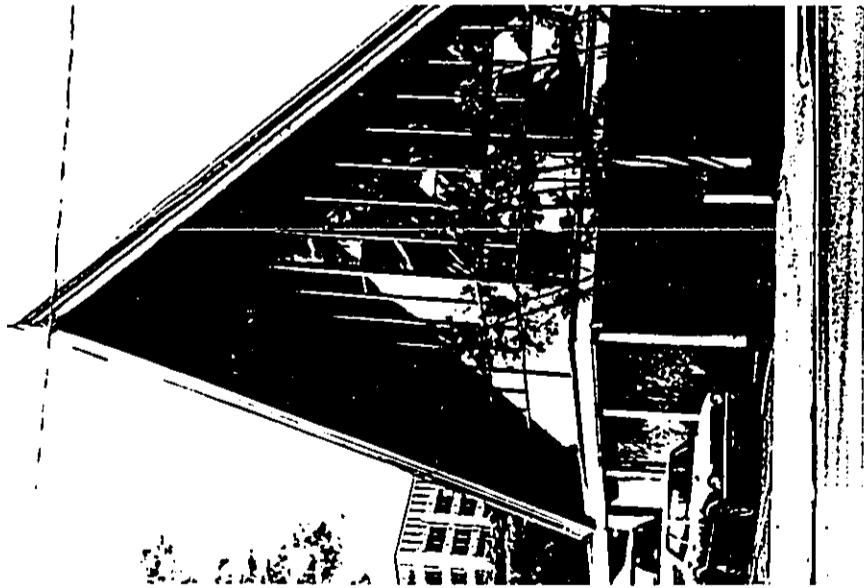
Exhibit III-1

Existing Uses on the Kalakaua Avenue Side of the Subject Property

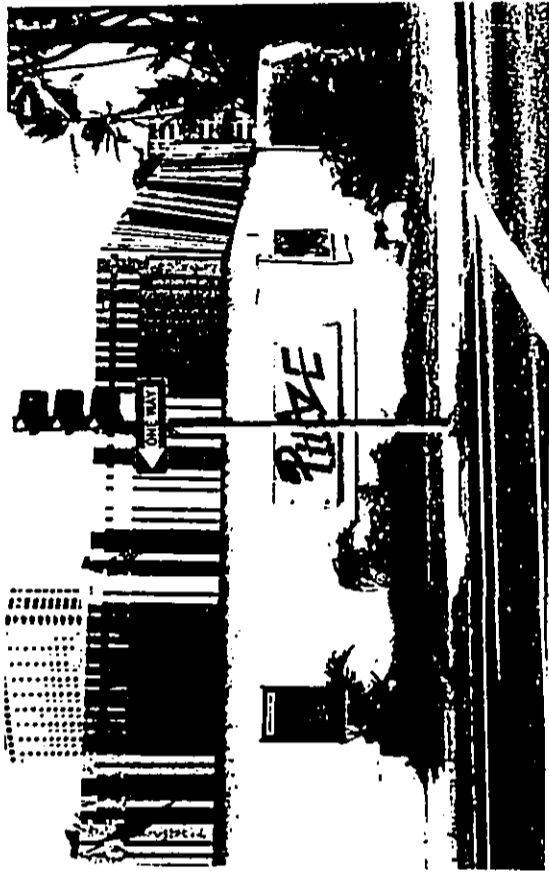
WAIKIKI LANDMARK

DHM inc.

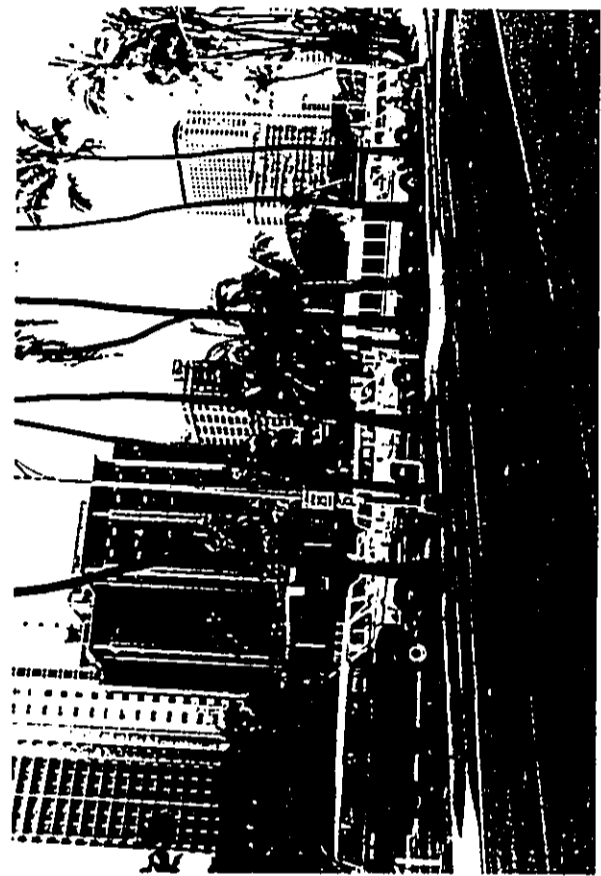
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Planning



Masquerade Nightclub



Phaze Nightclub



Pro-Park Parking Lot

Exhibit IIII-2

Existing Uses on the Ala Wai Boulevard Side of the Subject Property

WAIKIKI LANDMARK

DHM inc.

Land Use and
Environmental
Planning

B. SURROUNDING USES

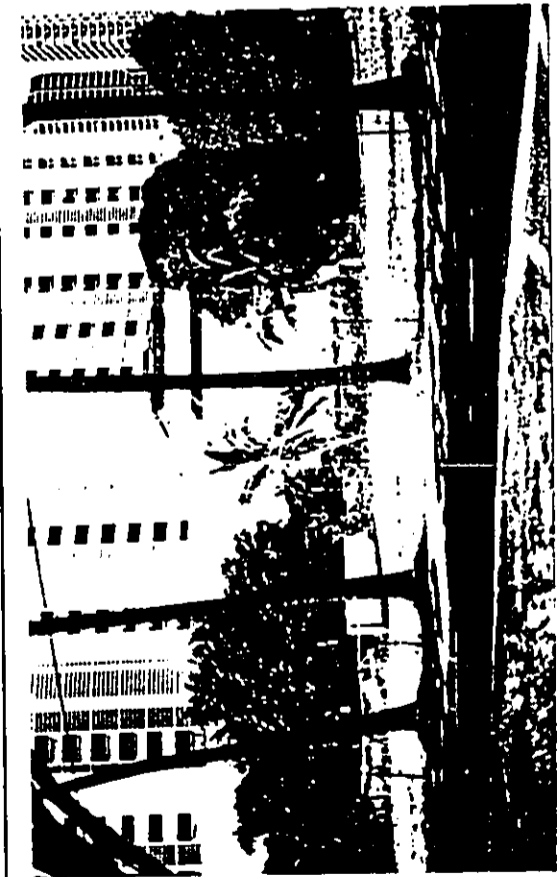
The following land uses are located makai of the subject property, across Kalakaua Avenue (see Exhibits III-3 and III-4):

1. 10-story office building (1833 Kalakaua);
2. Nanea Condominiums (2 buildings, 3 stories each);
3. vacant lot;
4. the Wave Waikiki (discotheque and bar);
5. On Stage Hawaii (gift shop);
6. 1-story "brown building" (vacant);
7. the Pink Cadillac (discotheque and bar);
7. 7-Eleven (convenience store); and
8. the Kalakauan Condominiums (2 residential buildings, 6 stories each, with commercial space on the ground floor).

The following properties are located Diamond Head of the subject property across McCully Street (see Exhibit III-5):

1. Jack in the Box (fast food restaurant); and
2. the Royal Aloha Condominiums (16-story residential building, with some commercial units)

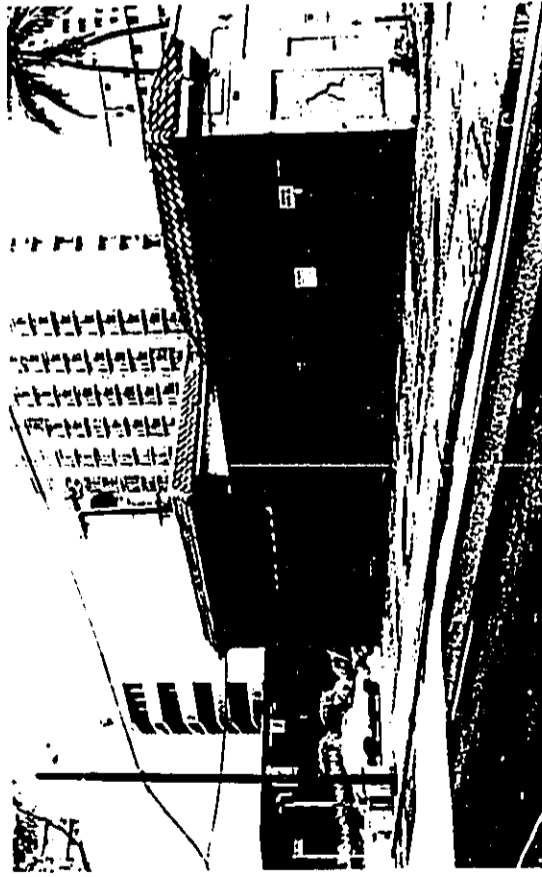
Both the Kalakauan Condominiums and the Royal Aloha Condominiums include commercial space. The Kalakauan, which consists of two buildings, has three commercial spaces on the ground floor of the building facing Kalakaua Avenue. This commercial space includes the Waikiki Photo and Laboratory, Inc., plus two vacant commercial spaces, which are currently advertised for rent. Under previous zoning regulations, the Royal Aloha Condominium was a mixed residential/commercial building. There are several nonconforming commercial uses in the building, including Cilly's (a discotheque), Century 21 Realty Company, Marika Yamato Realty, Whitby Candy, corporate office space for the Waikiki Bazaar, and Aloha Parliamentary (a professional parliamentarian consulting company). Additionally, there is a large vacant commercial space for rent, which was previously occupied by Denny's Restaurant.



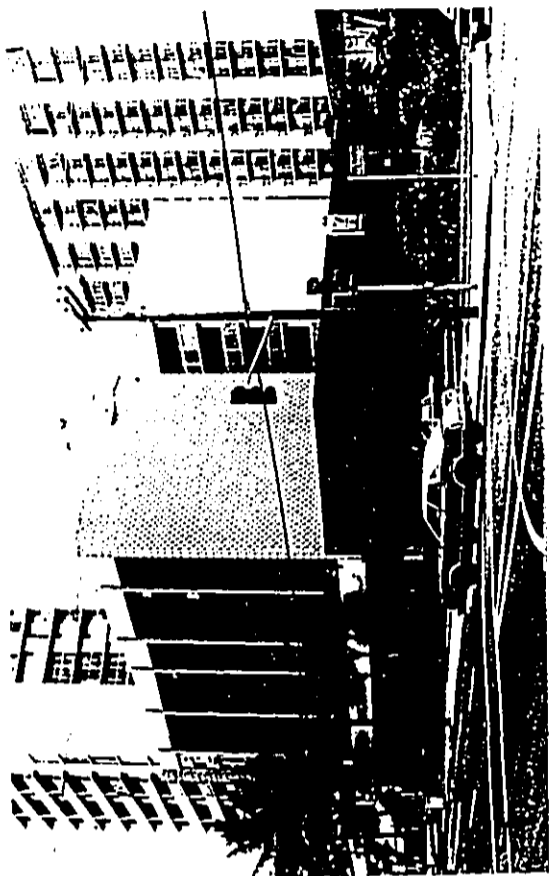
Vacant Lot



On Stage Hawaii and The Wave Waikiki



Vacant "Brown Building"



7-Eleven Store and Kalakauan Condominium

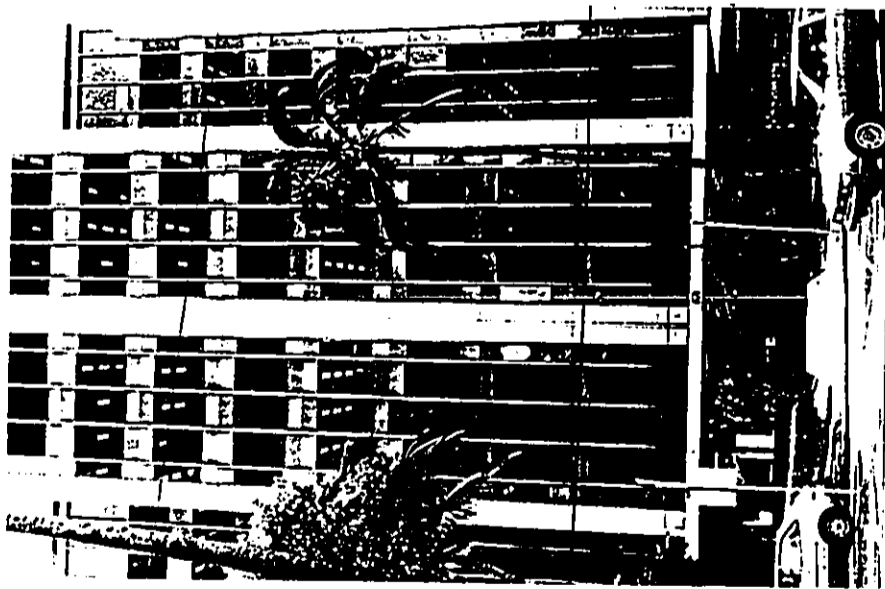
Exhibit III-3

Surrounding Properties Located Across Kalakaua Avenue

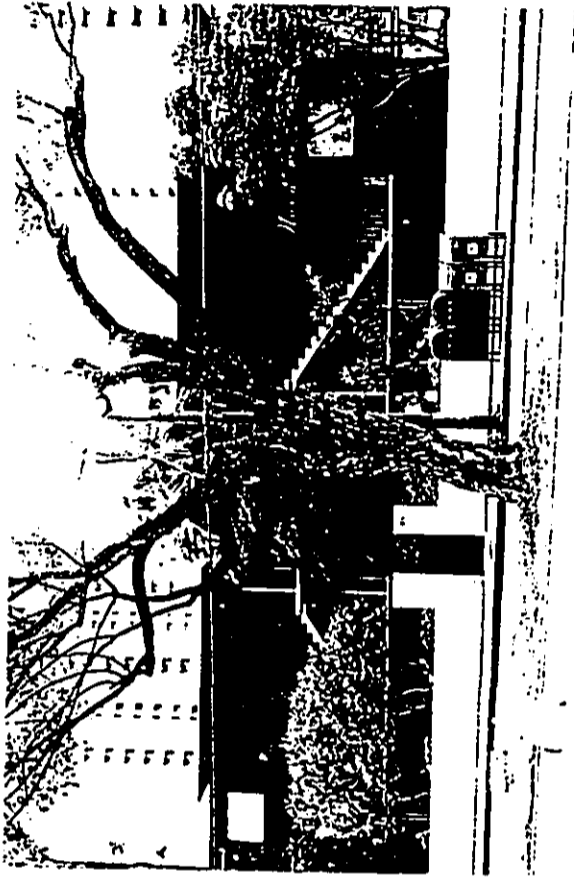
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10-Story Office Building



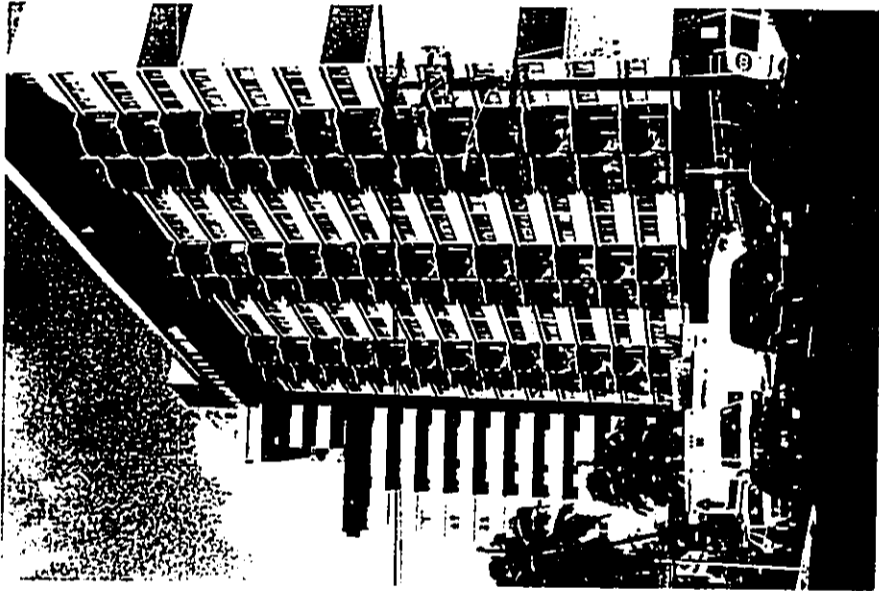
Nanea Condominium

Exhibit III-4

Surrounding Properties Located Across Kalakaua Avenue

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Royal Aloha Condominiums

Exhibit III-5

Surrounding Properties Located Across McCully Street

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C. TOPOGRAPHY/SLOPE

The subject property is level and is approximately 5± feet above mean sea level (msl). The site has been filled in and graded, and has been in urban use for over 50 years. It does not have any unique or unusual topographic features.

Project Impacts

The topography of the subject property will not be significantly altered from its present form. The majority of the proposed development's foundation work will be performed at-grade. As a result, extensive dewatering will not be required. A basement area is planned under portions of the high-rise towers. The finished basement floor elevation will be approximately 2 feet below msl to accommodate maintenance and utility rooms, and elevators pits. The planned excavation for the basement will be less than 20,000 square feet (approximately 16 percent of the total property area) and will extend approximately 5 feet below msl. Dewatering of this small area will be accomplished by a sump pumping technique.³ According to Dames & Moore, the soil engineers for the project, no deep well dewatering or dewatering of the coral formation will be required for this project. The basement excavation will be at least 75 feet inside of the property boundary. As a result any potential for ground settlement due to the limited dewatering will be confined to the subject property and is not expected to affect neighboring properties in any manner.

D. SOILS

According to the Soil Survey of the Soil Conservation Service,⁴ the subject property consists of fill land, mixed (FL). The Soil Survey describes this type of soil as consisting of *"areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources.... This land type is used for urban development including airports, housing areas, and industrial facilities."*

³ A dewatering permit will be obtained from the City and County of Honolulu, Department of Public Works.

⁴ Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (Soil Conservation Service, U.S. Department of Agriculture, August 1972).

Project Impacts

There will be no project impact on the soil conditions of the subject property. Some additional soil may be added in conjunction with landscaping activities, however, the overall composition of the soil is expected to remain unchanged.

E. FLOOD CONDITIONS

The entire site is in Flood Zone AO, designating a flood hazard area inundated by a 100-year flood (see Exhibit III-6).⁵ Flood depths have been determined to be two (2) feet in this area.

Project Impacts

The proposed project will be in compliance with all applicable flood control regulations. No additional flood related impact is expected to be generated by the development of the subject property.

The LUO (Sec. 7.10-6B.5.) requires that the lowest habitable floor of residential structures be elevated above the crown (highest point) of the nearest street, or above the depth number (two feet in this case) specified on the flood maps. The lowest habitable floor of non-residential structures must also be above that level, or be completely flood proofed and watertight.

The first two floors of the proposed development will be commercial and will be in compliance with all applicable flood proofing regulations.

⁵ FIRM Flood Insurance Rate Map, National Flood Insurance Program, Panel 120 (Federal Emergency Management Agency, September 4, 1987).

F. WETLANDS

Similar to the rest of Waikiki, the subject property has been filled and converted to "dry lands," and has been in urban use for over 50 years.

Project Impacts

There will be no impact on wetlands and no wetlands permit by the U.S. Army Corps of Engineers is required for the subject property.⁶

G. VEGETATION

Several varieties of palm trees line the perimeter of the subject property, along with some hala trees, rubber trees, plumeria trees, oleander bushes, and other shrubbery. Eight well developed monkeypod trees and a few coconut trees are located on the subject property. None of these trees have been listed on the Register For Exceptional Trees (Section 13-36 Revised Ordinance of Honolulu).

Project Impacts

The project will improve the area by providing extensively landscaped areas in accordance with an approved landscape plan. Every effort will be made to retain existing vegetation. This will be especially true for the existing monkeypod and coconut trees. These trees will be either incorporated into the landscaping design or will be relocated on the subject property.

H. FAUNA

In light of the existing urban uses, the only fauna on the subject property are rats, mice, cats and various birds which are common to the urban areas of Honolulu.

⁶ Telephone conversation with Warren Kanai, Civil Engineer, U.S. Army Corps of Engineers, December 22, 1987.

Project Impacts

The project will not impact existing fauna on the subject property. Construction activity may displace some birds which currently feed on the subject property. However, once landscaping is completed, the area will provide potential habitats for birds, and the project may have a positive impact on the bird population in the area.

I. ARCHAEOLOGICAL RESOURCES

A pre-field background literature review for archaeological resources was conducted on the subject property by the Bishop Museum Applied Research Group. A full text of this review is included in Appendix D and a summary of the review follows.⁷

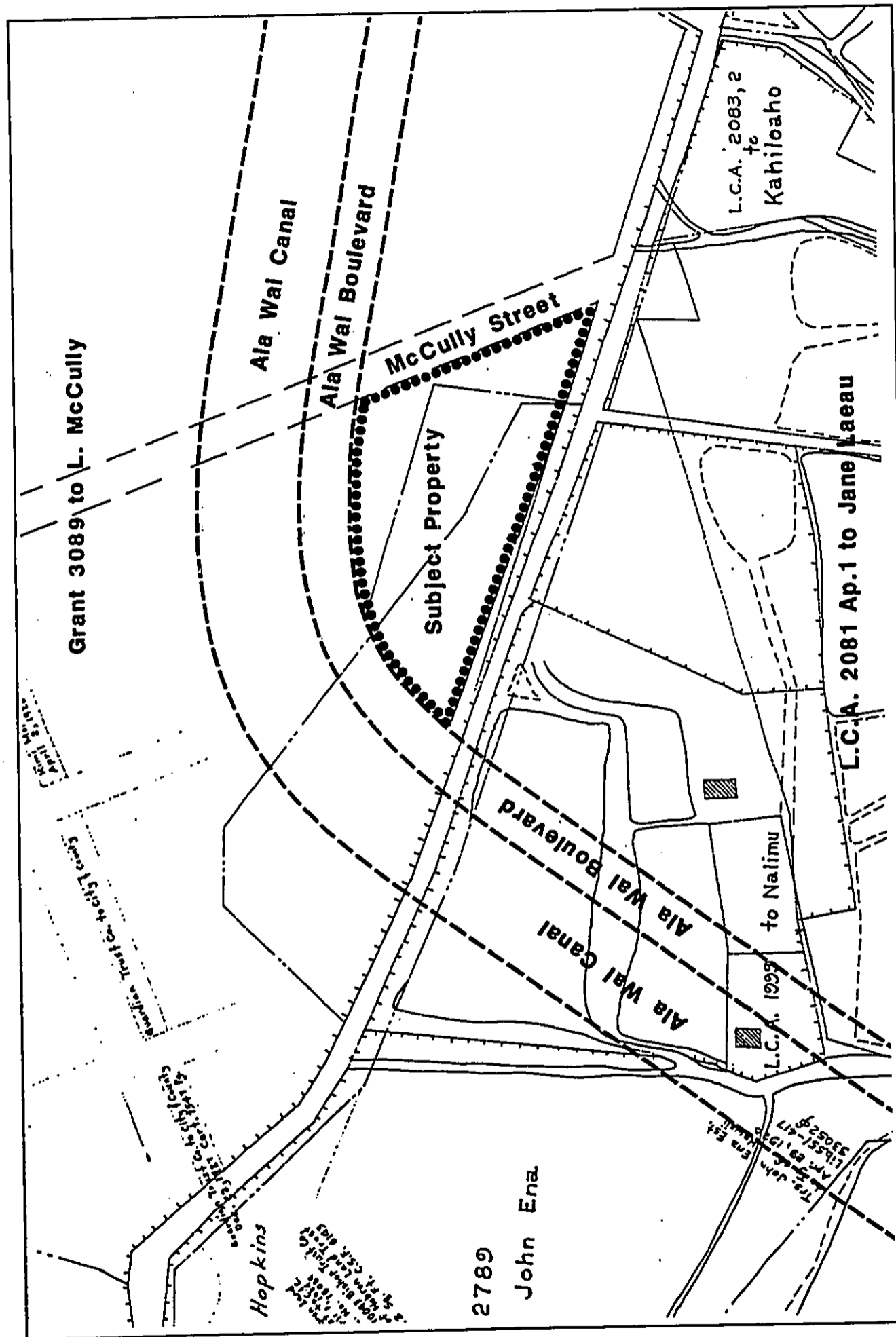
Land ownership of the subject property is shown on a 1881 map by S.E. Bishop (see Exhibit III-7). There is no indication of land use on the subject property on the 1881 map. Between 1921 and 1926 the Ala Wai Canal was created and it is likely that the subject property was filled with material dredged from the new canal. A 1927 aerial photo of the completed canal shows the subject property with a circular structure and some white coral fill (see Exhibit III-8⁸). The subject property is dark indicating low vegetation and is separated into three parcels by white roadways. Bishop Museum concludes that prior to 1920 it is likely the subject property contained taro fields which were filled in by 1927. As a result, Bishop Museum has established a low to moderate potential for locating subsurface archaeological resources on the subject property.

The Historic Sites Section of the Department of Land and Natural Resources (DLNR) confirms this research and has agreed to forego normal field reconnaissance procedures for the subject property in view of the present altered condition of the area.⁹ The Historic Sites Section, however, does not underestimate the possibility that subsurface archaeological deposits and

7 "Pre-Field Background Literature Search for Archaeological Resources at the Proposed Waikiki Landmark Property" by Mary F. Riford, Applied Research Group, Bishop Museum, February 1989.

8 Aerial photo referenced in Appendix D as Figure 3.

9 Letter of January 12, 1989 from Bishop Museum outlining discussions and agreements with the Historic Sites Section, Department of Land and Natural Resources.



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Exhibit III-7
1881 Map of the Subject Property
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Exhibit III-8
1927 Aerial Photo of the Subject Property
WAIKIKI LANDMARK

burials may be present. This is based on the fact that such deposits have been discovered in adjacent areas in Waikiki.

Project Impacts

Based on recommendations by Bishop Museum and in compliance with requests by the DLNR Historic Sites Section, backhoe-assisted subsurface testing will be conducted by a qualified archaeologist at the time of demolition. This testing will be conducted in accordance with a research design approved by the Historic Sites Section. The applicant will also comply with departmental guidelines which require the cessation of construction work and the notification of the Historic Sites Section in the event that any archaeological remains are discovered.

J. TRAFFIC

A traffic assessment study was conducted by Pacific Planning & Engineering (PP&E) to determine the proposed project's impact on traffic.¹⁰ The full text of the study is included in Appendix F and additional supporting data is included in Appendix G. A summary of the report follows.

Vehicle access to the subject property is currently provided via Kalakaua Avenue, Ala Wai Boulevard and McCully Street. Traffic volumes on these roadways were documented using traffic counts taken over various 24-hour periods by the City and County of Honolulu, Department of Transportation Services (DTS) and the State Department of Transportation (DOT).¹¹ These 24-hour counts reveal that, over time, the most severe traffic volumes have consistently occurred between the late afternoon weekday peak hour of 4:00-5:00 p.m. Traffic counts by PP&E were also taken on these roadways on December 17 (Thursday) and 29 (Tuesday), 1987 during the afternoon peak hour of 4:00-5:00 p.m.

¹⁰ "Traffic Impact Assessment Report for the Proposed Waikiki Landmark" by Pacific Planning & Engineering, Inc., November 1988.

¹¹ DTS traffic surveys 7/21/87 (Tue)-7/22/87 (W), 10/6/84 (Sat)-10/7/84 (Sun), 10/5/84 (F)-10/6/84 (Sat) on Kalakaua Avenue NW of Lewers Street. DTS traffic surveys 10/8/84 (M)-10/9/84 (Tue), 10/7/84 (Sun)-10/8/84 (M), 10/6/84 (Sat)-10/7/84 (Sun), 10/5/84 (F)-10/6/84 (Sat) at Ala Wai Boulevard SE of Lewers Street. DOT traffic surveys 10/20/88 (Th)-10/21/88 (F), 1/22/87 (Th)-1/23/87 (F), 3/18/85 (M)-3/19/85 (T), 2/8/84 (W)-2/9/84 (Th) on Kalakaua Avenue at Ala Wai Bridge. DOT traffic survey 2/15/84 (W)-2/16/84 (Th) on McCully Street at Ala Wai Canal Bridge. Traffic survey data is included in Appendix G of this report.

Traffic impacts were measured by changes in Level-of-Service (LOS) and capacity levels for each intersection.¹² Present LOS levels at the three intersections adjacent to the subject property indicate a LOS B¹³ with a capacity level of "under capacity." These levels are considered acceptable, with most traffic streams having minor delays.

The LOS level was also determined for the Kalakaua Avenue/Kapiolani Boulevard intersection, a major intersection near the subject property. This intersection has an existing LOS D¹⁴ with a capacity level of "near capacity."

Project Impacts

The traffic impact study assessed anticipated 1991 traffic impacts, with and without the proposed development and focused on the three existing intersections of Kalakaua Avenue/Ala Wai Boulevard, Ala Wai Boulevard/McCully Street, and Kalakaua Avenue/McCully Street. Because traffic counts indicated a heavier afternoon traffic flow than in the morning peak hours, impacts were assessed during the afternoon peak hour of 4:00 pm to 5:00 pm. The Kalakaua Avenue/Kapiolani Boulevard intersection was also assessed to determine anticipated 1991 project traffic impacts.

Based on the types of land uses proposed for the Waikiki Landmark (residential, restaurant, retail) and established trip generation rates, the number of vehicle trips generated by the proposed development was determined. Trips generated by the proposed development were then assigned to the roadway network, based on predicted origins and destinations.

¹² LOS describes traffic conditions in terms of speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. LOS categories range from LOS A, the best, free flow conditions, to LOS F, the worst, congested conditions.

Capacity levels describe whether an intersection is operating over, near, or under capacity.

¹³ LOS B describes operations with delay in the range of 5.1 to 15.0 sec per vehicle usually with good progression and/or short cycle lengths.

¹⁴ LOS D describes operations with a delay in the range of 25.1 to 40.0 sec. per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression. Many vehicles stop, and the proportion of vehicles not stopping declines.

Results from the traffic study indicate that the proposed Waikiki Landmark will increase traffic volumes slightly along major roadways and intersections leading to the subject property. The LOS levels for the three adjacent intersections are expected to remain at LOS E_i with and without the proposed project. The Kalakaua Avenue/Kapiolani Boulevard intersection will remain at LOS D with and without the proposed project.

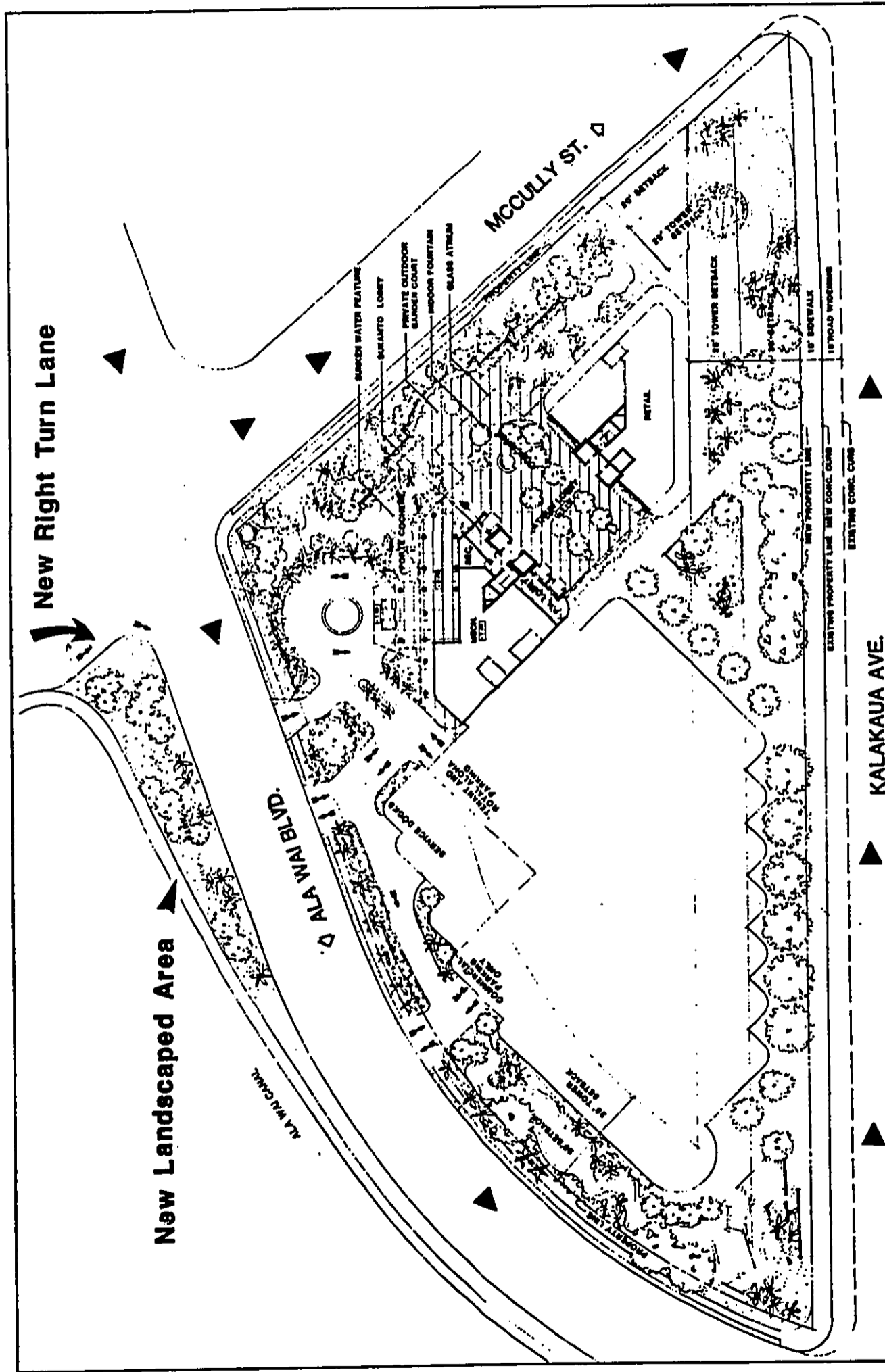
The traffic impact assessment study concludes that all four major intersections near the subject property will remain under or near capacity level and at an acceptable LOS during the afternoon peak hour traffic with the addition of the Waikiki Landmark. The traffic study also indicates that the LOS at the major intersections studied are expected to improve with the proposed City and County improvements for Kalakaua Avenue and the improved traffic signal control system to be completed by 1993.

Based on the traffic impact study's findings and in accordance with discussions conducted with the Traffic Engineering Division of DTS (see Appendix O) , the following provisions will be made for vehicle access to the Waikiki Landmark in accordance with the revised Traffic Circulation Plan (see Figure II-9)¹⁵.

- 1) All vehicle access to the development (one exclusive entry and two entry/exists) will be provided from Ala Wai Boulevard (access for ingress and egress will be physically separated and appropriate signage will be installed);
- 2) A new right turn lane from McCully Street onto Ala Wai Boulevard will be constructed by the developer in coordination with DTS;
- 3) The existing right turn lane from McCully Street onto Ala Wai Boulevard will be scarified and the strip of land between Ala Wai Canal and Ala Wai Boulevard will be landscaped by the developer.

Adequate site distances meeting the existing speed limit requirements will be provided at all driveway connections for vehicles as well as for pedestrians. Landscaping, structures and new street appurtenances will be situated so as to not obstruct vehicular sight distance to other vehicles and pedestrians. Costs to modify any traffic signals or signage associated with the project will be borne by the developer.

¹⁵ This plan represents a revision from the initial plan presented in Figure 2 of Appendix F.



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Exhibit III-9
Revised Traffic Circulation Plan
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K. PARKING

A physical count of existing parking available on the subject property was conducted in November 1989. The survey revealed that 322 designated parking stalls (i.e. marked stalls) currently exist on the entire subject property. A number of these designated stalls are currently occupied by wrecked or stored vehicles. Approximately 85 percent of the existing parking is provided on a pay basis. The remaining parking is restricted, by a cable fence, for use by patrons of the businesses on the subject property which front Kalakaua Avenue.

Of the total 322 designated parking stalls, 135 stalls are currently allocated for use by the residents of the Royal Aloha Condominiums through a development agreement. As a result, only 187 parking spaces are actually available for use by the general public and patrons of the businesses on the subject property.

Project Impacts

As outlined in Section II.C.3, the proposed development will increase the total amount of available parking. A total of 589 off-street parking stalls will be provided. The development proposal specifies the provision of 454 parking spaces for residential and commercial use on the subject property. This represents an excess of 212 parking spaces over the number required by the LUO for these land use activities. In accordance with a development agreement, 135 parking spaces will also be provided for use by the residents of the Royal Aloha Condominiums.

The proposed development's parking will be devoted for parking purposes only. No spaces will be used for the storage of wrecked vehicles or other debris.

L. AIR QUALITY

An air quality impact study was conducted by University Associates, Inc. for the proposed project.¹⁶ The full text of the study is included in Appendix H of this report, and a summary follows.

¹⁶ "Air Quality Assessment Report for the Proposed Walkiki Landmark, Revision of January 1988 Report" by University Associates, Inc., February 1989.

According to University Associates, traffic is the major source of pollutants in the vicinity of the subject property. The study focused on carbon monoxide (CO), the major emission from vehicular traffic.

Carbon monoxide was monitored for one week (January 6 - 13, 1988) at the subject property. CO concentrations were compared with CO readings at the Department of Health (DOH) long term site on Kalakaua Avenue in order to estimate long term CO levels at the subject property. The DOH sets standards relating to the second highest annual CO readings.¹⁷

At the subject property, the 1987 estimated second highest one hour and eight hour concentrations, 9.4 ppm (parts per million) and 5.0 ppm, respectively, exceeded the State Ambient Air Quality Standards (AAQS).

Project Impacts

Despite the anticipated slight increase in traffic volumes along major roadways leading to the subject property, the air quality in the vicinity of the subject property is expected to improve in 1991.

According to the U.S. Environmental Protection Agency, CO emission rates for cars will continue to drop over the next decade, as new cars are fitted with better catalytic converters and old cars are retired.¹⁸ Thus, despite the anticipated traffic increase, reduced vehicular emissions are expected to result in lower CO concentrations at the subject property.

University Associates, Inc. estimated the second highest one hour concentration for 1991 for the subject property with the proposed project to be 7.6 ppm, which is below the 1987 estimate of 9.4 ppm, and below the State AAQS of 8.7 ppm (see Table III-1). Similarly, the second highest eight hour concentration for the subject property in 1991 is projected to be 4.0 ppm, which is lower than both the 1987 estimate of 5.0 ppm and the State AAQS of 4.35 ppm.

¹⁷ The highest annual reading is used to establish the level which can only be exceeded once per year and is usually considered a unique event. Thus, the second highest reading is used to set the standard.

¹⁸ It is expected, however, that unless new Federal emission standards are enacted, this downward trend will reverse and, as traffic volumes increase, pollutant emissions will rise in the next 10-15 years. See comment letter from Jim Morrow, American Lung Association of Hawaii in Appendix B.

For 1991, without the proposed project, the estimated second highest one hour CO concentration for the subject property is 7.0 ppm and the second highest eight hour concentration is estimated to be 3.7 ppm. Both are close in value to estimates given for the subject property with the proposed project and are below the State AAQS. In conclusion, the proposed project can be expected to produce slightly higher CO levels but despite this increase the total CO concentrations for the subject property are projected to be below existing levels and in conformance with state AAQS.

Table III-1
**Estimated Second Highest CO Concentrations (In ppm) in 1991
 for the Subject Property**

	Concentrations	
	One Hour	Eight Hour
State AAQS	8.7	4.35
Existing (1987)	9.4	5.0
In 1991 w/ Project	7.6	4.0
In 1991 w/o Project	7.0	3.7

M. NOISE CONDITIONS

Darby and Associates conducted a noise impact evaluation for the proposed development.¹⁹ The full text of the study is included in Appendix I and a summary of the study follows.

The noise study indicated that motor vehicle traffic was the primary source of noise in the vicinity of the subject property. Other noise sources included aircraft flyovers, people talking or shouting in the streets, mopeds and motorcycles, trash collection operations, loud amplified music from automobiles, and demolition/construction activities in the area.

Project Impacts

The project is expected to have a limited impact on noise in the area. The project will generate a slight increase in traffic noise, the main source of noise in the area.

¹⁹ "Noise Impact Evaluation for the Proposed Walkiki Landmark Project" by Darby & Associates, January 1988.

Predicted noise level increases for listeners on the sidewalk and on lanais up to the third floor range from no change (on Ala Wai Boulevard), to less than one decibel (on Kalakaua Avenue and the makai portion of McCully Street), to almost two decibels (the mauka portion of McCully Street).

For listeners on lanais on the upper floors, the noise study indicated that the proposed development will tend to block (and thus reduce) some traffic noise impacts from some distant streets, as well as trap, or cause a reverberant noise buildup of sounds from the roadway in the space between an existing high rise building, and the proposed development. The net result, however, is that one effect will tend to counteract the other, and the resultant noise impact is expected to be negligible.

Construction of the project may generate a significant amount of noise, and the applicant will obtain a noise permit from the Department of Health (DOH). The permit specifies noise level conditions for construction activities, and restricts certain construction activities to specific times during the day. Construction will be conducted according to all regulations as specified by the DOH.

Darby and Associates indicated that noise associated with the operation of the project (air conditioning equipment, exhaust fans, trash compactors, parking garage activity, deliveries or trash collection) is not expected to exceed State and City and County of Honolulu noise regulations.

The project design will include noise mitigation measures to reduce potential noise impacts. Air conditioning equipment, exhaust fans, trash compactors and loading docks will be properly situated to minimize noise impacts.

N. VISUAL

Existing views of the subject property are inventoried in this section, both descriptively and by the use of photographs. Short and long-term effects on views of the site which will result from the development of the Waikiki Landmark are assessed and measures are proposed to minimize adverse effects.

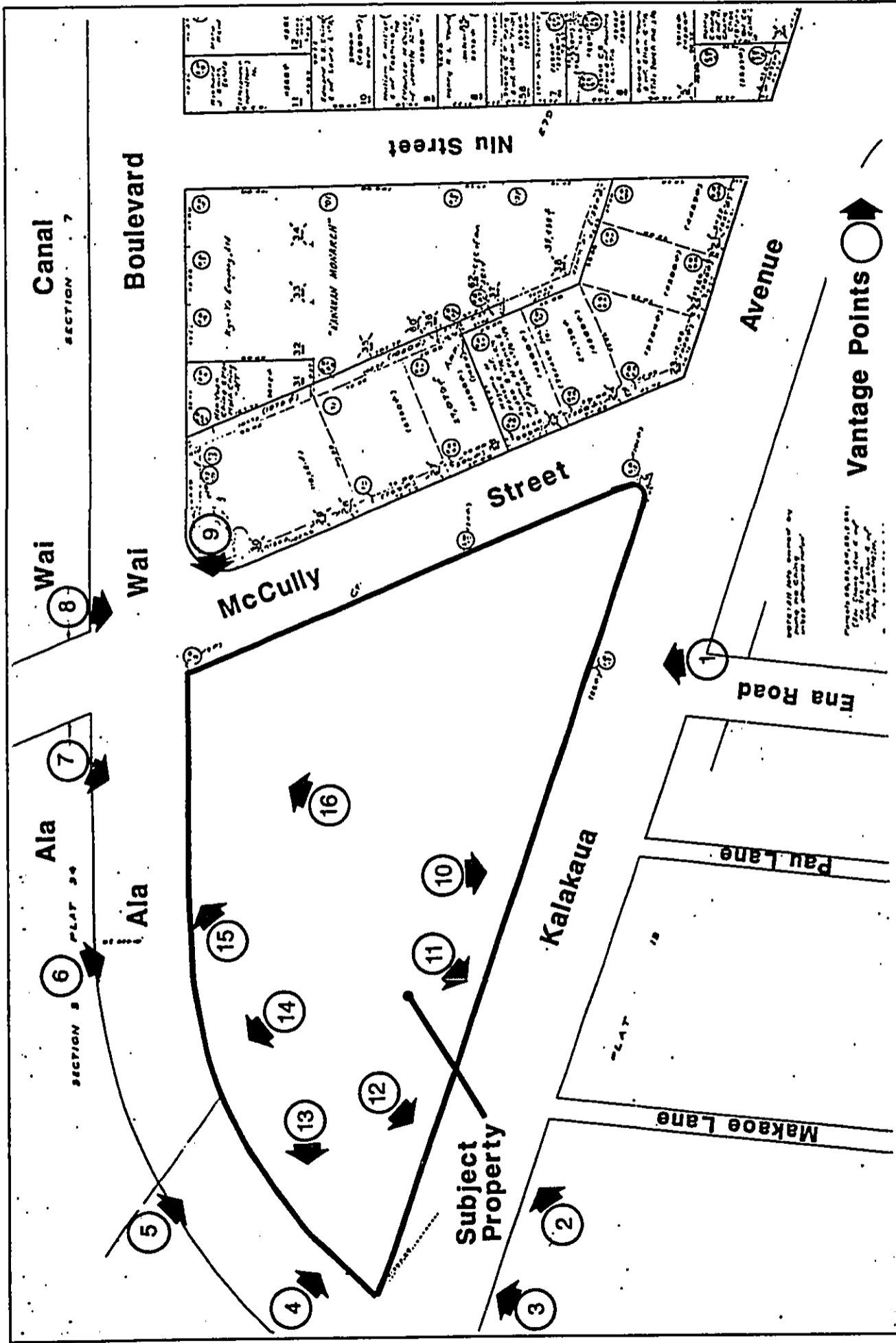
Views from the subject property reflect the transitional nature of the northwestern end of Waikiki. Medium and high density land uses are interspersed between less intensive uses,

dilapidated buildings and vacant land areas. Views looking north from the subject property include the Ala Wai Canal, the vacant Aloha Motors site and the low to medium density residential and commercial uses characteristic of the McCully neighborhood area. Visible to the east of the subject property is the 16-story Royal Aloha Condominium building. A variety of commercial and residential uses are visible to the south of the subject property including the Kalakauan Condominiums, Pink Cadillac, the 7-Eleven convenience store, a dilapidated vacant brown building and various adjacent high rise residential apartments. Visible to the west of the subject property is On Stage Hawaii, Wave Waikiki, the Nanea Condominiums, 1833 Kalakaua (a 10-story office building) and various adjacent high rise residential apartments.

Views of the ocean from the vicinity of the subject property are obstructed by existing high rise residential apartment and hotel buildings. Some mauka views from the vicinity of the subject property are also obstructed by existing high rise buildings.

The existing views of the subject property from surrounding vantage points present a conglomeration of small businesses and parking lots with no unity or landscaping. Most of the buildings on the property are in a poor state of repair. Portions of the property's parking lot is being utilized for storage of wrecked autos, old buses and other debris. This results in a "honky-tonk" effect which is generally viewed as an eyesore by the surrounding residents, pedestrians and visitors traveling by the area.

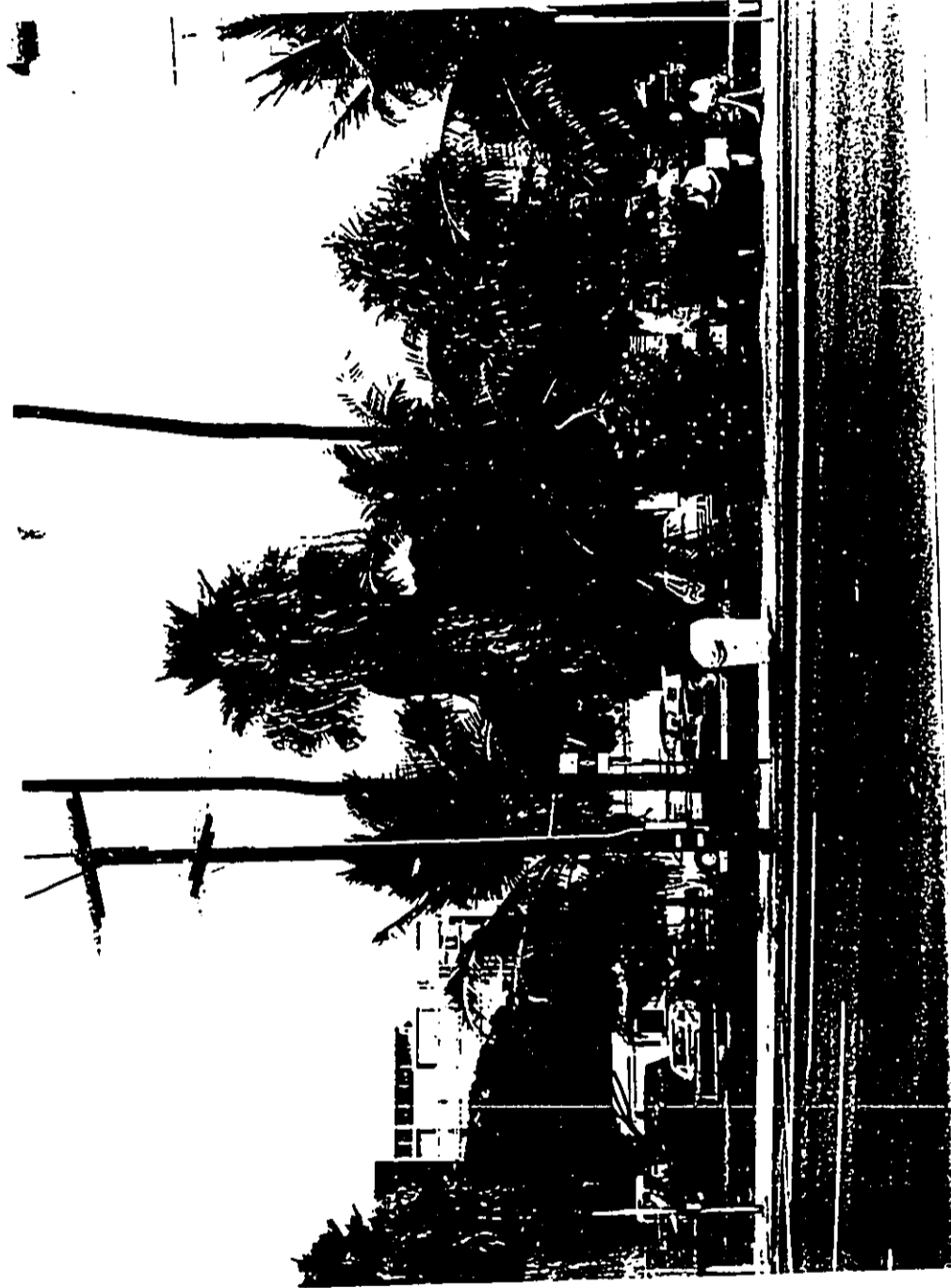
A view study key map (Exhibit III-10) references photographs from various vantage points. These photos are presented in Exhibits III-11 through III-26.



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Exhibit III-10
View Study Key Map
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Exhibit III-11
Vantage Point ① (Subject Property Looking Northeast)
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Exhibit III-12

Vantage Point ② (Subject Property Looking East)

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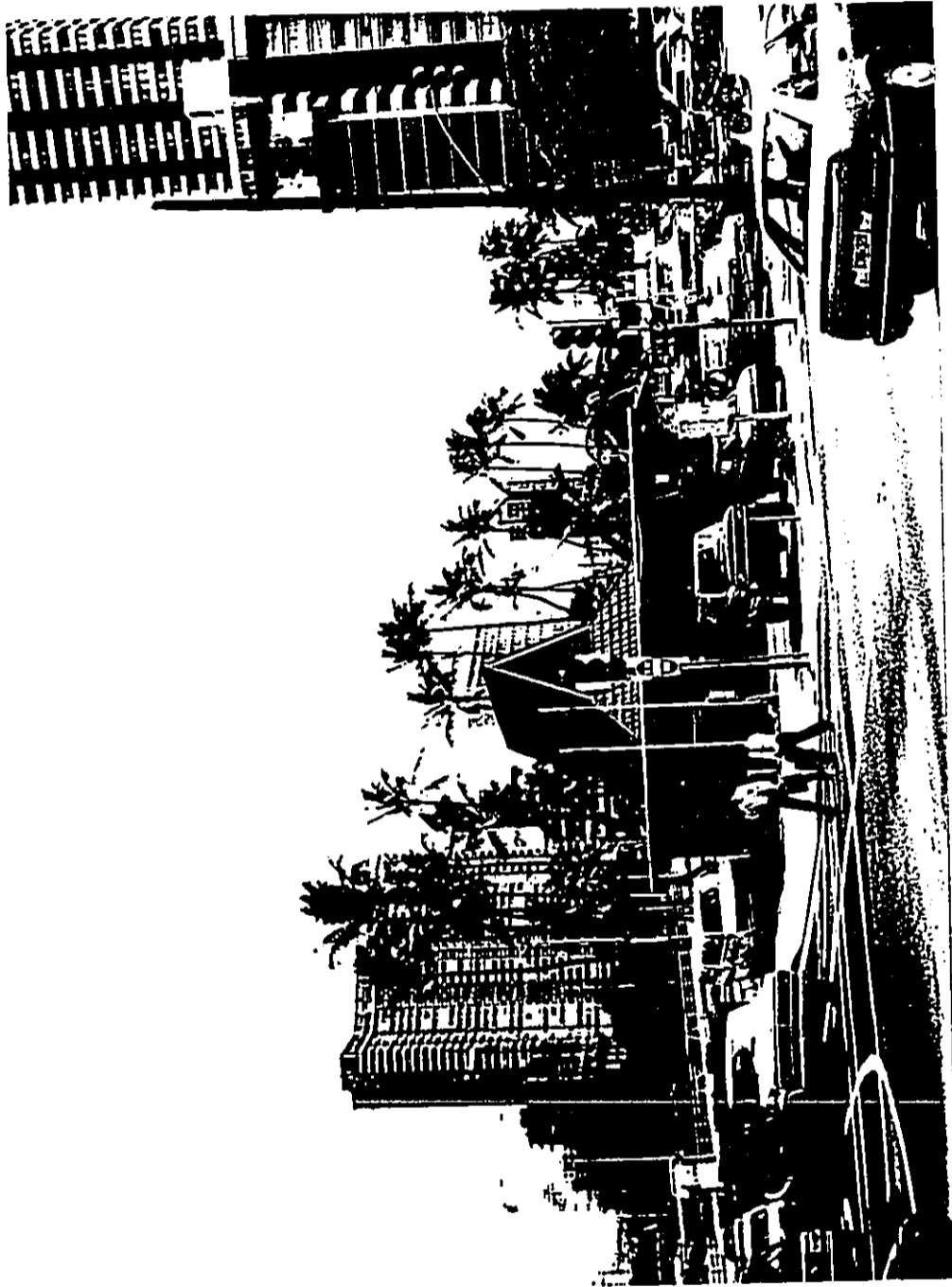
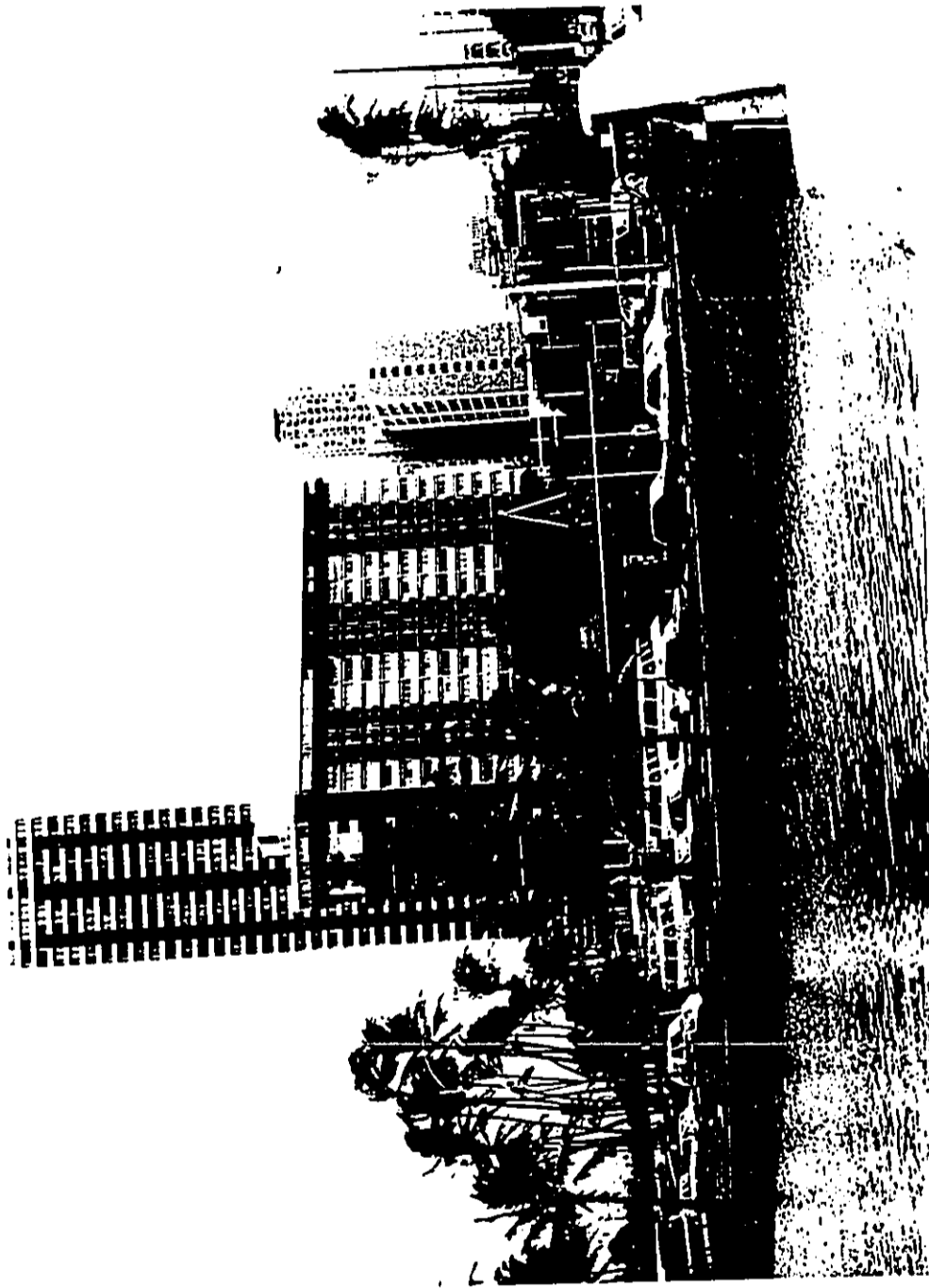


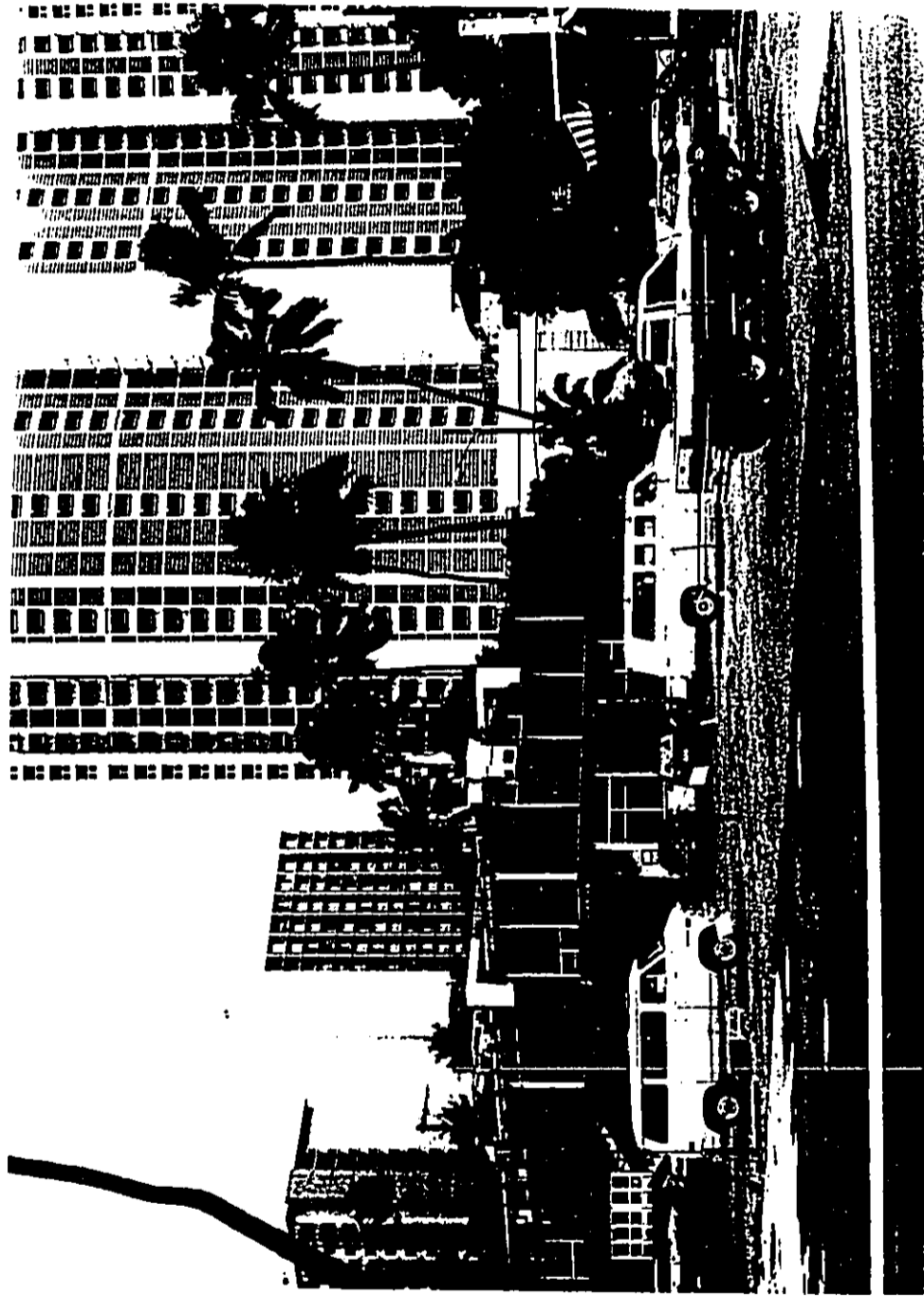
Exhibit III-13
Vantage Point ③ (Subject Property Looking Northeast)
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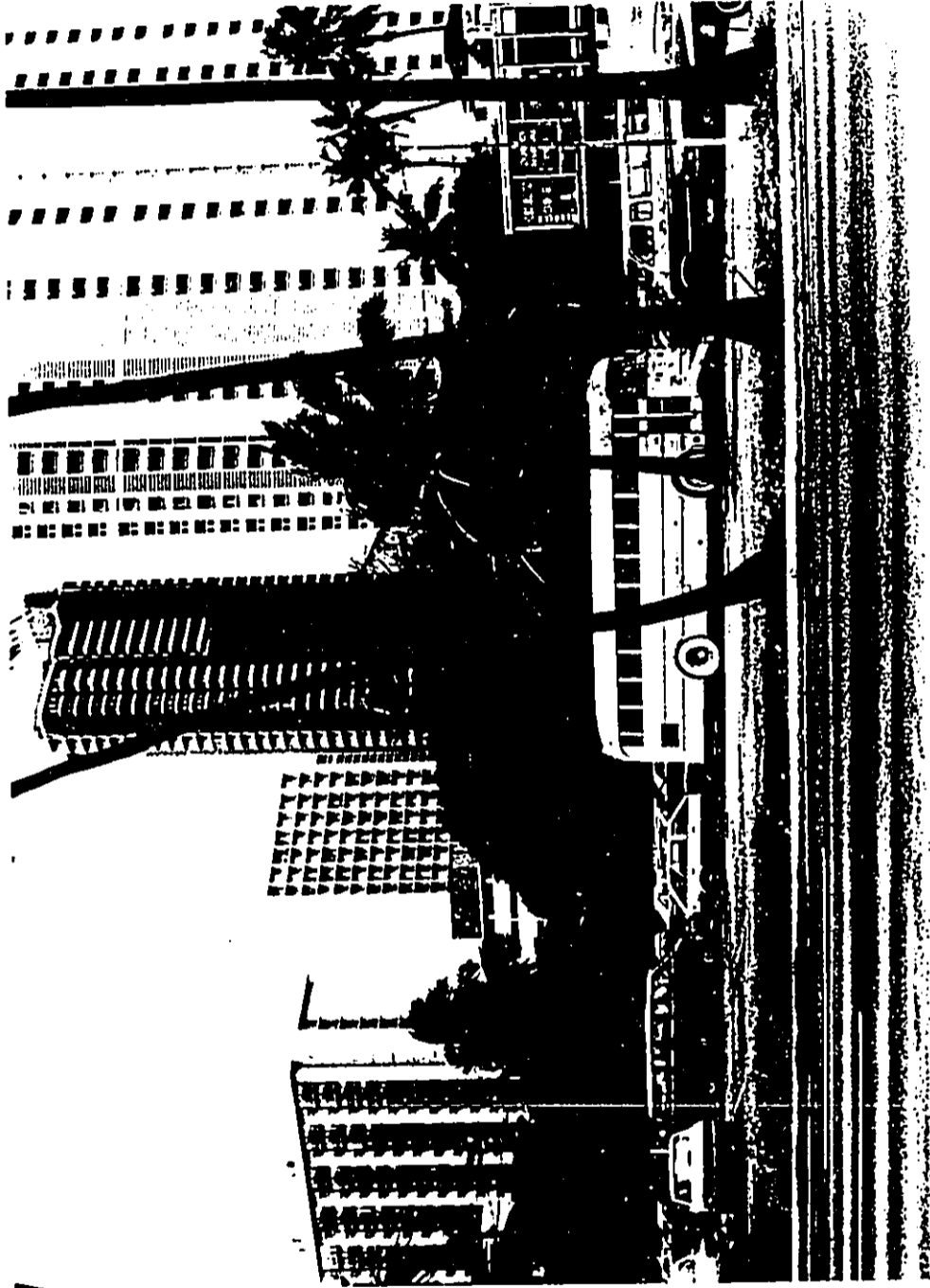
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Exhibit III-14
Vantage Point ④ (Subject Property Looking South)
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Exhibit III-15
Vantage Point ⑤ (Subject Property Looking South)
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Exhibit III-16
Vantage Point ⑥ (Subject Property Looking South)
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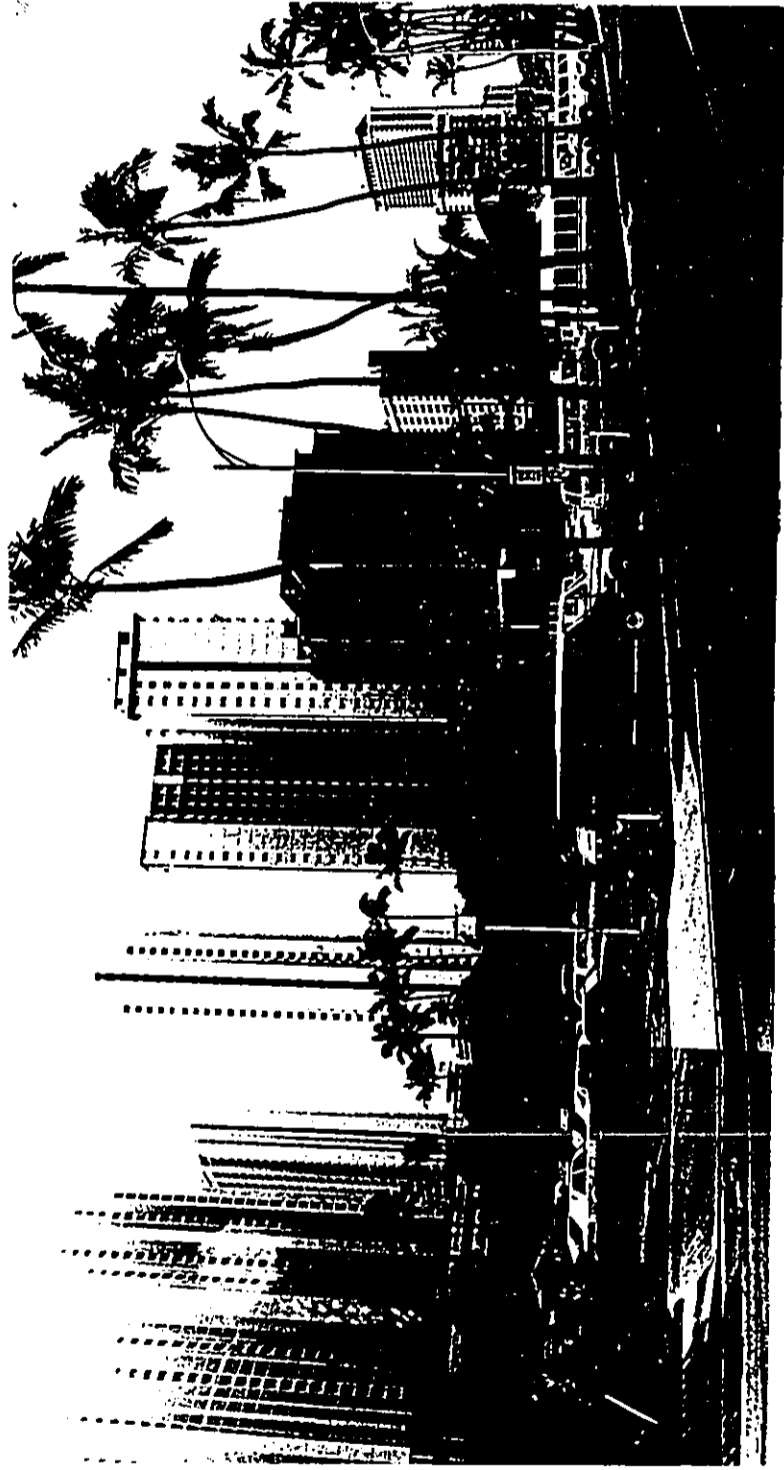


Exhibit III-17

Vantage Point ⑦ (Subject Property Looking Southwest)

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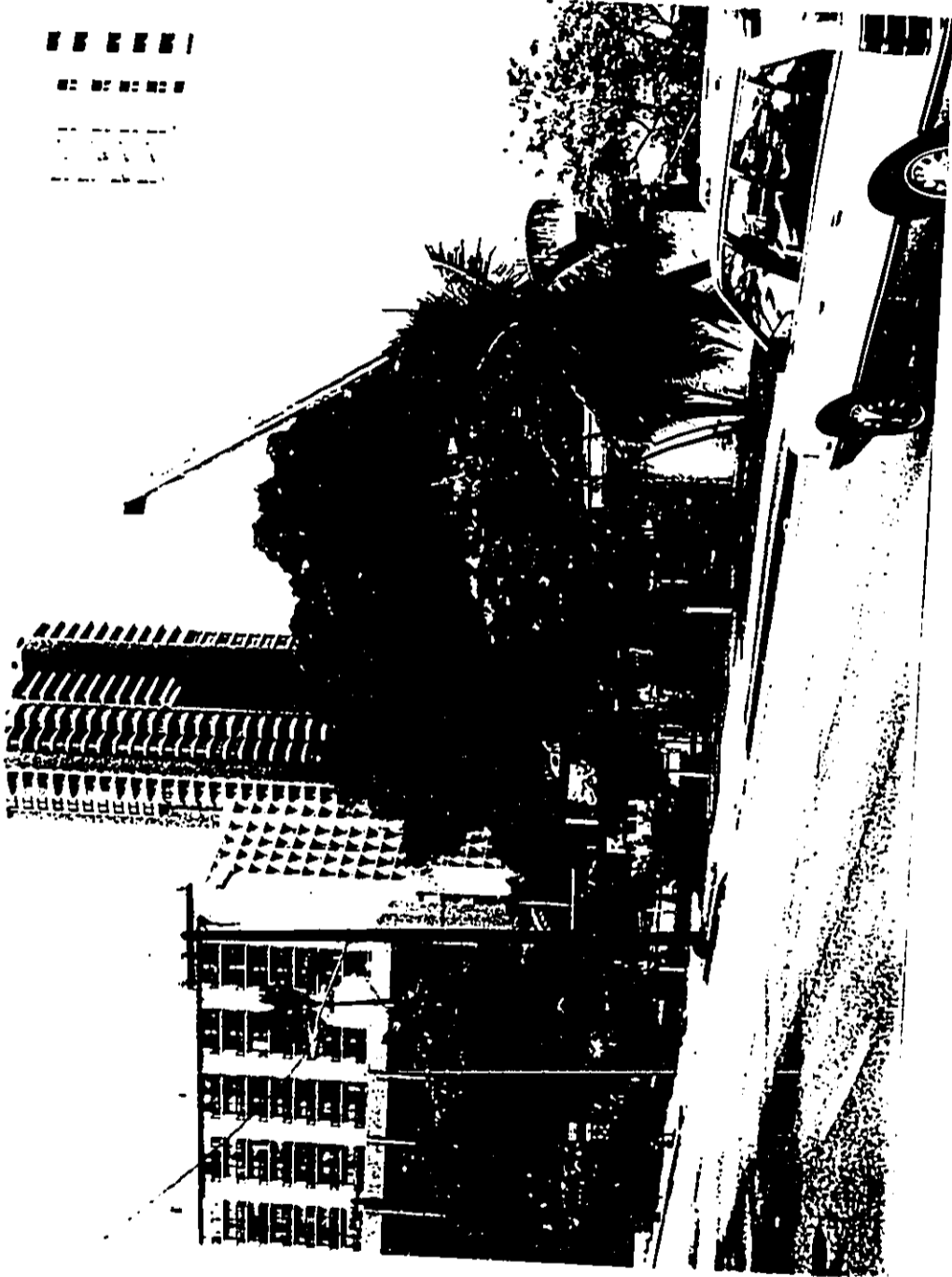


Exhibit III-18

Vantage Point ⑧ (Subject Property Looking Southwest)
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Exhibit III-19

Vantage Point ⑨ (Subject Property Looking Northwest)

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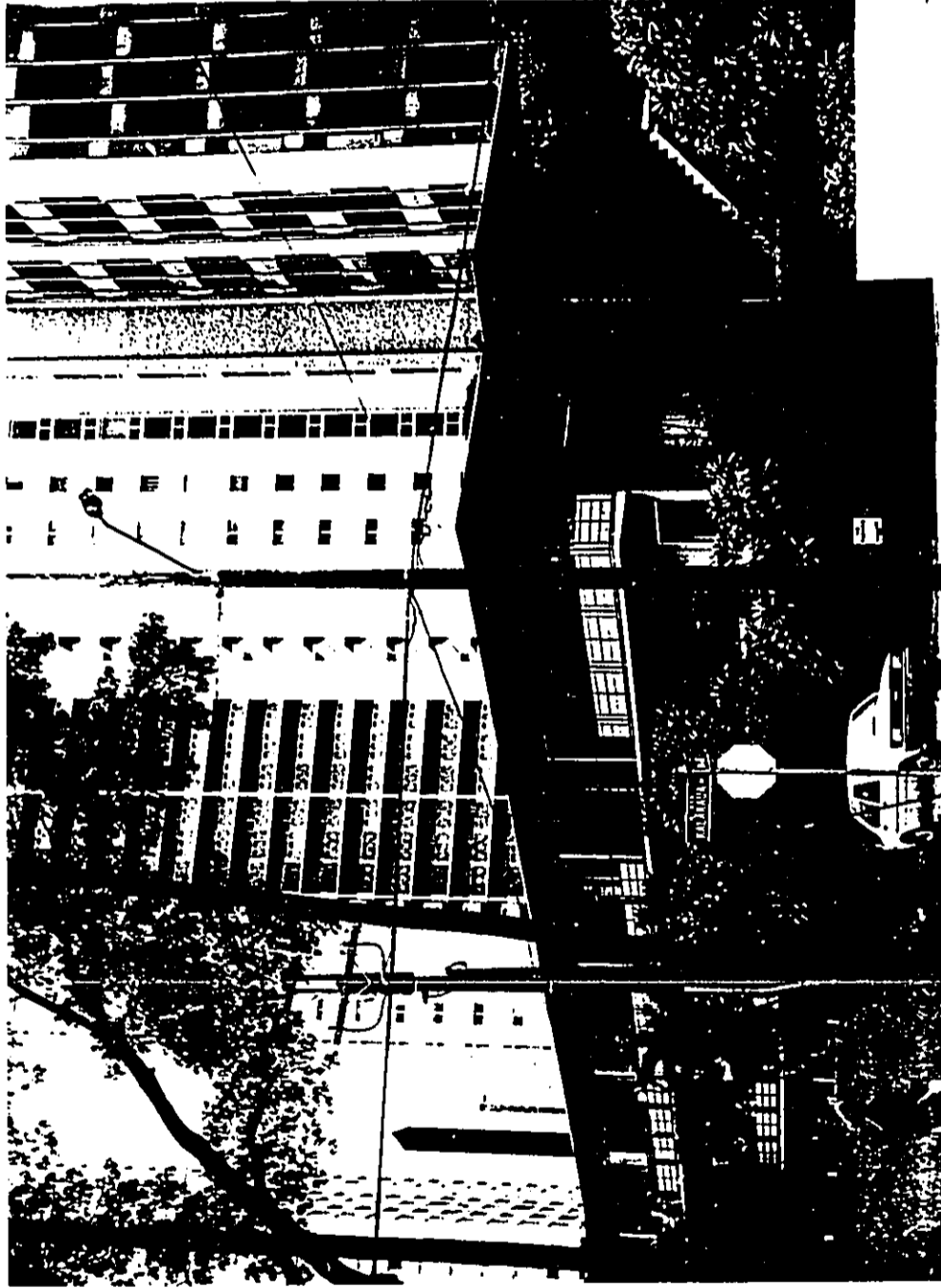
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Exhibit III-20

Vantage Point (10) (From the Subject Property Looking Southwest)
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Exhibit III-21
Vantage Point (11) (From the Subject Property Looking Southwest)
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Exhibit III-22

Vantage Point (12) (From the Subject Property
Looking West)

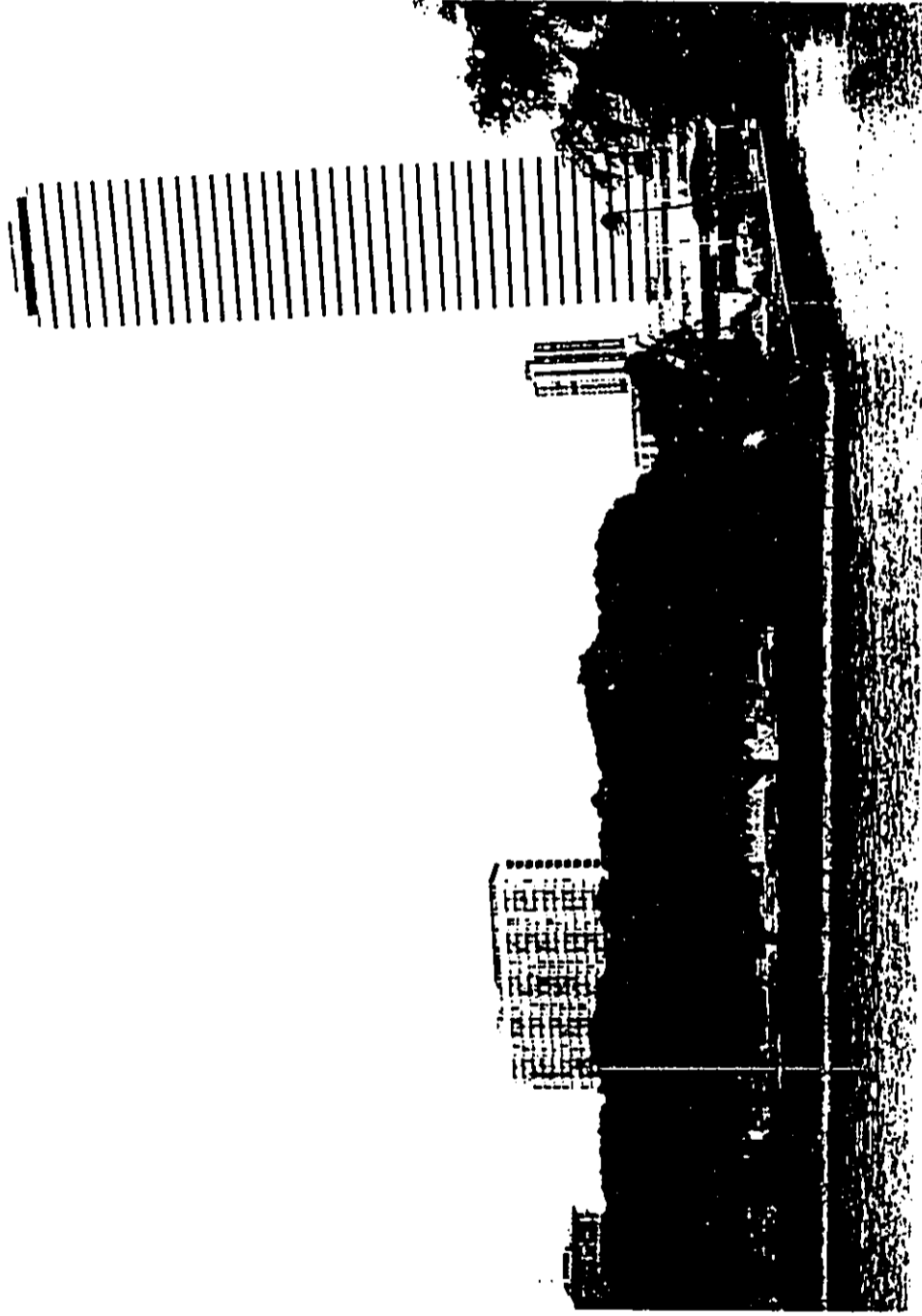
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Exhibit III-23
Vantage Point 13 (From the Subject Property Looking Northwest)
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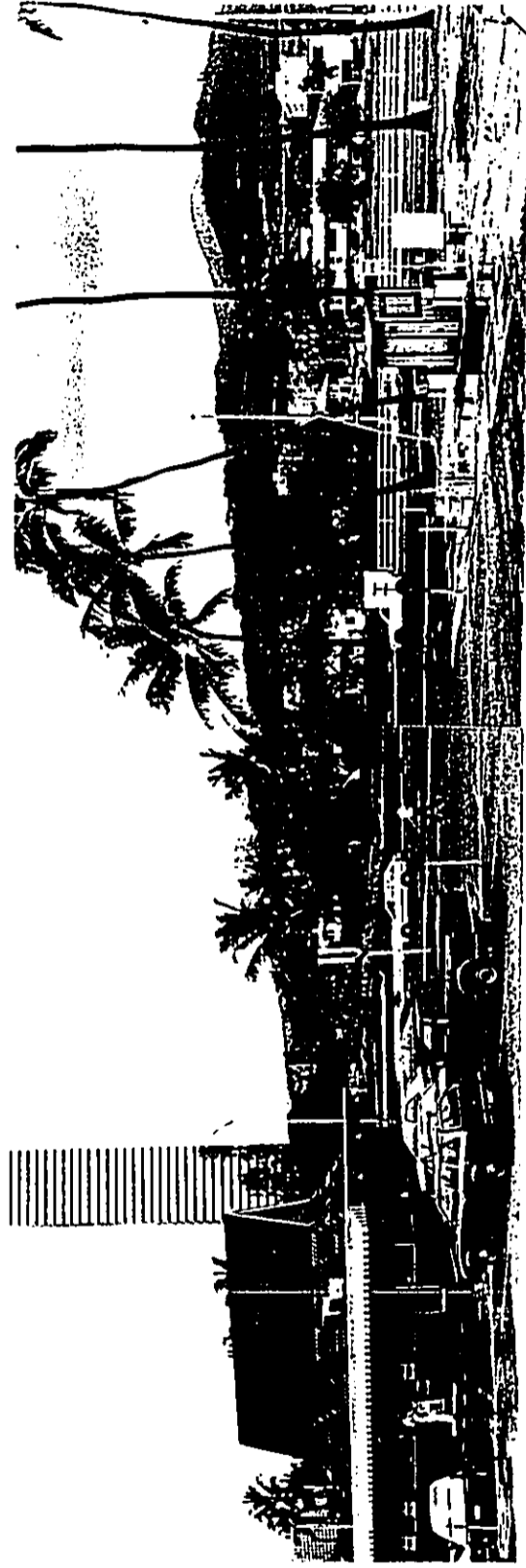


Exhibit III-24

Vantage Point 14

(From the Subject Property Looking North)

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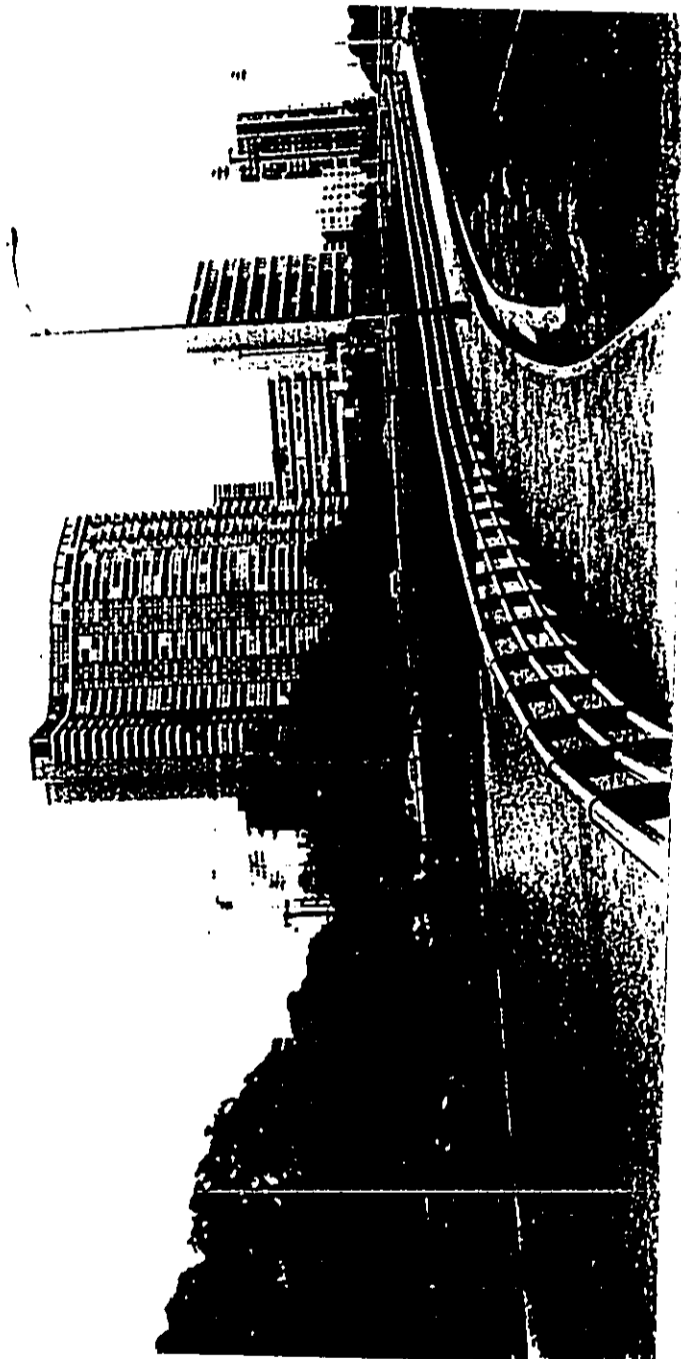


Exhibit III-25

Vantage Point (15)

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(From the Subject Property Looking East)

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Exhibit III-26
Vantage Point (16) (From the Subject Property Looking Northeast)
WAIKIKI LANDMARK

Project Impacts

The project design was prepared in an effort to enhance the visual quality of the area. The following urban design and visual factors were the basis for the proposal's preparation:

1. Maintain maximum open space with emphasis at street corners.
2. Develop the Kalakaua/Ala Wai intersection as "symbolic gateway" to Waikiki. Provide large open spaces and low buildings at this end.
3. Develop Kalakaua Avenue as a main street concept.
 - Maximize openness and the vista toward Diamond Head.
 - Maximize tower setbacks and non-parallel tower orientation.
4. Preserve the mauka-makai sight lines through the subject property.

The proposed project design, two slender towers, 80-feet apart with the top five floors connected, may be a new look on O'ahu. However, the 80-foot space between the towers gives a visual appearance of two slender towers instead of a lower, "block style" building with the same density, which would dominate the entire subject property and impact more view planes.

Because existing buildings block views of the ocean, the project is not expected to have any impact on ocean views. The proposed development will impact upon the mauka views of properties located across Kalakaua Avenue from the subject property. However, many of these views have already been obstructed to some extent by other high rise developments mauka of the Ala Wai Canal. In an effort to minimize this impact the development's towers will be situated on the southeastern end of the subject property.

Ewa views from the Royal Aloha Condominium will be obstructed by the proposed development. Portions of this view are, however, already obstructed by the Century Center residential/commercial building on Kalakaua Avenue. In the future this view plane may be further obstructed by the development of the vacant Aloha Motors site.

Overall, the appearance of the subject property will be significantly improved. Development setbacks will provide a feeling of openness for pedestrians and motorists along all sides of the project. This will be especially true for the project's Kalakaua Avenue and Ala Wai Boulevard

sides. The design of the project which incorporates water features, public art and extensive landscaping will present a visually unified appearance to the subject property which is presently lacking.

Q WIND

The prevailing winds at the subject property are Northeast/East Northeast (NE/ENE) normal trade winds. The average wind speed recorded for Honolulu in 1986 was 11.5 miles per hour (mph) with a high of 46 mph during the year.²⁰ The highest speeds are usually recorded during the period from April-August with a range of 86%-95% trade wind frequency during these months. The winter months of November-February have a range of 42%-64% trade wind frequency.

A wind tunnel study was conducted by Cermak Peterka Petersen, Inc. to determine: 1) pedestrian-level wind climate at primary locations of pedestrian activity on the proposed Waikiki Landmark site; 2) changes in pedestrian-level wind climate surrounding the proposed Waikiki Landmark site; and 3) evaluation of levels of pedestrian comfort.²¹ The complete text of the study is included in Appendix J and a summary of the study follows.

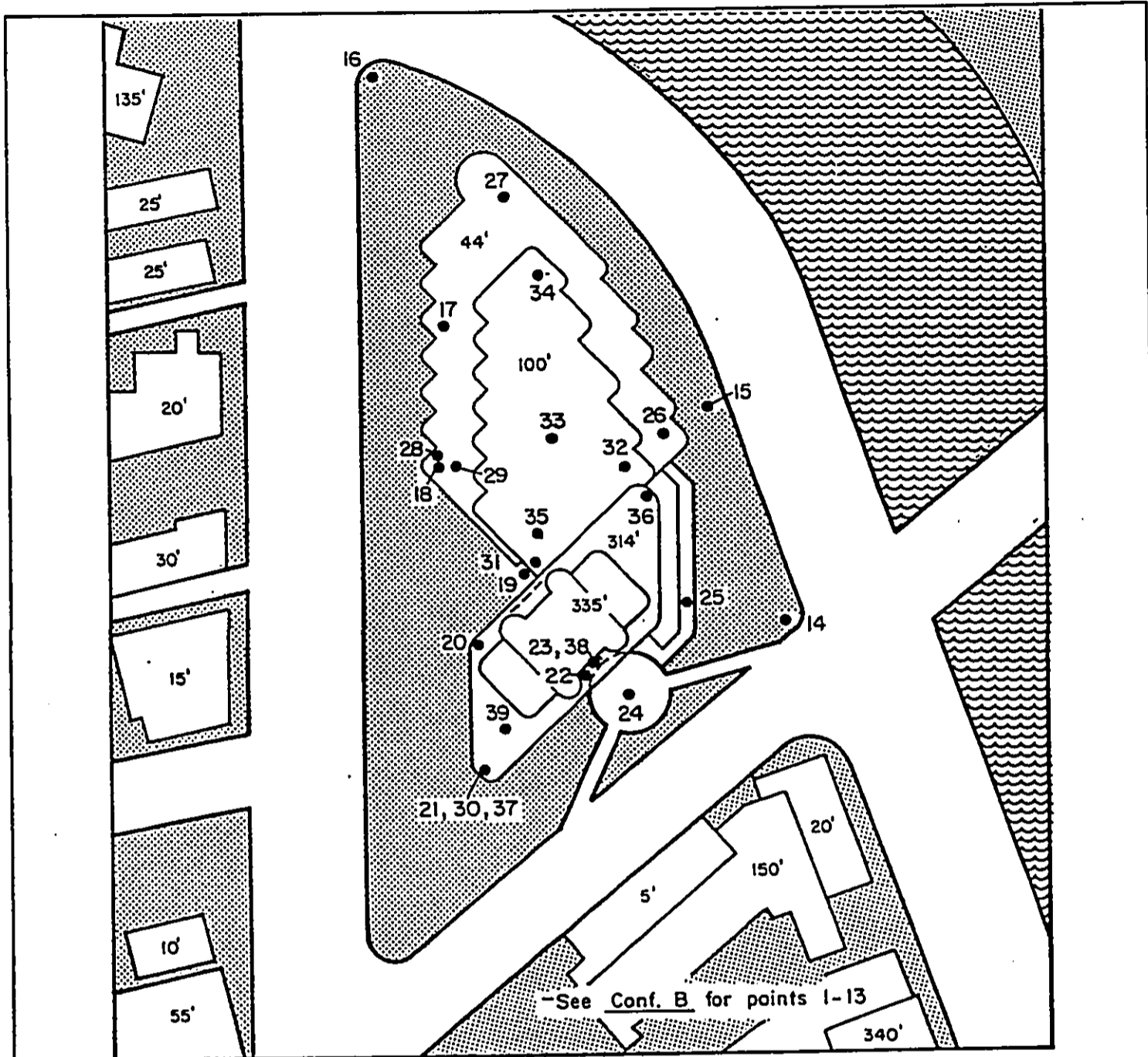
Project Impacts

A model of the proposed Waikiki Landmark was constructed and a flow visualization study conducted at the beginning of the test using smoke to make wind currents visible, to observe flow patterns and to identify areas of flow patterns which might produce significant pedestrian discomfort. In general, pedestrian discomfort will occur with wind speeds in excess of 30 miles per hour (mph). Measurements of mean and peak gust wind speeds were made at 24 locations without the Waikiki Landmark in place and at 39 locations with the Waikiki Landmark present. (see Exhibits III-27 and III-28). Measurements of means and peak gust wind speeds were taken at a height of 5-7 feet above the surface with the proposed project in place.

Evaluation of the changes in pedestrian level wind speeds in the areas surrounding the proposed project were made by comparing wind speeds at locations 1-16 with and without the Waikiki

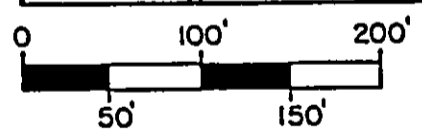
²⁰ The State of Hawaii Data Book, 1987, Department of Business and Economic Development, 1987.

²¹ "Wind-Tunnel Tests: Waikiki Landmark, Honolulu, Hawaii" by Cermak Peterka Petersen, Inc., July 1989.



CONFIGURATION A

21°



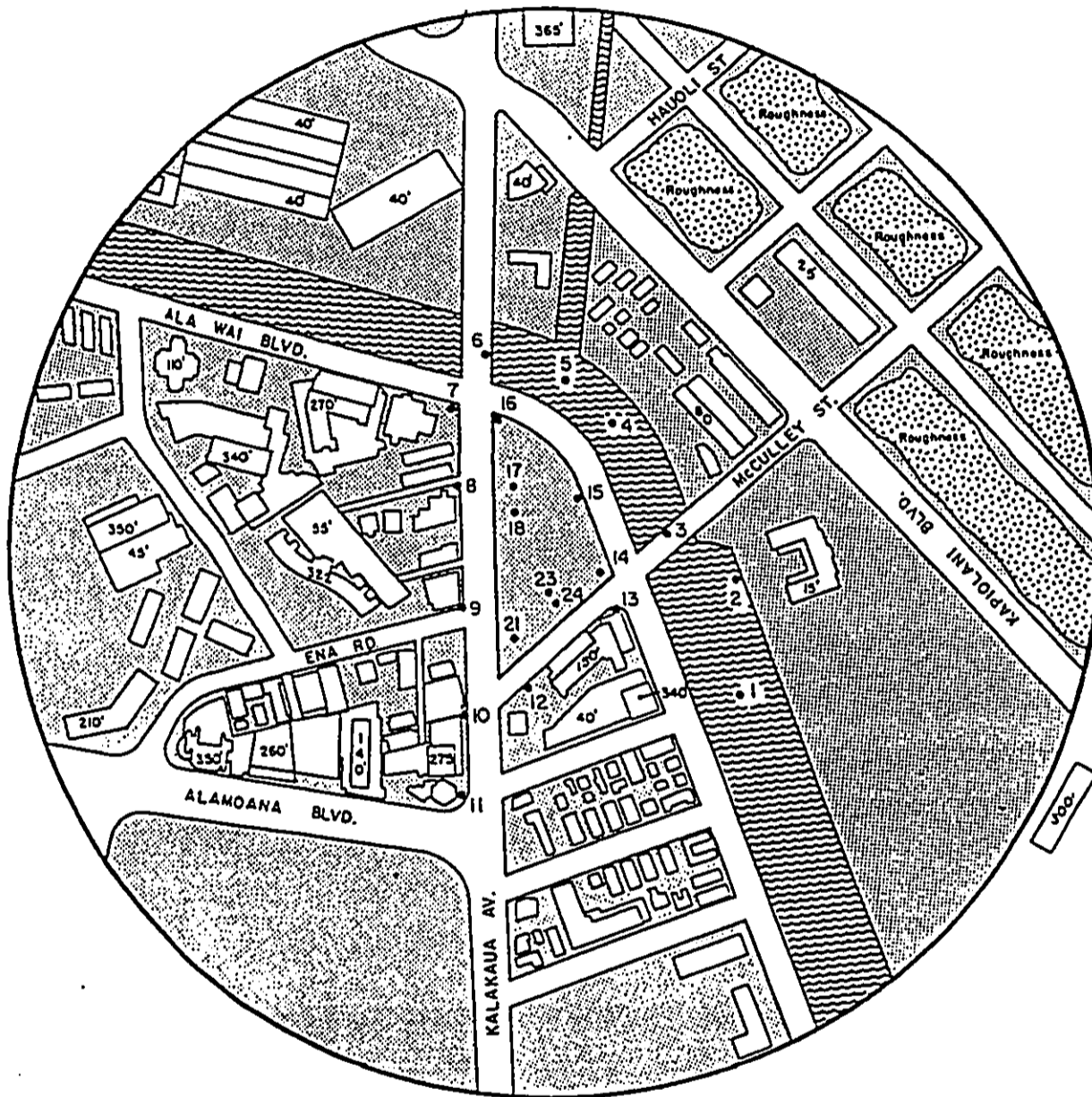
- Points 14, 15, 16, 19 and 24 are at ground level.
- Points 17, 18 and 20-23 are at ground level under soffit.
- Point 25 is on balcony at el. 22'.
- Points 26, 27 and 29 are on garage roof at 44'.
- Point 28 is on balcony at el. 28'.
- Point 30 is on balcony at el. 25'.
- Point 31 is on garage level at el. 85'.
- Points 32-35 are on garage roof at el. 100'.
- Points 36, 37 are on upper soffit at el. 272'.
- Point 38 is on upper soffit at el. 304'.
- Point 39 is on roof at el. 314'.

Source: Cermak Peterka Petersen, Inc.,
July 1989

Exhibit III-27
Wind Velocity Measurement Locations
With the Waikiki Landmark



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CONFIGURATION B

- Waikiki Landmark out.
- Points 1-18, 21, 23 and 24 are located at ground level.

Source: Cermak Peterka Petersen, Inc., July 1989

**Exhibit III-28
Wind Velocity Measurement Locations
Without the Waikiki Landmark**



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Landmark. For locations 1-3 which are located east and southeast of the subject property along the Ala Wai Canal and on McCully Street, the wind speeds are essentially unchanged. A modest increase at 25% for wind speed and 30% for the peak gust was experienced at locations 4-6 (north of the subject property on the Ala Wai Canal and Kalakaua Avenue) with the Waikiki Landmark. However, the wind speeds at these locations are within the acceptable criteria. For locations 8-16 along Kalakaua Avenue, McCully Street and Ala Wai Boulevard, only locations 10, 13 and 16 will experience wind speed increases. Location 10 will experience doubled wind speed 1% of the time and 25% wind speed increases for locations 13 and 16. The peak gust speed at these locations will be increased by about 50%. The increases in wind speed at the locations to be used as walkways are determined to be acceptable. For all of these locations, a mean wind speed of 20 mph will be exceeded 1% or less of the time.

In summary, the wind tunnel study determined that wind speeds over surrounding areas will be within the acceptable range with the Waikiki Landmark. Evaluation of the changes in pedestrian level wind speeds over the subject property indicate that four locations, 30, 32, 33 and 36²², will have unacceptable wind speeds with the construction of the Waikiki Landmark. Location 33 on the garage roof at approximately 100 feet is of greatest concern because this is the location of the swimming pool. The mean wind speed will exceed 31 mph 1% of the time and 22 mph 10% of the time while peak gusts will exceed 54 mph 1% of the time and 42 mph 10% of the time.

Architectural additions of wind screens are suggested as an effective solution to permit satisfactory use of this area as planned. Development of an effective wind-screen configuration will require wind speed measurements for various configurations which are aesthetically and economically acceptable.

P. SHADOW

There are no buildings over two stories existing on the subject property. Because of the current uses on the subject property, no shadows impact the surrounding area.

²² Location 30 is on balcony at elevation of 25 feet. Locations 32 and 33 are on the garage roof at elevations of 100 feet. Location 36 is on upper the soffit at an elevation of 272 feet.

A shadow study was conducted by TRB Hawaii, Ltd. to determine the impact of shadows cast on the surrounding area by the proposed Waikiki Landmark.²³ The complete text of the study is included as Appendix K and a summary of the study follows.

Project Impacts

Two design alternatives were evaluated in the study.²⁴ A discussion of the project impacts for the selected design alternative follows.

A shadow was judged to have an impact if it reached the sidewalk on the opposite side of a street from the subject property. The percentage of shadow length on the sidewalk was then estimated. When a shadow did not reach an opposite sidewalk or remained on the subject property, it was determined not to have an impact. Shadows for each condition were photographed for one representative day of each month in two-hour increments (see Appendix K).

Shadow impacts were evaluated for the three roadways surrounding the subject property. In general there was no shadow impact across McCully Avenue until after 12:00 noon. This is because the sun is to the east of the subject property and casts a shadow to the west. Similarly, the shadow impacts on Kalakaua Avenue do not occur until after 12:00 noon. This is because the sun is in the west in relation to Kalakaua Avenue and casts shadows toward the east. Ala Wai Boulevard experiences a shadow impact throughout the middle of the day during the later months of the year when the sun is at a low angle.

In conclusion, the proposed Waikiki Landmark will cast shadow patterns on the surrounding area. The proposed project does not, however, create a permanent day-long shadow on any surrounding area. Furthermore, the anticipated shadow impacts are "positive" in a sense that it relieves the impacted buildings from the afternoon sun. In Hawaii's subtropical climate, the mid-afternoon is the hottest part of the day. A shadow cast from another building often offers a relief from the direct sunlight and in some cases has resulted in a decrease in electrical needs for air conditioning.

²³ "Waikiki Landmark Shadow Study" by TRB Hawaii, Ltd., February 1989.

²⁴ For a complete description of Preliminary Design Alternatives No. 1 and No. 2, see Chapter XI. ALTERNATIVES TO THE PROPOSED ACTION.

Chapter IV

IV. PUBLIC FACILITIES AND SERVICES/PROJECT IMPACTS

A. WATER

Existing water mains within the vicinity of the subject property include a 12-inch main on McCully Street, a 16-inch main on the Ala Wai Boulevard and an 8-inch main on Kalakaua Avenue.

Project Impacts

The project will increase the demand on water resources. Rough estimates²⁵ of the anticipated water usage by the proposed development include:

- 56,400 gallons per day (gpd) for the 188 residential condominiums (based on a standard of 300 gpd per high rise condominium unit).
- 3,666 gpd for the 30,553 net sf of commercial space (based on a standard of 120 gpd per 1,000 sf of commercial space).

Water will also be required for irrigation of landscaped areas. At this date the total amount of landscaped area has not been finalized. As mentioned previously the proposed development will be in accordance with all open space and park dedication requirements. In determining water usage for landscape irrigation, a standard of 4,000 gpd per landscaped acre can be utilized. Preliminary landscape plans estimate that total landscaped open space will not exceed 0.6 acres. Based on this estimate approximately 2,400 gpd will be required for landscaped irrigation.

Based on estimated water needs for residential space, commercial space and landscape irrigation the total project demand for potable water will be 62,466 gpd. In response to the applicant's request, the Board of Water Supply (BWS) has indicated that the water system is currently adequate to handle the proposed project needs (See Appendix L). The BWS will issue a determination of water availability when the Building Permit for the project is approved. Any

²⁵ Telephone conversation with Joe Kaakua, Board of Water Supply, December 23, 1987. Original estimates were based on 375 residential condominiums and 50,000 net commercial sf. The current anticipated water usage reflects the decrease in residential condominiums and commercial area.

additional infrastructure improvements related to water supply for the proposed project will be coordinated with the BWS.

B. DRAINAGE

Storm water currently drains off the subject property into the existing street drainage system. This water drains into the Ala Wai Canal, which drains into the ocean through the Ala Wai Boat Harbor. There are 24-inch drain lines along McCully Street and Kalakaua Avenue, and catchment basins near the subject property on McCully Street and Kalakaua Avenue.

Project Impacts

Because the subject property is already completely paved, the project will not increase the quantity of the water to be drained from the subject property. Rather, with the provision of *increased landscaped open space, the volume of sheet water flow may be reduced.*

Present grading will be maintained. The applicant will submit the drainage system report and application for the necessary government approvals.

During construction, all appropriate precautions will be taken to prevent runoff created by construction activity from entering the Ala Wai Canal and the ocean.

C. WASTEWATER SYSTEM

There is currently a 12" sewer line on Kalakaua Avenue which connects with a 8-inch and a 6-inch sewer line on the subject property.

Project Impacts

The project will not have a significant impact on the wastewater system in the area. While the project will contribute additional wastewater to the existing system, the City and County of Honolulu, Department of Public Works (DPW) has determined the existing infrastructure to be adequate. The applicant's request for connection to the City's sewer system has been approved by the DPW (See Appendix M, August 7, 1989 approval). The applicant will provide for the construction of the project's sewer system and the cost of sewer connection.

D. SOLID WASTE

Solid waste from the subject property is currently collected by a private collection company and the City and County of Honolulu.

Project Impacts

The project will not have a significant impact on solid waste collection services in the area. The developer will provide an adequate number of on-site trash receptacles for pickup by a private refuse collector system. The trash receptacles will be appropriately screened and sealed to minimize any adverse impacts. The project will be in compliance with applicable solid waste collection regulations.

E. PARKS

Park facilities within 3 miles of the subject property include Kapiolani Park, the Waikiki Gateway Park, the Ala Wai Field and Playground, and the Honolulu Zoo. Beach parks also within a 3-mile radius include Ala Moana Beach Park (plus Magic Island), Fort DeRussy, Kuhio Beach Park, and Kapiolani Beach Park.

Project Impacts

Based on an average 1.7 persons per residential unit²⁶, the proposed project will add approximately 320 new residents in the Waikiki area. Residents from the Waikiki Landmark can be expected to utilize the facilities of all of the parks within a 3-mile radius of the subject property.

In compliance with City Park Dedication Rules and Regulations, the applicant will provide recreational facilities within the proposed development. These will include a recreational building/health club, swimming pool, paddle tennis court, and picnic and barbecue areas. All of these facilities will be designed to meet the standards and requirements specified under Rule 10 of the Park Dedication Rules and Regulations.

²⁶ State of Hawaii Data Book 1988, Department of Business & Economic Development, 1988.

In accordance with a request by the City and County of Honolulu, Department of Parks and Recreation, the applicant will begin discussions the Department's staff to establish the areas and facilities which are being proposed for private park credit.

F. SCHOOLS

There are several schools in the vicinity of the subject property. Public schools include Ala Wai Elementary School, Lunalilo Elementary School, Kuhio Elementary School, Washington Intermediate School, McKinley High School and Kaimuki High School. The subject property is also within easy access to various private schools, including Iolani School, Punahou School, Maryknoll School and University High School.

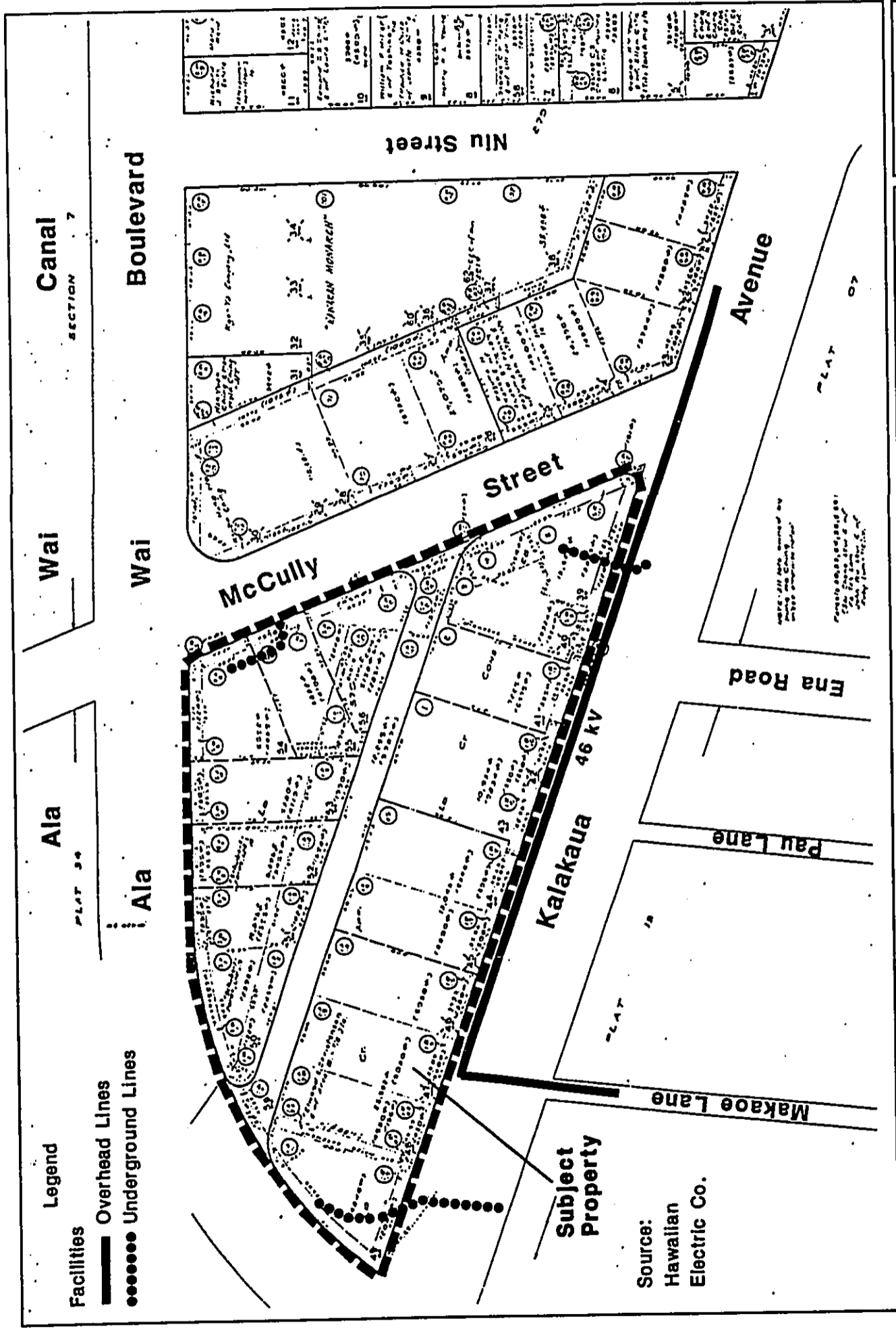
Project Impacts

The proposed project will not have a significant impact on the area's school system. Based on 1980 census data, there were approximately 385 school age children (or 10.7 percent of the total census tract population) between the ages of 5 - 19 in Census Tract (CT) 20.02 which includes the subject property. If this same ratio is applied to the proposed project, 10.7% of 320 new residents would result in approximately 35 additional school age children.²⁷ Existing schools will be able to provide educational services to children living in the project's residential condominiums.

G. ELECTRICITY AND TELEPHONE

Electrical service to the subject property is provided by the Hawaiian Electric Company (HECO) via a 12 KV overhead transmission line and three underground lines (Exhibit IV-1). There are four substations located within 2 miles of the subject property: the Ena, McCully Waikiki and Makaloa substations.

²⁷ The average of 1.7 persons per unit is consistent with both the State of Hawaii Data Book 1987 and the 1980 Census of Population and Housing for CT 20.02.



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Exhibit IV-1
Electrical Service Map
WAIKIKI LANDMARK

Telephone lines, serviced by Hawaiian Telephone Company, are located along Kalakaua Avenue, Ala Wai Boulevard and McCully Street.

Project Impacts

The project will have a significant impact on the power service in the area. The proposed Waikiki Landmark development, has an estimated electrical energy consumption of 500,000 kwh/month or 1,428.6 kwh/day. HECO has informed the applicant that in order to provide an adequate power supply to the proposed project, a new 46-12.47 KV, 10/12.5 MVA distribution substation transformer may have to be installed at one of their substations. HECO will install and recircuit primary electrical cable to provide service for this project. Long lead times will be required for these modifications and will be affected by project load demands and the service date.

All necessary electrical power requirements will be coordinated with HECO to insure proper lead times for the required infrastructure improvements. The contractor will coordinate all construction activities near existing electrical facilities with HECO to avoid any service disruption to the area.

The Waikiki Landmark development will incorporate the most recent energy saving technology so as to minimize the cost of energy to occupants of the commercial space and the residential units. The following features will be provided:

- 1) Each fan coil air conditioning unit in each unit will be separately controlled so that the occupant has the choice of cooling different areas in his/her unit at alternative times of the day.
- 2) A heat pump will be used to heat the building's hot water system. Studies have shown that this is the most efficient method of heating the hot water.
- 3) The condenser heat from the central chilled water system will be recovered by the heat pump to heat the building's hot water.
- 4) High efficiency motors will be used on most of the motor driven equipment.
- 5) High efficiency chillers will be used for the residential towers.
- 6) A variable speed secondary chilled water pumping system will be used for the residential fan coil units.

Electrical energy conservation measures which will be provided as part of the proposed development include:

- 1) Light sources to be used primarily are fluorescent and H.I.D. (High Pressure Sodium and Metal Halide). Compact fluorescent lamps will be used in place of incandescent lamps, with the exception of low-voltage accent lighting at water features, etc. A 13-watt compact fluorescent replaces a 60 watt incandescent with the same light output at a savings of 47 watts/lamp. This reduction in watts also lowers the air conditioning load.
- 2) Ballasts for all fluorescent lamps will be energy-saving type, or premium high power factor type for applications where energy-saving type are not manufactured. Energy-saving ballasts (ESB's) use 37 percent less energy than standard ballasts for the same light output. ESB's also run approximately 10 degrees cooler than standard ballasts, reducing the air conditioning load.
- 3) Reflectors for light fixtures are highly specular and contribute to overall fixture efficiency, enabling use of lower wattages and fewer fixtures to achieve desired lighting levels.
- 4) Secondary power factor correction is provided to bring the building power factor to 90 percent or greater.

The existing telephone lines are adequate to handle the telephone needs of the project. The Applicant will coordinate with Hawaiian Telephone (HawTel) to insure proper lead times for telephone service to the project.

The applicant will obtain all necessary approvals for connection to both electrical and telephone lines.

H. FIRE PROTECTION

The Pawa Fire Station provides the first response to fire emergency calls to the subject property, and the McCully and Waikiki Fire Stations provide the second response.

Project Impacts

The proposed development will have no adverse impact on the fire protection services in the area. The developer will comply with fire safety standards and install all required fire protection systems. To assure proper access to the subject property by fire protection

vehicles, access roadways to the proposed development will be developed in accordance with approved roadway standards.

I. POLICE PROTECTION

The subject property is located in District VI of the Honolulu Police Department.

Project Impacts

The project is not expected to have a significant impact on required police services in the area. The proposed project will have its own security force to protect the building's occupants and premises. Coordination with the Honolulu Police Department will be maintained to ensure adequate police protection.

Chapter V

V. SOCIO-ECONOMIC CONDITIONS/PROJECT IMPACTS

A. DISPLACEMENT

There are currently 12 businesses on the subject property. The Masquerade/Phase night club, currently employs 40-60 full and part time employees.²⁸ The other small businesses together employ approximately 30 full time employees and 50 part time employees.

Project Impacts

The proposed development is expected to result in the displacement of the existing businesses on the subject property. Displacement has been an inevitable prospect, in light of the short term nature of the leases. Some of these businesses could possibly negotiate for space in the commercial portion of the development, which will include restaurants and retail stores. It is possible that some of the displaced employees may either find jobs in the new retail and restaurant operations, or retain their jobs at a new location.

The number of employees working in the proposed commercial space is expected to exceed the existing number of employees currently working for businesses on the subject property. Absent of a breakdown of specific occupants and employment characteristics, a rough estimate of the number of full time employees to be employed in the proposed commercial space can be obtained by using a standard of 1 full time employee for every 372 square feet of commercial space.²⁹ Based on this standard, 82 full time employees will be employed in the commercial portion of the development. Additional full time employees will also be required in conjunction with the development's security, operation and maintenance.

B. ECONOMIC CONDITIONS

The revenue generating potential of the twelve businesses on the subject property is not known. However, the property is underutilized and has considerable economic potential, in light of its prime Waikiki location.

²⁸ This night club has two dance areas joined by a common walkway area. The Phase side of the club has since closed and employment at this club has substantially decreased from previously documented levels.

²⁹ Source: International Council of Shopping Centers. The Scope of the Shopping Center in the United States 1988. New York, 1988, pg. 16.

Project Impacts

Long-term economic impacts will include impacts from the operation of 30,553 net sf of commercial space, general excise and income taxes from the businesses and increased real property taxes from the overall development. It is, however, difficult to quantify in detail the long-term economic impact at this time.

Short-term economic impacts from the project will result from the project's construction. Each dollar spent on the construction of the proposed project will not only stimulate growth in those businesses from which the purchases are made directly, but will also stimulate growth as the dollar is recycled through numerous other sectors of the island's economy (multiplier effect).

Over the short term the project construction will directly impact:

- Sales (output);
- Household income; and
- Employment.

A technique for measuring the inter-industry relationships in a given region is the Input-Output Model. This model is used to develop multipliers which enable one to measure the overall economic impact of a project on the sales, household income and employment of a particular area. The Input-Output model of Hawaii's economy, which was developed by the staff of the Research and Economic Division of the Department of Business and Economic Development (DBED) is used in this report to analyze the short term economic impacts of the proposed project on the economy.

Estimates of the short term sales, household income and employment impacts resulting from construction of the project are based on the total construction expenditure of the project, excluding land costs. The construction cost for the project is estimated to be \$100-\$130 million. The appropriate multipliers and coefficients from the Hawaii Input-Output Model are then multiplied by the construction cost to determine the economic impacts in dollars. The multipliers and coefficients used include direct, indirect and induced effects.³⁰

³⁰ The following definitions are taken from The Economic Impact of Tourism in Hawaii: 1970 to 1980, Research Report 1983-2 (Department of Planning and Economic Development, April 1983). Direct effect - the change in

For this project, the multipliers for the "commercial construction" category are used. The following calculations are rounded off and should be interpreted as rough estimates.

- a) Sales - The output, or sales impact, is the measure of the change in output of Hawaii's industries (measured by sales) resulting from total construction expenditures. From the Input-Output Model, the output multiplier, which includes direct, indirect and induced sales, is 1.9.

This indicates that the estimated \$100 - \$130 million construction cost will generate an additional \$190 - \$247 million in sales.³¹

- b) Household Income - The total household income (direct, indirect and induced) generated by construction of the proposed project can be estimated by multiplying the total construction cost times the income coefficient for the commercial construction category, which is 0.67.

Using this coefficient the \$100 - \$130 million spent for construction will generate a total of \$67 - \$87 million in household income.³²

Of this total \$67 - \$87 million, \$30-\$39 million consists of direct labor income generated by the construction of the project. The direct labor income multiplier in the Input-Output Model for the commercial construction category is 30%. In other words, about 30% of the total construction cost will be spent directly for labor.³³

sales, income and employment in Hawaii's economy as a direct result of the purchase of goods and services by the proposed project. Indirect effect - the change in sales, income and employment generated indirectly in the economy as the businesses that directly receive the project development dollars spend them in order to buy material and service inputs to meet the demand created by direct sales for the project's development. Induced effect - the further change in sales, income and employment as employees and proprietors spend their income earned from companies as a result of a direct or indirect effect of the project development's spending.

³¹ \$100 million x 1.9 = \$190 million, \$130 million x 1.9 = \$247 million.

³² \$100 million x 0.67 = \$67 million, \$130 million x 0.67 = \$87 million.

³³ \$100 million x .30 = \$30 million, \$130 million x .30 = \$39 million.

- c) Employment - In 1987, there was an average of one direct job in the construction industry for every \$102,300 worth of construction.³⁴ Using the same ratio for the proposed project, it can be estimated that about 978 - 1,271 jobs will be directly generated by the construction of the proposed development.³⁵

The total number of jobs generated in the economy by the project development can be estimated by multiplying the number of direct jobs generated by the construction of the project times the state multiplier of 2.5.

Thus, construction of the project can be expected to generate a total of about 2,445 - 3,175 jobs in the economy, over the project's estimated two-year construction period.³⁶

In summary, the short-term impacts from construction of the proposed residential/commercial project on the sales, household income and employment on O'ahu were projected by using an estimated total construction expenditure of \$100-\$130 million and the multipliers from the Hawaii Input-Output Model for the commercial construction category. These impacts will occur over the total construction time period for the project, approximately two years.

With reference to government revenues, the proposed project will increase state and local tax revenues during both the construction and operation and maintenance of the project. The impact on total tax collections is difficult to estimate precisely. However, the impact can be estimated by analyzing the general relationship between taxes and labor income in Hawaii.

Data provided by the DBED³⁷ indicates that the state tax collection for calendar year 1987 was approximately \$1.776 billion, and labor income for 1987 was about \$12.804 billion. Thus, the ratio of state collections to labor income was 0.139 in 1987 (\$1.776 billion divided by

³⁴ The State of Hawaii Data Book, 1986, Department of Planning and Economic Development, December 1986, pp. 339 and 543.

³⁵ \$100 million divided by \$102,300 = 978 direct jobs, \$130 million divided by \$102,300 = 1,271 direct jobs.

³⁶ 1,239 direct jobs x 2.5 = 2,445 jobs, 1,610 direct jobs x 2.5 = 3,175 jobs.

³⁷ The State of Hawaii Data Book, 1988, Department of Business and Economic Development, December 1988, pp. 273, 285 and 363.

\$12.804 billion). In other words, the State collected about 13.9 cents in taxes and other sources for every dollar of labor income paid in Hawaii.

Using the State collections to labor income ratio of 0.139 and the total Household Income figure of \$67 - \$87 million (projected in the previous discussion on short term economic impacts), it can be estimated that the State will collect about \$9.3 - \$12.1 million in State and local government revenues from the construction of the project.³⁸

C. HOUSING

There are no residential units on the subject property.

Project Impacts

The proposed project will have a positive impact on the supply of housing, by providing 188 new residential condominium units. The sale prices of these units have not yet been firmly established but will be directed toward the higher income residents. Current estimates indicate a price range of approximately \$350,000-\$650,000.³⁹ The final sale prices will be largely dependent upon construction costs.

Although the applicant is acutely aware of the need for affordable and special needs housing throughout the state, the proposed development will not be directed at this housing market. Policies on both the state and city levels regarding the provision of affordable and special needs housing have been directed at requiring a percentage of housing for low- and moderate-income households be set aside in a development, or "in-lieu" fees be paid for all zone changes involving residential uses. The rationale for this requirement is based on the increased economic benefit realized by an applicant when a property is redesignated (rezoned) by a government body to a higher intensive use. As such, public policy has directed that this benefit should be shared via the provision of affordable housing.

Clear examples of where a zone change increases the benefit realized by a developer include, on the state level, the redesignation of land from Agriculture to Urban by the State Land Use

³⁸ $0.139 \times \$67 \text{ million} = \9.3 million , $0.139 \times \$87 \text{ million} = \12.1 million .

³⁹ Telephone conversation with Colby Jones, Bel-Landmark, Inc., February 10, 1989.

Commission and, on the county level, the rezoning of a property designated Residential to Apartment use. In these cases the developer realizes a considerable benefit directly as the result of a government action.

The development proposal for the subject property does not require a zone change to a higher intensive use (see Section VI for a full description of the existing land use designations and related use issues). In fact, the proposed use of the subject property will be a less intensive use than is presently permissible on the subject property. Under existing zoning a high density commercial office building could potentially be developed. Based on a traditional euclidian regime, where a residential use is one of the least intensive land uses, the proposed development which combines residential (90%) and commercial (10%) activities will be a less intensive use than a if a commercial office building had been developed. Because of this, the linkage between a zone change that increases the permissible intensity of development and the government requirement to provide affordable and special needs housing is not in evidence in the case of the Waikiki Landmark development proposal.

D. POPULATION

The resident population for the census tract containing the subject property (CT 20.02) was 3,210 in 1985. This represents a decline of 390 residents from the 1980 resident population of 3,600. In 1980 there were 2,074 households in CT 20.02. This represents an average of 1.7 people per household.⁴⁰ Data from 1980 also indicates that 10.7 percent (385) of the total resident population for CT 20.02 were children and young adults between the ages of 5-19.

Project Impacts

Using the average of 1.7 persons per household, it is projected that there will be approximately new 320 residents in the 188 proposed residential condominiums. Based on the cost considerations of the residential units, the life cycle characteristics of the residents locating in the proposed development are expected to be skewed toward the mature family (e.g. couples with grown children).

⁴⁰ State of Hawaii Data Book 1988, Department of Business and Economic Development, 1988.

The proposed development is not expected to provide an impetus for new residents to move to Hawaii. Because it is proposed for residential and not resort use, the proposed development is also not expected to have any direct impact on Hawaii's visitor population. However, in light of the project's Waikiki location, visitors are expected to patronize the project's commercial units.

Chapter VI

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

A. FEDERAL

Federal Flood Insurance Program

The entire site is in an AO Zone, as designated by the Federal Emergency Management Agency. This designation is given to special flood hazard areas inundated by 100-year floods.

The proposed development will be in compliance with all applicable flood proofing regulations.

B. STATE

1. The Hawaii State Plan and State Functional Plans

The Hawaii State Plan (Chapter 226, Hawaii Revised Statutes, as amended) serves as a guide for the future long-range development of the State. The plan identifies goals, objectives, policies, and priorities and provides a basis for allocating limited resources such as public funds, services, human resources, land, and energy. Sections of the Hawaii State Plan that are relevant to the proposed development are discussed below.

State Goals

A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations.

A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of people.

Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.

a. Sec. 226-8 Objective and policies for the economy - visitor industry.

- (a) Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.
- (b) To achieve the visitor industry objective, it shall be the policy of this State to:
- (3) Improve the quality of existing visitor destination areas.

The proposed development will serve as a quality improvement to O'ahu's primary visitor destination area. Because the subject property is located in the Waikiki Special District, and is an area designated as a "Waikiki Gateway," the project design will include special considerations for open space and architectural treatment in an effort to enhance the area. The proposed development will be attractively designed and landscaped, and will improve the aesthetic quality of the subject property.

b. Sec. 226-18 Objectives and policies of facility systems - energy/telecommunications.

- (b) **To achieve the energy/telecommunication objectives, it shall be the policy of the State to ensure the provision of adequate, reasonably priced, and dependable power and telecommunication services to accommodate demand.**
- (c) **To further achieve these energy objectives, it shall be the policy of the State to:**
- (3) **Promote the prudent use of power and fuel supplies through conservation measures including education and energy efficient practices and technologies.**

The Waikiki Landmark development will incorporate the most recent energy saving technology so as to conserve energy and minimize the cost of energy to occupants of the commercial space and the residential units (refer to Section IV.G).

c. Sec. 226-19 Objectives and policies for socio-cultural advancement - housing.

- (a) Planning for the State's socio-cultural advancement with regard to housing shall be directed towards achievement of the following objectives:

- (1) Greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, livable homes located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals.
 - (2) The orderly development of residential areas sensitive to community needs and other land uses.
- (b) To achieve the housing objectives, it shall be the policy of this State to:
- (1) Effectively accommodate the housing needs of Hawaii's people....
 - (3) Increase home ownership and rental opportunities and choices in terms of quality, location, cost, densities, style and size of housing....
 - (5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.
 - (6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.

The subject property is prime urban land that is currently underutilized. The residential component of the proposed development will increase the availability of housing in Honolulu. The project's location in Waikiki, which is easily accessible via private and public transportation to all commercial and recreational centers in Honolulu, is ideal.

The Hawaii State Plan directs the appropriate State agencies to prepare functional plans for the program areas of agriculture, transportation, conservation lands, housing, tourism, water resources development, historic preservation, energy, recreation, education, higher education and health. These twelve plans serve as the fundamental implementing vehicle for the goals, objectives and policies of the Hawaii State Plan. The following functional plans are relevant to the proposed project:

State Housing Functional Plan

The State Housing Functional Plan sets forth actions to guide both government and the private sector in the implementation of housing and housing related objectives, policies and priorities. Implementing actions for the Housing Functional Plan focus on two areas: 1) assisting in the provision and maintenance of housing; and 2) researching of additional information to make housing related decisions.

State Water Resources Functional Plan

The State Water Resources Functional Plan is prepared and implemented by the State Department of Land and Natural Resources. The purpose of this plan is to present guidelines for the: 1) regulation of the development and use of water to assure adequate supplies for the future; 2) development of water resources to meet municipal, agricultural and industrial requirements, and the reduction of flood damage; and 3) preservation of water-related ecological, recreational, and aesthetic values and quality of water resources.

State Historic Preservation Functional Plan

The State Historic Preservation Functional Plan is prepared and implemented by the State Department of Land and Natural Resources. The plan identifies the major priorities for the collection and conservation of oral histories, historic records and artifacts, the perpetuation of traditional arts and skills, the preservation of historic properties, and the education of the public with regards to Hawaii's past.

State Energy Functional Plan

The State Energy Functional Plan is prepared and implemented by the Department of Business and Economic Development, Energy Division. The purpose of the plan is to: 1) guide the activities of agencies toward the implementation of State Plan energy goals, objectives and priorities; 2) provide a basis for the allocation of resources to carry out various State

energy activities, and to deliver energy services; 3) identify major interrelationships among energy planning and other functional areas; 4) assist in clarifying and coordinating the roles and responsibilities of State and County government and the private sector; and 5) identify the potential impact of energy development, conservation, and management actions on energy consumption patterns and the ability of residents to actively participate in altering these patterns through individual initiative.

State Health Functional Plan

The State Health Functional Plan is prepared and implemented by the State Department of Health. The plan's objectives policies and implementing actions are intended to: 1) prevent disease and promote healthful lifestyles and environmental conditions; 2) provide direct health services to persons for whom needed services would, otherwise, be unavailable due to economic, geographic or language barriers; 3) protect society from potential dangers (e.g., hazardous environmental conditions); and 4) prevent environmental degradation and enhance the quality of the air, land and water.

2. Coastal Zone Management

The proposed project will meet several objectives of Hawaii's Coastal Zone Management Program, Chapter 205A, HRS, including:

205A-2 Coastal zone management program: objectives and policies.

b. Objectives

(2) Historic resources;

(A) Protect, preserve, and where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

(c) Policies.

(2)(c) Support state goals for protection, restoration, interpretation, and display of historic resources.

A pre-field literature review was conducted by the Bishop Museum Applied Research Group to ascertain the possibility of subsurface archaeological sites. The Historic Sites Section of DLNR confirms this research.

Even though the possibility of archaeological resources on the subject property was not evident, backhoe assisted subsurface testing, in accordance with an approved research design, will be conducted at time of demolition. If any archaeological sites or resources are discovered, the Historic Sites Section will be notified immediately and proper steps will be taken to preserve the site for proper evaluation.

(5) Economic Uses

(A) Provide public or private facilities and improvements important to the State's economy in suitable locations.

The proposed project will provide short-term construction employment as well as long-term employment. Based on the economic potential of the site and its location, the subject property is presently underutilized. The proposed property will not only provide additional housing for Hawaii's residents, but will offer business sites to service the Waikiki Landmark residents and visitors.

3. Environmental Impact Statements (Chapter 343, HRS)

Chapter 343 establishes a system of environmental review for actions which propose: (1) the use of State or County lands or funds; (2) any use within land classified as conservation by the State Land Use Commission; (3) any use within the shoreline as defined in section 205-31, H.R.S.; (4) any use within any historic site designated on the State or National Register; (5) any use within the Waikiki-Diamond Head area of O'ahu; and (6) amendments to existing county general plans where such amendments would result in designations other than agriculture, conservation or preservation. For these actions Chapter 343 requires the preparation of an environmental assessment (EA) to determine whether the preparation of and environmental impact statement (EIS) will be required. Preparation of an EIS will be required if the agency receiving the request for approval determines the proposed action may have a significant environmental impact.

An EA was prepared for the project and submitted to the City and County of Honolulu, Department of Land Utilization (DLU) for review. On August 12, 1988, DLU determined that the proposed project required the preparation of an EIS. This document has been prepared in accordance with this requirement.

4. State Land Use District

Pursuant to Chapters 183 and 205, HRS all lands in the State have been classified by the State Land Use Commission into one of four land use districts, urban, rural, agriculture and conservation. Jurisdiction over the use of land in these districts is divided among State and County governments. Control of Land classified agriculture and rural is divided among the State Land Use Commission and the counties. Land use in the Conservation district is controlled by the Board of Land and Natural Resources (BLNR). Land classified urban is controlled directly by the counties.

The State Land Use District designation for the subject property is Urban which permits urban development, including projects such as the proposed residential/commercial project.

C. CITY AND COUNTY OF HONOLULU

1. General Plan

The General Plan for the City and County of Honolulu is a policy document that contains a "comprehensive statement of objectives and policies setting forth the long-range aspirations of Oahu's citizens and providing a broad plan of action to achieve them." Areas which are covered in the plan include, population, economic activity, housing, transportation and utilities, energy, physical development and urban design, public safety, health and education, culture and recreation, the natural environment, and government operations. The General Plan was first adopted in 1977 and has since been revised on five separate occasions, with the most recent revisions to the General Plan being adopted by resolution in January of 1989. Relevant objectives and policies of the General Plan relating to the proposed development are discussed on the following pages.

a. Economic Activity

Objective B: To maintain the viability of Oahu's visitor industry.

Policy 2 Provide for a high quality and safe environment for visitors and residents in Waikiki

The subject property is currently underutilized, and contains an assortment of retail operations which are scattered throughout the subject property. The proposed residential/commercial development will be attractively designed and landscaped and will provide a higher quality use of the subject property. The security force provided for the development will also enhance the safety of the general neighborhood surrounding the subject property.

b. Housing

Objective C: To provide the people of O'ahu with a choice of living environments which are reasonably close to employment, recreation and commercial centers and which are adequately served by public utilities.

Policy 3 Encourage residential development near employment centers.

The Waikiki area, location of the proposed project, and the nearby Ala Moana Shopping Center are both major sources of employment and commercial activity. Additionally, the project's location is easily accessible to downtown Honolulu, the center of State and local government activities, and the financial and business center of the State. The major areas of employment for the island of O'ahu and the State are within close proximity of the proposed development.

The proposed project is within a 3-mile radius of a wide range of recreation facilities including, but not limited to, Kapiolani Park, Honolulu Zoo, Ala Wai Field and Playground and Ala Moana Beach Park.

c. Physical Development and Urban Design

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

Policy 5 Provide for more compact development and intensive use of urban lands where compatible with the physical and social character of existing communities.

Objective B: To develop Honolulu (Waialae-Kahala to Halawa), Aiea, and Pearl City as the Island's primary urban center.

Policy 3 Encourage the establishment of mixed-use districts with appropriate design and development controls to insure an attractive living environment and compatibility with surrounding land uses.

The proposed high rise residential/commercial development will be a more intensive use of the subject property. The project will be compatible with existing residential and commercial properties in the surrounding neighborhood. The design and development controls for Waikiki Special District will encourage the provision of an attractive development on the subject property.

Objective D: To create and maintain attractive, meaningful, and stimulating environments throughout O'ahu.

Policy 2 Integrate the City and County's urban design plan into all levels of physical planning and developmental controls.

Policy 4 Require the consideration of urban design principles in all development projects.

Policy 6 Provide special design standards and controls that will allow more compact development and intensive use of lands in the primary urban center.

The proposed residential/commercial development will meet all design and development controls for the subject property. The proposed development will be a more efficient and intensive use of the subject property.

2. Development Plan

The Development Plans (DP)s for the City and County of Honolulu, provide a relatively detailed framework for implementing the objectives and policies of the General Plan. They set forth desired sequence, patterns and characteristics of future development. A total of eight Development Plan regions have been established for O'ahu. The area affected by the proposed Waikiki Landmark development falls under the jurisdiction of the Primary Urban Center (PUC) Development Plan. Established as an ordinance the Development Plans consist of three elements: Development Plan Maps (Land Use and Public Facilities) which graphically depict the intended pattern and sequencing of development; Common Provisions which outline requirements common to each of the eight regions; and Special Provisions which detail requirements specific to a region.

Development Plan Land Use Map

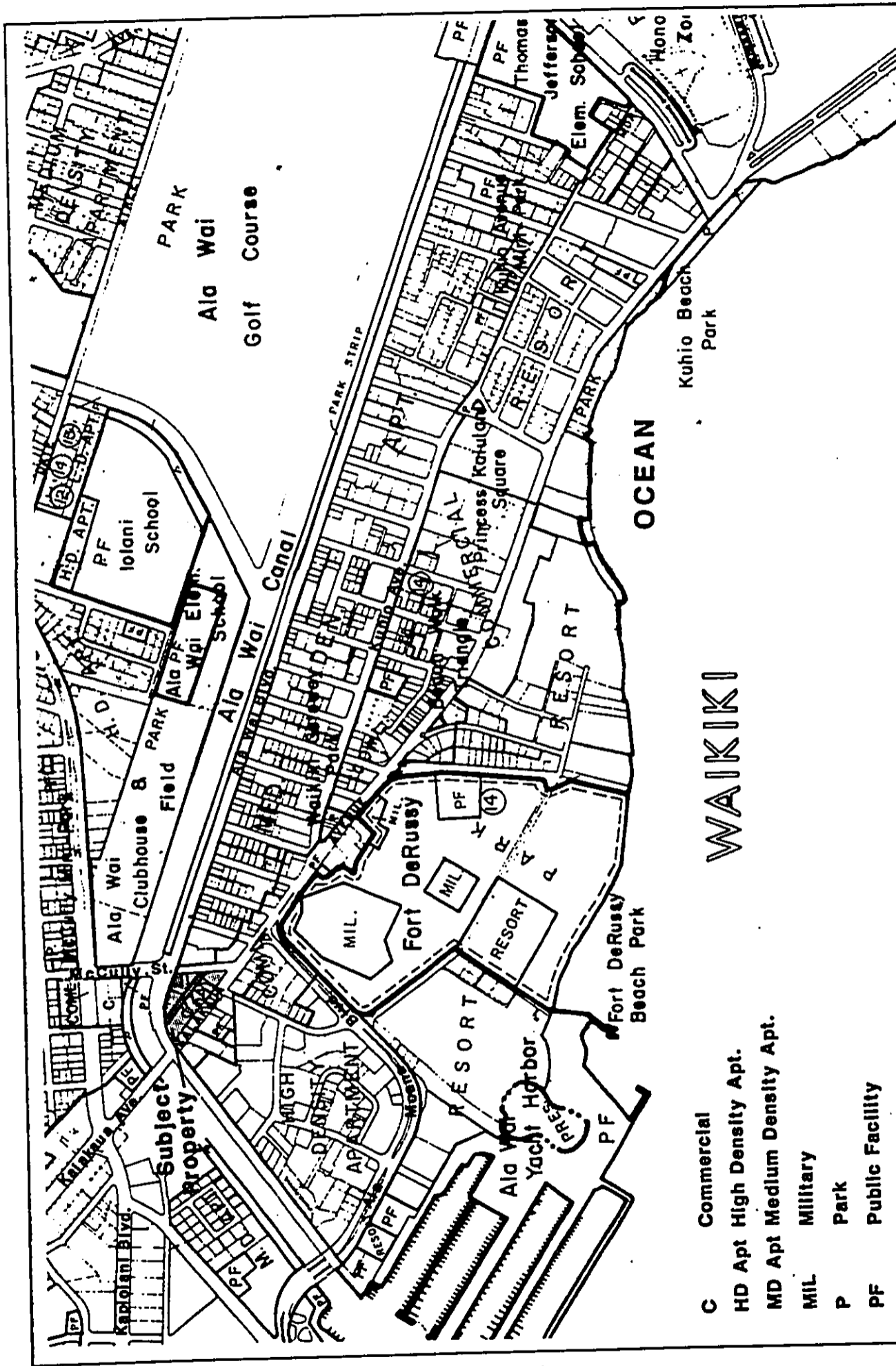
The subject property is presently designated as Commercial on the Primary Urban Center DP Land Use map (see Exhibit VI-1).

Development Plan Public Facilities Map

There are several public facilities in the vicinity of the subject property (see Exhibit VI-2). These include the:

- Ala Wai Yacht Harbor;
- Fort DeRussy Beach Park;
- Public park adjacent to the Ala Wai Clubhouse and field;
- Ala Wai Elementary School, Lunalilo Elementary School;
- Ala Wai Golf Course; and
- Waikiki Gateway Park.

Improvements are proposed as part of the Kalakaua Avenue Improvement Project for the area of Kalakaua Avenue adjacent to the subject property. The DP Public Facilities map for the Primary Urban Center shows right-of-way improvements on Ala Wai Boulevard in the "beyond six years category", and have not yet been scheduled.



- C Commercial
- HD Apt High Density Apt.
- MD Apt Medium Density Apt.
- MIL Military
- P Park
- PF Public Facility
- PRES Preservation

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Exhibit VI-1
Development Plan Land Use Map
WAIKIKI LANDMARK

A Waikiki Traffic Improvement Study is also being prepared for Waikiki which will provide a broad overview of existing traffic patterns in Waikiki with suggestions for improvements at specific locations. Based on the preliminary study for the project, there are no locations identified in the vicinity of the Waikiki Landmark.⁴¹

The Kalakaua side of the subject property has also been identified as a potential transit station site in the alternative analysis study prepared by the Rapid Transit Development Division of the City and County of Honolulu, Department of Transportation Services (DTS) (see Section VI.C.8 for a further discussion). The site has not been designated on the Development Plan Public Facilities Map. Meetings have been conducted with officials of the DTS to coordinate the development of the Waikiki Landmark with their efforts. Because DTS is in a preliminary planning stage no specific commitments have made at this date. The coordination process with the DTS will continue in order to resolve this issue.

Special Provisions

In January 1988 the Department of General Planning (DGP) initiated changes to the Special Provisions of the Development Plan for the Primary Urban Center that extended activities with a Commercial Mixed Use Emphasis along a five block area mauka of Kalakaua Avenue between Kuamoo Street and the Ala Wai Canal. These changes were adopted on January 31, 1989 by the City Council under Bill No. 168 and signed in to law by the Mayor on February 10, 1989 (Ordinance No. 89-15). The subject property is included in these changes and the proposed mixed use development is in conformance with this new designation.

Principles of the Special Provisions for PUC Development Plan which are relevant to the PLAN are as follows:

- Medium and higher density residential uses shall occur along the coastal plain, near major travel corridors, with maximum heights primarily occurring within the central urban core.
- Commercial uses shall continue to be located along major roadways.

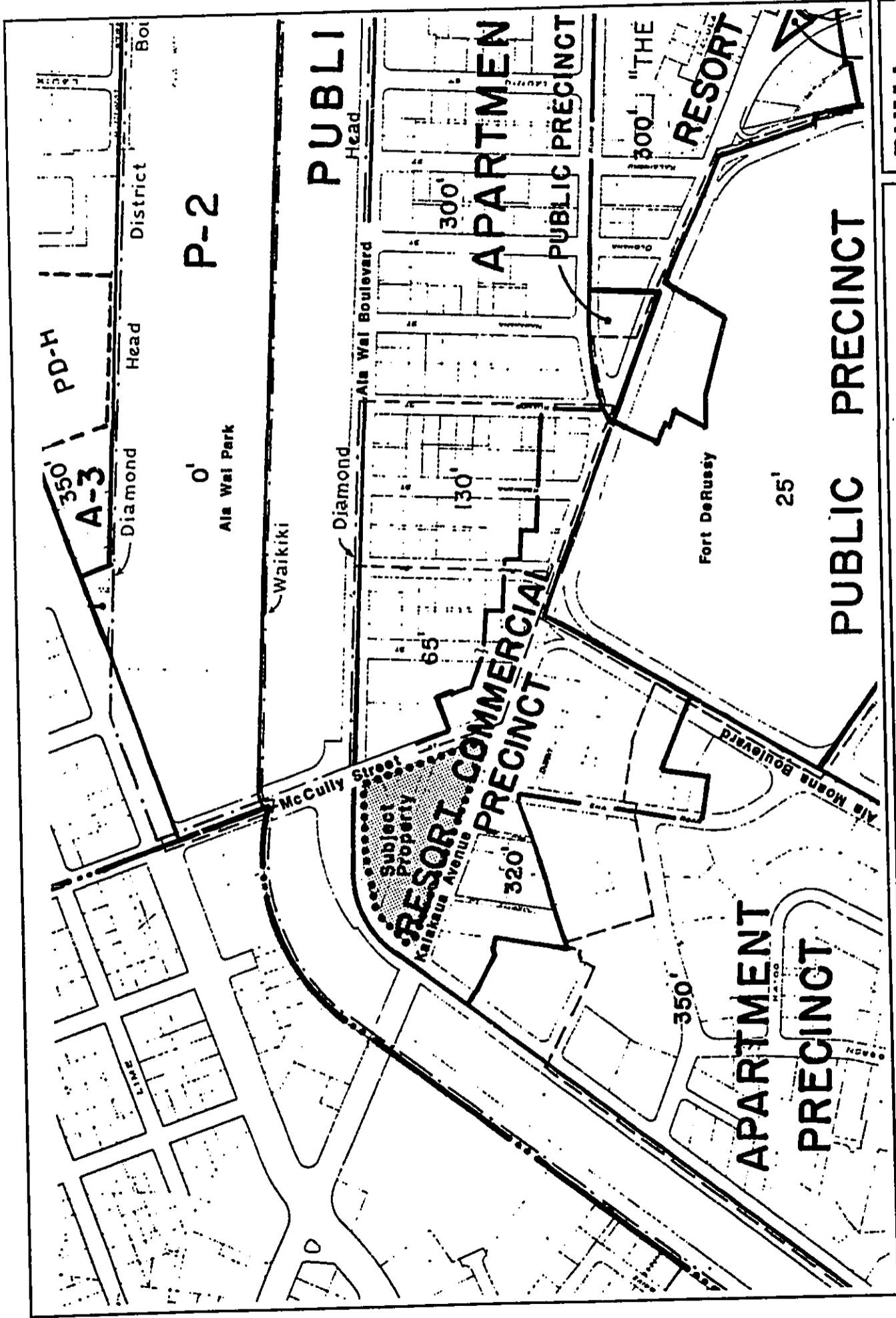
⁴¹ Information provided by Melvin Hirayama, Traffic Engineering Division, Department of Transportation Service, June 28, 1989.

- Apartments in mixed use with commercial shall be permitted, subject to appropriate zoning regulations and where: a) public facilities and services are adequate to serve mixed uses; b) the area is accessible by major transportation corridors; and c) such uses are compatible with adjacent uses.
- Adequate amounts of recreational facilities and public parks shall be provided for active and passive recreation, particularly in areas where redevelopment or other activities create opportunities for new urban spaces.
- The visual impact of taller structures along major roadways and pedestrian corridors shall be minimized through the use of appropriate building setbacks, plantings adjacent to walkways, and open space areas.

3. Zoning

Zoning implements the purpose of the General Plan and the Development Plans and is required by statute to be in conformance with Development Plan designations. On O'ahu, zoning is administered through two elements: the Land Use Ordinance (LUO), a written text, which is intended to provide reasonable design and development standards for the use of land on O'ahu; and twenty-four Zoning Maps which provide specific zoning designations for all land on O'ahu under the jurisdiction of the City and County of Honolulu.

The subject property is located in the Resort Commercial Precinct of the Waikiki Special District (Zoning Map #3)(see Exhibit VI-3). Permitted uses in the Resort Commercial Precinct include: amusement and recreation facilities, art galleries and museums, automobile service stations, car rental establishments, bars, taverns, nightclubs, cabarets, dance halls, commercial parking garages, day care facilities, eating establishments, financial institutions, medical clinics, meeting facilities, office buildings, photography studios, public uses, outdoor recreation facilities, retail establishments, theaters, accessory uses, utility installations and zoos. With the passage of Bill 155 CD-2 on December 22, 1989, multi-family dwellings between Ala Wai Boulevard and Kuamoo Avenue have been added as a permitted use.



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Exhibit VI-3
Zoning Map
WAIKIKI LANDMARK

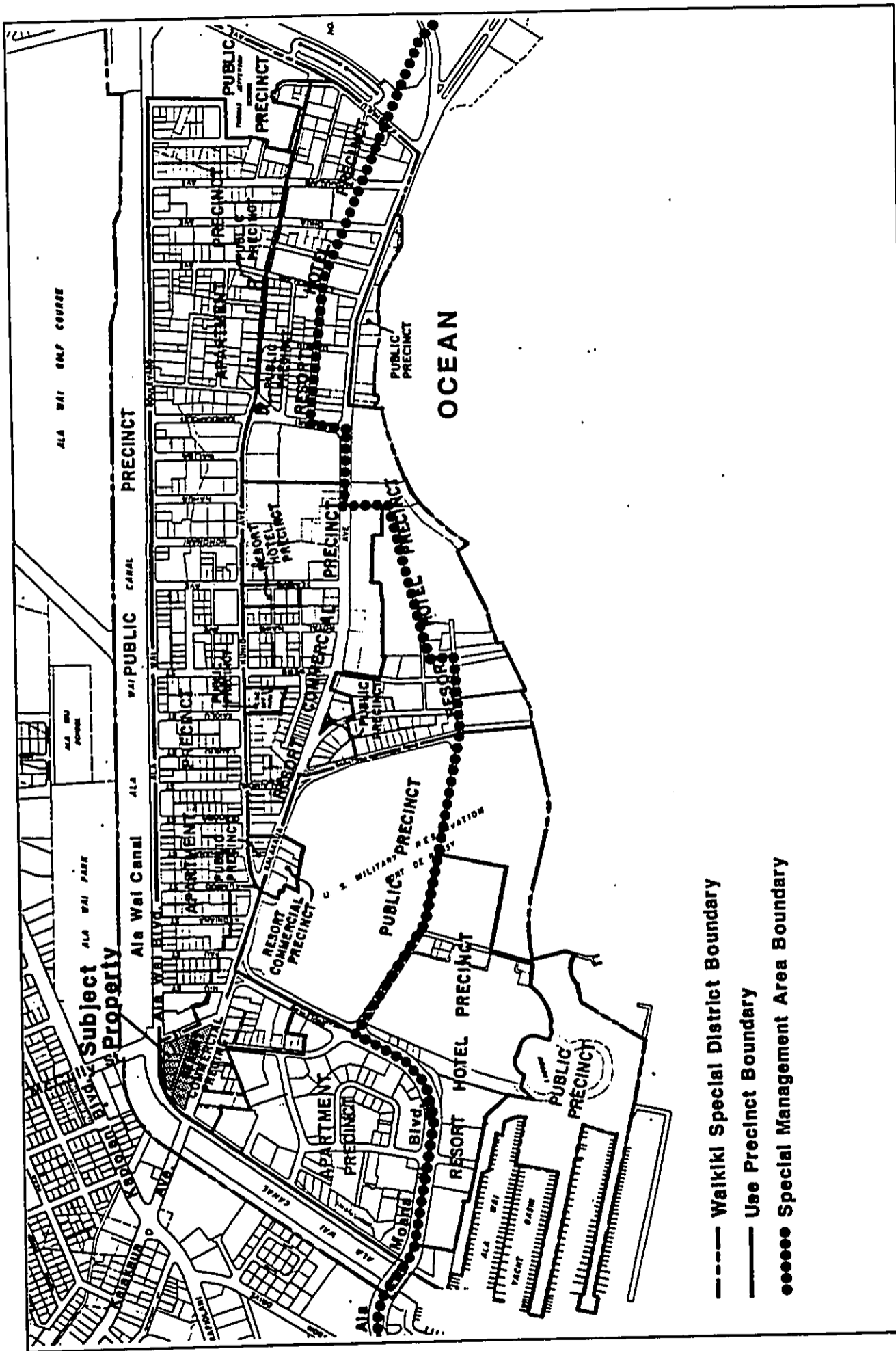
Because zoning is required by Section 6-906 of the Revised Charter of the City and County of Honolulu to conform to the Development Plans, a text amendment to the LUO was initiated by the DLU to allow multi-family dwellings in the Resort Commercial Precinct between Ala Wai Boulevard and Kuamoo Avenue (Bill No. 155 CD-2). This amendment was required in order to address the change in the Development Plan Special Provisions which permitted Commercial Emphasis Mixed Use development along a five block area, including the subject property.

Appendix N contains the portions of Bill No. 155 CD-2 which relate to the subject property. In addition to amending the LUO to permit multi-family dwelling units in the Resort Commercial Precinct of the WSD between Ala Wai Boulevard and Kuamoo Avenue, Bill 155 CD-2 also amended the LUO's off-street parking requirements for the precinct to require one (1) space per dwelling or lodging unit. The permissible method for calculating the floor area, in the case of Residential-Commercial Mixed Use in the Resort Commercial Precinct of the WSD, was also expressly defined to permit the FAR (Floor Area Ratio) to be applied to the zoning lot area plus one-half of the abutting right-of-way area of any public street from which the required building setback is at least (30) feet.

4. Waikiki Special District (WSD)

The subject property is located in the Waikiki Special District (see Exhibit VI-4). The project will be in compliance with the following purposes for the Waikiki District outlined in Section 7.80 of the LUO:

- A. To guide the development of Waikiki with due consideration to optimum community benefits.
- B. To promote health, safety, social and economic well-being for the community as a whole.
- C. To protect, by means of proper planning and control, the value of private and public investment within the District and its surrounding communities.
- D. To encourage developments that would improve and complement the public facilities and utilities in Waikiki and the physical and visual aspects of the urban environment in the area....
- H. To bring about a desirable level of urban design compatible with the climate and the character of Hawaii within the District.



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Exhibit VI-4
Waikiki Special District
WAIKIKI LANDMARK

- I. To provide a means to control apartment, commercial and hotel density in Waikiki....
- K. To encourage the development of a variety of land uses which are compatible with and will enhance the unique character of the district."

A Major Special District Permit for the WSD will be obtained in compliance with the LUO requirements for development projects in areas designated a special district. Preliminary meetings with the DLU Design Advisory Committee were conducted on June 14, 1989 and July 18, 1989 to gain input on the development proposal.

5. Waikiki Gateway

The subject property is in an area designated as a "Waikiki Gateway" on the LUO Waikiki Special District Urban Design Controls Map (see Exhibit VI-5). The map specifies that "special design considerations for open space and architectural treatment" are required for Waikiki Gateway areas.

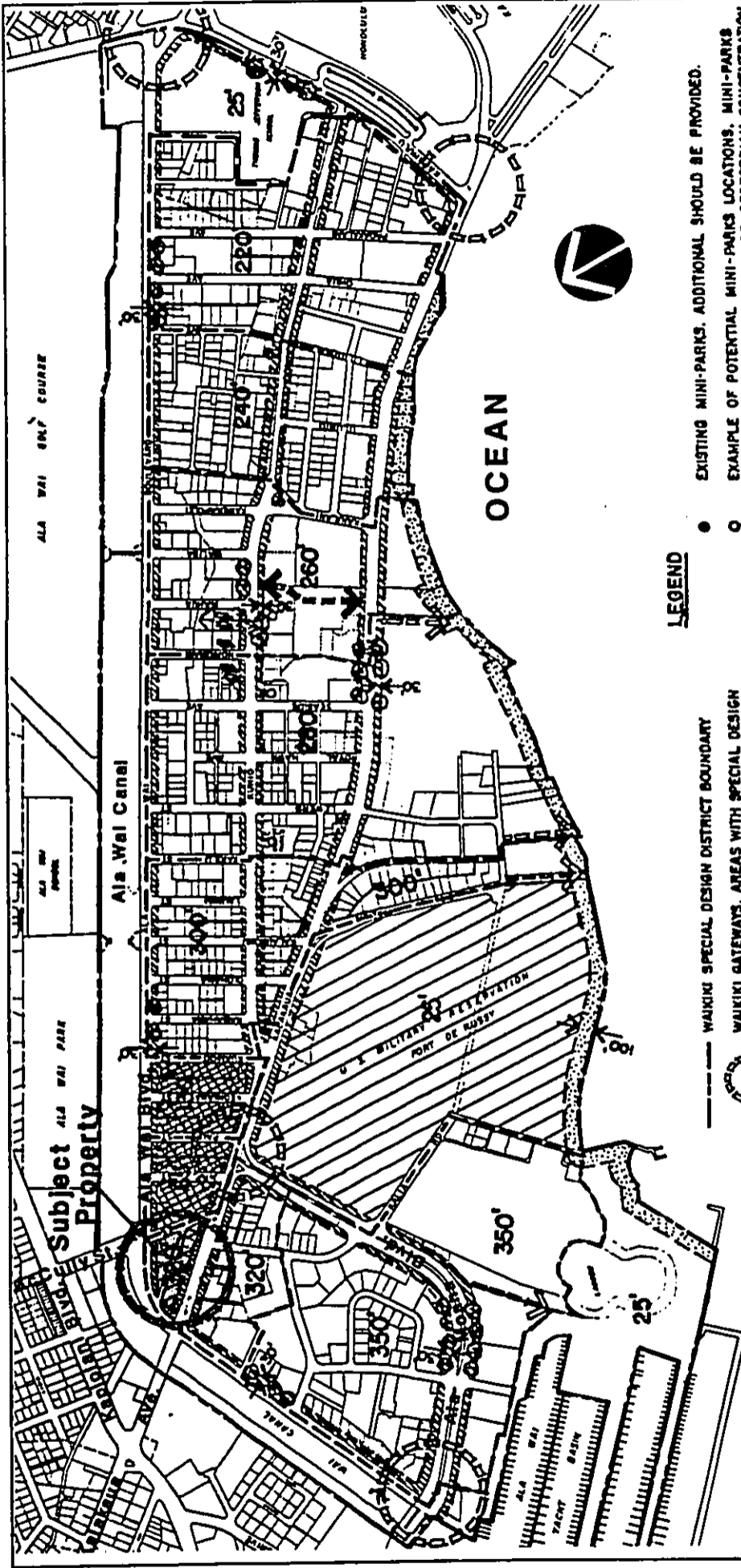
The proposed project will conform with all applicable urban design requirements for areas designated as a Waikiki Gateway.

6. Special Management Area

The subject property is outside the Special Management Area (SMA) designated by Chapter 33, Revised Ordinances of Honolulu, as amended, relating to protection of the shoreline areas of the City and County of Honolulu. The SMA boundary line is designated on Exhibit VI-4, showing the Waikiki Special District.

7. Rapid Transit Development Proposal

The Kalakaua side of the subject property has been identified as a potential transit station site (McCully/Kalakaua) in the alternative analysis study prepared by the Rapid Transit Development Division of the City and County of Honolulu, Department of Transportation Services (DTS). If developed, this station site would be part of an aerial branch line with transit stops at the intersection of Kalakaua and Kapiolani (the proposed convention center site), Lewers, Kaiulani and Kapahulu.



LEGEND

- WAIKIKI SPECIAL DESIGN DISTRICT BOUNDARY
- WAIKIKI GATEWAYS. AREAS WITH SPECIAL DESIGN CONSIDERATION FOR OPEN SPACE AND ARCHITECTURAL TREATMENT.
- ||||| AN AVERAGE 30' SETBACK ALONG MAJOR STREETS MEASURED FROM EXISTING RIGHT-OF-WAY ON KAPAHULU AVE, KALANOA AVE, ALA MOANA AND ALA WAI BOULEVARDS AND MEASURED FROM DEVELOPMENT PLAN RIGHT-OF-WAY ON KUHIO AVE. AVERAGE 30' SETBACK.
- ○ ○ ○ ALL MAJOR STREETS SHALL BE LANDSCAPED WITH STREET TREES.
- ▨ 100' SHORELINE SETBACK WITH A BUILDING HEIGHT ENVELOPE OF 1 TO 1 (45°) MEASURED FROM SHORELINE
- ▨ FORT DERUSSY MAUKA-MAKAI VIEW CORRIDOR.
- HEIGHT LIMIT PLANE TO PRESERVE PUNCHBOWL/DIAMOND HEAD VIEW PLANE.
- EXISTING MINI-PARKS. ADDITIONAL SHOULD BE PROVIDED.
- EXAMPLE OF POTENTIAL MINI-PARKS LOCATIONS. MINI-PARKS SHOULD FOLLOW AREAS OF MAJOR PEDESTRIAN CONCENTRATION
- DEVELOPMENT PLAN BEACH RIGHTS-OF-WAY OTHER PEDESTRIAN BEACH RIGHTS-OF-WAY SHOULD BE PROVIDED. ALL BEACH RIGHTS-OF-WAY SHOULD BE ATTRACTIVELY IMPROVED AND LANDSCAPED.
- DEVELOPMENT PLAN PEDESTRIAN MALL. ADDITIONAL MALL AREAS SHOULD BE PROVIDED.
- LONG AXIS OF ALL NEW STRUCTURES SHOULD BE LOCATED ON A MAUKA-MAKAI DIRECTION WHENEVER POSSIBLE. BULK STRUCTURES SHOULD MINIMIZE MAUKA-MAKAI VIEW OBSTRUCTION.
- DEVELOPMENT PLAN PEDESTRIAN BRIDGE
- ▨▨▨▨ LAND AREAS RECOMMENDED AS OPEN SPACE

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Exhibit VI-5
Waikiki Special District Urban Design Controls
WAIKIKI LANDMARK

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An Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) for the rapid transit project is currently being reviewed by the Urban Mass Transportation Administration (UMTA) and has not yet been made available for public review. This document is considered by DTS to be in "the working-paper stage and is subject to revision." No specific alignments or transit stops have been selected.

General information is available regarding the specifications and space needs for the proposed rapid transit system. As currently proposed the Waikiki branch line would consist of a single track guideway (as opposed to a dual track guideway) 13 feet in width. Minimum height clearances for the guideway would be approximately 16 feet-6 inches. Stations would consist of covered platforms approximately 240 feet in length with a minimum width of 8 feet-6 inches.

The present building design does not include any provisions for the proposed rapid transit station. However, the applicant will continue meetings with officials of the DTS to coordinate the development of the Waikiki Landmark with their efforts and satisfactorily resolve this issue. Because the transit system is in the preliminary planning stages no specific commitments have been made by DTS or the applicant at this date.

D. LIST OF NECESSARY APPROVALS AND PERMITS

A number of approvals and permits will be required to implement the project. These are listed below along with their responsible agency.

Acceptance/Adoption

1) Acceptance of the Final Environmental Impact Statement

Accepting Agency: City and County of Honolulu, Department of Land Utilization (DLU)
Status: Notice to Prepare EIS published in OEQC Bulletin on September 23, 1988. Draft EIS notice published in OEQC Bulletin on March 23, 1989. Final EIS submitted to the DLU and the OEQC on October 2, 1989. Final EIS withdrawn by applicant on November 2, 1989. Revised Draft EIS submitted to the DLU and the OEQC on November 20, 1989. Final EIS submitted to the DLU and the OEQC on January 22, 1990 (currently being reviewed).

- 2) Amendment of the Land Use Ordinance (LUO) to Permit Multi-Family Dwelling Units in the Resort Commercial Precinct between Ala Wai Boulevard and Kuamoo Avenue
Status: Approved by the City Council and signed by Mayor Frank F. Fasi
December 22, 1989

Permits

- 1) Major Special District Permit for the Waikiki Special District
Responsible Agency: City and County of Honolulu, Department of Land Utilization (DLU)
Status: Application will be submitted to DLU after acceptance of the of the Final EIS
- 2) Building Permit for Buildings, Electrical, Plumbing, Sidewalk/Driveway Work and Demolition
Responsible Agency: City and County of Honolulu, Building Department and review by various other city and state agencies
Status: Application will be submitted after approval of the Major Special District Permit
- 3) Park Dedication Requirement
Responsible Agency: City and County of Honolulu, Department of Parks and Recreation and the DLU
Status: Application will be submitted prior to approval of the building permit
- 4) Construction Dewatering Permit (Temporary)
Responsible Agency: City and County of Honolulu, Department of Public Works
Status: Application will be submitted after approval of the building permit
- 5) Grading, Grubbing and Stockpiling Permit
Responsible Agency: City and County of Honolulu, Department of Public Works
Status: Application will be submitted after approval of the building permit
- 6) Water System Requirements for Developments
Responsible Agency: Board of Water Supply
Status: Application will be submitted after approval of the building permit

7) Sewer Connection Permit

Responsible Agency: Department of Public Works

Status: Application will be submitted after approval of the building permit

8) Sign Permit(s)

Responsible Agency: City and County of Honolulu, Building Department with review by the DLU

Status: Application will be submitted after approval of the building permit

9) Certificate of Occupancy

Responsible Agency: City and County of Honolulu, Building Department with review by various other agencies

Status: Application will be submitted after building completion

Chapter VII

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

Because the subject property has been in urban use for over fifty years, the proposed development will not result in a significant change in the use of the area. The proposed residential/commercial development will allow the property to be used to its highest and best use, and will greatly enhance the long-term productivity of the subject property.

Chapter VIII

VIII. ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Displacement of the existing business on the subject property is the only adverse impact which cannot be avoided. Although the existing 12 businesses are on short term month to month leases and are aware of the pending development proposal, actual displacement from the existing subject property will be an inconvenient, if not adverse activity for these businesses. It is possible that some of the businesses may relocate in the proposed commercial space.

Chapter IX

IX. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The construction of the Waikiki Landmark development will require the irreversible commitment of capital, labor and energy expended in design, development, construction, construction materials and equipment. Because the subject property has been in urban use for over fifty years, the proposed development will not result in an irretrievable loss of natural resources.

Chapter X

X. SUMMARY OF UNRESOLVED ISSUES

The issue of siting a rapid transit station on the Kalakaua side of the subject property remains an unresolved issue. Meetings have been conducted with officials of the Rapid Transit Development Division of the City and County of Honolulu, Department of Transportation Services (DTS) to coordinate the development of the Waikiki Landmark with their efforts. Because DTS is in a preliminary planning stage no specific commitments have made for a station location or design. This coordination process will continue with the DTS to resolve this issue.

With the exception of this issue, there are no unresolved issues for this project. The potential impacts of the proposed development are known and appropriate mitigative measures have been developed to address these impacts.

Chapter XI

XI. ALTERNATIVES TO THE PROPOSED ACTION

A. NO ACTION ALTERNATIVE

A no action alternative would involve maintaining the property in its existing condition. The present land use activities are temporary and housed in structures in a poor state of repair. The subject property's location, high land value and related carrying cost does not allow a "no action" alternative to be considered further.

B. USE ALTERNATIVES

1. Commercial Development

Present zoning designates the entire area as Resort Commercial and allows commercial activities. Under a previous plan for the property a 320 foot commercial office building was proposed, and had been approved. Since that time market conditions have changed. It was determined that the present market conditions in the Waikiki area will not support an additional 431,110 gross sf of commercial floor area.

2. Hotel Development

Because there is a 30,000 visitor unit limit set by the Development Plan ordinance for the Primary Urban Center (Sec. 2.2b.(2) of Ordinance 81-79), further hotel development of the subject property is prohibited.

3. Residential/Commercial Development

The proposed residential/commercial development is the most appropriate use for the subject property. Market conditions support residential and commercial uses at this location. The proposed development is desirable to the surrounding residents because it will eliminate the existing structures currently on the subject property and will replace them with an aesthetically unified, landscaped residential/commercial complex. The proposed project, therefore, offers the highest and best use for the subject property.

C. PRELIMINARY DESIGN ALTERNATIVES

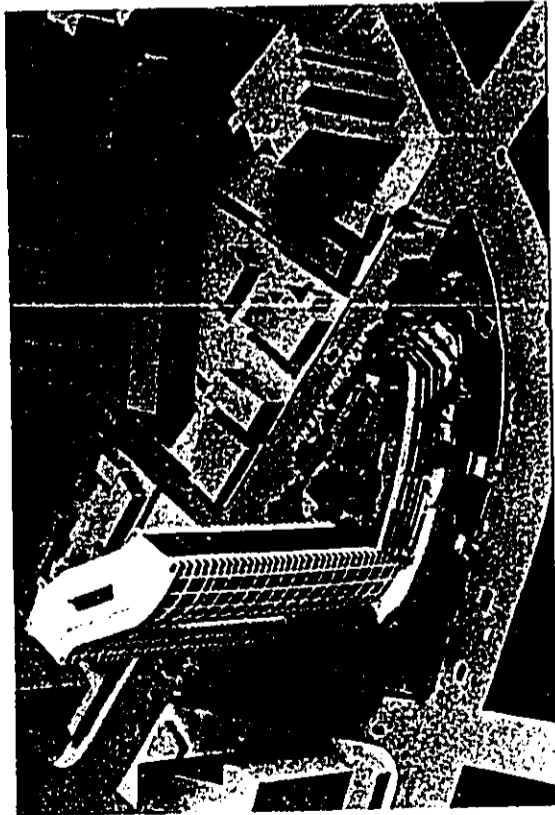
A site analysis was done to define the following urban design goals of the development:

1. Maintain a maximum open space with emphasis at street corners;
2. Develop the Kalakaua Avenue/Ala Wai Boulevard intersection as a "symbolic gateway" to Waikiki;
3. Development Kalakaua Avenue as a main street concept; and
4. Preserve mauka-makai views through the subject property.

Based on these goals, two preliminary alternative designs were considered for the Waikiki Landmark during the initial design phase. (Exhibit XI-1) Both designs offered the following features:

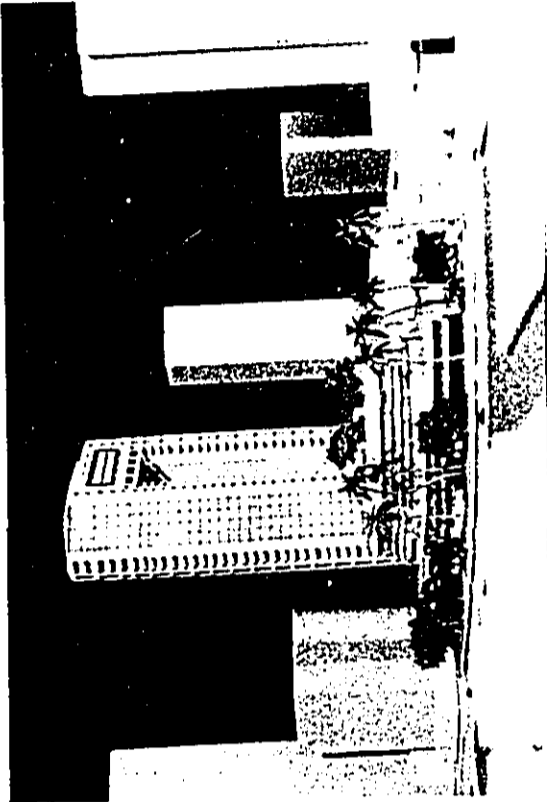
- 60, 2-bedroom, 1,400 sf apartments
- 139, 2-bedroom, 1,000 sf apartments
- 121, 1-bedroom, 800 sf apartments
- 376,700 gross sf total for residential use
- 56,000 gross sf total for commercial use
- 435,718 gross sf building area
- 650 parking stalls provided in the following proportions:
 - a. Residential use 450
 - b. Commercial use 65
 - c. Royal Aloha Condominiums 135

The two preliminary designs were evaluated based on considerations such as minimizing environmental impacts, maintaining existing view planes, encouraging the integration between the project and existing land uses, aesthetics, open space and encouraging pedestrian identification. Design Alternative No. 1 was selected by the developer as the best design alternative for the site (Alternative No. 2 was looked at only during the preliminary planning and design stage and is no longer under consideration). A detailed analysis of Alternative No. 1 was then undertaken. The features of this alternative have since been scaled down to reflect the

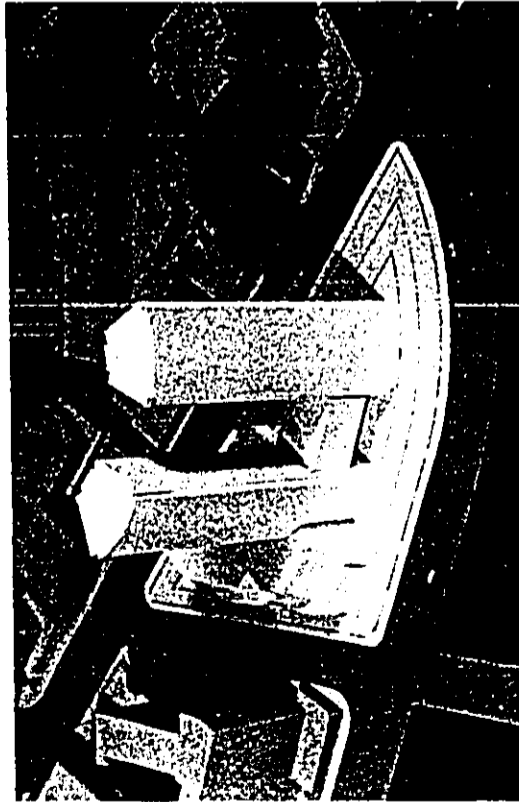


Aerial View

Design Alternative No. 1

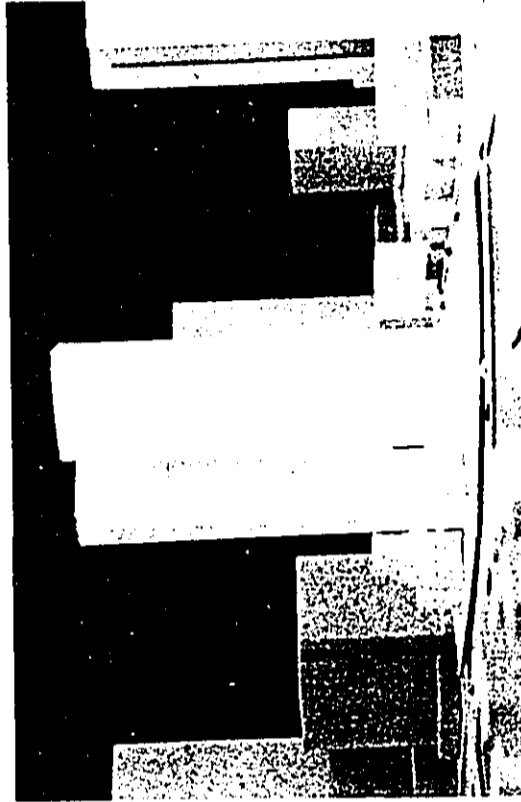


View from Kapiolani Blvd.



Aerial View

Design Alternative No. 2



View from Kapiolani Blvd.

Photo Credits: Architects Hawaii

Exhibit XI-1
Preliminary Design Alternatives
WAIKIKI LANDMARK

DHM inc.
Land Use and
Environmental
Planning

current development proposal. Design features of the existing proposal are presented in Chapter II.

A brief discussion of the two preliminary design alternatives considered follows:

Design Alternative No. 1 (selected)

This is a "gateway corner" development with twin towers located at the Diamond Head portion of the subject property. This alternative respects the urban design goal of keeping the "gateway corner" to Waikiki open with landscaping. As one approaches Waikiki, it offers a gradual rise from the street to a low-rise parking structure then further to the high-rise towers. The twin towers are in a mauka-makai orientation with a 80-foot open space between the two towers. There is a connection of the upper five floors which increases the efficiency of the building and provides a dramatic effect.

Shadow impacts from Design Alternative No. 1 indicate that McCully Street will experience a slight (4%) average increase at 2:00 p.m. over Design Alternative No. 2 in shadow impacts throughout the year compared to the existing condition. However, at 4:00 p.m. Alternative No. 1 creates 4% less shadow than Alternative No. 2. The maximum shadow impact on McCully Street from Alternative No. 1 is a 33% increase. This compares to a 37% shadow increase for Alternative No. 2.

Kalakaua Avenue will experience an average 6% greater increase in shadow at 8:00 a.m. for Alternative No. 1 than for Alternative No. 2 and 5% more at 10:00 a.m. The total increase in shadows cast by all buildings, however, at 10:00 a.m. is only 6%. Alternative No. 1 provides the maximum impact at 8:00 a.m. increasing the shadow from 24% to 50% for a 26% increase. This compares to a 20% increase for Alternative No. 2.

Ala Wai Boulevard is impacted by Alternative No. 1 throughout the day. However, the shadow impact is consistently less throughout the entire day for Alternative No. 1 than for Alternative No. 2.

This design offers commercial activities along Kalakaua Avenue. In view of existing commercial activities along this roadway and the potential for a convention center on Kalakaua Avenue, this location would offer a positive incentive for businesses.

Design Alternative No. 2 (no longer under consideration)

Twin towers are located at the corner of Kalakaua Avenue and Ala Wai Boulevard with the parking structure along McCully Street. The towers would not be connected at the top five floors as in Design Alternative No. 1 but would be connected at the base of the buildings. The parking structure and twin towers would be very visible at the McCully Street entrance to Waikiki. The placement and design of the towers in Design Alternative No. 2 presents more of a bulky solid wall feeling along the Ala Wai Boulevard than does Design Alternative No. 1 and would allow less mauka-makai views at the street level.

Design Alternative No. 2 creates 4% less shadow on McCully Street at 2:00 p.m. than does Alternative No. 1 but creates 4% more shadow at 4:00 p.m. In fact, the maximum shadow impact on McCully Street occurs with Alternative No. 2 at 4:00 p.m. with an 37% increase.

There is a small 6% increase in shadow impact on Kalakaua Avenue from Alternative No. 2 at 10:00 a.m. Alternative No. 1 creates a greater overall impact on Kalakaua Avenue than does Alternative No. 2. Alternative No. 2 consistently creates a greater shadow impact along Ala Wai Boulevard for the entire day.

This design offers commercial activities along McCully Avenue.

Chapter XII

XII. AGENCIES, ORGANIZATIONS, AND INDIVIDUALS CONSULTED

A. Federal

**U.S. Army Corps of Engineers
Department of Defense
Department of the Interior
U.S. Fish and Wildlife Service
Department of Agriculture
Soil Conservation Service
Department of the Navy**

B. State

**Department of Land and Natural Resources, Historic Sites Section
Department of Business and Economic Development
Housing, Finance & Development Corporation
Department of Land and Natural Resources
Office of Environmental Quality Control
Department of Accounting and General Services, Project Management Branch
Department of Agriculture
Department of Business and Economic Development, Energy Division
Department of Health
Department of Hawaiian Home Lands
Department of Transportation
University of Hawaii at Manoa, Environmental Center**

C. City and County of Honolulu

**Department of General Planning
Department of Land Utilization
Department of Transportation Services
Board of Water Supply
Department of Public Works
Police Department
Department of Housing and Community Development
Building Department
Fire Department
Department of Parks and Recreation**

D. Others

**Bishop Museum, Applied Research Group
Hawaiian Electric Company, Inc., Environmental Department
Frank Streed, Chief Assistant to Council Member Arnold Morgado
Dr. Arthur Chiu, University of Hawaii
American Lung Association of Hawaii
Office of Hawaiian Affairs**

References

REFERENCES

- "Air Quality Assessment Report for the Proposed Waikiki Landmark", University Associates, Inc., January 1988.
- "Detailed Land Classification", Land Study Bureau, University of Hawaii, December 1972.
- "Development Plan for the Primary Urban Center", Ordinance 81-79, Sec. 2.2b.(2), City and County of Honolulu.
- "The Economic Impact of Tourism in Hawaii: 1970 to 1980", Research Report 1983-2, Department of Planning and Economic Development, April 1983.
- Flood Insurance Rate Map, National Flood Insurance Program, Panel 120 of 135, Federal Emergency Management Agency, September 4, 1987.
- "General Plan: Objectives & Policies", City and County of Honolulu, January 18, 1977, Revised 1989
- "Hawaii's Coastal Zone Management Program", Chapter 205A, Land Use Commission, City and County of Honolulu.
- "The Hawaii State Plan", Hawaii Revised Statutes, amended, 1986.
- Land Use Ordinance, Article 7. Special District Regulations, Section 7.80 The Waikiki District and Section 7.20 Special Districts: Purpose, Department of Land Utilization, City and County of Honolulu, 1989.
- "1980 Census of Population and Housing, Census Tracts", U.S. Department of Commerce, 1983.
- "Noise Impact Evaluation for the Proposed Waikiki Landmark Project, Waikiki, O'ahu, Hawaii", Darby and Associates, January 1988.
- "Pre-Field Background Literature Search for Archaeological Resources at the Proposed Waikiki Landmark Property", by Mary F. Riford, Bishop Museum Applied Research Group, February 1989.
- "Revised Environmental Impact Statement for the Proposed Waikiki Triangle Project", Developer: L. Robert Allen; Environmental Consultants: Environmental Communications, Inc., March 1980.
- 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.
- "Special Management Area", Chapter 33, Revised Ordinance 77-100, October 1977.
- The State of Hawaii Data Book 1986, Department of Planning and Economic Development, 1986.
- The State of Hawaii Data Book 1987, Department of Business and Economic Development, 1987.

"Traffic Impact Assessment Report, Waikiki Landmark", Pacific Planning & Engineering, Inc.,
November 1988.

"Waikiki Landmark Shadow Study", TRB Hawaii, Ltd., February 1989.

"Wind-Tunnel Tests: Waikiki Landmark, Honolulu, Hawaii," Cermak Peterka Petersen, Inc.,
July 1989

Appendix A

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

land use
and environmental
planning

DHM inc.

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 96820-1760

88:PLNG/1362B JT

October 20, 1988

9 February 1989

Mr. Joseph K. Conant
Executive Director
Housing Finance and Development Corporation
Department of Business and Economic Development
P.O. Box 29360
Honolulu, Hawaii 96820-1760

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark
88:PLNG/1362B JT

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

Dear Mrs. Murabayashi:

Re: Waikiki Landmark Environmental Assessment

We have reviewed the subject report and have the following comments:

If the requested zoning change is received, we believe the developer will realize an increased property value. As such, this benefit should be shared via the provision of affordable housing (e.g. elderly housing units) or payment of "in-lieu" fees.

It is our understanding that the City and County of Honolulu would normally require a 10% affordable housing set-aside. Cash payments in lieu of the provision of units may also be acceptable. We therefore believe that the applicant should work closely with the City in satisfying such requirement.

Sincerely,

JOSEPH K. CONANT
Executive Director

Dear Mr. Conant:

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

It is difficult to state that the proposed zoning change for Resort Commercial (100% commercial use) to Mixed Use of commercial (20%/apartment (80%)) will realize an increased property value. Nevertheless, the developer will coordinate with the City and County of Honolulu regarding the affordable housing provision. The developer will comply with all rules and regulations as such.

Your comments will be included in the draft Environmental Impact Statement.

Sincerely yours,

DHM inc.

Duk Hee Murabayashi (Mrs.)
President

DEB

JOHN WILSON
DIRECTOR OF HEALTH



STATE OF HAWAII
DEPARTMENT OF HEALTH

P. O. BOX 329
HONOLULU, HAWAII 96813

October 24, 1988

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

IN 1987, PLEASE REFER TO
EPHSD

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

Dear Mrs. Murabayashi:

Subject: Environmental Assessment (EA) for Waikiki Landmark Project, Waikiki, Oahu

Thank you for allowing us to review and comment on the subject EA. We provide the following comments relating to air pollution.

The air quality assessment report utilized the 1987 carbon monoxide ambient data obtained from the Department of Health, Waikiki monitoring station. The report does note that the data for December 1987 was excluded. An explanation should be provided since the higher values would occur during the winter months.

A correlation factor is used to adjust the data from the Department's monitoring location to the location of the project site. Although the correlation factor conservatively increases the Department's results, the validity of the factor is questioned since the monitoring at the project site was only conducted for one week. In addition, based on several span points, the response curves for each instrument should be compared and discussed.

The environmental assessment does not address the potential impact on the existing and future ambient air quality that may result from the vehicular activity associated with the proposed project. Should a potential violation be determined, the environmental assessment should address the mitigating actions which shall be implemented.

Sincerely yours,

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

land use
and environmental
planning

DHM inc.

15 February 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
Waikiki Landmark

Dear Dr. Anderson:

Thank you for your comments on the EISP for the above subject property. In response to your comments, we contacted University Associates, Inc. and the air quality report has been revised for the draft EIS in order to address your concerns.

Data for winter months is included in the 1987 CO ambient data obtained from the DOH, Waikiki monitoring station. The ratio used to adjust the data from DOH's monitoring location to the subject property is based on measurements of a one week period. At the beginning, the running mean of hourly ratios oscillated which was expected. It soon became stable varying only within the error limit of the observations. It is, therefore, assumed that the ratio was representative of long-term conditions of the winter months, and continued sampling would probably not significantly change the ratio.

Errors due to non-linearity in the instrument response is very small (5%). The use of several calibration points would not significantly improve the accuracy of the readings since non-linearity is not the major source of uncertainty. The major source of error is zero and span drift due mainly to temperature variations. It was, therefore, determined unnecessary to calibrate at more than two points.

The updated, February 1989, report does include the potential impact of traffic on the existing and future ambient air quality. The data for 1991, with and without the proposed project, indicates that State AAQS will not be exceeded.

Sincerely,
DHM inc.

Duk Hee Murabayashi
Duk Hee Murabayashi (Mrs.)
President

DEB

100 001 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

B L A N K

1517



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 521
HONOLULU, HAWAII 96808

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

SECRET
LESLIE C. LAROCHE
MARIANA TADOKORO
RUSSELL M. FUYAMOTO
AGRICULTURE DEVELOPMENT
PROGRAMS
ADAPTIVE SERVICES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSTRUCTION AND
RESOURCES IMPROVEMENT
COUNCIL AND WILDLIFE
LAND MANAGEMENT
STATE PLANS
WATER AND LAND DEVELOPMENT

NOV 2 1988

DOC. NO.: 4536E
FILE NO.: 89-190

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

SUBJECT: Waikiki Landmark, Environmental Assessment/EIS
Preparation Notice
TRK: 2-6-74: 39, 41, 43, 44, 49, 50, 52-56, 59

Dear Mrs. Murabayashi:

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 points out that on page 34 of the Environmental Assessment, there is a statement to the effect that since there are no known archaeological or historical sites on the property, the project will not have any impact on archaeological resources. In the EIS, under Existing Conditions, this should be changed to state that:

"There are no known historic sites on the property, or sites which are eligible for or listed on the Hawaii or National Register of Historic Places. There is, however, a possibility that subsurface archaeological deposits and burials may be present. This assessment is based on the fact that such deposits have been discovered in adjacent areas in Waikiki. Therefore, archaeological subsurface testing will be carried out prior to construction."

In addition, it is premature at this time to state, under Project Impact, that the project will have "no effect" on significant historic sites, and that statement should not appear in the EIS. Instead, there should be a statement under Mitigation Measures to the effect that archaeological subsurface testing will be carried out prior to construction, and that if subsurface deposits are encountered, appropriate mitigation measures will be undertaken after consultation with the State Historic Sites Section.

Mrs. Duk Hee Murabayashi

- 2 -

DOC. NO.: 4536E

Our Division of Aquatic Resources has no objection to the proposed development provided precautions are taken to prevent adverse impact to the aquatic environment from storm runoff containing toxic substances or other contaminants created by the construction activity.

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

23 January 1989

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

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark

Dear Mr. Paty:

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

The Archaeology section of the draft EIS will be revised to reflect your comments concerning archaeological or historical sites on the subject property. A discussion concerning a pre-field literature search as well as subsurface testing at the time of demolition will also be included. In the event an archaeological feature is discovered, the Historic Sites Section of DNR will be immediately contacted and appropriate steps will be taken to preserve the site for evaluation.

In addition, appropriate precautions will be taken to ensure that no contaminated, or toxic runoff from the construction site will reach the Ala Wai Canal and the ocean. This, too, has been included in the draft EIS.

Sincerely,
DHM inc.


Dyt Hee Murabayashi (Mrs.)
President

DEB

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STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
1600 KAPOLANI BLVD., SUITE 1500
HONOLULU, HAWAII 96813
15000 544-2000
15000 544-2040

December 9, 1988

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

Subject: EISPN: Waikiki Landmark

Dear Mrs. Murabayashi:

Thank you for sending our office a copy of the environmental assessment and for the opportunity to comment.

Please send our office a copy of the archaeological reports produced for this project, such as reconnaissance reports, preliminary reports, research designs, excavations reports, and monitoring reports.

Sincerely,

Kamaki A. Kanahela
Kamaki A. Kanahela, III
Administrator

KAK:EM:k1r

C-88-0016

DHM inc.

land use
and environmental
planning

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

23 January 1989

Mr. Kamaki A. Kanahela, III
Administrator
Office of Hawaiian Affairs
1600 Kapiolani Blvd., Suite 1500
Honolulu, Hawaii 96814

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark

Dear Mr. Kanahela:

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

Bishop Museum in cooperation with the Historic Sites Section of the Department of Land & Natural Resources has determined that a conventional reconnaissance survey on this site would be inappropriate since the subject property is completely paved and occupied by several existing buildings. A pre-field literature search of the subject property will be undertaken, however, by Bishop Museum to predict the location of potential subsurface archaeological features.

At the time of demolition, backhoe assisted subsurface testing will be undertaken as the prefield literature search warrants. If any archaeological features are exposed, the Historic Sites Section will be immediately contacted and appropriate measures taken to preserve the site for evaluation.

Sincerely,

DHM inc.

Duk Hee Murabayashi
Duk Hee Murabayashi (Mrs.)
President

DEB



OFFICE OF STATE PLANNING

Office of the Governor

STATE CAPITOL, HONOLULU, HAWAII 96813 TELEPHONE: (808) 548-3173

2048 MARKET STREET

DHM inc.
land use
and environmental
planning

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

Ref. No. P-8803

October 14, 1988

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

Dear Mrs. Murabayashi:

Subject: Environmental Impact Statement Preparation Notice
(EISPN) for the Waikiki Landmark Project

Our review of the subject EISPN determined that the project site is within the State's Coastal Zone Management (CZM) area, as defined by Chapter 205A, HRS. In this regard, the EIS should contain a discussion of the project's impacts relative to the objectives and policies of Hawaii's CZM Program embodied in Chapter 205A.

Thank you for the opportunity to provide our comments on this document. Please feel free to contact our CZM office at 548-8467 if you have any questions regarding this matter.

Sincerely,

Harold S. Masumoto
Harold S. Masumoto
Director

cc: Dept. of Land Utilization,
City and County of Honolulu

9 February 1989

Mr. Harold S. Masumoto
Director
Office State Planning
State Capitol
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark

Dear Mr. Masumoto:

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

Your comments regarding the location of the subject property in Hawaii's Coastal Zone Management area are appreciated. A discussion of the proposed project's impacts relative to the objectives and policies of Hawaii's Coastal Zone Management Program (Chapter 205A) will be included in the draft Environmental Impact Statement.

Sincerely,

DHM inc.

Duk Hee Murabayashi
Duk Hee Murabayashi (Mrs.)
President

DEB

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU
850 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK P. FARM
CHIEF

DONALD A. CLEGG
CHIEF PLANNING OFFICER
GENE CONNELL
SENIOR CHIEF PLANNING OFFICER

MH/DGP 9/88-3537

October 20, 1988

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

Dear Mrs. Murabayashi:

Environmental Assessment/EIS Preparation Notice
Waikiki Landmark

TMK 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59

This is in response to your request for comments on the Environmental Assessment/EIS Preparation Notice for the Waikiki Landmark project.

A - 00

As you know, the Primary Urban Center Development Plan does not allow for mixed use of the subject site at the present time. Your assessment indicates that a new mixed use DP land use designation is being proposed. Be advised that we are proposing a change to the Special Provisions text for Waikiki for areas along Kalakaua and Ala Moana Avenues rather than a land use amendment.

The assessment is unclear as to the off-street parking that would be provided. Does the 700 parking stalls include or not include the 135 spaces set aside for the Royal Aloha Condominium under the Development Agreement for the property?

The impact on existing vegetation should be clarified. There should be some indication as to the impact on the palm and monkeypod trees within the area.

The approximate sales price of the proposed condominium units should also be indicated.

Mrs. Duk Hee Murabayashi, President
DHM, Inc.
Page 2
October 20, 1988

Be further advised that the two people per household for the subject area that is attributed to this department was based on the 1980 census and are not 1985 statistics.

If you have any questions, please call Mel Murakami at 527-6020.

Sincerely,

DONALD A. CLEGG
Chief Planning Officer

DAC:js

cc: Department of Land Utilization



DHM inc.

land use
and environmental
planning

9 February 1989

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

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

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark

Dear Mr. Clegg:

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

On January 31, 1989, the City Council adopted Bill No. 168 proposing changes to the Special Provision text for the Waikiki area along Kalakaua and Ala Moana Avenues. We will reflect this in the draft EIS text.

The proposed Waikiki Landmark includes 650 parking stalls, including 135 designated for the Royal Aloha Condominium under the Development Agreement for the property. This is reflected in the draft EIS text.

The existing monkeypod and palm trees on the subject property will be incorporated into the landscaping design wherever possible. If they cannot be included in the design, they will be relocated to other areas within the subject property.

The approximate sales price of the condominiums has not yet been established. Based on the location of the property, it is expected the prices will be in the moderate to luxury price range.

The statistic concerning the number of persons per household reflects 1980 census data and has been changed to 1.7 persons per household.

Your comments will be included in the draft Environmental Impact Statement.

Sincerely,
DHM inc.


Dux Hee Kurabayashi (Mrs.)
President

DEB

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

450 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE: 521-4131



FRANK J. FARR
MAYOR

MIKE MOON
DIRECTOR

Michael N. Scarfone
DEPUTY DIRECTOR

October 28, 1988

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

Dear Mrs. Murabayashi:

Subject: Environmental Impact Statement Preparation Notice
Waikiki Landmark Project

We have reviewed the subject Environmental Impact Statement Preparation Notice.

A primary concern of this Department is the provision of housing opportunities to a wide range of income groups, particularly to those households with low and moderate incomes. We recommend that the Environmental Impact Statement for this project contain, in as much detail as possible, a description of the types and price ranges of the housing units proposed for the project and a discussion of the affordability of the units for households of various income groups.

We note that a zone change is required for this project. The Department's current policy is to request that ten percent of the residential units in a proposed project be set-aside for low- and moderate-income households or that the developer contribute in-kind toward the development of such housing. This policy up to now has only affected residential projects, however, all developments requesting zone change actions would be subject to some kind of requirement under a Bill for a Community Benefit Ordinance currently before the City Council. The Department will inform the developer of any requirements should the Community Benefit Assessment Bill be enacted.

Thank you for the opportunity to comment.

Sincerely,
Mike Moon
MIKE MOON
Director

DHM inc.

land use
and environmental
planning

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

9 February 1989

Mr. Michael Scarfone
Director
Department of Housing and Community Development
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark

Dear Mr. Scarfone:

We received a comment letter from Mr. Mike Moon on the above subject property and offer the following response.

The sale prices for the residential condominiums have not yet been firmly established. At this time, however, the developer does estimate the residential condominiums will be in the \$250,000 to \$650,000 price range. The final sale prices will be largely dependent upon development and construction costs.

We understand that the City Council has not taken any action on the Community Benefit Assessment Bill, initiated by the Department of Land Utilization.

These comments will be included in the draft Environmental Impact Statement.

Sincerely,

DHM inc.

Duk Hee Murabayashi
Duk Hee Murabayashi (Mrs.)
President

DEB

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

430 SOUTH KING STREET
HONOLULU, HAWAII 96813 • PHONE 521-4433



FRANK F. FARR
MAYOR

JOHN P. WHALEN
DIRECTOR

BENJAMIN S. LEE
DEPUTY DIRECTOR

LUL12/88-8619(RF)

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

land use
and environmental
planning

DHM inc.

9 February 1989

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

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark

Dear Mr. Whalen:

Thank you for your comment letter on the EISPN for the above subject property.

Design alternatives will be included in the draft Environmental Impact Statement with a discussion of alternatives for placement of the two separate towers.

The effects of winds at the proposed Waikiki Landmark will be addressed in the draft Environmental Impact Statement.

A shadow effects study of the proposed Waikiki Landmark on adjacent streets and buildings has been conducted and a report will be included in the draft Environmental Impact Statement.

Sincerely,

DHM inc.

Duk Hee Murabayashi
Duk Hee Murabayashi (Mrs.)
President

DEB

January 5, 1989

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

Dear Mrs. Murabayashi:

Environmental Impact Statement
Preparation Notice (EISPN)
for Waikiki Landmark

We are writing in answer to your letter dated December 21, 1988, concerning wind effects. To clarify our previous comment, we are not specifying any particular type of wind study. Nevertheless, we are concerned about the potential effects that large buildings can have on the pedestrian street environment. Wind currents can be reflected downward off building facades onto sidewalk areas, rendering them difficult and/or uncomfortable for pedestrian use. The EIS must analyze wind effects on such public spaces, in order to determine whether there is a significant adverse effect and, if so, how that effect can be mitigated.

If you have any questions, please contact Mr. Robin Foster of our staff at 527-5027.

Very truly yours,

John P. Whalen
JOHN P. WHALEN
Director of Land Utilization

JPM:sl
0226N

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
430 SOUTH KING STREET
HONOLULU, HAWAII 96813 • PHONE 521-6222



FRANK J. WILSON
DIRECTOR

JOHN P. WHALEN
DIRECTOR
DEJUANNE S. LEE
DEPUTY DIRECTOR

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-5855

land use
and environmental
planning

DHM inc.

21 December 1988

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

October 20, 1988

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

Dear Mrs. Murabayashi:

Environmental Impact Statement
Preparation Notice (EISP/N)
for Waikiki Landmark

We have the following requests concerning the EIS for the Waikiki Landmark Project:

1. The EIS should consider various design alternatives, including two separate towers dispersed on the site.
2. The EIS should study the wind effects of the proposed structures on adjacent streets and buildings.
3. The EIS should study any shadow or "canyon" effects of the proposed structures on adjacent streets and buildings.

If you have any questions, please contact Robin Foster at 527-5027.

Very truly yours,

John P. Whalen
JOHN P. WHALEN
Director of Land Utilization

JPM:sl
0291N

Dear Mr. Whalen:

Thank you for your response and comments of October 20, 1988 to the EISP/N for the proposed Waikiki Landmark project. We would like to specifically address the second comment, "The EIS should study the wind effects of the proposed structures on adjacent streets and buildings."

The proposed project site is separated from all other buildings by roadways on all sides and is being sited to allow for the least amount of visual and wind obstruction. Unlike the Ala Moana Yacht Harbour Plaza, we not anticipate adverse wind impacts on specific activities, such as yachting, in the vicinity. Two wind studies, one each by Dr. Arthur H.J. Chiu and Dr. Karl H. Bathen, for that project indicated little adverse effect on the remaining open space affecting wind conditions in the Ala Wai canal and boat harbor.

Based on these studies, it is felt that the proposed building will have little or no effect on the surrounding area. The proposed Waikiki Landmark is significantly mauka of the Ala Moana Yacht Harbour Plaza with buildings between the project and the Harbor. If it was felt there would be wind effects, it would be prudent for the architects to engage wind experts in the design of the building to protect the building. We therefore request that no particular wind study be required for the EIS. If a general study similar to Dr. Chiu's Ala Moana Yacht Harbour Plaza study must be done, we may be able to engage Dr. Chiu. However, as we stated earlier, the location doesn't warrant that type of general study. We will simply discuss the wind issue in the EIS.

If you have any questions or would like to discuss this request, please contact me. Thank you.

Sincerely,
DHM inc.

Duk Hee Murabayashi
Duk Hee Murabayashi (Mrs.)
President

Enclosures
cc: Tony Tjan
Alex Weinstein

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK P. ZAR
DIRECTOR

DHM inc.
land use
and environmental
planning

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

9 February 1989

Mr. Walter Ozawa

Director
Department of Parks and Recreation
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

**SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark**

Dear Mr. Ozawa:

We received a comment letter from Mr. Hiram K. Kamaka on the above subject property and offer the following response.

The proposed project is within a three mile radius of the Ala Wai Field and Playground, the Waikiki Gateway Park, Kapiolani Park and the Honolulu Zoo. This three mile radius also includes beach parks such as the Ala Moana Beach Park (plus Magic Island), Fort DeRussy Beach Park, Rukio Beach Park, and Kapiolani Beach Park. In addition, the proposed project will include the following recreational facilities on the subject property: recreation building/health club, swimming pool, paddle tennis courts, and a picnic/barbeque area.

The proposed project will comply with all regulations concerning private park standards and dedications. These comments will be included in the draft Environmental Impact Statement.

Sincerely,

DHM inc.

Duk Hee Murabayashi
Duk Hee Murabayashi (Mrs.)
President

DEB

IRMA K. SAMUELS
DIRECTOR

WALTER M. OZAWA
DIRECTOR

October 25, 1988

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

Dear Mrs. Murabayashi:

**Subject: Environmental Impact Statement Preparation Notice (EISPM)
Waikiki Landmark
Tax Map Key 2-6-14: 39 et al**

We have reviewed the EISPM for the proposed Waikiki Landmark project and make the following comments and recommendations.

The size of the project will have a significant impact on our public park facilities in the subject area. Other than Ala Wai Field, there are no major "active" recreation parks to serve the project. Fort DeRussy and Ala Moana are beach parks that provide only limited and passive recreation use for the project. It is important that recreational areas and facilities be provided and included in the design of the project.

Since the project will be subject to compliance with the Park Dedication Ordinance, the recreational areas and facilities should be designed to meet the private park standards and requirements specified under Rule 10 of the Park Dedication Rules and Regulations. The suggested use of the project's open space requirements for park dedication credit may be questionable.

We recommend that you contact Mr. Jason Yuen of our Advance Planning Branch to discuss the project's recreational needs and park dedication requirements.

Thank you for the opportunity to comment on the EISPM.

Sincerely,

Hiram K. Kamaka
HIRAM K. KAMAKA, Director

HKK:ei

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



JOHN E. HESTEN
DIRECTOR
JOSEPH A. MAGALDI, JR.
DEPUTY DIRECTOR

TE-6503
PL1.1310

November 16, 1988

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

Dear Mrs. Murabayashi:

Subject: Waikiki Landmark
Environmental Assessment
TMK: 2-6-14

2-14

This is in response to your letter dated September 27, 1988 requesting our comments on the environmental assessment for the subject project.

We have reviewed the report with regard to certain concerns raised by our department and have the following comments:

1. As part of the alternative alignments for the proposed rapid transit system, there is a possibility of locating a station on or adjacent to the Waikiki Landmark development. A side-platform station is proposed in the vicinity of Ena Road. The main elements of the station are set above the mauka bound lanes of Kalakaua Avenue and may require a 32-foot encroachment into the proposed development. In addition, current conceptual plans show a dual-track guideway which may overhang approximately 11 feet into the subject property. The developer should, therefore, coordinate the progress of this project with the Rapid Transit Development Division. They can be contacted at 527-6975.

Mrs. Duk Hee Murabayashi
Page Two
November 16, 1988

2. During the next year, construction is anticipated to begin on Phase II of the Kalakaua Avenue Safety and Beautification project, which will extend the sidewalk and street improvements to the Ala Wai Canal. Accordingly, we are concerned about the proposed use of the sidewalk area and setback on Kalakaua Avenue and recommend that the developer install brick paved sidewalks and landscaping compatible with the improved section of Kalakaua Avenue further Diamond Head. These improvements should be discussed with the Program Coordination Division at 527-6019.

3. With regard to traffic circulation, there is a 10-foot road widening setback fronting the subject property. Frontage improvements, including the construction of an additional mauka bound lane, should be implemented as part of this project. These improvements should match the improved section fronting the Hard Rock Cafe, further mauka.

4. Driveways should be installed at locations which will be beneficial to the proposed project, cause the least amount of disruptions to traffic and provide adequate sight distances. These items should be addressed in the traffic impact study.

If you have any questions, please contact Kenneth Hirata of my staff at 527-5031.

Sincerely,

JOSEPH A. MAGALDI, JR.
Deputy Director

DHM inc.

land use
and environmental
planning

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9655

3 February 1989

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

SUBJECT: Environmental Impact Statement Preparation Notice
Waikiki Landmark

Dear Mr. Magaldi:

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

The developer has been apprised of the plans for the proposed rapid transit system and the possibility of locating a station on or adjacent to the Waikiki Landmark. The developer will further coordinate with your Rapid Transit Development Division.

The developer will coordinate with the Program Coordination Division and will comply with the requirements of Phase II of the Kalakaua Avenue Safety and Beautification project.


The developer is aware of the 10-foot road widening setback fronting the subject property and all regulations will be complied with.

Driveways, ingress and egress, will be located on McCully Avenue and Ala Hei Boulevard. Traffic studies indicate relatively smooth traffic patterns and adequate sight distances with these locations.

Your comments will be included in the draft Environmental Impact Statement.

Sincerely yours,

DHM inc.


Dux Hee Kurabayashi (Mrs.)
President

DEB

JOHN WALKER
ENGINEER



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 116, HONOLULU, HAWAII 96813

WALTER S. HANATA
COMPTROLLER
DEPT. OF PUBLIC WORKS
LETTER NO. (P) 1882.8

JOHN WALKER
ENGINEER



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
249 DALLAS ROAD, HONOLULU, HAWAII 96814-08

ALBERT T. LUM
MAJOR GENERAL
ADJUTANT GENERAL
HYLES H. NAKATSU
COLONEL
DEPT. OF DEFENSE

October 7, 1988

OCT 5 1988

Engineering Office

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

Dear Mrs. Murabayashi:

Subject: Waikiki Landmark
Environmental Assessment

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

A-16

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

Dear Mrs. Murabayashi:

Maikiki Landmark, Environmental Assessment

Thank you for providing us the opportunity to review the subject project.
We have no comments to offer at this time regarding this project.

Very truly yours,

J. Tohinaga
TEJUANE TOHINAGA
State Public Works Engineer

SM:jk

Sincerely,

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

Enclosure



JOHN WALKER
DIRECTOR



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2308
HONOLULU, HAWAII 96813

OFFICE OF THE SUPERINTENDENT

October 17, 1988

CHARLES T. TOSUCHI
SUPERINTENDENT

JOHN WALKER
DIRECTOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
185 KALANOAHI STREET
HONOLULU, HAWAII 96813

October 17, 1988

EDWARD Y. HIRATA
DIRECTOR

DEPUTY DIRECTORS
RONALD L. HIRATA
DAN I. KOCH
JEANNE K. SCHULTZ

IN REPLY REFER TO:
HRY-PS
2-3248

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

Dear Mrs. Murabayashi:

SUBJECT: Waikiki Landmark Environmental Assessment

Our review of the Waikiki Landmark Environmental Assessment indicates that the proposed project should not have any significant enrollment impact on our schools.

Sincerely,

Charles T. Tosuchi
Charles T. Tosuchi
Superintendent

CTT:jl

cc E. Imai, OBS
M. Oda, Honolulu District

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

Dear Mrs. Murabayashi:

Waikiki Landmark
TMK: 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59
Environmental Assessment/EIS Preparation Notice

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

The proposed development is not anticipated to significantly affect the State highway facilities. The roadways that will experience the increased traffic from the development are under the City's jurisdiction.

We recommend, however, that the level of service at the intersections be re-examined.

Very truly yours,

Edward Y. Hirata
Edward Y. Hirata
Director of Transportation

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
639 SOUTH BERTANA STREET
HONOLULU, HAWAII 96813



FRANK F. FASI, Mayor
DONNA B. GOTT, Chairman
JOHN K. TSUI, Vice Chairman
SISTER M. DANALYN ANCHOCK, O.S.F.
EDWARD Y. HIRATA
ALFRED J. THEDE
ERNEST A. WILSON
MAURICE H. TAMASATO
KAZU HAYASHIDA
Manager and Chief Engineer

October 12, 1988

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

Dear Mrs. Murabayashi:

Subject: Environmental Assessment/EIS Preparation Notice for
Waikiki Landmark, TMK: 2-6-14: 39, 41, 43, 44, 49,
50, 52-56, 59

The comments we made in our letter dated January 21, 1988 to
Richard M. Sato and Associates, and published on Page 4-1 of
the Environmental Assessment/EIS Preparation Notice for
Waikiki Landmark, are still valid and applicable.

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

Very truly yours,

Kazu Hayashida
KAZU HAYASHIDA
Manager and Chief Engineer

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
630 SOUTH KING STREET
HONOLULU, HAWAII 96813



HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

PB 88-918

October 5, 1988

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

Dear Mrs. Murabayashi:

Subject: Waikiki Landmark
TMK: 2-6-14:39, 41, 43, 44, 49, 50, 52-56, and 59
Environmental Assessment

We have no comments on the Waikiki Landmark Environmental
Assessment.

Thank you for the opportunity to review the assessment.

Very truly yours,

Herbert K. Muraoka
HERBERT K. MURAOKA
Director and Building Superintendent

cc: J. Harada

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1435 S. MERITANA STREET, ROOM 205
HONOLULU, HAWAII 96813



FRANK K. KAHOOHANOHIANO
FIRE CHIEF
LIONEL E. CAMARA
DEPUTY FIRE CHIEF

October 17, 1988

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

Dear Mrs. Murabayashi:

Re: Waikiki Landmark
THK 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59
Environmental Assessment/EIS Preparation Notice

We have reviewed this proposal and have no objections. Existing fire protection services and facilities are considered adequate. The proposed development will have no adverse impact on the fire protection service in the area.

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
FRANK K. KAHOOHANOHIANO
Fire Chief

FKK/HA:lm

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
490 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASEI
MAYOR

ALFRED J. THIEDE
DIRECTOR AND CHIEF ENGINEER

In reply refer to:
PRO 88-292(449)

October 11, 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
Waikiki Landmark
Tax Map Key: 2-6-14:39, 41, 43, 44, 49, 50, 52-56, 59

We have reviewed the subject Environmental Assessment (EA) and have the following comments:

1. The existing sewers are available and adequate for the proposed development.
2. The proposed development is subject to the provisions of Article 5, Chapter 20, Revised Ordinance of Honolulu (Ordinance No. 2412).

Very truly yours,

Alfred J. Thiede
ALFRED J. THIEDE
Director and Chief Engineer

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1335 SOUTH KEELE TANIKA STREET
HONOLULU, HAWAII 96819 - AREA CODE (808) 945-3111

FRANK P. PAH
MAYOR



DOUGLAS G. GIBB
CHIEF
BARREN FERREIRA
DEPUTY CHIEF

OUR REFERENCE RC-LC

October 19, 1988

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

Dear Mrs. Murabayashi:

Re: Waikiki Landmark
TMK: 2-6-14:39, 41, 43, 44, 49, 50, 52-56, 59
Environmental Assessment/EIS Preparation Notice

We have reviewed the Waikiki Landmark Environmental Assessment as requested, and have the following comments.

As indicated in the assessment, the proposed development will be situated across the street from nightclub and discotheque establishments. These establishments generally attract large crowds of young people to the area, which inevitably result in loud noise, trespassing, trespassing vehicle, burglary, theft, drinking, drug and similar complaints from nearby residents. Since this is a common pattern in Waikiki, we can anticipate an increase in calls for police service from the residents of the proposed project. We cannot overemphasize the need for private security to reduce some of these problems.

Thank you for the opportunity to review and comment on your proposed project.

Sincerely,

DOUGLAS G. GIBB
Chief of Police

By 
RONALD SOUZA
Assistant Chief
Support Services Bureau

JOHN TILTON
Special Assistant to the Governor



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 521
HONOLULU, HAWAII 96813

REP:OCEA-VIN

JAN 5 1990

WILLIAM W. PATY, CHAIRPERSON
Board of Land and Natural Resources

MEMBERS
LIBERT S. LANGOLF
MARLENE TAGUCHI
RUSSELL N. FURUMOTO

AGRICULTURE DEVELOPMENT
HARVESTING
WATER RESOURCES
CONSERVATION AND
RESTORATION
CONSTRUCTION AND
REPAIRS
LAND MANAGEMENT
PLANNING AND DESIGN
SOILS AND LAND DEVELOPMENT

File: 90-310
Doc.: 7092E

The Honorable Harvin T. Miura, Ph.D.
Director
Office of Environmental Quality Control
465 S. King St., Room 104
Honolulu, HI 96813

Dear Dr. Miura,

Subject: Waikiki Landmark, Revised Draft Environmental Impact Statement

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.

Attached are previous comments, dated October 17, 1988, from our Division of Aquatic Resources which still remain applicable.

If you have any questions, please feel free to call me or Cathy Tilton at our Office of Conservation and Environmental Affairs at 548-7837.

Very truly yours,

William W. Paty
WILLIAM W. PATY

Attachment
cc:DAR

2/22/87

State of Hawaii
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

DATE: October 17, 1988

MEMORANDUM

TO: Paul Kawamoto, Program Manager, Aquatic Resources & Environmental Protection
FROM: Jo-Anne N. Kushima, Aquatic Biologist
SUBJECT: Comments on 1. Conservation District Use Application
Environmental Assessment/EIS Preparation Notice
2. Date of Conservation Request 09/27/88 Rec'd 10/05/88
Comment: Roger Evans, Office of Conservation and Environmental Affairs

Summary of Proposed Project

Title: Waikiki Landmark
Project by: Bel-Landmark, Inc.
Location: Waikiki, Oahu

Brief Description:

The applicant proposes to build a mixed residential/commercial development including approximately 385 residential condominiums and 50,000 square feet of commercial space in Waikiki.

The proposed project site, bordered by the Ala Wai Boulevard, Kalakaua Avenue and McCully Street is within the Waikiki Special Design District, an area sometimes referred to as the "Waikiki Triangle".

Currently, the existing street drainage system provides for stormwater runoff which drains into the Ala Wai Canal and then into the ocean at the Ala Wai Boat Harbor. There are 24-inch drain lines along McCully Street and Kalakaua Avenue, and catchment basins near the property on McCully Street and Kalakaua Avenue.

Comments:

The Division of Aquatic Resources has no objection to the proposed development provided precautions are taken to prevent adverse impact to the aquatic environment from storm runoff containing toxic substances or other contaminants created by the construction activity.

Jo-Anne N. Kushima
JO-ANNE N. KUSHIMA

COPY FOR YOUR
INFORMATION

Received

JAN 17 1990

DHM inc.

January 11, 1990

MEMORANDUM

To: Mr. Donald A. Clegg, Director
Department of Land Utilization
City and County of Honolulu

Subject: Revised Draft Environmental Impact Statement (DEIS)
Waikiki Landmark
Bel-Landmark, Inc.
TMK: 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59
Waikiki, Oahu
Area: 2.856 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: DHM Planners, Inc.
1188 Bishop Street, Suite 2405
Honolulu, Hawaii 96813

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

Appendix B

**COMMENTS AND RESPONSES
RECEIVED DURING THE SECOND REVIEW PERIOD
(NOVEMBER 23, 1989 - JANUARY 6, 1990)**



JOHN WILSON
DIRECTOR

JOSEPH K. CONANT
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION

SEVEN WATERFRONT PLAZA, SUITE 300
500 ALA MOANA BOULEVARD
HONOLULU, HAWAII 96813
FAX (808) 538-3665

89:PLNG/97 jt

HE MAY REFER TO:

January 8, 1990

MEMORANDUM

TO: City and County of Honolulu,
Dept. of Land Utilization

FROM: Joseph K. Conant

SUBJECT: Revised Draft Environmental Impact Statement for the
Proposed Waikiki Landmark

The revised draft EIS notes that the development proposal for the subject property does not require a zone change to a higher intensive use. The discussion on housing concludes that there is no evident linkage between a requested zone change that increases the permissible intensity of development and the government requirement to provide affordable and special needs housing.

While the rezoning may not result in a more intensive use of the property, we believe that the requested government approval would upgrade the development value of the subject property. Therefore, a portion of the windfall could be recaptured or shared through the provision of affordable housing or the payment of "in-lieu" fees.

Thank you for the opportunity to comment.

JOSEPH K. CONANT
Executive Director

cc: Bel-Landmark, Inc.

DHM inc.
land use
and environmental
planning

Wednesday, January 10, 1990

Mr. Joseph K. Conant, Director
State of Hawaii
Department of Budget and Finance
Housing Finance and Development Corporation
Seven Waterfront Plaza, Suite 300
500 Ala Moana Boulevard
Honolulu, Hawaii 96813

Dear Mr. Conant:

Subject: Revised Draft Environmental Impact Statement for the Waikiki Landmark

Thank you for your letter, dated January 8, 1990, commenting on the Revised Draft Environmental Impact Statement (Revised dEIS) for the Waikiki Landmark.

We stand by the rationale for not being required to provide affordable housing or the payment of "in-lieu" fees described in Chapter V, Section C, of the Revised dEIS for the Waikiki Landmark (please see attached letter from the Department of Housing and Community Development). The development proposal for the subject property does not require a zone change to a higher intensive use. In fact, the proposed use of the subject property will be a higher intensive use than is presently permissible on the subject property. Under existing zoning a high density commercial office building is permitted. As such it is debatable whether the passage of City Council Bill 155 CD-2 which permits residential and commercial mixed use development along a five block area in Waikiki, including the subject property, will increase the value of the individual property any greater than if a commercial office building had been constructed prior to Bill 155 CD-2's passage.

Your comment letter is appreciated and will be included in the Final Environmental Impact Statement. If you should have any additional comments regarding these measures please feel free to contact me or Eric Parker of my staff.

Sincerely,

DHM, Inc.

Dora Hise Murabayashi (Mrs.)
President

cc: Dr. Marvin Miura, OEQC
Mr. Bennett Mark, DLU
Mr. Tony Tjan, Bel-Landmark, Inc.

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

150 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813
PHONE 521-4411



MICHAEL SCARFONE
DIRECTOR
RONALD B. HUN
DEPUTY DIRECTOR

FRANK A. PARR
MAYOR

December 13, 1989

MEMORANDUM

TO: John P. Whalen, Director
Department of Land Utilization

FROM: Michael N. Scarfone

SUBJECT: Revised Draft Environmental Impact Statement
Waikiki Landmark

Thank you for the opportunity to review and comment on the Revised Draft EIS for the Waikiki Landmark.

Since the proposed amendment to the LZO (Bill No. 155) to permit residential/commercial use of the subject property is not a zone change, the Department will not make its customary recommendation that ten (10) percent of the proposed residential units be set aside for low- and moderate-income households.

MICHAEL N. SCARFONE
Director

cc: Del-Landmark, Inc.
Harvin T. Miura, Ph.D.

JOHN A. LUTHE
GOVERNOR
ROGER A. LUTHE
DIRECTOR
DEPARTMENT OF BUSINESS
AND ECONOMIC DEVELOPMENT
1100 S. MATHIAS
HONOLULU, HI 96813

DEPARTMENT OF BUSINESS
AND ECONOMIC DEVELOPMENT

ENERGY DIVISION, 330 MERCANTILE BLDG., 16th FLOOR, HONOLULU, HAWAII 96813 FAX: (808) 534-3213



90:0781e

January 4, 1990

Mr. Donald Clegg, Director
Department of Land Utilization
650 South King Street, 7th Floor
Honolulu, HI 96813

Dear Mr. Clegg:

Subject: Revised Draft Environmental Impact Statement
for Waikiki Landmark

The Energy Division has received the above-referenced Revised Draft Environmental Impact Statement (RDEIS) and has the following comments:

We note that the RDEIS contains minimal discussion of energy impacts that will result from the proposed project. The RDEIS contains neither an estimate of total electricity consumption within the project nor a discussion of energy conservation technologies or renewable energy sources that might help meet the project's energy requirements.

We note also that in Chapter VI neither the State Plan's objectives, policies, and guidelines for energy use and development, nor the State Energy Functional Plan were examined for their relationship to the proposed project. The requirement for such an examination is spelled out in the enclosed excerpt from the DEEC Bulletin.

We believe that the RDEIS should fully address the above-noted omitted items. Thank you for the opportunity to comment on this RDEIS. I hope these comments will be useful to you.

Sincerely,

Maurice H. Kaya
Energy Program Administrator

MHK/PE:dxt
Enclosure

cc: Bel-Landmark, Inc.
Harvin T. Miura

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

DHM inc.

land use
and environmental
planning

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9855
Fax (808) 538-3865

Mr. Maurice H. Kaya
January 11, 1990

Page 2

Electrical energy conservation measures which will be provided as part of the proposed development include:

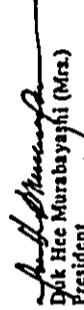
- 1) Light sources to be used primarily are fluorescent and H.I.D. (High Pressure Sodium and Metal Halide). Compact fluorescent lamps will be used in place of incandescent lamps, with the exception of low-voltage accent lighting at water features, etc. A 13-watt compact fluorescent replaces a 60 watt incandescent with the same light output at a savings of 47 watts/lamp. This reduction in watts also lowers the air conditioning load.
- 2) Ballasts for all fluorescent lamps will be energy-saving type, or premium high power factor type for applications where energy-saving type are not manufactured. Energy-saving ballasts (ESB's) use 37 percent less energy than standard ballasts for the same light output. ESB's also run approximately 10 degrees cooler than standard ballasts, reducing the air conditioning load.
- 3) Reflectors for light fixtures are highly specular and contribute to overall fixture efficiency, enabling use of lower wattages and fewer fixtures to achieve desired lighting levels.
- 4) Secondary power factor correction is provided to bring the building power factor to 90 percent or greater.

Applicable sections of the State Plan's objectives, policies and guidelines for energy use and the State Energy Functional Plan will be examined and included in the Final EIS for the Waikiki Landmark.

Your comment letter is appreciated and will be included in the Final Environmental Impact Statement. If you should have any additional comments regarding these measures please feel free to contact me or Eric Parker of my staff.

Sincerely,

DHM inc.


Dik Hee Murabayashi (Mrs.)
President

cc: Dr. Marvin Miura, OEQC
Mr. Bennett Mark, DLU
Mr. Tony Tjan, Bel-Landmark, Inc.

January 11, 1990

Mr. Maurice H. Kaya
Energy Program Administrator
Department of Business
and Economic Development
Energy Division
State of Hawaii
335 Merchant Street, Room 310
Honolulu, Hawaii 96813

Dear Mr. Kaya:

Subject: Revised Draft Environmental Impact Statement
for Waikiki Landmark

Thank you for your letter commenting on the Revised Draft Environmental Impact Statement (Revised EIS) for the Waikiki Landmark.

The proposed Waikiki Landmark Development has an estimated electrical energy consumption of 500,000 kwh/month or 1,428.6 kwh/day. The Waikiki Landmark development will incorporate the most recent energy saving technology so as to minimize the cost of energy to occupants of the commercial space and the residential units. The following features will be provided:

- 1) Each fan coil air conditioning unit in each unit will be separately controlled so that the occupant has the choice of cooling different areas in his/her unit at alternative times of the day.
- 2) A heat pump will be used to heat the building's hot water system. Studies have shown that this is the most efficient method of heating the hot water.
- 3) The condenser heat from the central chilled water system will be recovered by the heat pump to heat the building's hot water.
- 4) High efficiency motors will be used on most of the motor driven equipment.
- 5) High efficiency chillers will be used for the residential towers.
- 6) A variable speed secondary chilled water pumping system will be used for the residential fan coil units.

b
-
u

Dr. Miura

7446
HWY-PS
2.9688

NO
EIS 89-61

APR 25 1989

5233
HWY-PS
2.6161

APR 27 1989

Marvin T. Miura, Ph.D.
Director
Office of Environmental Quality
Control
465 South King Street, Room 115
Honolulu, Hawaii 96813

Dear Dr. Miura:

Revised Draft EIS
Waikiki Landmark, Honolulu
TMK: 2-6-14

Thank you for forwarding a revised copy of the project Draft EIS.

Our attached letter to you (HWY-PS 2.6161, dated April 25, 1989) commenting on the Draft EIS is still applicable.

Very truly yours,

/s/ OWAN K. UCHIDA
Edward Y. Hirata
Director of Transportation

Enclosure
bcc: DL0, Bell-Landmark, Inc., HWY-PS

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

Dear Dr. Miura:

Draft Environmental Impact Statement for
Proposed Waikiki Landmark Residential/Commercial
Building, Waikiki, Oahu.
TMK: 2-6-14: 39, 41, 43, 44, 49, 50, 52-56 AND 59

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

The proposed development is not anticipated to significantly affect the State highway facilities.

We recommend, however, that measures be taken to prevent possible vehicle backup during peak hours onto the adjacent major streets such as McCully Street, Ala Wai Boulevard and Kalakaua Avenue.

Very truly yours,
Edward Y. Hirata
Edward Y. Hirata
Director of Transportation

RI/RPT:gf

(13)

DHM inc.

land use
and environmental
planning

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9855
Fax (808) 538-3865

Wednesday, January 3, 1990

Mr. Edward Hiraiz, Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hiraiz:

Subject: Revised Draft Environmental Impact Statement for the Walkiki Landmark
Thank you for your letter commenting on the Revised Draft Environmental Impact Statement (Revised dEIS) for the Walkiki Landmark.

Because the roadways adjacent to the proposed development are under the jurisdiction of the City and County of Honolulu, the developer has been working directly with the City and County of Honolulu, Department of Transportation Services, Traffic Engineering Division regarding vehicle access to the proposed development. As page 23 of the Revised dEIS states, the following provisions will be made to minimize the possibility of any vehicle backup on to adjacent roadways during peak hours:

- 1) All vehicle access to the development (one exclusive entry and two entry/exists) will be provided from Ala Wai Boulevard;
- 2) A new right turn lane from McCully Street onto Ala Wai Boulevard will be constructed by the developer in coordination with the DTS;
- 3) The existing right turn lane from McCully Street onto Ala Wai Boulevard will be scarified and the side of land between Ala Wai Canal and Ala Wai Boulevard will be landscaped by the developer; and
- 4) Adequate site distances meeting the existing speed limit requirements will be provided at all driveway connections for vehicles as well as for pedestrians.

Your comment letter is appreciated and will be included in the Final Environmental Impact Statement. If you should have any additional comments regarding these measures please feel free to contact me or Eric Parker of my staff.

Sincerely,

DHM, Inc.


Eric Parker (Mrs.)
President

cc: Dr. Martin Mura, OECC
Mr. Bennett Mark, DLU
Mr. Tony Tjan, Bet-Landmark, Inc.

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK P. FARO
DIRECTOR

DONALD A. CLEGG
CHIEF PLANNING OFFICER

KK/DGP 11/89-4336

December 28, 1989

MEMORANDUM

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: DONALD A. CLEGG, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

SUBJECT: REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE
MAIKIKI LANDMARK PROJECT

We have reviewed the subject Revised Draft Environmental Impact Statement (EIS) and recommend that the summary page located just before the "Table of Contents" be revised to indicate that the "DP Land Use" is Commercial and not Commercial Emphasis Mixed Use. Section VI.C.2. in the body of the Revised Draft EIS correctly states that the Commercial Emphasis Mixed Use designation is established in the Development Plan Special Provisions.

Thank you for providing us with an opportunity to comment.

Donald A. Clegg
DONALD A. CLEGG
Chief Planning Officer

DAC:lh
cc: OECC
Mr. Sukarman Sukanto, Bel-Landmark, Inc.
✓ Mr. Eric Parker, DHM, Inc.

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9855
Fax (808) 538-3865

land use
and environmental
planning

DHM inc.

Wednesday, January 3, 1990

Mr. Benjamin Lee, Chief Planning Officer
City and County of Honolulu
Department of General Planning
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Lee:

Subject: Revised Draft Environmental Impact Statement for the Waikiki Landmark
Thank you for your Department's letter commenting on the Revised Draft Environmental Impact Statement for the Waikiki Landmark.

The summary page of the Final Environmental Impact Statement will be revised to indicate that the Development Plan Land Use designation is Commercial and not Commercial Emphasis Mixed Use.

The comment letter is appreciated and will be included in the Final Environmental Impact Statement.

Sincerely,

DHM, Inc.

Heidi Marabayashi
Heidi Marabayashi (Mrs.)
Resident

cc: Dr. Marvin Mura, OECC
Mr. Bennett Mark, DLU
Mr. Tony Tjan, Bel-Landmark, Inc.

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9855
Fax (808) 538-3665

land use
and environmental
planning
DHM inc.

Wednesday, January 10, 1990

Mr. Walter M. Ozawa
City and County of Honolulu
Department of Parks and Recreation
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Ozawa:

Subject: Revised Draft Environmental Impact Statement for the Waikiki Landmark

Thank you for your letter commenting on the Revised Draft Environmental Impact Statement (Revised dEIS) for the Waikiki Landmark.
In order to comply with the Park Dedication Ordinance, the applicant will begin discussions with your Department's staff to establish the areas and facilities which are being proposed for private park credit.

Your comment letter is appreciated and will be included in the Final Environmental Impact Statement. If you should have any additional comments regarding these measures please feel free to contact me or Eric Parker of my staff.

Sincerely,
DHM, Inc.

[Signature]
Dok Hee Murabayashi (Mrs.)
President

cc: Dr. Marvin Miura, OEOC
Mr. Bennett Mark, DLU
Mr. Tony Tjan, Bai-Landmark, Inc.

LU 12/29 8180

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



WALTER M. OZAWA
DIRECTOR
HONOLULU DEPT. OF PARKS AND RECREATION

'89 DEC 22 AM 8 23
DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

December 21, 1989

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)
WAIKIKI LANDMARK MIXED-USE DEVELOPMENT
TAX MAP KEY 2-6-14: 39, 41 ET AL.

We have reviewed the revised Draft EIS for the proposed Waikiki Landmark Mixed-Use Development and make the following comments and recommendation.

The applicant has addressed the recreational needs of the project and has indicated that a health club, swimming pool, paddle tennis court and picnic facilities will be provided to serve the condominium residents.

We recommend, with the decision of selecting, Design Alternative No. 1, that the applicant begin discussion with my staff to establish the areas and facilities which are being proposed for private park credit to comply with the Park Dedication Ordinance.

Thank you for the opportunity to comment on the revised Draft EIS.

[Signature]
WALTER M. OZAWA, DIRECTOR

WMO:fm

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

480 SOUTH KING STREET
HONOLULU, HAWAII 96813



SAM CALLEJO
DIRECTOR AND CHIEF ENGINEER

In reply refer to:
ENV 89-227(49)

FRANK P. FAR
MAYOR

In reply refer to:
ENV 89-39(449)

November 30, 1989

March 17, 1989

MEMORANDUM

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER

SUBJECT: REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT (RDEIS)
WAIKIKI LANDMARK
TMK: 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59

We have reviewed the subject RDEIS and wish to reinstate our comments made during the DEIS review period (see attached copy of memorandum dated March 17, 1989. Reference No. ENV 89-39).

Sam Callejo
SAM CALLEJO
Director and Chief Engineer

Attach. cc: OEGC
Bel-Landmark, Inc. (Eric Parker)

MEMORANDUM

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
WAIKIKI LANDMARK (TMK: 2-6-14: 39, 41, 43,
44, 49, 50, 52-56, 59)

We have reviewed the subject DEIS and have the following comments:

1. Existing municipal sewers are available and adequate for the proposed development.
2. The proposed development is subject to the provision of Article 5, Chapter 20, Revised Ordinances of Honolulu (ROH) 1978 (1983 Edition); i.e., Ordinance No. 2412.
3. We do not have drainage comments at this time.

Sam Callejo

SAM CALLEJO
Director and Chief Engineer

cc: OEGC
Bel-Landmark, Inc.
DHM, Inc.
bcc: Eng
MWM

DHM inc.

land use
and environmental
planning

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9855
Fax (808) 538-3855

Wednesday, December 6, 1989

Mr. Sam Callejo, Director and Chief Engineer
City and County of Honolulu
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Callejo:

Subject: Revised Draft Environmental Impact Statement for the Waikiki
Landmark

Thank you for your letter commenting on the Revised Draft Environmental Impact Statement
for the Waikiki Landmark [ENV 89-227(449)].

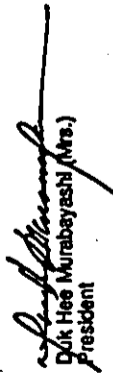
The proposed development will comply with the provisions of Article 5, Chapter 20, Revised
Ordinances of Honolulu (ROH) 1978 (1983 Edition).

Your comment is appreciated and will be included in the Final Environmental Impact
Statement.

D-11

Sincerely,

DHM, Inc.


Dik Hee Murabayashi (Mrs.)
President

cc: Dr. Marvin Mura, OECC
Mr. Bennett Mark, DLU
Mr. Tony Tjan, Bel-Landmark, Inc.



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 210
FT. SHAFTER, HAWAII 96855-5440

LU 12/89 B264

REPLY TO
ATTENTION OF:

December 22, 1989

Planning Branch

'89 DEC 27 PM 1 49
DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

Mr. John P. Whalen
Director
Department of Land Utilization
City and County of Honolulu
65W South King Street
Honolulu, Hawaii 96813

Dear Mr. Whalen:

We have reviewed the Revised Draft Environmental Impact Statement for the proposed Waikiki Landmark, Honolulu, Oahu, Hawaii. Our previous comments (letter dated April 21, 1989) have been incorporated into the document. We have no additional comments.

Sincerely,

C. Fyfe
Kisuk Cheung
Chief, Engineering Division

Copies Furnished:

Bel-Landmark, Inc.
c/o Eric Parker, DMH Planners, Inc.
1188 Bishop Street, Suite 2485
Honolulu, Hawaii 96813
Marvin T. Miura, Ph.D.
Director
Office of Environmental
Quality Control
465 South King Street, Room 184
Honolulu, Hawaii 96813

UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION
SERVICE

P. O. BOX 50004
HONOLULU, HAWAII
96850

December 18, 1989

Director
C&C of Honolulu
Department of Land Utilization
650 S. King Street, 7th Floor
Honolulu, HI 96813

Dear Sirs/Madams:

Subject: Draft Environmental Impact Statement (DEIS) -
Waikiki Landmark - Waikiki, Oahu

We appreciated the opportunity to review the above draft EIS. We have no comments to offer at this time; however, we would appreciate it if we could review the final EIS.

Sincerely,

Warren M. Lee

WARREN M. LEE
State Conservationist

cc: Bel-Landmark, Inc., c/o Eric Parker, DMH Planners, Inc., 1188 Bishop St.,
Suite 2485, Honolulu, HI 96813
Dr. Marvin T. Miura, Director, Office of Environmental Quality Control,
465 S. King Street, Room 104, Honolulu, HI 96813



United States Department of the Interior
FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS OFFICE

P.O. BOX 51817
HONOLULU, HAWAII 96855



DEPARTMENT OF THE NAVY
COMMANDER
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860-500

IN REPLY REFER TO

5090 (1838)
SER 032/2996
30 NOV 1989

November 28, 1989

Mr. Marvin T. Miura
Director
Office of Environmental Quality Control
455 S. King Street, Room 104
Honolulu, Hawaii 96813

Re: Waikiki Landmark, Revised Draft Environmental Impact Statement

Dear Mr. Miura:

We have reviewed the referenced material dated November 1989 and find that due to its nature, the proposed project will have no significant deleterious impact on fish and wildlife resources within our jurisdiction. Please do not hesitate to call on us if we may be of further assistance.

We appreciate this opportunity to comment.

Sincerely yours,

Ernest Kosaka
Ernest Kosaka
Field Office Supervisor
Fish & Wildlife Enhancement

cc: DLJ
Bel-Landmark, Inc.

City and County of Honolulu
Department of Land Utilization
650 S. King St., 7th Floor
Honolulu, HI 96813

Gentlemen:

WAIKIKI LANDMARK REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

The Revised Draft Environmental Impact Statement for Waikiki Landmark has been reviewed, and we have no comments to offer. Since we have no further use for the document, it is being returned to the Office of Environmental Quality Control.

Thank you for the opportunity to review the revised draft.

Sincerely,

W.K. Liu

W.K. Liu
Auxiliary Base Civil Engineer
In Direction of
the Commandant

Copy to:
Bel-Landmark, Inc.
OEQC (w/Revised DEIS)

ALVIN T. LUM
MAJOR GENERAL
ADJUTANT GENERAL

UTLIS W. MAATSIU
COLONEL
DEPT. ADJUTANT GENERAL



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
349 DAVENPORT ROAD, HONOLULU, HAWAII 96819-999

(P)2176.9

NOV 30 1989

30 November 1989

Engineering Office

Department of Land Utilization
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Gentlemen:

Subject: Waikiki Landmark
Revised Draft EIS

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

Should there be any questions, please contact Mr. Cedric Takamoto of the Planning Branch at 548-7192.

Very truly yours,

Teuane Tomimaga
TEUANE TOMINAGA
State Public Works Engineer

CT:em/
cc: Bel-Landmark, Inc.
Office of Environmental Quality Control

Dr. Marvin I. Miura, Director
Officer of Environmental Quality Control
465 South King Street, #104
Honolulu, Hawaii 96813

Dear Dr. Miura:

Waikiki Landmark
Revised Draft Environmental Impact Statement
Waikiki, Oahu

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

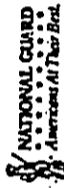
We have no comments to offer at this time regarding this project.

Sincerely,

Joseph M. Matsuda
Joseph M. Matsuda
Lieutenant Colonel
Hawaii Air National Guard
Contracting & Engineering Officer

cc: CAC of Honolulu
Dept of Land Utilization

✓ Bel-Landmark, Inc.
c/o Eric Parker, DPM Planners, Inc.



BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

COPY

HOAHIKI IKAHA
KAWAIAKI IKAHA
KAWAIAKI IKAHA
KAWAIAKI IKAHA



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P O BOX 1379
HONOLULU, HAWAII 96813

December 14, 1989

Mr. Bennett Mark
Department of Land Utilization
City & County of Honolulu
650 S. King Street
Honolulu, HI 96813

Dear Mr. Mark,

Subject: Waikiki Landmark Revised Draft EIS

Thank you for the opportunity to comment on the subject document. This project does not impact Hawaiian Home Lands. We have no comment at this time.

Wermest aloha,
[Signature]
Honolulu L. Drake, Chairman
Hawaiian Homes Commission

CC: Eric Parker
DHM Planners, Inc
1188 Bishop St., Suite 2405
Honolulu, HI 96813

MLD:CI:nk

December 15, 1989

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION
FROM: KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY
SUBJECT: WAIKIKI LANDMARK, REVISED DRAFT ENVIRONMENTAL
IMPACT STATEMENT

We have no objections to the proposed project.

We reiterate the comments made earlier in our letter dated January 21, 1988 to Richard M. Sato and Associates, and published in the Environmental Assessment for the project. The water system is presently adequate to accommodate the proposed development.

The availability of water will be determined when the building permit application is submitted for our review and approval. If water is made available, the applicant will be required to pay our Water System Facilities Charges for source-transmission and daily storage.

If a three-inch or larger meter is required for the proposed development, construction drawings showing the installation of the meter should be submitted for our review and approval.

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

cc: Del-Landmark, Inc.
c/o Eric Parker, DHM Planners, Inc.
Maryin T. Miura, Ph.D.
Office of Environmental Quality Control

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

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



FRANCE PARK
HAWAII

MICHAEL SCARFONE
DIRECTOR
RONALD B. MUN
DEPUTY DIRECTOR

PB 89-1173

December 21, 1989

December 13, 1989

MEMO TO: JOHN WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: WAIKIKI LANDMARK, REVISED DRAFT ENVIRONMENTAL
IMPACT STATEMENT (DEIS)

MEMORANDUM

TO: John P. Whalen, Director
Department of Land Utilization

FROM: Michael N. Scarfone

SUBJECT: Revised Draft Environmental Impact Statement
Waikiki Landmark

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

Thank you for the opportunity to review the DEIS.

Thank you for the opportunity to review and comment on the Revised Draft EIS for the Waikiki Landmark.

Since the proposed amendment to the LUO (Bill No. 155) to permit residential/commercial use of the subject property is not a zone change, the Department will not make its customary recommendation that ten (10) percent of the proposed residential units be set aside for low- and moderate-income households.

DC:lj
cc: J. Harada
Bel-Landmark, Inc.
OEQC

HERBERT K. MURAOKA
Director and Building Superintendent

MICHAEL N. SCARFONE
Director

cc: Bel-Landmark, Inc.
Harvin T. Hironaka, Ph.D.

LU 1/2/89 8183

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
630 SOUTH KING STREET
HONOLULU, HAWAII 96813



DONALD A. CLEGG
DIRECTOR
LORETTA K. CHEE
DEPUTY DIRECTOR
88/EIS-4(BHM)

FRANK F. ZAHN
MAYOR



WALTER M. OZAMA
DIRECTOR
MARGARET A. OZAMA
DEPUTY DIRECTOR

January 5, 1990

Mr. Eric Parker
DHM Planners, Inc.
1188 Bishop Street
Suite 2405
Honolulu, Hawaii 96813

Dear Mr. Parker:

Revised Draft Environmental Impact Statement (DEIS)
Waikiki Landmark, Oahu--November 1989
Tax Map Keys 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59

We have reviewed the Revised DEIS (November 1989) for the Waikiki Landmark project. The concerns expressed in our previous correspondence and in subsequent meeting with Mrs. Murabayashi have been addressed. We have no further comments to make.

We appreciate your diligence in producing an acceptable Environmental Impact Statement (EIS) document.

Very truly yours,

Donald A. Clegg
DONALD A. CLEGG
Director of Land Utilization

DAC:sj
0335N/4

cc: Marvin Miura, DEQC

B-17

December 21, 1989

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: WALTER M. OZAMA, DIRECTOR

SUBJECT: REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)
WAIKIKI LANDMARK MIXED-USE DEVELOPMENT
TAX MAP KEY 2-6-14: 39, 41 ET AL.

We have reviewed the revised Draft EIS for the proposed Waikiki Landmark Mixed-Use Development and make the following comments and recommendation. The applicant has addressed the recreational needs of the project and has indicated that a health club, swimming pool, paddle tennis court and picnic facilities will be provided to serve the condominium residents. We recommend, with the decision of selecting, Design Alternative No. 1, that the applicant begin discussion with my staff to establish the areas and facilities which are being proposed for private park credit to comply with the Park Dedication Ordinance.

Thank you for the opportunity to comment on the revised Draft EIS.

Walter M. Ozama
WALTER M. OZAMA, DIRECTOR

WMO:fm

'89 DEC 22 AM 8 23
DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

RECEIVED
NOV 29 1989

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



FRANK P. JARVIS
MAYOR

ALFRED L. THOMAS
DIRECTOR
JOSEPH M. MACDONALD, JR.
DEPUTY DIRECTOR

PL1.1838
TE-6900

November 28, 1989

Pacific Planning & Engineering, Inc.
1144 Tenth Avenue, Suite 202
Honolulu, Hawaii 96816

Attention: Mr. Howard Abs, P.E.
Principal

Gentlemen:

Subject: Waikiki Landmark Project
Access Driveways
TRK: 2-6-14

This is in response to your letter dated October 31, 1989 transmitting a partial ground floor plan showing the proposed access driveway locations for the subject project.

The proposed locations of the access driveways fronting Ala Wai Boulevard are conceptually acceptable. However, to further distinguish the reversed directional flow, access for ingress and egress should be physically separated and appropriate signing installed. Landscaping, structures and new street appurtenances should not obstruct vehicular sight distance to other vehicles and pedestrians. Based on the existing topography of the site, we assume that all driveway grades will be relatively level.

The proposed right turn lane from McCully Street onto Ala Wai Boulevard which will facilitate access to the site should be provided. However, the existing channelized right turn lane should be retained to support the present high demand for right turns onto Ala Wai Boulevard. The remaining area could be used for low landscaping.

With regard to other off-site improvements, plans showing the widening of Kalakaua Avenue in the vicinity of this project should be incorporated into future plan submittals. The rounding of the mauka - Ewa corner at McCully Street and Kalakaua Avenue to provide an optional right turn movement is desirable and should also be included as part of the off-site improvements.

Pacific Planning & Engineering, Inc.
Page Two
November 28, 1989

Construction of an island to channelize traffic should be considered in the overall design. All property line radii should be adjusted accordingly.
We hope that this will be of assistance to you in the preparation of the final ground floor plans.

Very truly yours,

ALFRED L. THOMAS
Director

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1435 S. BERTANNA STREET, ROOM 209
HONOLULU, HAWAII 96814



LIONEL E. CAHARA
FIRE CHIEF
DONALD S.M. CHANG
ENGINEER IN CHARGE
DEPUTY FIRE CHIEF

FRANK P. FAN
MAYOR

OUR REFERENCE ES-1K

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1435 SOUTH BERTANNA STREET
HONOLULU, HAWAII 96814



DOUGLAS G. GIBB
CHIEF
WARREN FERREIRA
DEPUTY CHIEF

December 18, 1989

TO: DONALD A. CLEGG, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: LIONEL E. CAHARA, FIRE CHIEF

SUBJECT: REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT
WAIKIKI LANDMARK

We have reviewed the subject material provided and have no objections or comments.

Should you have any questions, please contact Battalion Chief Michael Zablan of our Administrative Services Bureau at local 3838.

Lionel E. Cahara
LIONEL E. CAHARA
Fire Chief

LEC/NZ:im
cc: Bel-Landmark, Inc.
Marvin T. Miura, Director
Office of Environmental Quality Control

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: DOUGLAS G. GIBB, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: WAIKIKI LANDMARK, REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

We have reviewed the revised draft environmental impact statement for the Waikiki Landmark project. Since the concerns expressed in our previous responses have been addressed, we have no further comments on this project.

DOUGLAS G. GIBB
Chief of Police
Douglas G. Gibb
JOSEPH AVEIRO
Assistant Chief of Police
Support Services Bureau

cc: Bel-Landmark, Inc.
Mr. Marvin T. Miura

B L A N K



**COMMENTS AND RESPONSES
RECEIVED DURING THE FIRST PUBLIC REVIEW PERIOD
(MARCH 23, 1989 - MAY 8, 1989)**

Dr. Marvin Miura
March 30, 1989
Page 2

suitable housing conditions.) The draft housing plan advocates that developers of residential projects should make at least one percent of the total number of units in the project available for special needs groups.

Enclosed is the draft EIS.

89:PLMG/16868 JT

March 30, 1989

MEMORANDUM

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

FROM: Joseph K. Conant

SUBJECT: Draft EIS for the Proposed Waikiki Landmark

JOSEPH K. CONANT
Executive Director

Enclosure

cc: Dept. of Land Utilization
Bel-Landmark Inc.
DHM Inc.

EIS. Thank you for the opportunity to review the subject draft

As previously stated, we believe that the applicant should work closely with the City and County of Honolulu in satisfying any affordable housing condition. If, for example, 10% of the housing units are required to be affordable to families earning 80% and below of the area median income, then we estimate that sales prices should not exceed \$93,000. This estimate is based on (1) a 1989 median income for a family of four of \$39,100; (2) a 30 year mortgage at a fixed interest rate of 10%; (3) a 10% down payment; (4) \$125 reserved for taxes and insurance; and (5) a housing expense of 33% of family income.

Additionally, the draft State Housing Functional Plan proposes the integration of special needs housing in new and existing neighborhoods. (Special needs housing is generally defined as housing for persons for whom social problems, age, or physical or mental handicaps impair their ability to live independently and for whom such ability can be improved by more

DHM inc.

land use
and environmental
planning

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

April 14, 1989

Mr. Joseph K. Conant
Executive Director
Housing, Finance & Development
Department of Business and
Economic Development
State of Hawaii
P.O. Box 2359
Honolulu, Hawaii 96804

SUBJECT: Draft Environmental Impact Statement (DEIS)
Waikiki Landmark

Dear Mr. Conant:

Thank you for your comments on the draft Environmental Impact Statement for the Waikiki Landmark.

As indicated in our previous communication regarding your comments to the EISP, all City and County of Honolulu requirements will be complied with.

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

Sincerely,

DHM inc.


Dyk Hes Murabayashi (Mrs.)
President

DEB

cc: Department of Land Utilization
Mr. Tony Tjan, Bel-Landmark, Inc.
OEQC

JOHN HUNTER
CHIEF OF BUREAU



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 871
HONOLULU, HAWAII 96813

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

LIBERT S. LANDGRAF
MARGARET TAGUCHI
RUSSELL W. FUJIMOTO

AGRICULTURE DEVELOPMENT
AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
COUNCIL ON LAND AND
NATURAL RESOURCES
CONSERVATION
PLANNING AND RESEARCH
STATE MANAGEMENT
WATER AND LAND DEVELOPMENT

REF: OCEA-SOI

FILE NO.: 89-489
DOC. NO.: 5466E

APR 10 1989

Honorable Marvin T. Miura - 2 - FILE NO.: 89-489

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.

William W. Paty
WILLIAM W. PATY

cc: Tony Tian, Bel-Landmark Inc.
Diane E. Borchardt, DHM Inc.

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 - Waikiki Landmark
Oahu; THK: 2-16-14; Parcels 39, 41, 43, 44, 49, 50,
52-56, 59

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 notes that the archaeological resources section of the Draft EIS states that a background literature review for the project area has been carried out by their archaeological consultant. As this is an urban area, their review found no archaeological resources remain on the surface. To determine presence or absence of subsurface remains, the Draft EIS states that an archaeological consultant will conduct subsurface testing prior to construction. These plans meet our concerns, and we will await the findings of the subsurface testing.

The Division of Aquatic Resources has no objection to the proposed development provided precautions are taken to prevent adverse impact to the aquatic environment from storm runoff containing toxic substances or other contaminants created by the construction activity.

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DHM inc.

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

April 14, 1989

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

SUBJECT: Draft Environmental Impact Statement (DEIS)
Waikiki Landmark

Dear Mr. Paty:

Thank you for your comments on the draft Environmental Impact Statement for the Waikiki Landmark.

We concur with the Historic Sites Section statements regarding information contained in the DEIS. As stated in the DEIS (pages 31-32), subsurface testing will be conducted on the project site prior to construction and will be monitored by the Bishop Museum. The subsurface testing will occur immediately after demolition of the existing buildings and paved parking lots.

We also concur with the Division of Aquatic Resources statements regarding storm runoff and all precautions will be taken.

Your comment letter is appreciated and will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.


Dik Hee Murabayashi (Mrs.)
President

DEB

cc: Department of Land Utilization
Mr. Tony Tjan, Bel-Landmark, Inc.
OEQC



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
405 SOUTH KING STREET, ROOM 104
HONOLULU, HAWAII 96813

HARVIN T. NIURA, PH.D.
DIRECTOR
TELEPHONE NO.
541-2913

April 27, 1989

Diane E. Borchardt
DHM Planners Inc.
1188 Bishop Street, Suite 2405
Honolulu, Hawaii 96813

Dear Ms. Borchardt:

We have reviewed your Environmental Impact Statement for the Waikiki Landmark project and offer the following comments for your consideration:

1. Comments and responses made during the consultation phase are not included in the draft EIS. Page 86 contains only a listing of state and county agencies. This page states that "All comment letters received by the applicant during the consultation phase are included in the following pages." They are not! The final EIS should contain comments and responses for both the consultation period and the review period.
2. Parking in the area will be significantly restricted once the project is developed. The EIS states that there will be:
 - o A minimum of 1 stall per residential condominium unit (450 stalls)
 - o A minimum of 1 stall per 800 sf of commercial area (65 stalls), and
 - o An additional 135 stalls across McCully Street will be developed.

The EIS seems to imply that the 135 stalls across McCully Street are for the occupants of the Royal Aloha Condominium rather than the Waikiki Landmark. This should be clarified.



There does not seem to be sufficient parking for the occupants of the Landmark, many of whom may own more than one car, or for visitors of the Landmark.

3. No information regarding satisfaction of the City's affordable housing requirements has been disclosed in the draft EIS. Also, the number of units in the proposed development to be available to special needs groups (i.e. elderly, physically or mentally handicapped, and those with social problems) has not been definitively disclosed.

4. The precise location of the park site within the project has not been disclosed. With regard to ordinance no. 4621, we recommend that you contact the City and County of Honolulu, Department of Land Utilization. We further recommend that you contact the City and County of Honolulu, Department of Parks and Recreation to determine whether your proposed park is within the boundaries of their rules and regulations.

Thank you for providing us with this opportunity to review this EIS.

Sincerely,


HARVIN T. NIURA, PH.D.
Director, Office of Environmental
Quality Control

ROY SAKAMOTO
Environmental Technical Specialist

cc: DLJ
Parks & Recreation
HFDC
OSP
Waikiki Convention Center Authority

DHM inc.

land use
and environmental
planning

1168 E-shop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9635

May 19, 1989

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

SUBJECT: Draft Environmental Impact Statement (DEIS)
Waikiki Landmark

Dear Dr. Miura:

Thank you for your comments regarding the draft Environmental Impact Statement for the proposed Waikiki Landmark. Our responses are prepared in the order of your comments.

1. When the draft EIS file notice was published in the March 8, 1989 Bulletin, we realize that the EISPN comment and response letters were inadvertently not included in the process of printing the DEIS. We worked extensively with Mr. George Brosky of your office to correct the error. As the copy of our March 15, 1989 letter to you indicates, we apologized for the error. We then sent an explanatory letter and comment pages to all reviewers. Two (2) complete corrected copies of the DEIS were also sent to your office to replace the defective DEIS. The corrected Waikiki Landmark DEIS was again filed with your office and its filing was published for the second time in the March 23, 1989 Bulletin.

To our surprise, Mr. Roy Sakamoto of your office contacted us on April 27, 1989 to inform us that the comment letters were not included in the DEIS. We explained the whole sequence of the events to him. Despite the corrective action and the explanation, your office is bringing this matter up again. We are not sure what else we can do.

2. Yes, the 135 parking stalls are specifically designated for the Royal Aloha Condominium residents as part of the development agreement for the subject property. This agreement is clearly stated on page 7 of the DEIS.

The number of parking stalls provided with the proposed project not only meets the parking requirement for the Waikiki Special Design District but actually exceeds the requirement.

Dr. Marvín T. Miura
May 19, 1989

Page 2

3. The developer is not initiating a zone change. Furthermore, the proposed multiple residential use can be construed as a type of "down-zoning." Therefore, there is no requirement for the project to provide affordable housing or special needs housing. However, the developer will comply with all State and city and County of Honolulu rules and regulations concerning affordable and special needs housing requirements, if there will be any, as stated on page 63 of the DEIS.

4. Thank you for recommending us to contact the City and County Departments of Land Utilization and Parks & Recreation in regard to Ordinance 4621. As we stated on page 9 of the DEIS, the project will meet the "Park Dedication Rules and Regulations."

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

Sincerely,

DHM inc.


Pak Haa Murabayashi (Mrs.)
President

DEB

Enclosure

cc: DLU
Tony Tjan

DHM inc.

land use
and environmental
planning

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (816) 521-5655

15 March 1989

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

SUBJECT: Draft Environmental Impact Statement (DEIS)
Waikiki Landmark

Dear Dr. Miura:

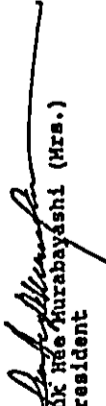
The DEIS for the Waikiki Landmark was filed with the Office of Environmental Quality Control and published in the Bulletin on March 8, 1989. It has come to our attention that the EISPN comment letters in Chapter XIII were separated from the text and not printed or submitted with the DEIS.

We, therefore, would like to request re-publication of the complete DEIS in the March 23, 1989 Bulletin. Enclosed is a copy of the complete Waikiki Landmark DEIS. Comment letters will be mailed from our office to the reviewers on the OEQC mailing list, in compliance with Chapter 343 HRS, Sec. 11-200-21.

We apologize for any inconvenience this may have caused.

Sincerely,

DHM inc.


Toki Hae Kurabayashi (Mrs.)
President

Enclosure

DEB



B L A N K

B-29



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
1000 SANDWICH BLDG., SUITE 1100
HONOLULU, HAWAII 96813
TELEPHONE 548-9000
TELEFAX 548-9442

March 28, 1989

C-L89-0037

Diane E. Borchardt
DEM Planners Inc.
1188 Bishop St., Suite 2405
Honolulu, HI. 96813

Subject: Draft EIS: Waikiki Landmark
TRK: 2-16-14: 39,41,43,44,49,50,52-56,59

Dear Ms. Borchardt:

Thank you for sending our office a copy of the Draft EIS, and for the enclosed copy of the archaeological report for the project.

It is important that the archaeological survey reports that accompany environmental impact statements be as complete as possible. This is because it is not reasonable to expect reviewers to understand the impact of a project on cultural resources when archaeological sites are not fully documented in the report. In this case, no archaeological survey has been conducted, and the reviewer is led to understand that the proposed undertaking is in an area not likely to contain significant archaeological resources. However, a plan is proposed for limited reconnaissance level excavations and intermittent monitoring of construction excavations. The plan does not specify 1) that professional archaeologists will do the monitoring, 2) what is meant by "selective monitoring," 3) whether or 4) whether or not salvage excavations will be done or 5) under what conditions construction will be stopped for salvage excavations. The public reviewing the Draft EIS has to rely on decisions made by the developer, the developer's archaeological consultant, and the Historic Sites Section.

Additional documentation could have been provided in the archaeological report to give the reviewer a better understanding of the potential environmental impacts of this project on cultural resources. The appropriate portion of Bishop's 1881 map of Waikiki should have been included, with an overlay giving the reviewer an understanding of how the project area is located in relation to 1881 cultural features. The narrative information in the report is not enough. Other maps, such as the 1897 Monsarrat map and the 1910 U.S. Engineers map, should have been included, as they are important for assessing the research potential of the project area. A review of these maps would suggest that relatively undisturbed 19th century trash deposits might exist on the property, important to the study of historic archaeology in Hawaii. The makai side of Kalakaua Avenue (Waikiki Road in 1897) was once a little cluster of houses surrounded by ponds. The project area is a likely place to expect refuse deposits

Ms. Diane E. Borchardt
March 28, 1989
Page 2

from this settlement. As Waikiki is known for its Chinese farmers and duck ponds, any archaeological deposits encountered in the project area could provide interesting information for tracing the history of the Chinese in Hawaii.

The archaeological study in the Draft EIS does not sufficiently review previous archaeological projects in Waikiki. Such a review would highlight the generally exploratory nature of previous studies, the shortcomings of previous studies, and the problems archaeologists have had in coordinating archaeological mitigation with construction activities. It would provide a better understanding that prehistoric Hawaiian burials have been found in construction projects throughout Waikiki, and that the project area has potential for such important finds. Such a review would have given a better understanding of the importance of studying whatever buried archaeological resources exist in the project area.

The archaeological study should have made reference to the 1906 soils study made while planning the Ala Wai Canal. One test core taken in the project area revealed the presence of buried soil deposits, perhaps related to changing shorelines in Waikiki, perhaps related to ancient Hawaiian campsites in these former coastal areas. Such buried soil layers, even if devoid of cultural remains, are important to Hawaiian archaeology for the environmental and chronological information they contain.

The meaning of archaeological remains is not self-evident, nor is it formalized in codified sets of standard interpretations and explanations. Archaeologists can go to a site and make guesses based on experience, like anyone else, but to learn something new or verify their explanations, archaeologists need to use a scientific approach that includes a research design. Such an approach is particularly important for assessing the value of the isolated artifacts and other cultural features that are likely to be affected by the proposed construction.

These comments are intended to show that the archaeological study of the project area is relevant to our understanding of the culture history of Waikiki. However, to realize that potential, more work needs to be done than is indicated in this Draft EIS. Limited backhoe trenching should not be substituted for a subsurface survey of archaeological resources in the project area or salvage excavations. Neither should monitoring be substituted for controlled, scientific data recovery (excavations) prior to construction.

Our office is concerned about loss of archaeological resources that has accompanied modern development of Waikiki. Looters and construction workers have recovered historic bottles, some of them quite rare and valuable, from previous construction projects in the area. A final archaeological report should be required that fully describes and analyzes what was learned about the archaeology of the project area. The report should contain maps and illustrations showing what was found. It should identify areas which were not affected by construction and continue to have research potential. It should synthesize and compare the results with other projects. It should identify and discuss perceived cultural patterns and relevant cultural processes. It should establish the chronological and cultural relationships of the artifacts recovered.

1188 Bishop Street
Suite 2405
Honolulu, HI 96813
Ph. (808) 521-9655

land use
and environmental
planning

DHM inc.

May 5, 1989

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

**SUBJECT: Draft Environmental Impact Statement (DEIS)
Waikiki Landmark**

Dear Mr. Paglinawan:

Thank you for your comments on the draft Environmental Impact Statement for the Waikiki Landmark.

As indicated in the attached DLNR's memorandum, the Historic Sites Section of the Department of Land and Natural Resources (DLNR) is in agreement with the Bishop Museum that subsurface testing be conducted at the time of demolition prior to construction. This agreement is based on the altered condition of the area and the fact that the project site is presently covered by asphalt and buildings. Bishop Museum personnel will monitor a subsurface testing at the time of demolition. Appropriate historical maps will be included in the final EIS.

Your concern for archaeological resources discovered on the project site is appreciated and shared by Bishop Museum, the Historic Sites Section and the developer. If archaeological resources are recovered from the project site, cooperative work will be conducted on the project site by Bishop Museum in cooperation with the Historic Sites Section of DLNR and your office. All DLNR rules and regulations will be complied with.

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

Sincerely,

DHM inc.


Dora Hee Mura Bayas
President

Enclosure

DEB

cc: DLU w/enclosure
OEQC w/enclosure
Tony Tjan w/enclosure

Ms. Diane E. Borchardt
March 28, 1989
Page 3

All construction contracts and project work plans should include provisions (1) for protecting archaeological resources from damage and loss, (2) for full cooperation with the consultant archaeologists, (3) for notification of the Historic Sites Section when discoveries are made, and (4) for curation and ownership of artifacts by the State of Hawaii.

Please send out office copies of any future archaeological reports which may be done for this project.

Sincerely,


Richard K. Paglinawan
Administrator

REP:RHR

cc: OEQC
DLNR/Historic Sites
U.S./Environmental Center
U.S./Anthropology Dept.
DLN/City and County of Honolulu
Bel-Landmark Inc.

10 - 31

JOHN W. BAKER
DIRECTOR OF LAND



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 81
HONOLULU, HAWAII 96813

REF: OCEA-801

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

MEMBERS
LUREN E. LANDGRAF
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AGRICULTURE, FORESTRY AND
RANGELANDS
AQUATIC RESOURCES
CONSERVATION AND
RECREATION
CIVILIAN CONTROL AND
CONSTRUCTION AND
CONSERVATION
CONSTITUTION AND
POLICY
LAND MANAGEMENT
LAND USE
PLANNING
WATER AND LAND DEVELOPMENT

FILE NO.: 89-489
DOC. NO.: 5465E

APR 10 1989

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

Dear Mr. Clegg:

SUBJECT: Draft EIS - Waikiki Landmark
Oahu; THK: 2-16-14; Parcels 39, 41, 43, 44, 49, 50,
52-56, 59

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 notes that the archaeological resources section of the Draft EIS states that a background literature review for the project area has been carried out by their archaeological consultant. As this is an urban area, their review found no archaeological resources remain on the surface. To determine presence or absence of subsurface remains, the Draft EIS states that an archaeological consultant will conduct subsurface testing prior to construction. These plans meet our concerns, and we will await the findings of the subsurface testing.

The Division of Aquatic Resources has no objection to the proposed development provided precautions are taken to prevent adverse impact to the aquatic environment from storm runoff containing toxic substances or other contaminants created by the construction activity.

Honorable Donald A. Clegg

- 2 -

FILE NO.: 89-489

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: Tony Tian, Bel-Landmark Inc.
Diane E. Borchardt, DBM Inc.

land use
and environmental
planning

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

DHM inc.

April 17, 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
Waikiki Landmark

Dear Mr. Clegg:

Thank you for your comments on the DEIS for the Waikiki Landmark.

DP
1
3
4

Section A of Chapter III, dealing with land use regulations will be relocated to Chapter VI, "Regulations of the Proposed Action to Land Use Plans, Policies and Controls for the Affected Area," in the final EIS.

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

Sincerely,

DHM inc.


Dik Hee Kurabayashi (Mrs.)
President

DEB:lt

cc: Department of Land Utilization
Mr. Tony Tjan, Bel-Landmark Inc.
OEQC

1188 BISHOP STREET SUITE 2405 HONOLULU, HAWAII 96813

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 5TH FLOOR
HONOLULU, HAWAII 96813
PHONE: 832-4227



FRANK P. ZAR
MAYOR

MIKE H. SCARFONE
DIRECTOR
MICHAEL E. SAMUELS
DEPUTY DIRECTOR

March 17, 1989

MEMORANDUM

TO: John P. Whalen Director
Department of Land Utilization

FROM: Michael M. Scarfone

SUBJECT: Draft Environmental Impact Statement
Waikiki Landmark
Waikiki, Oahu

Thank you for the opportunity to review and comment on the Draft EIS for the Waikiki Landmark.

The Department of Housing and Community Development has been requesting that ten (10) percent of all residential units be set aside for low- and moderate-income households, or an acceptable in-kind substitute be provided for all zone changes involving residential uses.

Thank you for the opportunity to provide these comments.

Sincerely,

Michael M. Scarfone
MICHAEL M. SCARFONE
Director

cc: Bel-Landmark, Inc.
DHM, Inc.

DHM inc.
land use
and environmental
planning

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

April 14, 1989

Mr. Michael H. Scarfone, Director
Department of Housing and
Community Development
City and County of Honolulu
650 South King Street, 5th Floor
Honolulu, Hawaii 96813

SUBJECT: Draft Environmental Impact Statement (DEIS)
Waikiki Landmark

Dear Mr. Scarfone:

Thank you for your comments on the draft Environmental Impact Statement for the Waikiki Landmark.

As indicated in our previous communication regarding your comments to the EISP, all City and County of Honolulu requirements will be complied with.

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

Sincerely,

DHM inc.

Debra H. Murayashi
Debra H. Murayashi (Mrs.)
President

DEB

cc: Department of Land Utilization
Mr. Tony Tjan, Bel-Landmark, Inc.
OEQC

Ms. Diane E. Borchardt
Page 3

8. Reference: Page 43+.

Comment: The DEIS does not address the impacts of the applicant's proposed Alternate 1 vs. Alternate 2. We have the following comments regarding Alternate 2, and the EIS should address these observations:

- a. Under Alternate 2, the parking and commercial structure would be located away from the corner of Kalakaua Avenue and Ala Wai Boulevard, thus providing for a park-like setting with landscaping around the base of the tower. We believe that this is a more appropriate gateway statement for Waikiki than the proposed bulky base structure necessary to create the waterfall feature.
- b. Under Alternate 2, the commercial areas would be located away from the apex of the triangle, and would not disrupt the continuity of commercial uses along Kalakaua Avenue.
- c. The connection of the two towers at the top in Alternate 1 would increase the visual bulk and shadow impact on surrounding areas as compared to Alternate 2. The description of shadow impacts on page 46, should contain shadow illustrations in Appendix E, to support TRB's contention that there would be no significant difference between the two Alternates.

B-37

Ms. Diane E. Borchardt
Page 4

We suggest that you revise the section on Wind Effects to discuss these problems in general, and the specific means that this project will utilize to avoid these problems.

The Final EIS should discuss differences in wind impacts between Alternatives 1 and 2.

10. Reference: Page 56.

Comment: The EIS should compare the economic impacts of the proposal as compared to development as permitted under current zoning.

If you have any questions regarding these comments, please contact Bennett Mark of our Environmental Affairs Branch at 527-5038.

Very truly yours,



JOHN P. WHALEN
Director of Land Utilization

JPW:sl
0299N

cc: OEQC
Tony Tian, Bel-Landmark, Inc.

9. Reference: Page 44.

Comment: We do not accept the statement that "no significant wind impacts are anticipated by and to the proposed two buildings," without any technical basis. While we do not expect that you test a model of your structure in a wind tunnel, we do expect some degree of technical analysis. We are particularly concerned with the ground level wind patterns that your structure, by design, will create. With twin towers, the possibility of creating a venturi effect where ground level wind velocities are accelerated is possible. Various technical journals have reported that these effects can be severe: in some situations building occupants were trapped in their buildings by the air pressure on their doors which could only be opened outward.

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK P. PAO
MAYOR

WALTER M. OZAWA
DIRECTOR

land use
and environmental
planning

DHM inc.

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

April 14, 1989

March 21, 1989

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

Dear Dr. Miura:

Subject: Draft Environmental Impact Statement (EIS)
Waikiki Landmark
Tax Map Key 2-16-14: 39, 41, 43, 44, 49, 50, 52, 56 & 59

We have reviewed the Draft EIS for the proposed Waikiki Landmark Mixed-Use project and make the following comments.

The applicant is aware that the project will be required to comply with Park Dedication Ordinance No. 4621. The recreational areas proposed for private park credit should be designed to meet the standards and requirements specified under Rule 10 of the Park Dedication Rules and Regulations. We would like to remind the applicant that the use of the project's open space requirements for private park credit under the Ordinance may be questionable and should be discussed with our department.

Thank you for the opportunity to comment on the Draft EIS.

Sincerely,

WALTER M. OZAWA, Director

WMO:e1

cc: Department of Land Utilization
Mr. Tony Tjan, Bel-Landmark, Inc.
DHM, Inc.

Mr. Walter M. Ozawa, Director
Department of Parks and Recreation
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

SUBJECT: Draft Environmental Impact Statement (dEIS)
Waikiki Landmark

Dear Mr. Ozawa:

Thank you for your comments on the draft Environmental Impact Statement for the Waikiki Landmark.

As indicated in our previous communication regarding your comments to the EISP, all City and County of Honolulu requirements will be complied with.

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

Sincerely,

DHM inc.

Dyk Hee Murabayashi (Mrs.)
President

DEB

cc: Department of Land Utilization
Mr. Tony Tjan, Bel-Landmark, Inc.
OEQC

DHM inc.

land use
and environmental
planning

May 19, 1989

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)
Waikiki Landmark

Dear Mr. Magaldi:

Thank you for your comments on the draft EIS for the Waikiki Landmark. Our response follows the format of your comment letter.

1. Kalakaua Avenue fronting the proposed project will be widened 10 feet in accordance with City and County of Honolulu, Department of Public Works, standards.
2. Provision will be made for the encroachment of the proposed fixed guideway rapid transit station within the project site. Coordination with Mr. Marvin Char of the Rapid Transit Development Division was completed on May 18, 1989.

Items 3, 4 and 5 concerning access and sight distances are currently being discussed with DTS and DLJ. It is hoped a resolution acceptable to DTS, DLJ and the developer will soon be reached. These issues will be included in the final EIS.

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

Sincerely,

DEM inc.


Dyk Hee Kurabayashi (Mrs.)
President

DEB

cc: DLJ
Tony Tjan
Alex Weinstein
OEGC

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1415 SOUTH BERTLAND STREET
HONOLULU, HAWAII 96813 - BRFA COOL (1987) 942-3111

FRANK P. FARR
MAYOR



DOUGLAS G. GIBB
CHIEF
BARREN FERREIRA
DEPUTY CHIEF

John P. Whalen

-2-

April 14, 1989

Because of the size and nature of the development, past experience has proven that traffic will be negatively impacted. In addition, if there is any possibility of a convention center to be built nearby, the location of that facility would further compound the problem and add to the existing traffic congestion and cause an increase in calls for police service.

The inevitable increase in calls for service as a result of this project, along with other developments in the area, will probably necessitate the need for an additional beat/sector so that adequate police services can be provided.

We would appreciate being updated periodically about this and other developments in this neighborhood to help us project our staffing requirements both during and after construction.

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: DOUGLAS G. GIBB, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT
RE: WAIKIKI LANDMARK, OAHU; TRK: 2-16-14; PARCELS 39, 41,
43, 44, 49, 50, 52-55, 59

W-42

We have reviewed the subject draft Environmental Impact Statement that was prepared by DHM Planners Inc.

Our concerns remain the same as previously stated in our response to the Environmental Assessment/EIS Preparation Notice. Because of the nightclub and discotheque establishments that will remain across the street from the proposed project, young people attracted to such establishments will surely congregate in the immediate vicinity and problems, such as loud noise, trespass, burglary, theft, drinking and drug-use complaints, will probably result. We are therefore anticipating an increase in calls for police service which will more than likely be generated from the future residents of the proposed Waikiki Landmark Development. In order to deter some of the foreseeable problems, we still encourage the use of private security.

In addition, displacing the current parking lot, which accommodates approximately 246 vehicles, in this already congested area of Waikiki, will cause people to park illegally, which will no doubt cause an increase in calls for police services. To help alleviate this problem, we would like to encourage the provision of additional parking spaces to accommodate some of the overflow parking for the area. To further help alleviate this problem, we would also like to recommend that an adequate number of loading areas be provided to ease the flow of traffic both within and without the complex.

DOUGLAS G. GIBB
Chief of Police
Douglas G. Gibb

JOSEPH AVEIRO
Assistant Chief of Police
Support Services Bureau

cc: Office of Environmental Quality Control
Mr. Tony Tien, Bel-Landmark Inc.
Ms. Diane E. Borchardt, DHM Inc.

1415 SOUTH BERTLAND STREET
HONOLULU, HAWAII 96813 - BRFA COOL (1987) 942-3111

land use
and environmental
planning

DHM inc.

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

May 10, 1989

Chief Douglas G. Gibb
Police Department
City and County of Honolulu
1455 South Beretania Street
Honolulu, Hawaii 96814

SUBJECT: Draft Environmental Impact Statement
Waikiki Landmark

Dear Chief Gibb:

Thank you for your comments regarding the draft Environmental Impact Statement for the Waikiki Landmark.

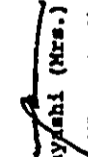
As mentioned in the draft EIS, the proposed project will have its own security force to protect its occupants and property.

The number of parking stalls exceeds the parking requirements established for the Waikiki Special Design District. Loading areas are included in the project design.

You will be kept informed of the progress of this project. Your comments are appreciated and will be included in the final Environmental Impact Statement.

Sincerely,

DHM inc.


Dek Hea Kurabayashi (Mrs.)
President

DEB

cc: DLJ
OEOC
Tony Tjan

For Information

AMERICAN LUNG ASSOCIATION OF HAWAII
245 North Kukui Street
Honolulu, Hawaii 96817

City & County of Honolulu
Department of Land Utilization
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: Draft Environmental Impact Statement for the
Proposed Waikiki Landmark

We have reviewed the subject EIS with particular attention to the sections addressing air quality and offer the following comments:

In the Air Quality Assessment Report (Appendix C), a comparison was made between traffic projections and vehicle emission rates for the 1987 - 1991 period which indicated a downward trend in carbon monoxide levels. While this may be true in the short-term, in the long-term, due to the lack of new emission standards, the opposite is anticipated. In the next 10 - 15 years the offsetting effect of federal emission standards on rising traffic volumes which has been so effective since the early 1970's will fade away. Unless new standards are promulgated, rising traffic volumes will once again be accompanied by rising pollutant emissions. The onset of this phenomenon will, of course, vary geographically depending on rates of urbanization. The EIS should have included some discussion of this potential long-term problem.

Yours truly,

James W. Morrow
Director
Environmental Health

JMM:ict
LB914
cc:

OEOC
Environmental Center
DHM, Inc.

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

land use
and environmental
planning

DHM inc.

May 5, 1989

April 24, 1989

Mr. Jim W. Morrow
Director
Environmental Health
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817

SUBJECT: Draft Environmental Impact Statement (DEIS)
Waikiki Landmark

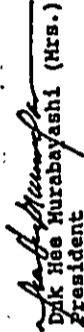
Dear Mr. Morrow:

Thank you for your comments on the draft Environmental Impact Statement for the Waikiki Landmark.

Your comments concerning the need for new Federal emission standards as a result of increasing traffic volumes and higher long-term pollutant emissions will be included in the final EIS.

Sincerely,

DHM inc.


Dik Hee Hurbayashi (Mrs.)
President

DEB

cc: DLJ
OEOC
Tony Tjan

10 11 12 13 14 15 16 17 18 19 20 21 22 23

B L A N K

B-45

ENV 2-1
JA/G

April 21, 1989



William A. Bonned
Manager
Environmental Department

Marvin T. Miura, Ph.D., Director
April 21, 1989
Page 2

d. When trench excavation is adjacent to or beneath existing HECO structures or facilities, the Contractor is responsible for:

1. Sheeting and bracing the excavation to prevent slides, cave-ins and settlements, and
2. Protecting existing structures or facilities with beams, struts, or under-pinning.

e. If pole bracing is required, the Contractor shall call the HECO District Construction Superintendent at Ward Avenue at 543-7745, a minimum of 72 hours in advance.

f. For verification of underground lines or for assistance in supporting and protecting these lines, the Contractor shall call HECO's Underground Division at 543-7395 a minimum of 72 hours in advance.

g. Any work required to relocate HECO facilities shall be done by HECO, and the Contractor shall be responsible for all coordination and costs incurred. In addition, should it become necessary for the Contractor to temporarily relocate any HECO facilities, these temporary locations will be done by HECO or by the Contractor under HECO's supervision, and all costs will be borne by the Contractor.

h. Any damage to HECO's facilities will be reported immediately to HECO's Trouble Dispatcher at 543-7838. The Contractor shall be liable for any damages to HECO's facilities.

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

Dear Dr. Miura:

Subject: Draft Environmental Impact Statement (EIS) for Waikiki Landmark

We have reviewed the subject EIS and have the following comments:

1. In the first paragraph on Chapter IV, Section G (page 53) regarding existing electrical services to the subject property, HECO has at least four substations located within two miles of the project; the Ena, McCully, Waikiki and Makaloa substations. These substations are fed by 46 KV overhead and underground lines.

2. In reference to the electrical facilities mentioned in item 1, HECO has an existing overhead line bordering the project along Kalakaua Avenue, and three underground services into the property (see Attachment 1). Since these facilities are energized, the following construction notes are to be included in the EIS:

- a. The Contractor shall exercise extreme caution whenever construction crosses or is in proximity to HECO underground lines and is to maintain a minimum 13'-0" clearance for his equipment while working close to and/or under the overhead facilities.
- b. The Contractor shall comply with the State of Hawaii's Occupational Safety and Health Law (DOSH).
- c. The Contractor shall obtain an excavation permit from HECO's Mapping and Records Division located at 820 Ward Avenue, Fourth Floor, two weeks prior to starting construction.

An HEI Company



10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

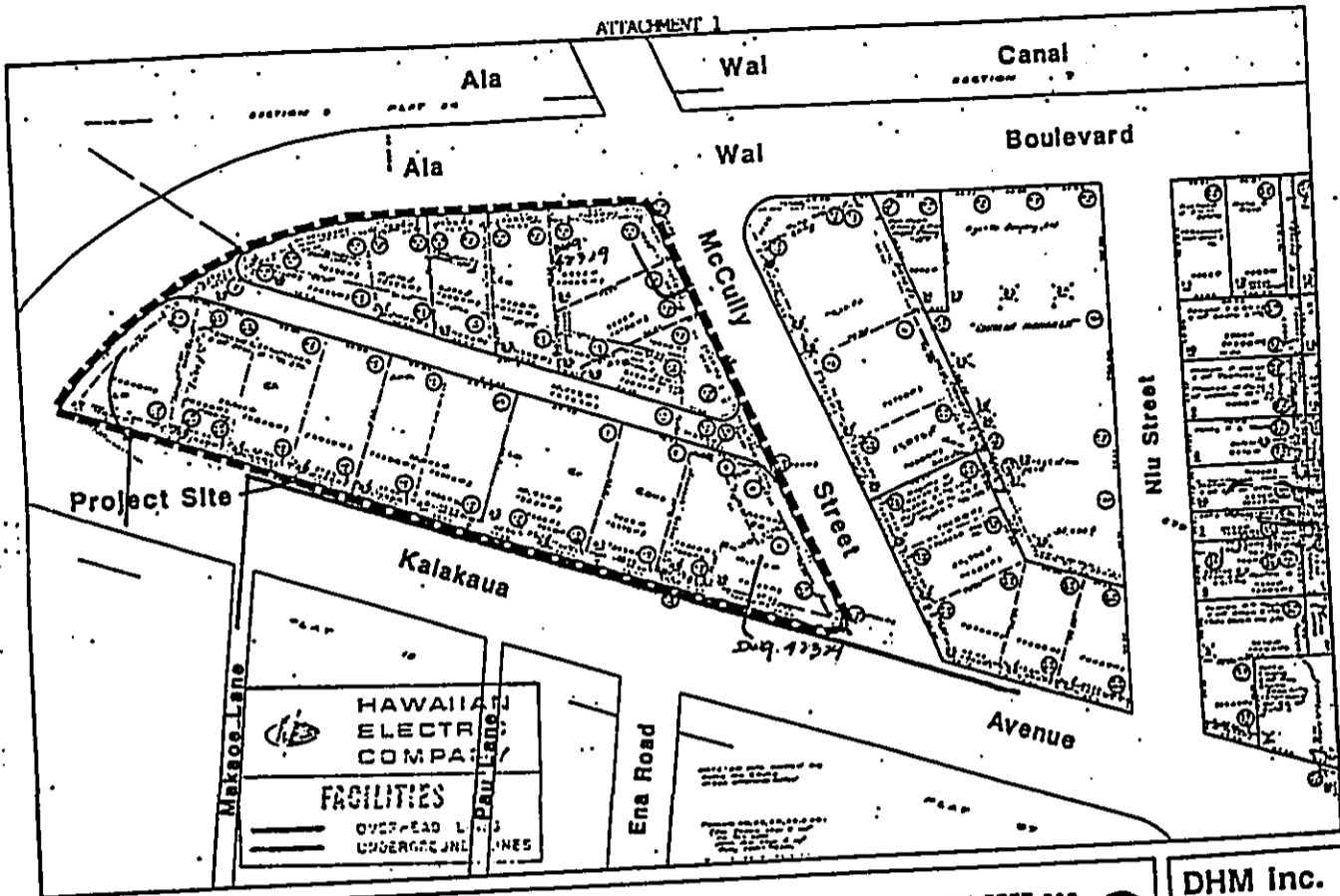


Exhibit II-2
Tax Key Map 2-6-14:39,41,43,44,49,50,52-56,59

DHM Inc.
Land Use and
Environmental
Planning

Marvin T. Miura, Ph.D., Director
April 21, 1989
Page 3

- The project will have a significant impact on the power service to this area. Based on the project description, HECO may need to install a new 46-12.47 KV, 10/12.5 MVA distribution substation transformer at one of their substations. HECO will install and recirculate primary electrical cables to provide service to this project. Long lead times are required for these modifications and will be affected by the Waikiki Landmark's projected load and service date.

Sincerely,
William C. Borchardt

Attachment

cc: City & County of Honolulu
Dept. of Land Utilization

Mr. Tony Tian
Bel-Landmark Inc.

Ms. Diane E. Borchardt
DHM Inc.

land use
and environmental
planning

DHM inc.

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

May 4, 1989

Mr. William A. Bonnet
Manager
Environmental Department
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

SUBJECT: Draft Environmental Impact Statement (dEIS)
Waikiki Landmark

Dear Mr. Bonnet:

Thank you for your comments regarding the draft Environmental Impact Statement for the Waikiki Landmark. Our response will follow the format of your comment letter.

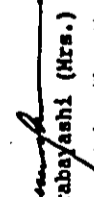
BP 43

1. The information regarding the four substations within two miles of the proposed project and the type of overhead and underground lines will be included in the final EIS.
2. All precautions will be taken when work is being done in close proximity to HECO lines. All required permits will be obtained and there will be compliance with all rules and regulations. Your construction notes will be included in the final EIS.
3. The developer will coordinate in a timely fashion with HECO regarding the power requirements of the proposed project and will make necessary arrangements if the power requirements exceed HECO's existing capability in the area.

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

Sincerely,

DHM inc.


Duk Hee Murabayashi (Mrs.)
President

DEB

cc: Mr. Tony Tjan
OEQC



B L A N K

B-49



University of Hawaii at Manoa

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

May 5, 1989
RE:0530

Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

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

Dear Sirs:

Draft Environmental Impact Statement
Waikiki Landmark
Honolulu, Hawaii

The proposed project consists of a mixed residential/commercial development including approximately 320 residential condominiums and 50,000 square feet of commercial space. Also included in the project are plans for 650 parking stalls, with 450 slots allocated to residents, 65 to commercial patrons, and 135 stalls reserved for residents of the Royal Aloha condominium. The Environmental Center has conducted a review of the Draft Environmental Impact Statement (EIS) with the assistance of Luciano Minerbi, Urban and Regional Planning; and Randall Rush, Environmental Center.

Traffic and Parking

In view of the strategic location of the project site, a compelling need exists to consider mass transit developments noted by the City and County Department of Transportation Services in the present planning process. In addition, alternative strategies for air pollution and traffic abatement in the Waikiki district based on European models which incorporate peripheral park-and-ride facilities and efficient, localized public transit (bus, street car, or light rail) should be integrated into the overall design process.

Appendix B (p. B-22) notes that congestion along Kalakaua Avenue will be alleviated by the City and County's proposed improvement project. In view of the proposed change to Kalakaua Avenue, the feasibility of access to and from the project site along Kalakaua should be evaluated.

A Unit of Water Resources Research
AN EQUAL OPPORTUNITY EMPLOYER

Department of Land Utilization
and Office of Environmental Quality Control
May 5, 1989
Page 2

The proposed project fails to adequately mitigate the prospective loss of public parking. At present, Pro-Park Parking lot provides for residents of the Royal Aloha Condominium and additionally for many patrons of local businesses. The lack of convenient parking is a severe problem in Waikiki. Besides providing sufficient parking for residents of the Landmark and the Royal Aloha Condominiums, the proposal allocates 65 stalls for the commercial sector. However, the document fails to specify whether patrons of neighboring businesses will have access to this lot, or if there will be times when the lot is closed. It is apparent that 65 stalls constitutes a significant decrease in available parking from the present situation and that substantially greater public parking allocations are warranted.

Displacement of Businesses

Currently, there are 12 businesses on the subject property employing 140-160 people. The Final EIS needs to address in more detail the socio-economic impacts of displacing these businesses. Although it is speculated that the new commercial sector will increase present job opportunities no facts are given to substantiate this claim. Some of these businesses, (i.e., taxicab companies, nightclub, etc.) provide services particularly appropriate to the Waikiki district, and their relocation in the immediate area would be beneficial.

Urban Design

Design alternative No. 2 (Exhibit XI-1) which locates the two towers away from McCully and Kalakaua Streets seems less visually intrusive for the traffic entering Waikiki. A building site plan should have been included for this alternative so that location of the towers relative to the parcel boundaries could be assessed more easily.

We thank you for this opportunity to comment on this Draft EIS.

Yours truly,

[Signature]

John Harrison
Environmental Coordinator

cc: Bel-Landmark Inc.
DHM Inc.
L. Stephen Lau
Luciano Minerbi
Randall Rush

DHM inc.

land use
and environmental
planning

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

May 15, 1989

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

SUBJECT: Draft Environmental Impact Statement
Waikiki Landmark

Dear Mr. Harrison:

Thank you for your comments regarding the draft Environmental Impact Statement for the Waikiki Landmark. Our responses are prepared in the order of your comments.

Traffic and Parking

Encouraging new development in Waikiki to be integrated with the much talked about rapid transit system is commendable. However, at present a number of potential alignments exist and no firm commitment (funding) has been made to construct a rapid transit system. Until a route alignment is finalized and a funding commitment is made, further consideration of the proposed development's relationship to rapid transit is not feasible.

The provision of adequate parking is an important issue in any area as densely populated as Waikiki. However, no single development can by itself be expected to resolve the area's parking problems. The parking facilities of the proposed project will not only meet, but will exceed, the Waikiki Special Design District's parking requirements.

The project's traffic engineer has studied the traffic access issues. It was determined that providing access to and from the project site along Kalakaua Avenue is unfeasible because it could potentially impede traffic flow.

Displacement of Businesses

The businesses currently located on the project have been aware of the development of the proposed project. The businesses are either on short term leases or on a month-to-month basis and have been aware that displacement from this site was inevitable.

Mr. John Harrison
May 15, 1989
Page 2

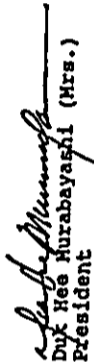
Urban Design

A building site plan for Alternative No. 2 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:lt

cc: DIJU
OEQC
Tony Tjan



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 303
FT. SHAFTER, HAWAII 96861-3403

JOHN WILKES
S-1000



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
2400 DULWOOD HEAD ROAD, HONOLULU, HAWAII 96813-4499

ALEXIS T. LUN
MAJOR GENERAL
ADJUTANT GENERAL

OFFICE ADDRESS
HONOLULU, HAWAII 96813

April 21, 1989

REPLY TO
ATTENTION OF:
Planning Branch

March 15, 1989

Engineering Office

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 the proposed Waikiki Landmark, Honolulu, Oahu, 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 27 (section III.F) of the DEIS is accurate.

Sincerely,

CJF

Kisum Cheung
Chief, Engineering Division

Copies Furnished:

City and County of Honolulu
Department of Land Utilization
650 South King Street
Honolulu, Hawaii 96813

Mr. Tony Tian
Bel-Landmark Inc.
1088 Bishop Street, Suite 4100
Honolulu, Hawaii 96813

Ms. Diane E. Borchardt
DHE Inc.
1188 Bishop Street, Suite 2405
Honolulu, Hawaii 96813

Department of Land Utilization
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Sir:

Waikiki Landmark
Honolulu, Oahu

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

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

Sincerely,

Jerry H. Matsuda

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

cc:
State Office of Environmental Quality Control
Mr. Tony Tian, Bel-Landmark, Inc.
Ms. Diane E. Borchardt, DHE Inc.

NATIONAL GUARD
Honolulu, Hawaii 96813



United States Department of the Interior
FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS OFFICE

P.O. BOX 50117
HONOLULU, HAWAII 96850

ES
Room 6307

MAR 14 1989

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

Re: Draft Environmental Impact Statement (EIS), Waikiki
Landmark, Oahu

Dear Dr. Miura:

We have reviewed the referenced EIS dated March 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 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 Kosaka
Field Office Supervisor
Environmental Services

cc: DLMR
Dept. of Land Utilization
DLU Inc.
Bel-Landmark Inc.



DEPARTMENT OF THE NAVY
COMMANDER
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96820-5070

WHEREBY REFER TO

5090 (127B)
Ser 032/635
10 Mar 1989

City & County of Honolulu
Dept. of Land Utilization
650 South King Street
Honolulu, HI 96813

Gentlemen:

WAIKIKI LANDMARK

The Draft Environmental Impact Statement (DEIS) for Waikiki Landmark has been reviewed, and we have no comments to offer. Since we have no further use for the DEIS, it is being returned to the Office of Environmental Quality Control.

Thank you for the opportunity to review the draft.

Sincerely,

W. K. IN
Assistant Base Civil Engineer
in direction of
the Commander

Copy to:
Bel-Landmark, Inc.
DLU Inc.
OEQC (W/DEIS)

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

(P)1214.9

MAR 10 1989

Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

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

Gentlemen:

Subject: Waikiki Landmark
Draft Environmental Impact Statement

Thank you for the opportunity to review the subject document for TMK 2-16-14 in Waikiki, Oahu. We have no comments to offer.

Should there be any questions, please contact Mr. Cedric Takamoto of the Planning Branch at 548-5742.

Very truly yours,

Teuane Tomihaga
TEUANE TOMIHAGA
State Public Works Engineer

CT:jnt
cc: Bel-Landmark, Inc.
DHM, Inc.

MEMORANDUM

To: Mr. John P. Whalen, Director
Department of Land Utilization
City and County of Honolulu

Subject: Draft Environmental Impact Statement (DEIS) for
Waikiki Landmark Office/Commercial Building
S. Sukamoto/Bel-Landmark, Inc.
TMK: 2-6-14: 39, 41, 43, 44, 49, 50, 52-56, 59
Waikiki, Oahu
Area: 2.856 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: OEQC
Bel-Landmark, Inc.
DHM Inc.✓



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

JOHN WAINHEE
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
April 21, 1989

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



DEPARTMENT OF BUSINESS
AND ECONOMIC DEVELOPMENT

REPORT NUMBER: DEB-88-001; DATE: 11/88; BY: HONOLULU, HAWAII

March 9, 1989

JOHN WAINHEE
GOVERNOR
BOBBY A. LUTCH
DEPUTY GOVERNOR
BARBARA L. SHAW
DEPUTY GOVERNOR
LESLIE S. MAZURKAWA
DEPUTY GOVERNOR

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.

bp | UN

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

Dear Dr. Miura:
Subject: Waikiki Landmark Oahu; TMK: 2-16-14: Parcels 39,
41, 43, 44,
49, 50, 52-56,
59

We have no comments to offer at this time.

Sincerely,

Maurice H. Kaya
MAURICE H. KAYA
Energy Program Administrator

MHK/hk

cc: Mr. Tony Tian, Sel-Landmark Inc.
Mrs. Diane E. Borchardt, DPH, Inc.

Yukio Kitagawa
YUKIO KITAGAWA
Chairperson, Board of Agriculture

cc: DAGS
DPH Inc.





STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3278
HONOLULU, HAWAII 96813

In reply, please refer to
EPHSD

April 4, 1989

MEMORANDUM

To: Mr. John P. Whalen, Director
Department of Land Utilization
City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: Draft Environmental Impact Statement (DEIS) for Waikiki Landmark,
Oahu, Tax Map Key 2-16-14; Parcels 39, 41, 43, 44, 49, 50, 52-56, 59

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

Bruce S. Anderson
BRUCE S. ANDERSON, Ph.D.

March 13, 1989

MEMO TO: JOHN WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: HERBERT K. MURAOKA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
FOR WAIKIKI LANDMARK

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

Thank you for the opportunity to review the Draft EIS.

Herbert K. Muraoka

HERBERT K. MURAOKA
Director and Building Superintendent

RH:jo
cc: J. Harada
Bel-Landmark, Inc.
DHM, Inc.

cc: Mr. Tony Tien, Bel-Landmark, Inc. ✓
Ms. Diane Borchardt, DHM, Inc. ✓



FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1199 S. BERETANIA STREET, ROOM 308
HONOLULU, HAWAII 96813



FRANK P. FAN
MAYOR

FRANK K. KAHOOHONOHANO
FIRE CHIEF
LIONEL E. CALHOUN
DEPUTY FIRE CHIEF

FRANK P. FAN
MAYOR

March 17, 1989

TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION
MARVIN T. HIURA, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
FROM: FRANK K. KAHOOHONOHANO, FIRE CHIEF
SUBJECT: WAIKIKI LANDMARK, OAHU, TMK: 2-16-14:
PARCELS 39, 41, 43, 44, 49, 50, 52-56, 59

We have reviewed the draft EIS provided and foresee no adverse impact in Fire Department facilities or services now provided. We have no additional comments at this time.

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

Frank K. Kahoonohano
FRANK K. KAHOOHONOHANO
Fire Chief

FKK/HA:bn

cc: Mr. Tony Tian
Bel-Landmark Inc.

Ms. Diane E. Borchardt
DHI Inc.

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

830 SOUTH KING STREET
HONOLULU, HAWAII 96813



SAM CALLEJO
DIRECTOR AND CHIEF ENGINEER
In reply refer to:
ENV 89-39(449)

March 17, 1989

MEMORANDUM
TO: JOHN P. WHALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION
FROM: SAM CALLEJO, DIRECTOR AND CHIEF ENGINEER
SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
WAIKIKI LANDMARK (TMK: 2-6-14: 39, 41, 43,
44, 49, 50, 52-56, 59)

We have reviewed the subject DEIS and have the following comments:

- Existing municipal sewers are available and adequate for the proposed development.
- The proposed development is subject to the provision of Article 5, Chapter 20, Revised Ordinances of Honolulu (ROH) 1978 (1983 Edition); i.e., Ordinance No. 2412.
- We do not have drainage comments at this time.

Sam Callejo
SAM CALLEJO
Director and Chief Engineer

cc: OEQC
Bel-Landmark, Inc.
DHI, Inc.



COPY

April 5, 1989

TO: JOHN P. HUALEN, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER *KH*
BOARD OF WATER SUPPLY

SUBJECT: OFFICE OF ENVIRONMENTAL QUALITY CONTROL'S LETTER
RECEIVED ON MARCH 8, 1989 ON THE ENVIRONMENTAL
IMPACT STATEMENT (EIS) FOR WAIKANE LANDMARK

Our previous comments in our letter dated January 21, 1989 on the proposed project, which is published on page I-1 of the EIS, are still applicable to the project.

If you have any questions, please contact Lawrence Whang at 577-6138.

cc: *W* Tony Tien (Dol-Landmark, Inc.)
W Diane E. Herchardt (DEH, Inc.)



Appendix C

COMMENTS AND RESPONSES PERTAINING TO THE PUBLIC INFORMATION MEETINGS

Informational meetings to present the characteristics of the proposed development and solicit public input have been conducted with community organizations on three separate dates:

Waikiki Neighborhood Board No. 9	November 8, 1989
Waikiki Residents Association	November 22, 1988
Waikiki Neighborhood Board No. 9	October 4, 1988

Copies of meeting agendas and where applicable minutes of the meetings are included.



WAIKIKI NEIGHBORHOOD BOARD NO. 9

c/o NEIGHBORHOOD COMMISSION • CITY HALL, ROOM 400 • HONOLULU, HAWAII 96813

MINUTES OF REGULAR MEETING
NOVEMBER 8, 1989
FT. DeRUSSY, BRUYERES QUADRANGLE

CALL TO ORDER: The meeting was called to order by Chair Anita Benfatti.

ROLL CALL: The roll was called, a quorum was present.

MEMBERS PRESENT: Sam Bren, John Capone, Frances Delany, George Neroutsos, George Rudolph, Stan Sekimoto, Anita Benfatti, Tony Grace, Thomas Rack, Camille Downing-Butler, Richard Felker, Jane Kelley (left early), Georgia Miller, Denny Pomeroy.

MEMBERS ABSENT: Walt Flood (excused), Betty Johnson (excused), Sky Wyttenbach.

GUESTS: Richard Seto-Mook (HFD), Bruce Spear (HFD), Edward Simeona (HFD), Ruth and Sean Wescott, Scott Hamilton, John Stunkard (Neighborhood Commission), Rosalie and George Melenka, Bob Wylley, Richard Rice, Charles Pallak, Ralph Woolsey, Jr., Mary Pickel, Nicky Reilly, Robin Anawalt (Wilson Okamoto), Eric Parker (DHM, Inc.), Duk Hee Murabayashi (DHM, Inc.), Wallace Lane, Marian Jeryer, Gar Allred, Rosemary Schapps, Karen Stubbart (Representative Fred Hemmings Office), Senator Bert Kobayashi, Jan Bappe, Councilmember Neil Abercrombie, Robin Smith, Representative Joan Hayes, Sue Rudolph, Tony DePaul (Department of Transportation Services, Rapid Transit Division), Joe Magaldi (Deputy Director, Department of Transportation Services), Marvin Char (Department of Transportation Services, Rapid Transit Division), Mildred Zabriskie, Julie Tavares (Mayor's Office representative), JoAnne Vieira (Hale Koa Hotel), Lee Riley (Hale Koa Hotel), Tony Tjan (Waikiki Landmark Development), Alex Weinstein, Ralph Demars, D.M. Hoppe, Gladys Conway, Glenn Sakagachi (Magoo's Pizza), Dean Chu (Neighborhood Commission Office Staff).

APPROVAL OF MINUTES OF THE OCTOBER 3, 1989 MEETING - Pomeroy moved and Capone seconded that the minutes be approved as circulated. The motion passed unanimously.

TREASURER'S REPORT: Miller reported the following for the month of September 1989:

Operating Account

Current expenses	\$ 117.46
Balance	\$ 797.46

Central Account

Balance reserved for newsletter	\$2685.85
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Miller moved and Pomeroy seconded that the Treasurer's Report be accepted. The motion passed unanimously.



13. In Waikiki, the system would use the existing left-turn lane on Kuhio Avenue. Kuhio Avenue was chosen as it is in the central part of Waikiki. Use of Kalakaua Avenue would have adverse visual impacts. The Ala Wai Boulevard route would run on the makai side of the street to retain the promenade and possibly have adverse impacts on nearby hotels and condominiums.

It was noted that Kuhio Avenue needs wider sidewalks and the rapid transit system would prohibit this.

14. The total height of the system from street level to the top of the cars would be approximately 30 feet.
15. Some of the systems are very quiet; one on the mainland runs through a hotel lobby and is inobtrusive.

Magaldi, DePaul and Char were thanked for attending the meeting.

HALE KOA HOTEL, NEW SWIMMING POOL AND LUAU FACILITIES - Lee Riley, general manager, and JoAnne Vieira, marketing director, for the hotel addressed the Board. Lee referred to architectural renderings of the planned development of interconnected series of new, fresh water swimming pools; swim up bar, snack bar, children's pool, whirlpool, and luau pavilion with a Hawaiian theme. Local architects who designed the Kanehameha School Chapel did the design work. Construction is expected to begin in March - April 1990.

Questions, answers and comments followed:

1. The existing barbecue grills will be relocated, not eliminated.
2. These facilities will support a future second hotel.
3. The Environmental Assessment has been prepared.
4. Extensive landscaping with native plants will be done.
5. This development does not include realignment of Kalia Road.
6. The luau pavilion will be wall less, and have a 50 - 55 foot, tree top level, high-pitched roof.

Lee and Vieira were thanked for attending the meeting.

A recess was called at 8:52 p.m. The meeting was reconvened at 9:01 p.m. Board member Kelley left during the Hale Koa Hotel presentation.

WAIKIKI LANDMARK DEVELOPMENT PROPOSAL - Tony Tjan and architect Alex Weinstein addressed the Board. They reported that they have updated plans for the development of a condominium and commercial project, not a hotel, for a largely undeveloped, triangular shaped parcel bounded by Kalakaua Avenue, Ala Wai Boulevard, and McCully Street.

The originally proposed building has been reduced from 330 rooms to 186. Access has been restricted only to Ala Wai Boulevard. An additional 10 foot setback from Kalakaua Avenue has been included to allow for future widening. Open space will constitute 40% of the parcel.

The building design consists of two towers topped by connecting penthouses, creating an open space between the towers. Commercial development for shops, restaurants, and 600 parking spaces are included in the project.

The Department of Transportation Services, Department of Land Utilization (DLU), and a DLU appointed Waikiki Special Design District committee have been consulted.

Questions, answers and comments followed with Weinstein, and consultant Duk Hee Murabayashi whose firm prepared the Environmental Impact Statement followed:

1. The property is not zoned for hotel use.
2. There is no requirement for the developer to provide or contribute to the development of low cost housing in relation to this project.
3. The Environmental Impact Statement (EIS) was initially completed and submitted for review in September. It was withdrawn for additional work on new developments including the adverse impacts created by the construction of the Duty Free Shoppers building and designation as the site of a rapid transit station. The revised EIS will be submitted later this month.

Estimated costs of the largely, two-bedroom, 900 sq. ft. units is \$500,000. The penthouses will not be fully developed, but left for individual owners to complete.

5. It was suggested, and a request for a presentation to the McCully-Moiliili Board will be made.
6. The developers were commended for their presentation which included a model of the project and surrounding buildings which helps understand the project in its relation to its surroundings.
7. Studies have been done on visual and wind impacts, and are available for those interested.
8. The building will be developed to the allowable height of 320 feet and density levels.
9. The appropriate City agencies have assured the developer that sewer and water infrastructure are adequate for this project.

The developers were thanked for their presentation.



WAIKIKI NEIGHBORHOOD BOARD NO. 9

c/o NEIGHBORHOOD COMMISSION • CITY HALL, ROOM 400 • HONOLULU, HAWAII 96813

MINUTES OF REGULAR MEETING
OCTOBER 4, 1988
BRUYERES QUADRANGLE, FT. DeRUSSY

CALL TO ORDER: Chsir George Neroutsos called the meeting to order at 7:25 p.m.

ROLL TO CALL: Secretary Frances Delany called the roll and determined that a quorum was present.

MEMBERS PRESENT: Frances Delany, George Neroutsos, Wright Hiatt, Sam Bren, Anita Benfatti, Robin Smith, Ralph Woolsey, Tony Grace, Maureen O'Neill, Richard Willets, Georgia Miller, Denny Pomeroy, Ruth Dias, and Richard Felker.

MEMBERS ABSENT: Rudy Grau (excused), Jack Denton (excused), and Ed Chong.

GUESTS: Capt. Ed K. Amina (Honolulu Fire Department), Carl Berger, Ritamarie Stone, Manya Vogrig, Jan Bappe, Bob Chappel, George Melenka, John W. Stunkard (Neighborhood Board Commissioner), Robert J. Stone, Rev. Pam Vessels (Waikiki Health Center), Mildred S. Zabriskie, Diana M. Darnell, Margaret Fay, Mert Cowan, Representative Joan Hayes, Gladys Conway, John P. Kekuna (Mayor's Office Staff), James W. Sturgis (Waikiki Resident Association), Sharon Rothwell (Base Commander, Ft. Derussy), Terry Brothers (Wilbor Smith Association), Jon Shimada (Pacific Planning and Engineering, Inc.), Barrie Trebor-MacConnell (Neighborhood Board No. 8), Alex Weinstein (Architects Hawaii), Duk Hee Murabayashi (DHM Inc.), Anthony P. Tjan and Handoya Yahya (Bel Landmark Inc.) and Maria L. Ramos Viernes (Neighborhood Commission Office Staff).

APPROVAL OF SEPTEMBER 6, 1988 REGULAR MEETING MINUTES: Woolsey moved and Delany seconded to approve the minutes. The minutes were approved as circulated.

TREASURER'S REPORT: For the month of September, the Board spent \$55.23, leaving a balance of \$1,020.04 in the Operating Account. Central Account Balance is \$2457.00.

HONOLULU FIRE DEPARTMENT: Capt. Amina reported on the following:

- Fire Evacuation Procedure - The importance of a Fire Evacuation Procedure Plan for apartments buildings and condominiums was stressed. Reevaluation of the plan is determined by the Association of Apartment Owners' Board. The Fire Prevention Bureau inspects apartment buildings and its Evacuation Procedure Plan twice a year. Resident Managers of apartment buildings should have a copy of the plan at all times.
- No major fires were reported in Waikiki. HFD is concern about non-compliance by tourists and residents to fire alarms.

HONOLULU POLICE DEPARTMENT - Capt. Stephan Watarai provided the following responses to questions:

- HPD 911. - Residents can call 911 to report unreasonable noise from neighbors, and/or when a response from a police is needed immediately.



WAIKIKI NEIGHBORHOOD BOARD
MINUTES OF REGULAR MEETING
OCTOBER 4, 1988
PAGE 2

- Handbilling - Police have been advised by Corporation Council to stop issuing citations to those passing handbills.
- Hiatt commended Police Officer Al Merrill, of the HPD's Lost & Found Division, for retrieving Hiatt's wallet two hours after it was reported missing.
- Delany commended the department for assisting the Waikiki residents during the recent power outage in the area. Delany questioned the jurisdiction of State and Oahu Civil Defense regarding power outage.

MAYOR'S OFFICE - Chair Neroutsos recognized John Kekuna, representing the Mayor's Office. The Board asked Kekuna to check on the jurisdiction of the Oahu Civil Defense regarding power outage.

Kekuna asked for the Board's comments regarding the current Waikiki Aloha Week Ho'olaulea. Comments from the Board were favorable, except for traffic and difficulty getting in and out of Waikiki.

STATE LEGISLATOR - Chair Neroutsos recognized State Representative Joan Hayes. Rep. Hayes gave a brief status report on the following:

- Ocean Recreational Management Plan - State Department of Transportation (DOT), Harbors Division scheduled several public hearing for communities' input regarding the Ocean Recreational Management Plan. Although jet skis have not been a problem in Waikiki, she encouraged the Board to give input on this matter.
- International Market Place Convention Center - Rep. Hayes circulated a survey regarding the International Market Place Convention Center.

WAIKIKI HEALTH CENTER - Pam Vessel, representing Waikiki Health Center, reported on the services available at the center. Vessel, a Community Health Outreach Worker (CHOW), provides counseling to prostitutes and I.V. drug users to minimize the spread of AIDS (Acquired Immunity Diseases) and STD (Sexual Transmitted Diseases). The counseling on a one-to-one basis is based on trust and confidentiality. The program is community based and funded by "Federal Center for Disease Control"

In Hawaii, 261 people died with AIDS. Educating the community about AIDS and STD is vital, since most of these diseases are detrimental. Priority is to control these diseases by providing those infected free HIV (AIDS virus) testing and anonymous counseling. Waikiki Health Center is located at 277 Ohua St. For more information, call the AIDS HOTLINE at 922-1313, or the Waikiki Health Center at 922-4787.

Chair Neroutsos thanked Vessel for her attendance and report.

FORT DeRUSSY - Post Commander Sharon Rothwell announced that the Governor's Committee on Litter will schedule an islandwide marine area clean up effort in the latter part of October. Guards at the gate are aware of the Board's meeting every first Tuesday of each month. Rothwell will remind the guards to allow residents through the gate to attend the meeting.

BRIEFING: DHM INC. - WAIKIKI LANDMARK PROJECT

Tony Chun, Bel-Landmark, Inc. indicated that the project is in its early stage, and the purpose of their attendance is to provide the Board with preliminary plans. The proposed action of the project is a mixed use residential (85%) and commercial development (15%). There will be approximately 315 residential condominiums and 50,000 square feet of commercial space. Maximum height of the building is 320 feet.

The proposed site of the project is the triangle parcel bordered by Kalakaua Avenue, Ala Wai Boulevard and McCully Street. The existing Land Use designations are: 1) State Land Use - Urban; 2) Development and Plan Land Use - Commercial; and 3) Zoning - Resort Commercial Precinct within the Waikiki Special Design District. The area is also designated as "Waikiki Gateway".

Architects representing Bel-Landmark, Inc. provided a graphical map of the project. The design for the building will be simple, with 53% used for open space. Art work, landscaping with water features will also be included.

Discussion ensued on the following: adverse impact (traffic and parking); disruption of infrastructure; Land Use Laws; the importance of creating something of cultural value equivalent to the Polynesian Cultural Center; DTS (Department of Transportation Services) Rapid Transit Routes; and cost of each unit (tentatively set to \$190,000 and up).

Murabayashi said that a draft EIA (Environmental Impact Assessment) has been prepared, and DLU (Department of Land Utilization) will schedule a public hearing. A public information report, a location map and permit processing schedule were made available to the Board.

Chair Neroutsos thanked the DHM Planners, Inc. for briefing the Board on their project. A recess was called at 8:42 p.m., and the meeting reconvened at 9:00 p.m.

NEW BUSINESS AND COMMITTEE REPORTS:

A. Chairman's Report - Chair Neroutsos reported on the following:

Board's Candidates Forum - September 6th Candidates Forum was a solid success. Chair Neroutsos commended Community Relations and Newsletter Committee Chair Benfatti, and Board moderators Smith and Pomeroy, for a job well done. He also thanked the Board members for providing the refreshments, and the League of Women Voters, for voter registration.

Waikiki Issues - Chair Neroutsos emphasized that this year Board strategy should include careful planning. The following are issues for the Board to review: the impact of emission control due to fumes from auto and buses, large tour buses in residential areas; Mass Transit and Light Rail System routes; Ocean Recreational Management Plan; excessive noise; and other problems directly affecting Waikiki. Neroutsos asked the Board members to contact him in the next few days with their input on these issues.

WAIKIKI NEIGHBORHOOD BOARD
MINUTES OF REGULAR MEETING
OCTOBER 4, 1988
PAGE 4

Chair Neroutsos recognized Councilmember Neil Abercrombie. Councilmember Abercrombie stated that he has been appointed chair for the City Council Human Services Committee, member of the Budget and Finance Committee and Planning Committee. Abercrombie commented on the domain of the Waikiki Convention Center Authority. The 3 year time period of the authority does not begin until the 7 members are appointed. International Market Vendors' suits are still pending.

Board members asked Councilmember Abercrombie to follow-up on the following: request for garbage pickup before 8:00 a.m.; greater HPD enforcement in the Waikiki area; goals on hotel rooms tax; and encouragement on permanent residency in Waikiki.

Chair Neroutsos thanked Councilmember Abercrombie for his attendance and report.

- B. Public Safety and Civil Defense: Committee Member Woolsey gave a civil defense briefing. Woolsey stressed the importance of being prepared in case of natural disaster such as tsunamis, floods, tropical storms, etc. He indicated that the only way to be prepared is to educate the community. Woolsey circulated civil defense flyers (Disaster Preparedness, Emergency Checklist) to residents and Board members. He also provided safety tips in preparing for natural disasters. To assist Oahu Civil Defense on locating residents on wheelchairs in case of a disaster, applications were circulated.
- C. Planning and Zoning - Chair Neroutsos provided copies of correspondence received by the Board regarding the following zoning variances: 88-/ZBA-59 (2057 KalaKaua Ave); 88/ZBA-81 (2112 Kalakaua Ave.); 88/ZBA-83 (2500 Kuhio Avenue); 88/ZBA-85 (2222 Aloha Drive); and 88/PUC-SF-6. Neroutsos recommended that the Board review these variances before providing the Board's input. Chair Neroutsos deferred the zoning variances until the next meeting. Miller expressed dissatisfaction regarding the lack of Board's input on the Contempo Cafe zoning variance.
- D. Transportation - Committee Chair Willets had no report. The City Council Transportation Committee meeting was cancelled for the past two months.
- E. Business and Tourism - Committee Chair Delany commented on the domain of the Waikiki Convention Center Authority. She noted that seven committee members can supercede all Land Use Laws. Delany emphasized that the Waikiki Convention Center Authority has a bearing with the proposed convention center at the former Aloha Motor site's permit.

Delany said that the Board is fortunate to have Councilmember Abercrombie as a member of City Council Planning Committee. Delany asked Councilmember Abercrombie to keep the Board informed regarding the City Council's position on the International Market Place Convention Center site. She urged Board members and residents to attend the Waikiki Convention Center Authority public meetings.

Smith indicated that the former Aloha Motor site would be a good compromise. It would be privately funded and it does not affect the WSDD (Waikiki Special Design District).

Chair Neroutsos said that since the Board's survey goes out in about 45 days, the Board could wait on their constituents' input regarding the convention center.

- F. Housing and Government Services - Committee Chair Hiatt reported receipt of 10 - 12 responses of the Waikiki Neighborhood Board Housing questionnaire. The purpose of the questionnaire is to find out what aspect of the housing issue the residents of Waikiki feel should be addressed. The following are some issues residents feel that are vital to the housing problem in the Waikiki area: Condo-coop negotiation, lease negotiation, lease stabilization, surrender clauses.

Committee Member Miller reported attending a public hearing regarding the issuance of a cabaret license for the Masquerade Night Club at 1856 Kalakaua Avenue.

Miller noted the importance of maintaining Kalakaua Avenue. She said that it will be included on the City's Assessment District Funding for the next fiscal year.

O'Neill left at 10:15 p.m. Pomeroy left at 10:17 p.m.

- G. Community Relations and Newsletter - Committee Chair Benfatti announced that the Candidates' Forum, scheduled on November 1st, will start at 6:30 p.m. Letters of invitation together with a schedule and a map were mailed to all candidates last week. The Board has been informed that the Mayor will not be able to attend the forum, and will send Managing Director Jeremy Harris as his representative. Several Board members were extremely disappointed to hear the Mayor's reply. Sending a member of the Mayor's staff was not at all well received by the Board.

After further discussion, Benfatti moved and Woolsey seconded that the Board send a letter to Mayor Frank Fasi, conveying the Board's disappointment about his intended absence at the forum. The motion passed with a vote of 12-1-0, Nay - Hiatt.

A Questionnaire for the Candidates' Forum will be included on the next Board's mailing of agenda and minutes. Board of Education candidates will be tentatively scheduled for 9:00 to 10:00 p.m. There will be no break. Residents will be welcomed to refreshments at the back of the room. Written questions to the candidate must be turned in on the form to be provided that evening.

ANNOUNCEMENT: Neighborhood Commission meeting is scheduled for Wednesday, October 5, 1988, at 4:00 p.m., City Council Chambers.

ADJOURNMENT: Chair Neroutsos adjourned the meeting at 10:30 p.m.

Submitted by,

George Neroutsos
Chairman

Frances Delany
Secretary

Maria L. R. Viernes
Neighborhood Assistant



WAIKIKI NEIGHBORHOOD BOARD NO. 9

c/o NEIGHBORHOOD COMMISSION • CITY HALL, ROOM 400 • HONOLULU, HAWAII 96813

MINUTES OF REGULAR MEETING
NOVEMBER 1, 1988
BRUYERES QUADRANGLE, FT. DeRUSSY

CALL TO ORDER: Chair George Neroutsos called the meeting to order at 6:32 p.m.

ROLL CALL: Secretary Frances Delany called the roll and determined that a quorum was present.

MEMBERS PRESENT: Frances Delany, Rudy Grau, Jack Denton, George Neroutsos, Sam Bren, Anita Benfatti, Robin Smith, Ralph Woolsey, Tony Grace, Maureen O'Neill, Ed Chong, Georgia Miller, Denny Pomeroy and Richard Felker.

MEMBERS ABSENT: Wright Hiatt, Richard Willetts (Excused) and Ruth Dias.

GUESTS: John P. Fritz, Carl Berger, D. Mae Forlenza, Ritamarie Stone, Jeanne Trebor-Macconnell, Barrie Trebor-Macconnell (Neighborhood Board No. 8), Charles Pallak, Nancy Frento, Lois B. Bates, Thomas F. Kelly Jr., Delvina M. Kelly, James F. Atkinson, Don Flash, Lucille Flash, McGregaor Kuegat, Bob Stone, James Hale, Eric Baibut, Liz Neroutsos, Brad Chiaverini, Manya Vagrig, Gladys Conway, Bill Burns, Mildred S. Zabriskie, Jean Hartman, Cindy Hartman, Senator Bertrand Kobayashi, Jon Yoshimura and Nelson Daranciang (KHON TV), Lethy Smith, Helen Tavares, Dorothy Connell, M. Reilly, June Fox, Ramona Mauchly and Jeremy Harris (Managing Director's Office), Christ P. Zivalich, Diana M. Darnell, and Maria L.R. Viernes (Neighborhood Commission Office Staff).

CANDIDATES: Joan Hayes and Frank Hutchinson (30th House District), Mary-Jane McMurdo and David Porter (15th Senatorial District), Mary Bitterman and Blase Harris (Congressional District I), Marilyn Bornhorst (Mayoral), Bryan Almadova, Darold Braida, Darrow Aiona, James Atkinson, Thomas Au, David Ellis, Victor Mon, Betty Lou Miura, William Smithe, Kermit Brown, Mike Kahikina, Debi Hartmann, and Paul Knapp (Board of Education).

APPROVAL OF OCTOBER 4, 1988 REGULAR MEETING MINUTES: The following corrections were noted:

- On page 1, under Honolulu Fire Department, change "concern" to "concerned".
- On page 2, under MAYOR'S OFFICE, change power outage to power outages. On the same page under Ocean Recreational Management Plan, 2nd sentence, change "public hearing" to "public hearings".
- On page 3, under BRIEFING: DHAM INC. - WAIKIKI LANDMARK PROJECT, last paragraph, add "It was felt that this prime piece of land known as a Gateway to Waikiki could at least incorporate in its 5,000 square feet of commercial space an educational, entertainment area that would reflect the cultural diversity of Hawaii as a crossroad to the Pacific Rim nations." On the same page, under Waikiki Issues, change emesion to emission.



Oahu's Neighborhood Board System-Established 1973

C-10

WAIKIKI NEIGHBORHOOD BOARD
MINUTES OF REGULAR MEETING
NOVEMBER 1, 1988
PAGE 2

-- On page 5, under Housing and Government Services, 1st sentence, Committee Chair Hiatt should be Committee Co-Chair Hiatt, and Committee Member Miller should be Committee Co-Chair Miller. On the same page under Community Relations and Newsletter, change "disappointment" to "disappointed".

Woolsey moved and Miller seconded to approved the minutes as corrected. The motion to approve the minutes passed unanimously.

TREASURER'S REPORT: Treasurer Smith reported the following financial statement for the month of October:

<u>Operating Account:</u>		<u>Central Account:</u>	
Previous Balance	\$1,020.04	Previous Balance	\$2,457.00
Current Expenses	\$ 100.17	Current Expense	0
Current Balance	\$ 919.87	Current Balance	\$2,457.00

ANNOUNCEMENT: There were no objections from the Board to move the January 3, 1989 regular meeting to January 10, 1989. Chair Neroutsos called for a short recess at 6:53 p.m. The meeting reconvened at 7:00 p.m. Candidates forum followed.

CANDIDATES FORUM: Chair Neroutsos and Community Relations Chair Benfatti thanked all residents and guest candidates for supporting and attending the Waikiki Neighborhood Board Candidates Forum. Benfatti briefly went over the forum rules for the candidates.

30th House District - Joan Hayes and Frank Hutchinson.

15th Senatorial District - Mary-Jane McMurdo and David Porter.

Congressional District I - Mary Bitterman and Blase Harris.

24th House District - Fred Hemmings (Uncontested Race).

Mayoral - Marilyn Bornhorst.

Board of Education - Bryan Almadova and Darold Braida (Honolulu District); Darrow Aiona, James Atkinson, Thomas Au, David Ellis, Betty Lou Miura, Victor Mon and William Smith (Oahu-At-Large); Kermit Brown and Mike Kahikina (Leeward District); and Debi Hartmann and Paul Knapp (Windward District).

Questions and answers session followed on each political race. Some of the issues discussed were: convention center, transportation, proposed Rapid Transit, traffic congestions, crime, education and other Waikiki related issues.

ADJOURNMENT: Chair Neroutsos adjourned the meeting at 9:45 p.m.

Submitted by,

George Neroutsos
Chair

Francis Delany
Secretary

Maria L.R. Viernes
Neighborhood Assistant

Appendix D

MS. 020689

PRE-FIELD
BACKGROUND LITERATURE SEARCH FOR
ARCHAEOLOGICAL RESOURCES AT THE
PROPOSED WAIKIKI LANDMARK PROPERTY

by

Mary F. Riford

for

DHM, Inc.
1188 Bishop Street
Suite 2405
Honolulu, HI 96813

February 1989

Public Archaeology Section
Applied Research Group
Bishop Museum
Honolulu, Hawai'i

The proposed Waikīkī Landmark development is located in Waikīkī, Kona, O'ahu. The subject property is roughly triangular shape and bordered on the north by Ala Wai Boulevard, on the southeast by McCully Street, and on the west by Kalākaua Avenue (Fig. 1). The property is approximately 2.9 acres in size and includes TMK 2-6-14: parcels 39, 41, 43, 44, 49, 50, 52-56, and 59 (Fig. 2). Current land use on adjacent properties include commercial and residential developments.

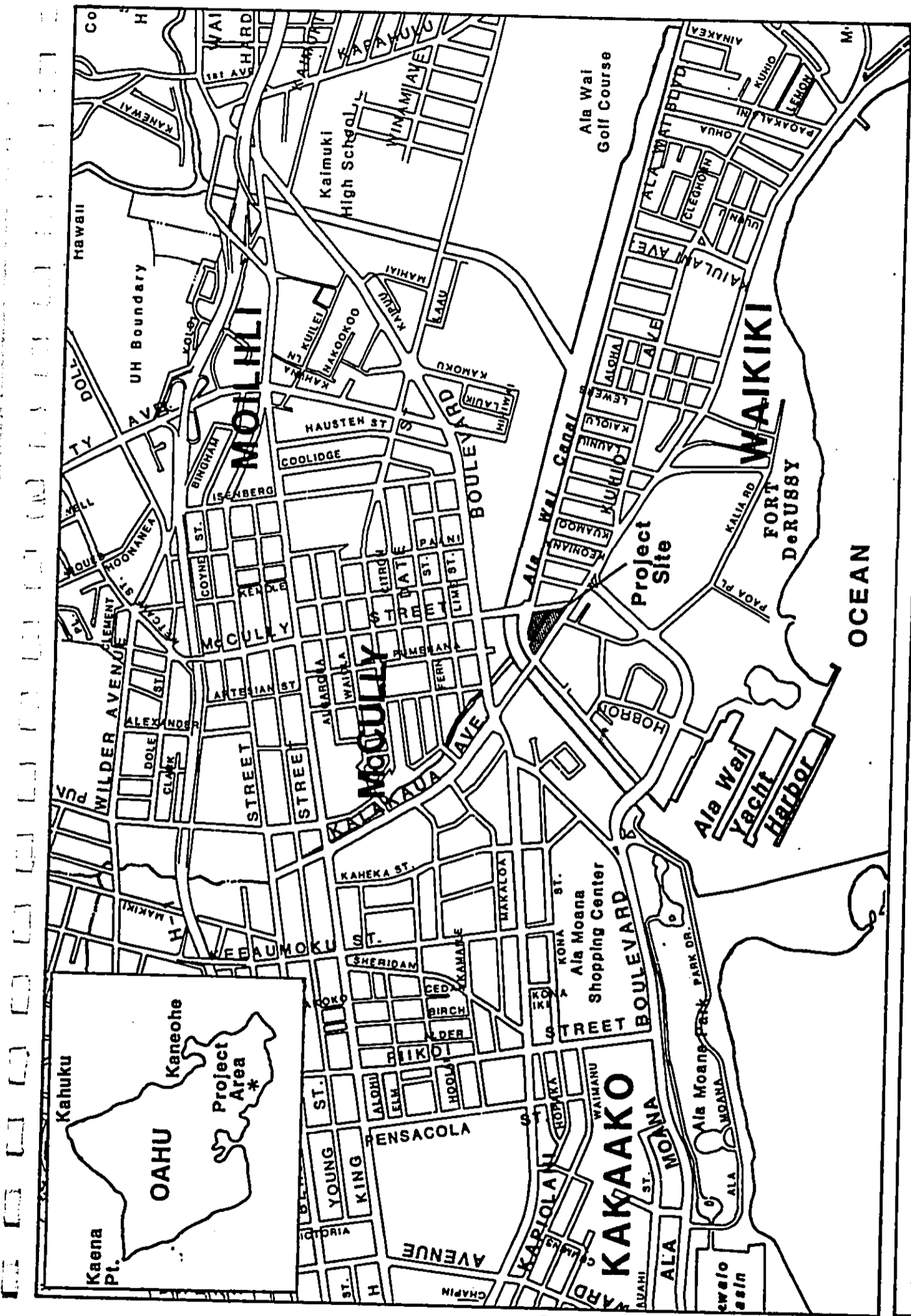
The subject property is approximately 5 ft above mean sea level and 1/2 mi. inland from the shoreline. Located to the north of the property, across Ala Wai Boulevard, is the Ala Wai Canal. Soils on the property are classified as mixed fill land (Foote et al. 1972:31). The land has been filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources (Ibid. 1972:31).

An 1881 map by S. E. Bishop, which contains an overlay of the Ala Wai Canal, shows land ownership in the subject property in the mid-nineteenth century (Nakamura 1979). The western portion of the property is located in the eastern corner of Land Commission Award 8515. The eastern portion of the property is located at the southern end of a large Royal Patent Grant 3098 awarded to L. McCully.

Bishop's 1881 map shows some of the fishponds and taro field that were present in the Waikīkī area. However, there is no indication of land utilization in the area of the subject property on the 1881 map. The property lies just outside an aerial photograph of the Moana Hotel with a view toward the mountains taken in September 1920 (folder of loose Waikīkī aerials in the Bishop Museum Photo Collection). The 1920 photo shows the area inland from Kalākaua Avenue near the subject property intensively developed with taro pondfields and fishponds.

There were two early twentieth century impacts to the roadways bordering the property. In 1902 an electric trolley line was extended from Punahou to Waikīkī on Alexander and McCully Streets. In 1912 the grade of Kalākaua Avenue was raised (Nakamura 1979:45).

Begun in 1921 the dredging of the Ala Wai canal took five years to complete. Between 1924 and mid-1926 the dredge was at McCully Street filling in the pondfields and fishponds of the McCully tract (Nakamura 1979:106). An aerial photo of the completed canal taken in December 1927 shows a roughly

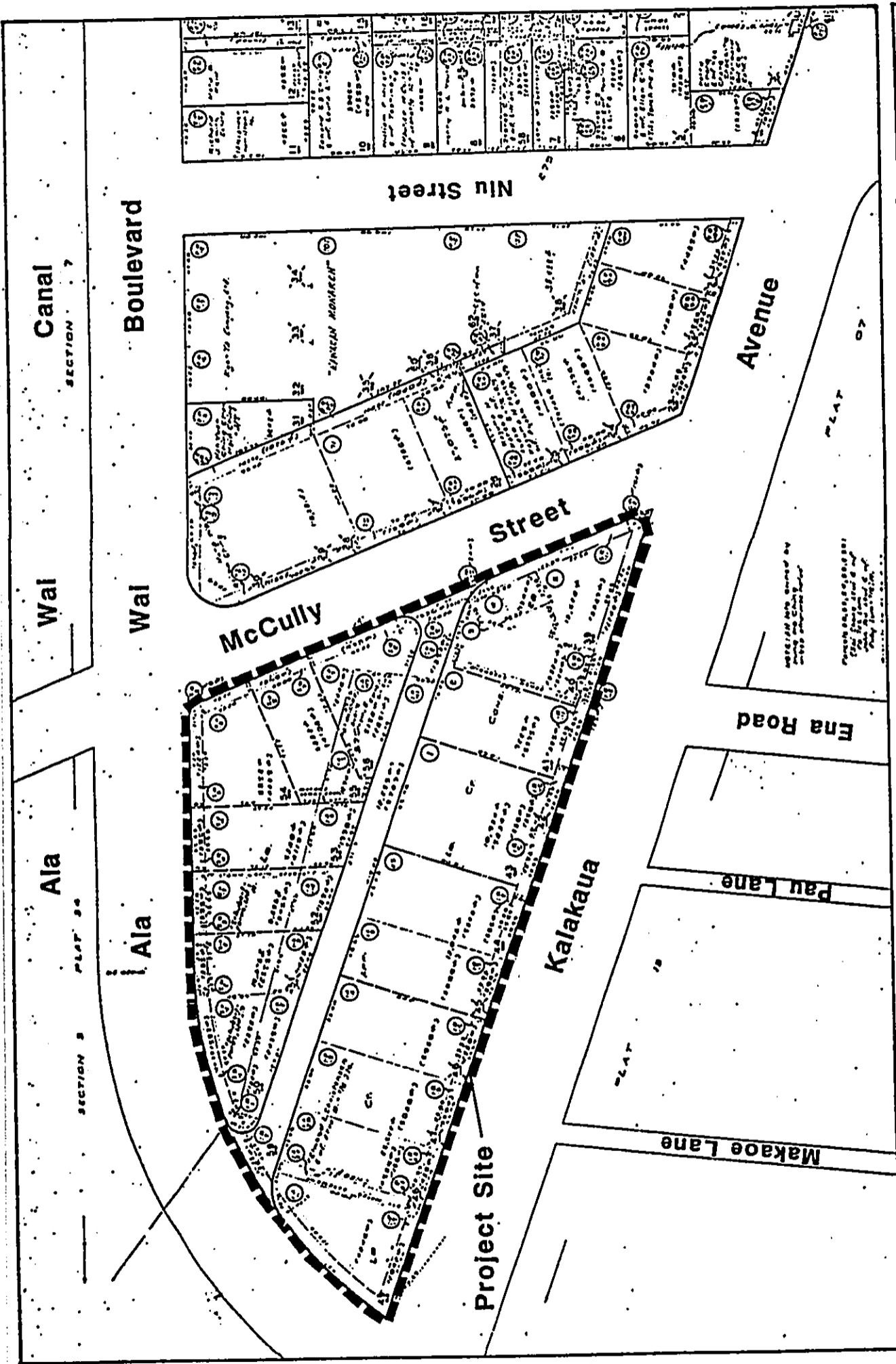


DHM inc.
Land Use and
Environmental
Planning



Exhibit 1
Location Map

Fig. 1. LOCATION OF PROJECT AREA (from Waikiki Landmark Environmental Assessment by DHM, Inc.).



DHM inc.
Land Use and
Environmental
Planning

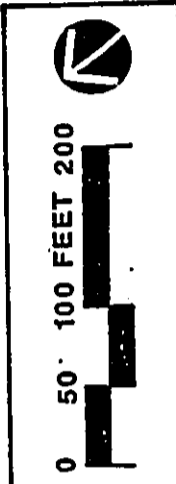


Exhibit 2
Tax Key Map 2-6-14:39,41,43,44,49,50,52-56,59

FIG. 2. DETAILED LOCATION OF PROJECT AREA (from Waikiki Landmark Environmental Assessment by DHM, Inc.).

circular structure and some white coral fill in the subject property at the intersection of Ala Wai Boulevard and Kalākaua Avenue (Nakamura 1979:108; Army Aerials Book 77 p. 77), Photo Collection Bishop Museum). The property is separated into three parcels by white roadways. The parcels are dark indicating that they were covered with a low vegetation such as grass. There appears to be a tree on one of the parcels. The entire area between the canal and Kalākaua Avenue appears to be level and covered with the same vegetation as the subject property. The McCully tract north of the subject property, across the canal, is covered with white coral fill dredged from the canal (Fig. 3).

SUMMARY

Prior to 1920 it is likely that the proposed Waikīkī Landmark property contained taro pondfields. By December 1927 the pondfields had been filled, and a ground cover had been established on the subject property. It is likely that the property was filled between 1924 and mid-1926 with material dredged from the new canal. There is a low to moderate potential for locating *in situ* subsurface archaeological resources in the form of agricultural soils under current structures and below the coral fill.

RECOMMENDATIONS

The proposed Waikīkī Landmark property has been in urban use for more than 50 years. No surface archaeological resources of prehistoric or historic significance are present on the property.

In order to determine the presence or absence of cultural deposits and the prehistoric land use of this area, the following procedures are recommended:

- 1) backhoe assisted subsurface testing.
- 2) selective monitoring during demolition of existing buildings, and
- 3) selective monitoring of construction related excavation.

Early coordination with the Historic Sites Section, State Department of Land and Natural Resources is also recommended.



Fig.3: Army Aerials of the Project
Area Taken in 1927.
Bishop Museum Visual Collections
(Neg. No. CP38163)
D-6

REFERENCES

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1972 *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and
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Thesis. Copy in Bishop Mus. Library.

Appendix E



B I S H O P M U S E U M

1525 BERNICE STREET • P.O. BOX 19000A • HONOLULU, HAWAII • 96817 0916 • (808) 847-3511

January 12, 1989

Mrs. Duk Hee Murabayashi, President
DHM, Inc.
1188 Bishop Street
Honolulu, Hawai'i 96813

Dear Mrs. Murabayashi:

Subject: Archaeological Procedures for Waikiki Landmark

Following our telecom late last year and your letter dated 14 December 1988, we sought and obtained verbal concurrence from the Historic Sites Section, Department of Land and Natural Resources to forgo normal field reconnaissance procedures for the subject parcel in view of the present altered condition of the area.

On Thursday, 5 January 1989, Dr. Paul Cleghorn, Bishop Museum, and Dr. Joyce Bath, DLNR discussed and agreed on the following procedures:

- 1) Since the subject parcel is currently completely paved and occupied by several existing buildings, a conventional reconnaissance survey would be inappropriate, thus
- 2) the Museum will undertake prefield literature search of the subject parcel, with particular emphasis on predicting the location of potential subsurface archaeological features,
- 3) at the time of demolition, backhoe assisted subsurface testing will be conducted as warranted by the results of the literature search, and
- 4) further recommendations may be forthcoming based on the results of subsurface testing.

Per our telecom of 9 January 1989, we have commenced the literature search and according to your requested schedule, we anticipate completion of this preliminary procedure by Friday, 20 January 1989.

We appreciate this opportunity to work with you again. I will be forwarding our formal contract for execution shortly. If you have any questions please call me.

Sincerely,

Aki Sinoto
Public Archaeology Contract Manager
Applied Research Group

xc: Dr. Joyce Bath, staff archaeologist, HSS/DLNR

Appendix F

TRAFFIC IMPACT ASSESSMENT REPORT
FOR THE PROPOSED WAIKIKI LANDMARK

Waikiki, Oahu, Hawaii
TMK 2-6-14-Various

November 1988

Prepared for:

DHM, Inc.

Prepared by:

Pacific Planning & Engineering, Inc.
1144 Tenth Avenue, Suite 202
Honolulu, Hawaii 96816

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INTRODUCTION

Bel-Landmark, Inc. is proposing to construct a commercial and residential development at the corner of Kalakaua Avenue, Ala Wai Boulevard and McCully Street. The proposed complex will consist of 52,000 square feet of retail shops, 7,000 square feet of restaurants, and an estimated 315 condominium units. Approximately 650 parking stalls are planned for the mix use development.

Figure 1 shows the general project location on Oahu. The project site is located in Waikiki at the triangle formed by Kalakaua Avenue, Ala Wai Boulevard and McCully Street identified by Tax Map Key 2-6-14:39, 41, 43, 44, 49, 50, 52-56, and 59.

The present activities at the site consists of a fast food outlet, specialty retail stores, business offices, a night club, a taxi company, two rental car companies and a private parking lot. Vehicular access to the site is by two driveways off McCully Street and two off of Ala Wai Boulevard.

This traffic impact report identifies and evaluates the probable impact of the forecasted traffic generated by the proposed development in the year 1991 when the project is expected to be completed. The analysis primarily focuses on the traffic impact at the three existing intersections of Kalakaua Avenue at Ala Wai Boulevard, Ala Wai Boulevard at McCully Street, and Kalakaua Avenue at McCully Street. These intersections provide vehicular access/egress from all directions. In addition, the intersection of Kalakaua Avenue at Kapiolani Boulevard is analyzed for its effects on traffic circulation near the site. The study describes the impact on the Level of Service (LOS) at the intersections when the project is completed in 1991.

This report assesses traffic impacts during the afternoon peak hour of 4 to 5 pm. Recent traffic counts indicate the pm peak hour traffic volume averaged about five percent greater than the morning peak hour traffic volumes along the adjacent roadways. The proposed project is expected to generate a larger number of vehicles during the pm peak hour than morning hour due to the commercial/residential nature of the development.

EXISTING CONDITIONS

Area Conditions and Roadway Network

The general area is a mixture of commercial, business offices and residential condominiums and apartments. The site is partially developed and generally in disrepair.

The major vehicular access to the project site is via Kalakaua Avenue, Ala Wai Boulevard and McCully Street.

McCully Street is a two-way street in the east-west or mauka-makai direction between Kapiolani and Ala Wai Boulevards. Makai of Ala Wai Boulevard, McCully is one-way in the makai direction with its four lanes designated as left turn movements onto Kalakaua Avenue in the Diamond Head direction.

Ala Wai Boulevard is one-way in the Ewa direction from Kapahulu to Kalakaua Avenues. There are four lanes from Kapahulu Avenue to McCully street with an additional right turn lane at the McCully Street intersection. Between McCully Street and Kalakaua Avenue, Ala Wai Boulevard converges from four lanes to three lanes at the Kalakaua Avenue intersection. Ewa or West of Kalakaua Avenue, Ala Wai Boulevard is a two-way, two-lane roadway with parking permitted on both sides of the street.

Kalakaua Avenue is generally one-way in the Diamond Head direction between Ena Road and Monsarrat Avenue. An exclusive public transit bus route is designated along Kalakaua Avenue in the Ewa direction from Kuhio Avenue to the Ena Road intersection, where traffic exiting from Ena Road is permitted to turn left onto KA's single northbound lane towards Downtown Honolulu. The remainder of Kalakaua Avenue between Ala Wai Boulevard and Beretania Street is a two-way four lane roadway with exclusive turning lanes.

Ena Road is a minor collector road providing an alternate circulation route for motorists in Waikiki. It is a single lane, both directions two-way street with limited parking allowed on one side. Traffic exiting from Ena Road onto Kalakaua Avenue is permitted to turn right or left at that intersection which is controlled by traffic signals.

The existing traffic circulation with the proposed access/egress for the proposed Waikiki Landmark project is shown on Figure 2.

The major intersections analyzed include:

1. Kalakaua Avenue at Ala Wai Boulevard,
2. Ala Wai Boulevard at McCully Street,
3. Kalakaua Avenue at McCully Street, and
4. Kalakaua Avenue at Kapiolani Boulevard.

Traffic Conditions

Existing traffic volumes along Kalakaua Avenue, Ala Wai Boulevard and McCully Street were documented using recent data from the Highways Division of the State Department of Transportation and Department of Transportation Services of the City and County of Honolulu. Available survey information indicate little or no increase in area traffic volumes over the recent years.

Additional turning movement counts were taken during the pm peak hour at the major intersections, including the intersection of Kapiolani Boulevard and Kalakaua Avenue. These counts were obtained by PPE, Inc., during the period of December 17 to 29, 1987. Figures 3 through 10 are schematic depictions of the four major intersections without and with the project. Peak hour intersection traffic counts are given in Appendix B.

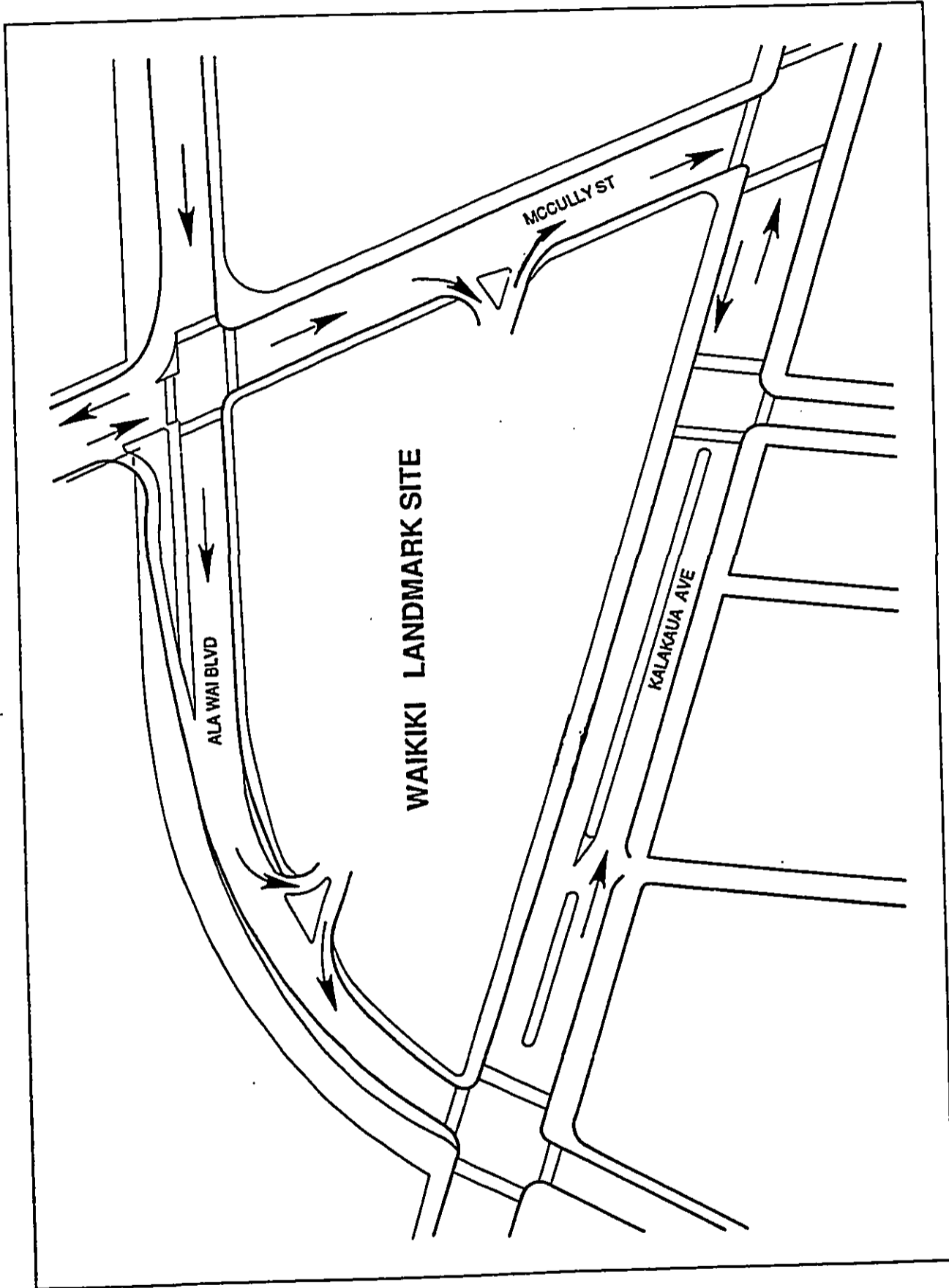


Figure 2. Project Driveways

During field counts, the weather was overcast but roadway pavement was dry. Volumes in this area are not as sensitive to holiday changes as are the other major commuting roadways. Manual counts were taken of passenger car, truck, bus, bicycle, motorcycle and pedestrian volumes by turning movements and approaches at the above-named four intersections during these periods. The survey was conducted to establish a baseline condition to compare against estimated future traffic.

10 09 1964

TRAFFIC IMPACT ANALYSIS

A review of the general Waikiki existing roadway network and plans for future development were conducted in preparation 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 pm peak hour was selected for analysis as being most representative of the greatest impact on the traffic by the proposed Waikiki Landmark project.

Future traffic with and without the proposed development were estimated for 1991 when the mix use project is expected to be fully developed. Standard vehicle forecast methods of trip generation, distribution and assignment were used.

Annual traffic growth for Waikiki has been static over the recent past years. Growth of ambient traffic on these roadways is expected to be nominal to the year 1991.

Intersection capacity analysis at the four major signalized intersections was undertaken to assess the impact by comparing the traffic at the intersections with and without the development. Field counts were conducted during the pm peak hour. The data were compiled for intersection capacity analysis in accordance with the latest Highway Capacity Manual (HCM) analysis techniques (Special Report 209, 1985).

Trip Generation

Future traffic was forecast with and without the development. Vehicle trips generated by the project were based on average pm peak hour trip rates taken from the Trip Generation Report, 1982 (Third Edition), Institute of Transportation Engineers (ITE). Based on the types of uses to be provided at the proposed Landmark site, vehicle trip rates used in the analysis are for average conditions. The rates were reviewed for possible adjustments for local conditions and project aspects.

The rates are used to calculate vehicles entering and exiting the project during the pm peak hour. The analysis accounts for the mix use activities of the commercial and residential development project.

Table 1 lists the land use types, the trip generation rates, and the number of vehicle trips generated by the land use activities for the proposed Landmark project. The uses would primarily attract the Waikiki resident and visitors staying in Waikiki lodgings.

TABLE 1. VEHICLE TRIP GENERATION RATES

<u>Land Use Type</u>	<u>Units</u>	<u>Average Number of Vehicles Per Hour</u>			
		<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
		<u>Enter</u>	<u>Exit</u>	<u>Enter</u>	<u>Exit</u>
1. Commercial					
Specialty Retail	52,000 sq ft	1.99	1.99	2.25	2.25
Number of Trips		80	80	117	117
Restaurant	7,000 sq ft	10.1	5.5	13.0	9.2
Number of trips		100	55	91	65
2. Residential					
Condominium units	315	0.07	0.37	0.37	0.18
Number of Trips		26	139	117	57
Total Number of Trips		<u>206</u>	<u>274</u>	<u>325</u>	<u>239</u>

Trip Distribution

Trip distribution determines the predicted origins and destinations of traffic generated by the new development. In the analysis, percentages of the trips entering and exiting the project site are applied to the estimated vehicle trip ends for origins and destinations outside of the immediate area.

In general, it was estimated that the retail center would primarily draw vehicular traffic from Waikiki areas or tourists rather than outside or local resident shoppers. The condominium traffic would generally be headed to or coming from areas north or west of the site, represented by areas such as Downtown, Ala Moana Center, and Kapiolani Boulevard uses Ewa of the Kalakaua intersection. The percentages were used to then estimate vehicles bound for or coming from these general areas. With these estimates, vehicles generated by the proposed Landmark development were assigned to the roadway network as described below.

Traffic Assignment

Assignment of trips generated by the proposed Landmark project is based on the roadway network. Checks were made of the cognizant agencies to determine whether any major change is planned within 1991, or the time frame of this study.

An effort was made to account for potential difficulties motorists will encounter when attempting to exit from the project site. Field observations indicated congestion on Ala Wai Boulevard during the middle of the pm peak hour for an estimated 15 minute period. Drivers leaving the Landmark headed in the northerly or Downtown direction during the pm peak period will encounter some difficulty exiting left onto Ala Wai Boulevard and attempting to enter Ala Wai Boulevard's right turn lanes because of the congested lanes on the Ala Wai Boulevard approach to Kalakaua Avenue. However, the exit onto McCully can be used to travel west via Ala Moana Blvd., or to Ala Wai Blvd. via Kuhio Avenue.

Figures 3-10 show the 1991 forecast volumes for the four intersections studied without and with project traffic. The figures also show the intersection layout and regulatory controls in place during the pm peak hour.

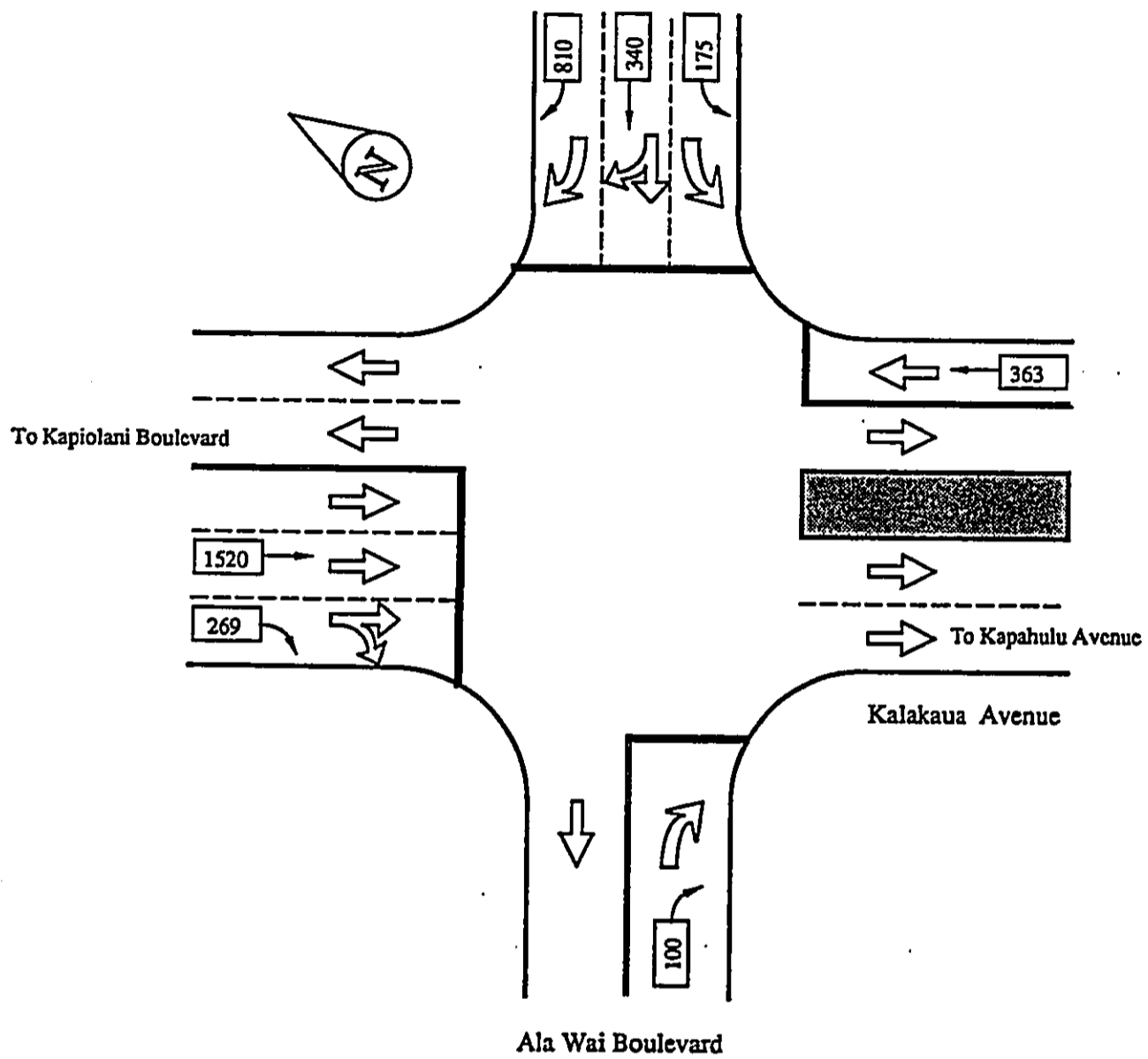


Figure 4. Kalakaua Avenue at Ala Wai Boulevard With Project

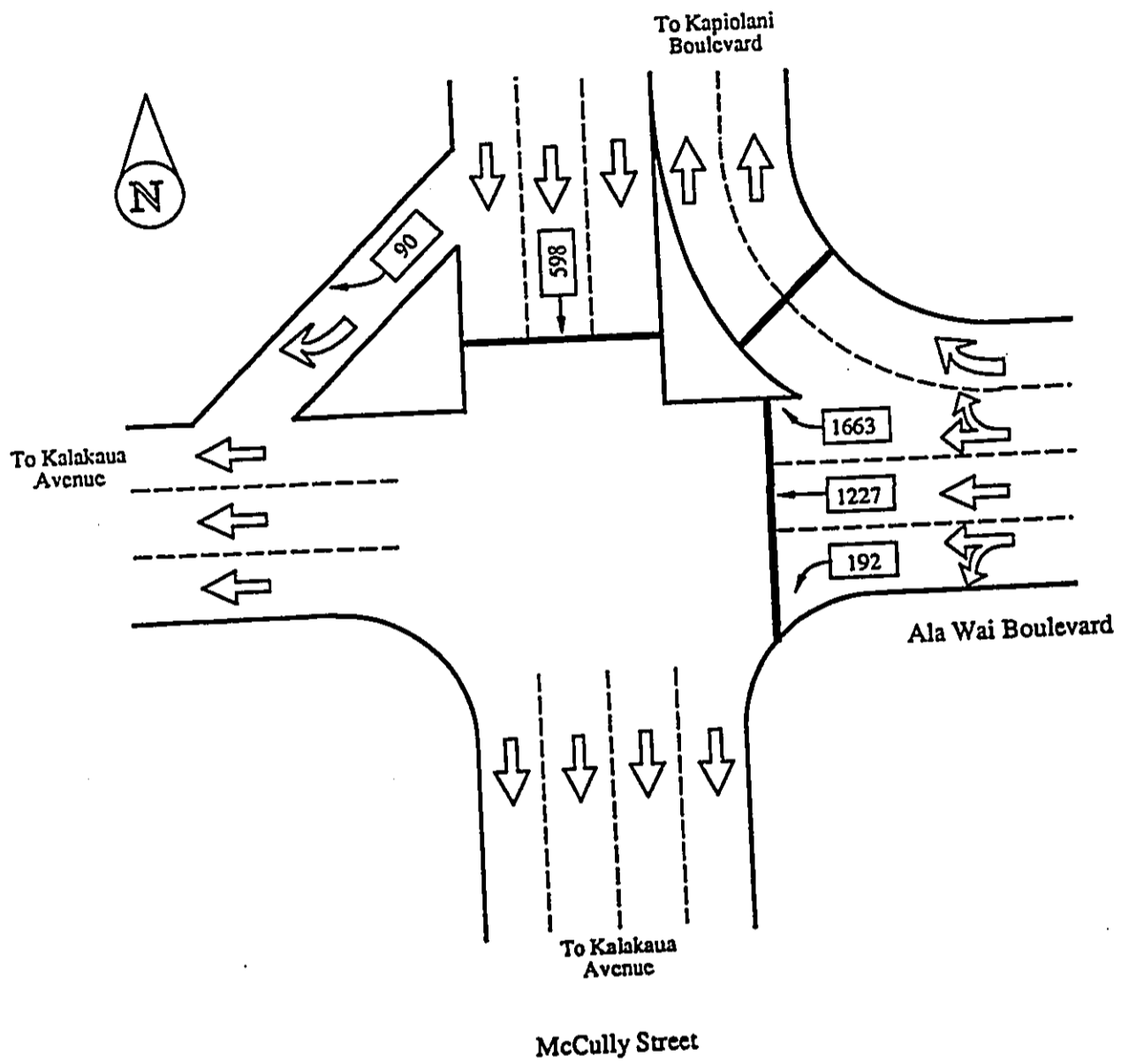


Figure 5. Ala Wai Boulevard at McCully Street Without Project

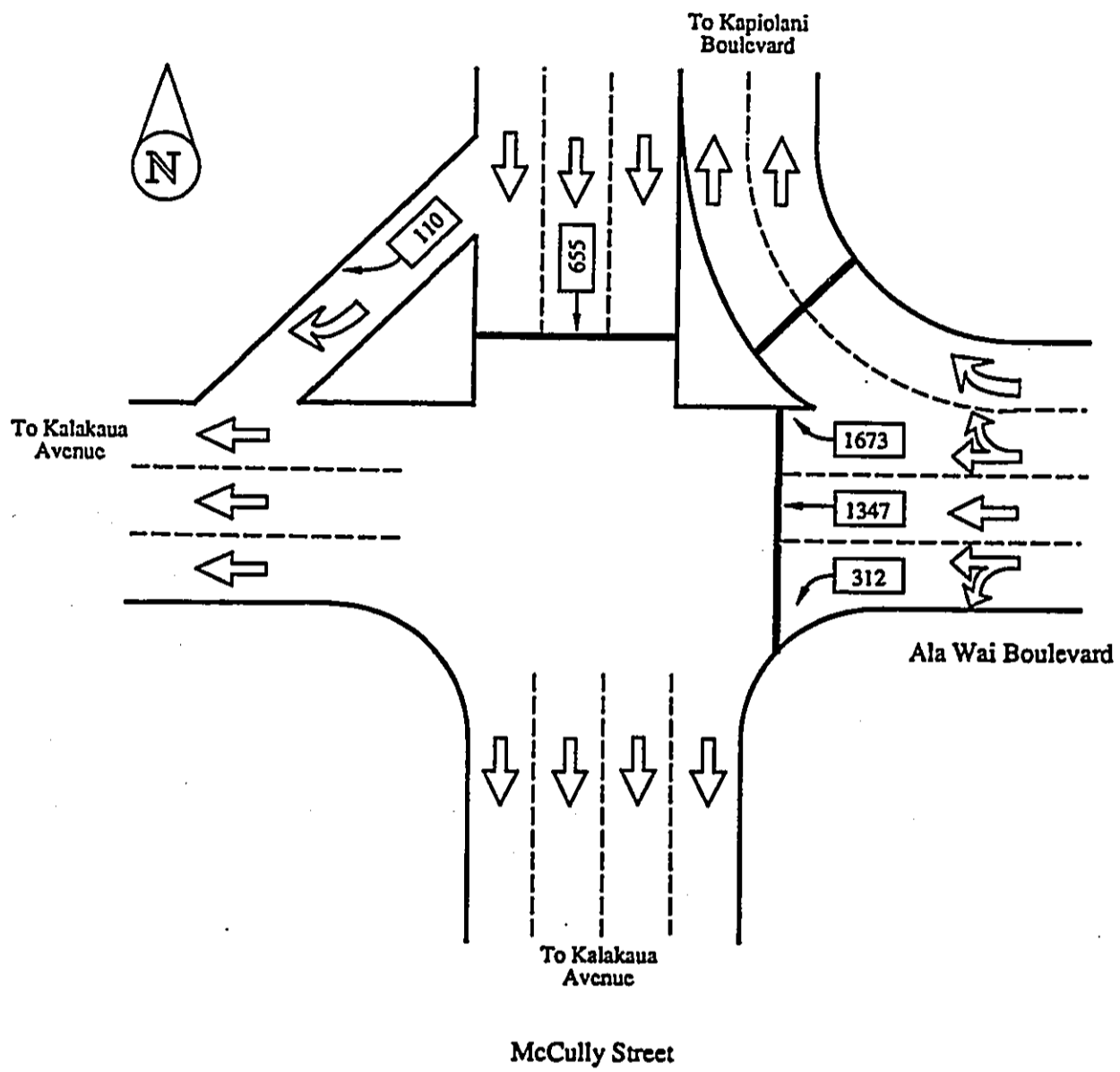


Figure 6. Ala Wai Boulevard at McCully Street With Project

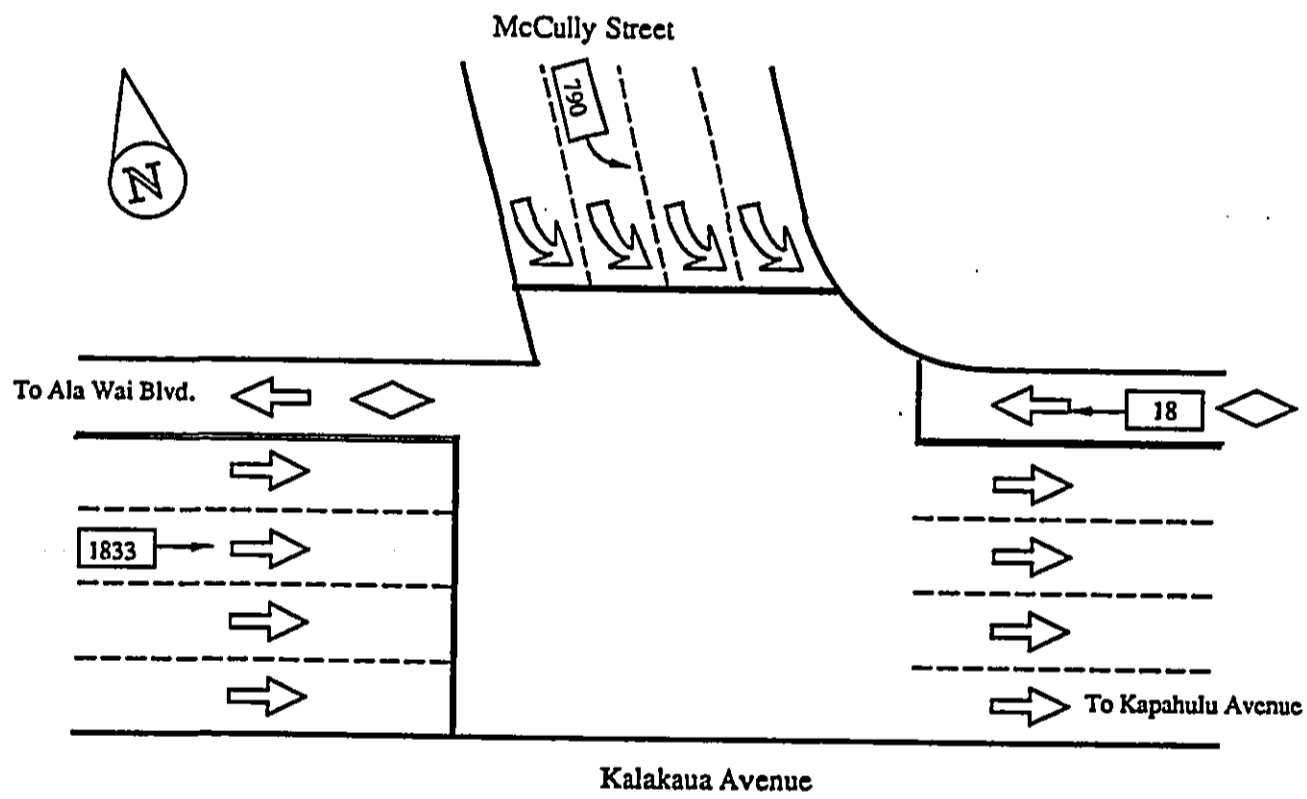


Figure 7. Kalakaua Avenue at McCully Street Without Project

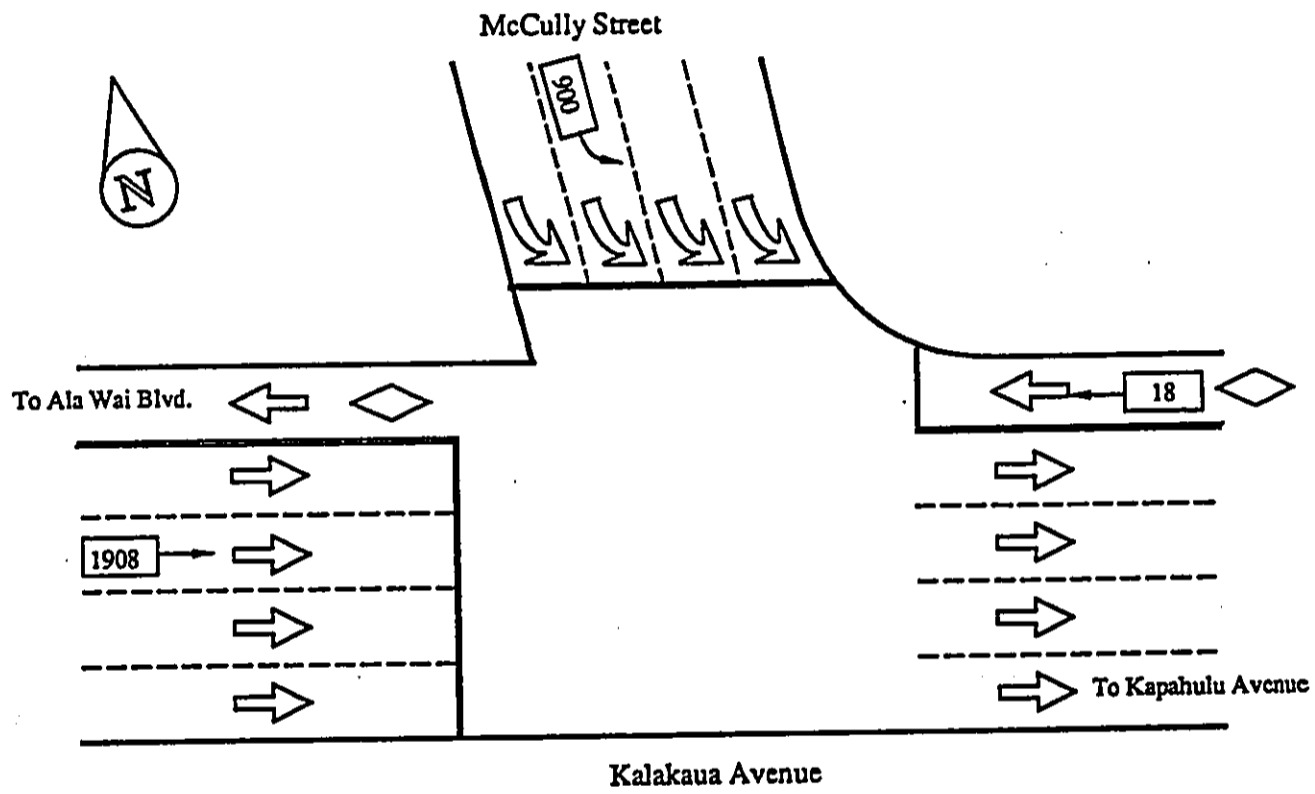


Figure 8. Kalakaua Avenue at McCully Street With Project

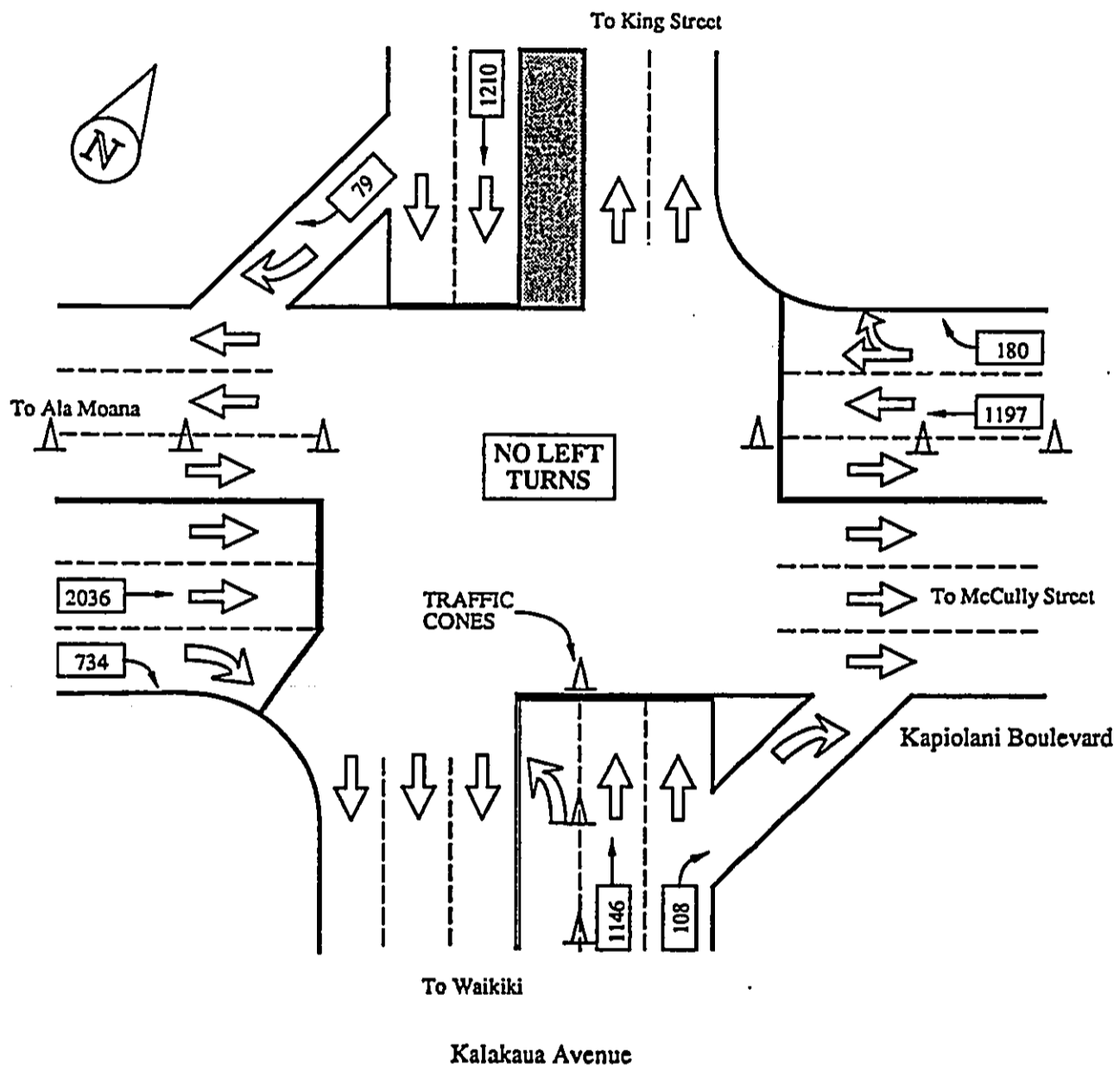


Figure 9. Kalakaua Avenue at Kapiolani Boulevard Without Project

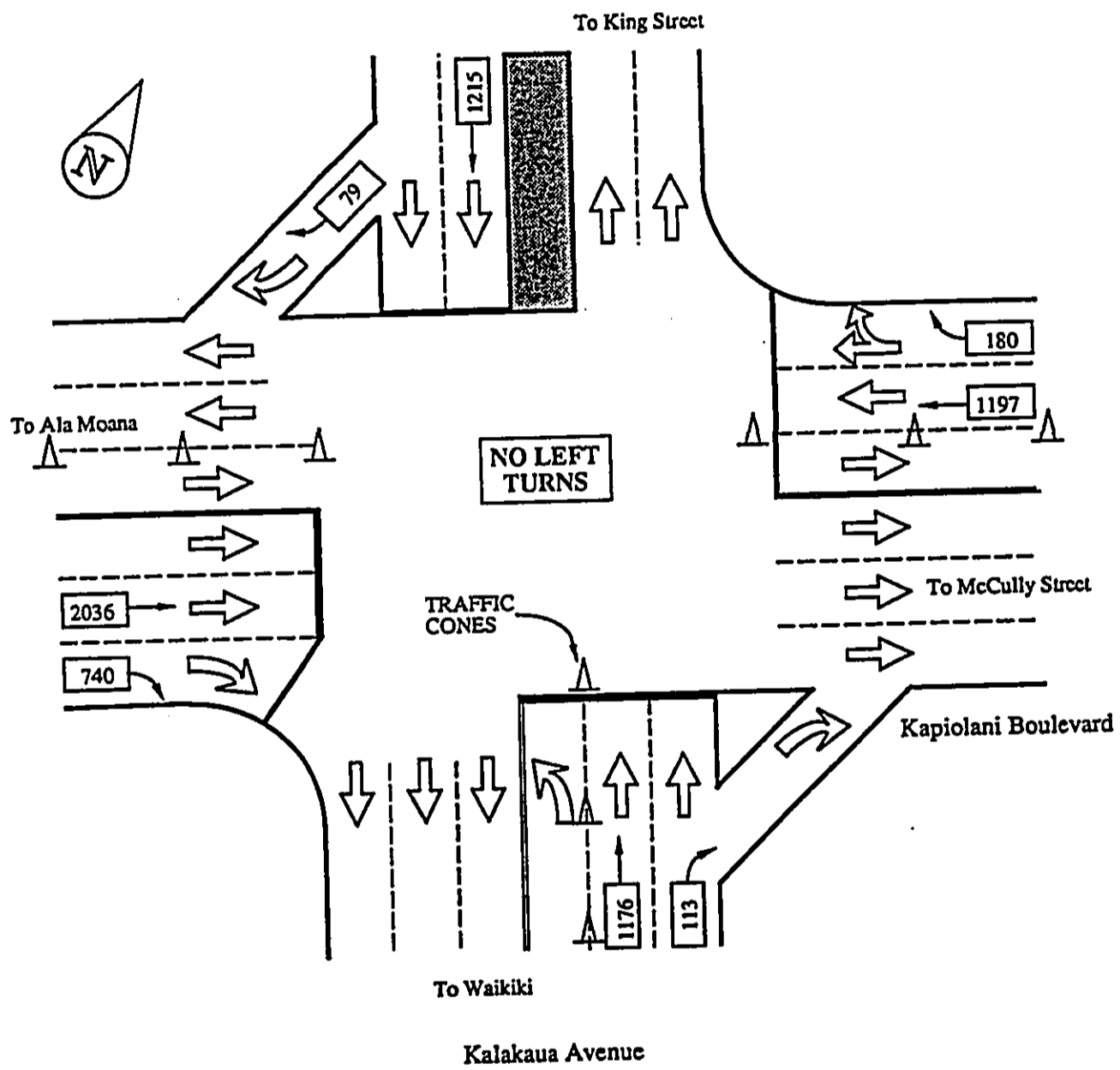


Figure 10. Kalakaua Avenue at Kapiolani Boulevard With Project

Traffic Impacts

Impacts on traffic resulting from the Landmark Project are measured by the change in Level-of-Service (LOS) or capacity level for a given intersection, or series of traffic movement. These impacts are estimated for the four intersections after completion and occupancy of the project and in 1991 without the project.

Table 2 below shows the LOS for the 1991 pm peak hour traffic at the major intersections impacted by the Landmark. Critical volume is a traffic impact variable in terms of vehicles per hour on opposing approaches that is used to estimate whether the intersection is operating over, near, or under capacity of the intersection.

TABLE 2. CRITICAL VOLUMES, CAPACITY LEVELS, AND LEVEL-OF-SERVICE--1991

1991 Without Landmark:

<u>Intersection</u>	<u>Capacity Level</u>	<u>Level-of-Service</u>
McCully St. at Ala Wai Blvd.	Under Capacity	B
Kalakaua Ave. at McCully St.	Under Capacity	B
Kalakaua Ave. at Ala Wai Blvd.	Under Capacity	B
Kalakaua Ave. at Kapiolani Blvd.	Near Capacity	D

1991 With Landmark:

<u>Intersection</u>	<u>Capacity Level</u>	<u>Level-of-Service</u>
McCully St. at Ala Wai Blvd.	Under Capacity	B
Kalakaua Ave. at McCully St.	Under Capacity	B
Kalakaua Ave. at Ala Wai Blvd.	Under Capacity	B
Kalakaua Ave. at Kapiolani Blvd.	Near Capacity	D

Impacts on traffic from the Waikiki Landmark were measured using the following measures: 1) Level-of-Service, and 2) capacity level. Intersections were analyzed for changes in LOS and whether the traffic exceeded the capacity of the intersection with and without the project. LOS for a given intersection is divided into six categories ranging from free-flow (LOS A) to congested flow (F). A detailed explanation of LOS is given in Appendix A.

The LOS for intersections were determined by use of the "Operational Analysis" calculation procedures contained in the Highway Capacity Manual (HCM), Special Report 209, 1985. This procedure provides the highest level of detailed analysis available for signalized intersections.

The analysis considers physical roadway elements, parking and other controls, signal timing, traffic volume and characteristics, and other variables. The LOS is determined by the expected amount of vehicle delay for various lane groups of the intersections under study. Each intersection is described by the estimated LOS and therefore relative impact by the traffic generated by the proposed Waikiki Landmark.

Table 2 indicates that all four major intersections studied will be under or near capacity, and at acceptable LOS during the pm peak hour during the pm peak hour even with the addition of the Waikiki Landmark.

CONCLUSIONS AND RECOMMENDATIONS

The result of the 1991 traffic forecast for the completed Waikiki Landmark project, indicate a nominal increase in traffic volumes along Kalakaua Avenue, McCully Street, and Ala Wai Boulevard during the pm peak period. The critical traffic flows are expected to occur during the afternoon peak hour, when both the ambient traffic and projected traffic are at a peak.

Based on the traffic capacity analysis results, it is concluded that Waikiki Landmark traffic will not exceed capacity levels at the intersections of:

1. Kalakaua Avenue at Ala Wai Boulevard,
2. Ala Wai Boulevard at McCully Street,
3. Kalakaua Avenue at McCully Street, and
4. Kalakaua Avenue at Kapiolani Boulevard.

The peak hour traffic at the intersection of Kalakaua Avenue and Kapiolani Boulevard is presently causing northbound or mauka traffic along Kalakaua Avenue between Kapiolani Boulevard and Ala Wai Boulevard to back into the Kalakaua Avenue/Ala Wai Boulevard intersection. This back-up in turn causes traffic along Ala Wai Boulevard to back into the McCully Street/Ala Wai Boulevard intersection during a 15 minute period during the middle of the pm peak hour.

The proposed Kalakaua Avenue improvement project by the City and County scheduled for completion by 1993 will alleviate much of the traffic congestion along Kalakaua Avenue. The project will add a third lane in both directions, between Ala Wai Blvd. and Phillip St., allowing for a substantial increase in the capacity of Kalakaua Ave. Short range improvements along Kalakaua include the construction of an additional lane fronting the recently completed Hard Rock Cafe IV under the provisions of Ordinance No. 2412. This lane will permit an exclusive right turn storage lane along Kalakaua and will therefore encourage better use of the lanes between Ala Wai Bridge and Kapiolani Blvd. Field observations indicated the left lane on the mauka leg of the Kalakaua

Avenue/Kapiolani Boulevard intersection is under-utilized by traffic avoiding the congested condition caused by left-turning vehicles at Kalakaua Avenue and Makaloa Street.

The proposed computer control signal system between Downtown Honolulu and Hawaii Kai including the Waikiki section will enhance the traffic flow along the major routes including Kalakaua Avenue, Ala Moana Boulevard, Kapiolani Boulevard, Ala Wai Boulevard, McCully Street, and Kuhio Avenue.

Level-of-Service analysis of all three major intersections surrounding the Waikiki Landmark project indicate that the traffic LOS levels B and D *do not change* with the added project traffic. Congestion resulting in a brief drop in LOS is the result of existing traffic congestion at the intersection of Kalakaua Avenue and Kapiolani Boulevard. With the completion of the Kalakaua Avenue Improvement Project and signal system improvements, the quality of traffic flow at the major intersections studied is expected to improve.

Our field review of the proposed driveways and roadway plans indicated little if any problems with sight distance. The traffic merging and exiting the project will be assisted somewhat by the signal light at the intersection of McCully and Ala Wai. Our analysis also indicates that already existing driveways will be reduced in number and location by the proposed site plan to two driveways. The net beneficial effect will be to isolate the impacts to already one-way multi-lane roadways -- McCully below Ala Wai Blvd. and Ala Wai Blvd.

APPENDIX A

LEVEL-OF-SERVICE DEFINITIONS
FOR SIGNALIZED INTERSECTIONS

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 for signalized intersections is defined in terms of delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Specifically, level-of-service criteria are stated in terms of the average stopped delay per vehicle for a 15-minute analysis period.

Level-of-Service A describes operations with very low delay, i.e., less than 5.0 sec per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level-of-Service B describes operations with delay in the range of 5.1 to 15.0 sec per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

Level-of-Service C describes operations with delay in the range of 15.1 to 25.0 sec per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level-of-Service D describes operations with delay in the range of 25.1 to 40.0 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or a high v/c ratios (volume of cars to capacity of intersection). Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level-of-Service E describes operations with delay in the range of 40.1 to 60.0 sec per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle length, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level-of-Service F describes operations with delay in excess of 60.0 sec per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

REFERENCE: Highway Capacity Manual (Special Report 209, 1985)

APPENDIX B

MANUAL TRAFFIC COUNT DATA

TRAFFIC DATA

McCULLY STREET AT ALA WAI BOULEVARD

<u>Time (pm)</u>	<u>McCully St.—Ewabound</u>			<u>Ala Wai Blvd.—Maukabound</u>		
	<u>LT</u>	<u>Through</u>	<u>RT</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>
4:00 - 4:15	0	174	19	40	268	338
4:15 - 4:30	0	165	14	47	342	498
4:30 - 4:45	0	144	20	64	322	449
4:45 - 5:00	0	115	37	41	295	378

KALAKAUA AVENUE AT McCULLY STREET

<u>Time (pm)</u>	<u>Kalakaua Street</u>						<u>McCully Street</u>		
	<u>Diamond Head bound</u>			<u>Ewabound</u>			<u>Makaibound</u>		
	<u>LT</u>	<u>Through</u>	<u>RT</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>
4:00 - 4:15	0	485	0	0	4	0	214	0	0
4:15 - 4:30	0	391	0	0	5	0	212	0	0
4:30 - 4:45	0	463	0	0	5	0	208	0	0
4:45 - 5:00	0	494	0	0	4	0	156	0	0

KALAKAUA AVENUE AT ALA WAI BOULEVARD

<u>Time (pm)</u>	<u>Kalakaua Ave.</u>			<u>Maukabound</u>		
	<u>LT</u>	<u>Through</u>	<u>RT</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>
4:00 - 4:15	0	389	70	0	99	0
4:15 - 4:30	0	308	65	0	83	0
4:30 - 4:45	0	372	65	0	88	0
4:45 - 5:00	0	405	65	0	93	0

<u>Time (pm)</u>	<u>Ala Wai Blvd.</u>			<u>Eastbound</u>		
	<u>LT</u>	<u>Through</u>	<u>RT</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>
4:00 - 4:15	22	74	186	0	0	28
4:15 - 4:30	33	86	208	0	0	13
4:30 - 4:45	23	96	198	0	0	24
4:45 - 5:00	23	74	173	0	0	19

KALAKAUA AVENUE AT KAPIOLANI BOULEVARD

<u>Kalakaua Ave.</u>	<u>Makaibound</u>			<u>Maukabound</u>		
<u>Time (pm)</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>
4:00 - 4:15	0	293	19	0	277	23
4:15 - 4:30	0	313	19	0	308	14
4:30 - 4:45	0	353	22	0	283	25
4:45 - 5:00	0	251	19	0	278	46

<u>Kapiolani Blvd.</u>	<u>Diamond Head bound</u>			<u>Ewabound</u>		
<u>Time (pm)</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>	<u>LT</u>	<u>Through</u>	<u>RT</u>
4:00 - 4:15	0	546	202	0	303	45
4:15 - 4:30	0	435	187	0	274	40
4:30 - 4:45	0	500	176	0	293	49
4:45 - 5:00	0	555	169	0	297	36

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

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MATERIAL BORROWED: Waikiki Landmark OA 452

NAME/FIRM: R.M. Town, II (Brian)

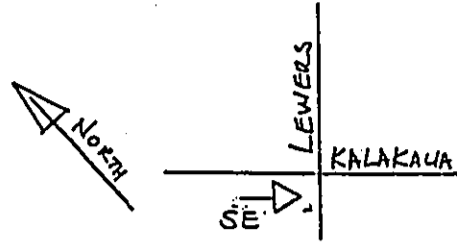
ADDRESS: _____

TELEPHONE: (B) 842-1133 (H) _____ SIGNATURE Brian T. Reed

Appendix G

TRAFFIC VOLUME COUNTS

DEPT. OF TRANSPORTATION SERVICES
 Traffic Engineering Division
 Survey Section
 City and County of Honolulu

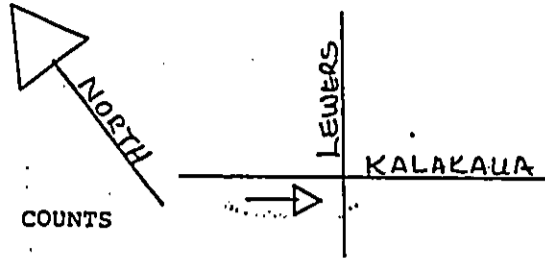


PM PERIOD	SE			AM PERIOD	SE		
12 N-12:15	455			12 MN-12:15	222		
12:15-12:30	447	1749		12:15-12:30	195		
12:30-12:45	416			12:30-12:45	214		
12:45- 1:00	423	1741		12:45- 1:00	204	835	
1:00- 1:15	409			1:00- 1:15	158		
1:15- 1:30	429			1:15- 1:30	144		
1:30- 1:45	415			1:30- 1:45	127		
1:45- 2:00	449	1703		1:45- 2:00	144	573	
2:00- 2:15	421			2:00- 2:15	152		
2:15- 2:30	429			2:15- 2:30	136		
2:30- 2:45	450			2:30- 2:45	117		
2:45- 3:00	462	1762		2:45- 3:00	87	492	
SUB TOTAL			5205	SUB TOTAL			1900
3:00- 3:15	422			3:00- 3:15	89		
3:15- 3:30	454			3:15- 3:30	83		
3:30- 3:45	440			3:30- 3:45	79		
3:45- 4:00	452	1768		3:45- 4:00	82	333	
4:00- 4:15	396			4:00- 4:15	83		
4:15- 4:30	412			4:15- 4:30	75		
4:30- 4:45	456			4:30- 4:45	70		
4:45- 5:00	466	1730		4:45- 5:00	99	327	
5:00- 5:15	435	1795		5:00- 5:15	106		
5:15- 5:30	438			5:15- 5:30	111		
5:30- 5:45	441			5:30- 5:45	120		
5:45- 6:00	416	1730		5:45- 6:00	196	533	
SUB TOTAL			5228	SUB TOTAL			1193
6:00- 6:15	404			6:00- 6:15	205		
6:15- 6:30	415			6:15- 6:30	270		
6:30- 6:45	380			6:30- 6:45	306		
6:45- 7:00	391	1590		6:45- 7:00	376	1157	
7:00- 7:15	371			7:00- 7:15	314		
7:15- 7:30	371			7:15- 7:30	425		
7:30- 7:45	396			7:30- 7:45	430		
7:45- 8:00	373	1511		7:45- 8:00	411	1580	
8:00- 8:15	391			8:00- 8:15	403		
8:15- 8:30	370			8:15- 8:30	424		
8:30- 8:45	397			8:30- 8:45	436	1677	
8:45- 9:00	373	1531		8:45- 9:00	411	1674	
SUB TOTAL			4632	SUB TOTAL			4411
9:00- 9:15	375			9:00- 9:15	406		
9:15- 9:30	399			9:15- 9:30	397		
9:30- 9:45	383			9:30- 9:45	364		
9:45-10:00	409	1566		9:45-10:00	393	1560	
10:00-10:15	394			10:00-10:15	381		
10:15-10:30	401			10:15-10:30	422		
10:30-10:45	362			10:30-10:45	404		
10:45-11:00	338	1495		10:45-11:00	409	1616	
11:00-11:15	348			11:00-11:15	411		
11:15-11:30	306			11:15-11:30	396		
11:30-11:45	279			11:30-11:45	437		
11:45-12 MN	224	1157		11:45-12 N	430	1674	
SUB TOTAL			4218	SUB TOTAL			4850
12-HR TOTAL			19,283	12-HR TOTAL			12,354
24-HR TOTAL				24-HR TOTAL			31,637

Rep: DI No

3
 LOCATION KALAKAUA AVE. NW LEWERS ST. METER # 331
 DIRECTION (KKHD) SE BOUND DATE 7-21-87(T) 7-22-87(W)
 BOUND PAGE # 2 OF PAGES

DEPT. OF TRANSPORTATION SERVICES
 Traffic Engineering Division
 Survey Section
 City and County of Honolulu



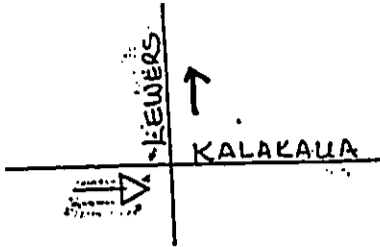
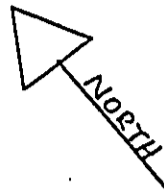
TRAFFIC COUNTS

PERIOD	SE Bd		PERIOD	SE Bd	
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12:15-12:30	484		12:15-12:30	405	
12:30-12:45	473		12:30-12:45	392	
12:45- 1:00	507	1,966	12:45- 1:00	356	1,603
1:00- 1:15	474		1:00- 1:15	334	
1:15- 1:30	482		1:15- 1:30	317	
1:30- 1:45	486		1:30- 1:45	289	
1:45- 2:00	523	1,965	1:45- 2:00	308	1,248
2:00- 2:15	487		2:00- 2:15	309	
2:15- 2:30	460		2:15- 2:30	244	
2:30- 2:45	476		2:30- 2:45	224	
2:45- 3:00 PM	482	1,905	2:45- 3:00 AM	202	979
SUB TOTAL		5,836	SUB TOTAL		3,830
3:00- 3:15 PM	519		3:00- 3:15 AM	167	
3:15- 3:30	531		3:15- 3:30	152	
3:30- 3:45	546		3:30- 3:45	124	
3:45- 4:00	563	2,159	3:45- 4:00	159	602
4:00- 4:15	568		4:00- 4:15	178	
4:15- 4:30	558		4:15- 4:30	147	
4:30- 4:45	553		4:30- 4:45	93	
4:45- 5:00	545	2,224	4:45- 5:00	107	525
5:00- 5:15	584		5:00- 5:15	101	
5:15- 5:30	520		5:15- 5:30	98	
5:30- 5:45	522		5:30- 5:45	133	
5:45- 6:00 PM	590	2,216	5:45- 6:00 AM	135	467
SUB TOTAL		6,599	SUB TOTAL		1,594
6:00- 6:15 PM	547		6:00- 6:15 AM	154	
6:15- 6:30	521		6:15- 6:30	179	
6:30- 6:45	503		6:30- 6:45	227	
6:45- 7:00	469	2,040	6:45- 7:00	318	878
7:00- 7:15	474		7:00- 7:15	280	
7:15- 7:30	479		7:15- 7:30	296	
7:30- 7:45	453		7:30- 7:45	348	
7:45- 8:00	487	1,893	7:45- 8:00	323	1,247
8:00- 8:15	481		8:00- 8:15	313	
8:15- 8:30	473		8:15- 8:30	317	
8:30- 8:45	474		8:30- 8:45	347	
8:45- 9:00 PM	467	1,895	8:45- 9:00 AM	379	1,356
SUB TOTAL		5,828	SUB TOTAL		3,481
9:00- 9:15 PM	482		9:00- 9:15 AM	331	
9:15- 9:30	465		9:15- 9:30	325	
9:30- 9:45	517		9:30- 9:45	298	
9:45-10:00	523	1,987	9:45-10:00	386	1,340
10:00-10:15	519		10:00-10:15	356	
10:15-10:30	507		10:15-10:30	377	
10:30-10:45	482		10:30-10:45	419	
10:45-11:00	543	2,051	10:45-11:00	431	1,577
11:00-11:15	535		11:00-11:15	377	
11:15-11:30	541		11:15-11:30	417	
11:30-11:45	540		11:30-11:45	431	
11:45-12:00 PM	481	2,097	11:45-12:00 N	480	1,705
SUB TOTAL		6,136	SUB TOTAL		4,622
12-HOUR TOTAL		24,398	12-HOUR TOTAL		13,527
24-HOUR TOTAL			24-HOUR TOTAL		37,925

LOCATION KALAKAUA AVE N.W. of LEWERS ST COUNT # 693

DIRECTION S.E. BOUND DATE 10-6-84 (SAT) 10-7-84 (SUN)

DEPT. OF TRANSPORTATION SERVICES
 Traffic Engineering Division
 Survey Section
 City and County of Honolulu



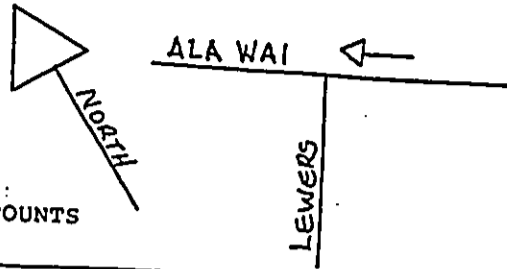
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12:30-12:45	531		12:30-12:45	354	
12:45-1:00	420	2,057	12:45-1:00	354	1,547
1:00-1:15	494		1:00-1:15	292	
1:15-1:30	528		1:15-1:30	287	
1:30-1:45	562		1:30-1:45	271	
1:45-2:00	576	2,160	1:45-2:00	301	1,151
2:00-2:15	569		2:00-2:15	300	
2:15-2:30	534		2:15-2:30	256	
2:30-2:45	527		2:30-2:45	209	
2:45-3:00 PM	535	2,165	2:45-3:00 AM	184	949
SUB TOTAL		6,382	SUB TOTAL		3,647
3:00-3:15 PM	526		3:00-3:15 AM	155	
3:15-3:30	519		3:15-3:30	145	
3:30-3:45	627		3:30-3:45	133	
3:45-4:00	617	2,289	3:45-4:00	138	571
4:00-4:15	619		4:00-4:15	153	
4:15-4:30	608		4:15-4:30	137	
4:30-4:45	630		4:30-4:45	104	
4:45-5:00	622	2,479	4:45-5:00	106	500
5:00-5:15	617		5:00-5:15	128	
5:15-5:30	590		5:15-5:30	110	
5:30-5:45	607		5:30-5:45	134	
5:45-6:00 PM	566	2,380	5:45-6:00 AM	185	557
SUB TOTAL		7,148	SUB TOTAL		1,628
6:00-6:15 PM	509		6:00-6:15 AM	190	
6:15-6:30	543		6:15-6:30	212	
6:30-6:45	545		6:30-6:45	272	
6:45-7:00	480	2,077	6:45-7:00	300	974
7:00-7:15	428		7:00-7:15	276	
7:15-7:30	469		7:15-7:30	373	
7:30-7:45	481		7:30-7:45	392	
7:45-8:00	489	1,927	7:45-8:00	425	1,466
8:00-8:15	503		8:00-8:15	355	
8:15-8:30	489		8:15-8:30	384	
8:30-8:45	490		8:30-8:45	430	
8:45-9:00 PM	480	1,762	8:45-9:00 AM	473	1,642
SUB TOTAL		5,966	SUB TOTAL		4,082
9:00-9:15 PM	482		9:00-9:15 AM	399	
9:15-9:30	536		9:15-9:30	418	
9:30-9:45	523		9:30-9:45	453	
9:45-10:00	529	2,070	9:45-10:00	394	1,664
10:00-10:15	537		10:00-10:15	388	
10:15-10:30	512		10:15-10:30	413	
10:30-10:45	550		10:30-10:45	461	
10:45-11:00	544	2,143	10:45-11:00	450	1,712
11:00-11:15	536		11:00-11:15	447	
11:15-11:30	491		11:15-11:30	467	
11:30-11:45	431		11:30-11:45	484	
11:45-12:00 MN	452	1,910	11:45-12:00 N	460	1,858
SUB TOTAL		6,123	SUB TOTAL		5,234
12-HOUR TOTAL		25,619	12-HOUR TOTAL		14,591
24-HOUR TOTAL			24-HOUR TOTAL		40,210

LOCATION KALAKAUA AVE N.W. of LEWERS ST COUNT # 693

DIRECTION S.E. BOUND DATE 10-5-84(FRI) 10-6-84(SAT)

DEPT. OF TRANSPORTATION SERVICES,
 Traffic Engineering Division
 Survey Section
 City and County of Honolulu



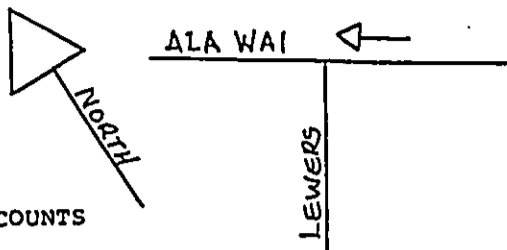
TRAFFIC COUNTS

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12:30-12:45	406			12:30-12:45	91		
12:45-1:00	391	1666		12:45-1:00	73	463	
1:00-1:15	406			1:00-1:15	100		
1:15-1:30	423			1:15-1:30	79		
1:30-1:45	384			1:30-1:45	49		
1:45-2:00	419	1632		1:45-2:00	40	268	
2:00-2:15	441			2:00-2:15	86		
2:15-2:30	404			2:15-2:30	39		
2:30-2:45	412			2:30-2:45	41		
2:45-3:00 PM	443	1710		2:45-3:00 AM	25	191	
SUB TOTAL			5008	SUB TOTAL			922
3:00-3:15 PM	455			3:00-3:15 AM	34		
3:15-3:30	490			3:15-3:30	23		
3:30-3:45	431			3:30-3:45	29		
3:45-4:00	448	1824		3:45-4:00	33	119	
4:00-4:15	509			4:00-4:15	41		
4:15-4:30	473			4:15-4:30	25		
4:30-4:45	542			4:30-4:45	37		
4:45-5:00	481	2005		4:45-5:00	30	133	
5:00-5:15	505			5:00-5:15	41		
5:15-5:30	496			5:15-5:30	50		
5:30-5:45	438			5:30-5:45	71		
5:45-6:00 PM	397	1836		5:45-6:00 AM	104	266	
SUB TOTAL			5665	SUB TOTAL			518
6:00-6:15 PM	373			6:00-6:15 AM	165		
6:15-6:30	407			6:15-6:30	205		
6:30-6:45	369			6:30-6:45	248		
6:45-7:00	320	1469		6:45-7:00	240	858	
7:00-7:15	283			7:00-7:15	444		
7:15-7:30	260			7:15-7:30	568		
7:30-7:45	218			7:30-7:45	573		
7:45-8:00	205	966		7:45-8:00	556	2141	
8:00-8:15	191			8:00-8:15	490		
8:15-8:30	194			8:15-8:30	403		
8:30-8:45	216			8:30-8:45	422		
8:45-9:00 PM	231	832		8:45-9:00 AM	447	1762	
SUB TOTAL			3267	SUB TOTAL			4761
9:00-9:15 PM	179			9:00-9:15 AM			
9:15-9:30	162			9:15-9:30			
9:30-9:45	122			9:30-9:45			
9:45-10:00	147	610		9:45-10:00			
10:00-10:15	264			10:00-10:15			
10:15-10:30	265			10:15-10:30			
10:30-10:45	276			10:30-10:45			
10:45-11:00	273	1078		10:45-11:00			
11:00-11:15	332			11:00-11:15			
11:15-11:30	240			11:15-11:30			
11:30-11:45	184			11:30-11:45			
11:45-12:00 MN	104	860		11:45-12:00 N			
SUB TOTAL			2548	SUB TOTAL			
12-HOUR TOTAL			16428	12-HOUR TOTAL			
24-HOUR TOTAL				24-HOUR TOTAL			

LOCATION ALA WAI BLVD S.E. & LEWERS ST. COUNT 692

DIRECTION N.W. BOUND DATE 10-8-84 (MON) 10-9-84 (TUE)

DEPT. OF TRANSPORTATION SERVICES,
 Traffic Engineering Division
 Survey Section
 City and County of Honolulu



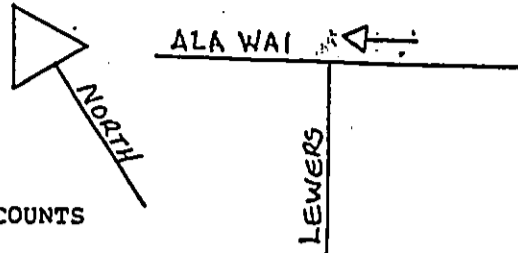
TRAFFIC COUNTS

PERIOD	NW. RD			PERIOD	NW RD		
12 N-12:15 PM	352			12 MN-12:15 AM	295		
12:15-12:30	396			12:15-12:30	209		
12:30-12:45	379			12:30-12:45	250		
12:45-1:00	387	1494		12:45-1:00	224	978	
1:00-1:15	349			1:00-1:15	163		
1:15-1:30	367			1:15-1:30	156		
1:30-1:45	375			1:30-1:45	137		
1:45-2:00	395	1486		1:45-2:00	125	581	
2:00-2:15	400			2:00-2:15	149		
2:15-2:30	397			2:15-2:30	118		
2:30-2:45	394			2:30-2:45	100		
2:45-3:00 PM	370	1561		2:45-3:00 AM	84	451	
SUB TOTAL			4541	SUB TOTAL			2010
3:00-3:15 PM	418			3:00-3:15 AM	71		
3:15-3:30	434			3:15-3:30	71		
3:30-3:45	365			3:30-3:45	52		
3:45-4:00	370	1527		3:45-4:00	85	279	
4:00-4:15	449			4:00-4:15	93		
4:15-4:30	502			4:15-4:30	51		
4:30-4:45	422			4:30-4:45	51		
4:45-5:00	450	1823		4:45-5:00	45	240	
5:00-5:15	474			5:00-5:15	85		
5:15-5:30	425			5:15-5:30	58		
5:30-5:45	461			5:30-5:45	75		
5:45-6:00 PM	420	1780		5:45-6:00 AM	100	318	
SUB TOTAL			5190	SUB TOTAL			837
6:00-6:15 PM	408			6:00-6:15 AM	109		
6:15-6:30	356			6:15-6:30	133		
6:30-6:45	366			6:30-6:45	209		
6:45-7:00	357	1487		6:45-7:00	228	679	
7:00-7:15	347			7:00-7:15	305		
7:15-7:30	301			7:15-7:30	351		
7:30-7:45	299			7:30-7:45	405		
7:45-8:00	318	1265		7:45-8:00	420	1481	
8:00-8:15	316			8:00-8:15	374		
8:15-8:30	291			8:15-8:30	403		
8:30-8:45	284			8:30-8:45	365		
8:45-9:00 PM	337	1228		8:45-9:00 AM	282	1524	
SUB TOTAL			3980	SUB TOTAL			3684
9:00-9:15 PM	364			9:00-9:15 AM	409		
9:15-9:30	352			9:15-9:30	339		
9:30-9:45	329			9:30-9:45	354		
9:45-10:00	335	1390		9:45-10:00	419	1521	
10:00-10:15	435			10:00-10:15	418		
10:15-10:30	429			10:15-10:30	424		
10:30-10:45	350			10:30-10:45	418		
10:45-11:00	414	1628		10:45-11:00	360	1620	
11:00-11:15	409			11:00-11:15	436		
11:15-11:30	384			11:15-11:30	437		
11:30-11:45	278			11:30-11:45	431		
11:45-12:00 MN	222	1293		11:45-12:00 N	439	1743	
SUB TOTAL			4311	SUB TOTAL			4884
12-HOUR TOTAL			18022	12-HOUR TOTAL			11415
24-HOUR TOTAL				24-HOUR TOTAL			29437

LOCATION ALA WAI BLVD S.E. & LEWERS ST. COUNT # 692

DIRECTION N.W. BOUND DATE 10-7-84 (SUN) 10-8-84 (MON)

DEPT. OF TRANSPORTATION SERVICES
 Traffic Engineering Division
 Survey Unit
 City and County of Honolulu

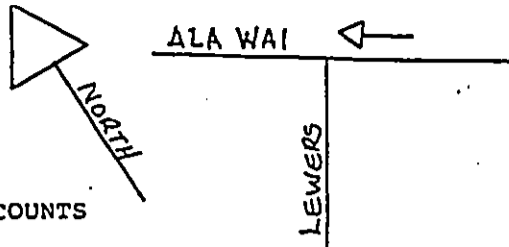


TRAFFIC COUNTS

PERIOD	NW. RD		PERIOD	NW. RD		
12 N-12:15 PM	324		12 MN-12:15 AM	351		
12:15-12:30	386		12:15-12:30	288		
12:30-12:45	390		12:30-12:45	327		
12:45-1:00	371	1471	12:45-1:00	336	1302	
1:00-1:15	380		1:00-1:15	265		
1:15-1:30	404		1:15-1:30	240		
1:30-1:45	373		1:30-1:45	221		
1:45-2:00	420	1577	1:45-2:00	219	945	
2:00-2:15	402		2:00-2:15	259		
2:15-2:30	427		2:15-2:30	204		
2:30-2:45	436		2:30-2:45	169		
2:45-3:00 PM	393	1658	2:45-3:00 AM	148	780	
SUB TOTAL		4706	SUB TOTAL		3027	
3:00-3:15 PM	432		3:00-3:15 AM	146		
3:15-3:30	418		3:15-3:30	150		
3:30-3:45	436		3:30-3:45	140		
3:45-4:00	374	1660	3:45-4:00	178	614	
4:00-4:15	501		4:00-4:15	154		
4:15-4:30	480		4:15-4:30	128		
4:30-4:45	514		4:30-4:45	80		
4:45-5:00	443	1938	4:45-5:00	46	408	
5:00-5:15	410		5:00-5:15	70		
5:15-5:30	449		5:15-5:30	54		
5:30-5:45	410		5:30-5:45	77		
5:45-6:00 PM	405	1674	5:45-6:00 AM	88	289	
SUB TOTAL		5272	SUB TOTAL		1311	
6:00-6:15 PM	403		6:00-6:15 AM	82		
6:15-6:30	403		6:15-6:30	120		
6:30-6:45	393		6:30-6:45	115		
6:45-7:00	367	1566	6:45-7:00	181	498	
7:00-7:15	359		7:00-7:15	194		
7:15-7:30	363		7:15-7:30	204		
7:30-7:45	331		7:30-7:45	205		
7:45-8:00	334	1387	7:45-8:00	271	874	
8:00-8:15	346		8:00-8:15	272		
8:15-8:30	319		8:15-8:30	275		
8:30-8:45	318		8:30-8:45	247		
8:45-9:00 PM	303	1286	8:45-9:00 AM	264	1058	
SUB TOTAL		4239	SUB TOTAL		2430	
9:00-9:15 PM	310		9:00-9:15 AM	305		
9:15-9:30	347		9:15-9:30	285		
9:30-9:45	326		9:30-9:45	320		
9:45-10:00	343	1326	9:45-10:00	374	1284	
10:00-10:15	421		10:00-10:15	358		
10:15-10:30	403		10:15-10:30	373		
10:30-10:45	372		10:30-10:45	349		
10:45-11:00	391	1587	10:45-11:00	340	1420	
11:00-11:15	491		11:00-11:15	344		
11:15-11:30	438		11:15-11:30	351		
11:30-11:45	341		11:30-11:45	320		
11:45-12:00 MN	330	1600	11:45-12:00 N	361	1376	
SUB TOTAL		4513	SUB TOTAL		4080	
12-HOUR TOTAL		18730	12-HOUR TOTAL		10848	
24-HOUR TOTAL			24-HOUR TOTAL		29578	

LOCATION ALA WAI BLVD S.E. of LEWERS ST. COUNT # 692
 DIRECTION N.W. BOUND DATE 10-6-84 (SAT) 10-7-84 (SUN)

DEPT. OF TRANSPORTATION SERVICES
 Traffic Engineering Division
 Survey Unit
 City and County of Honolulu



TRAFFIC COUNTS

PERIOD	NW. BD		PERIOD	NW. BD		
12 N-12:15 PM	423		12 MN-12:15 AM	317		
12:15-12:30	452		12:15-12:30	279		
12:30-12:45	435		12:30-12:45	311		
12:45-1:00	403	1714	12:45-1:00	357	1264	
1:00-1:15	432		1:00-1:15	240		
1:15-1:30	443		1:15-1:30	244		
1:30-1:45	455		1:30-1:45	214		
1:45-2:00	436	1766	1:45-2:00	192	890	
2:00-2:15	515		2:00-2:15	207		
2:15-2:30	509		2:15-2:30	170		
2:30-2:45	472		2:30-2:45	138		
2:45-3:00 PM	455	1951	2:45-3:00 AM	135	650	
SUB TOTAL		5431	SUB TOTAL		2804	
3:00-3:15 PM	479		3:00-3:15 AM	124		
3:15-3:30	540		3:15-3:30	108		
3:30-3:45	491		3:30-3:45	127		
3:45-4:00	491	2001	3:45-4:00	183	542	
4:00-4:15	537		4:00-4:15	142		
4:15-4:30	515		4:15-4:30	71		
4:30-4:45	568		4:30-4:45	70		
4:45-5:00	463	2023	4:45-5:00	67	350	
5:00-5:15	544		5:00-5:15	79		
5:15-5:30	521		5:15-5:30	67		
5:30-5:45	443		5:30-5:45	87		
5:45-6:00 PM	504	2012	5:45-6:00 AM	96	329	
SUB TOTAL		6096	SUB TOTAL		1221	
6:00-6:15 PM	431		6:00-6:15 AM	105		
6:15-6:30	442		6:15-6:30	135		
6:30-6:45	440		6:30-6:45	149		
6:45-7:00	390	1703	6:45-7:00	209	598	
7:00-7:15	392		7:00-7:15	247		
7:15-7:30	374		7:15-7:30	258		
7:30-7:45	354		7:30-7:45	277		
7:45-8:00	338	1458	7:45-8:00	331	1113	
8:00-8:15	325		8:00-8:15	334		
8:15-8:30	347		8:15-8:30	360		
8:30-8:45	293		8:30-8:45	371		
8:45-9:00 PM	297	1262	8:45-9:00 AM	417	1482	
SUB TOTAL		4423	SUB TOTAL		3193	
9:00-9:15 PM	324		9:00-9:15 AM	435		
9:15-9:30	324		9:15-9:30	366		
9:30-9:45	355		9:30-9:45	372		
9:45-10:00	344	1347	9:45-10:00	427	1600	
10:00-10:15	430		10:00-10:15	357		
10:15-10:30	446		10:15-10:30	394		
10:30-10:45	405		10:30-10:45	409		
10:45-11:00	447	1728	10:45-11:00	369	1529	
11:00-11:15	480		11:00-11:15	409		
11:15-11:30	465		11:15-11:30	412		
11:30-11:45	309		11:30-11:45	412		
11:45-12:00 MN	331	1585	11:45-12:00 N	361	1594	
SUB TOTAL		4660	SUB TOTAL		4723	
12-HOUR TOTAL		20610	12-HOUR TOTAL		11941	
24-HOUR TOTAL			24-HOUR TOTAL		32551	

LOCATION ALA WAI BLVD S.E. of LEWERS ST. COUNT # 692

DIRECTION N.W. BOUND DATE 10-5-84 (FRI) 10-6-84 (SAT)

PAGE 1 OF PAGES

ISLAND: OAHU
 STATION NO: 1
 AUX NO: SL-51
 FUND SYSTEM:
 FILE:

STATION DESCRIPTION: KALAKAUA AVE AT ALA WAI CAHAL
 MOV 1-MAUKA RD, MOV 5-MAKAI RD
 OAHU

COUNT GROUP ID:
 ROUTE NO

M.P. 1
 HWY ST NAME: MOV 1-D-1, MOV 5-D-2
 MOV(1), DIR: TO KAPILANI BLVD
 MOV(5), DIR: TO WAIKIKI

CORRIDOR ID:
 SURVEY DATE:

ASSIGNED DATE:
 D-01 BEG SURVEY DATE: 10/20/88
 D-02 BEG SURVEY DATE: 10/20/88

TC NO. 000000005100
 ID NO. 291100002914

START TIME: 09:45
 START TIME: 09:45

TIME-AM	MOV 1	MOV 5	TOTAL	TIME-AM	MOV 1	MOV 5	TOTAL	TIME-PM	MOV 1	MOV 5	TOTAL
12:00-12:15	163	139	302	6:00-6:15	94	209	303	12:00-12:15	304	392	696
12:15-12:30	122	131	253	6:15-6:30	153	218	371	12:15-12:30	297	356	653
12:30-12:45	113	103	216	6:30-6:45	172	277	449	12:30-12:45	282	381	663
12:45-1:00	94	124	218	6:45-7:00	232	267	499	12:45-1:00	305	384	689
1:00-1:15	82	98	180	7:00-7:15	346	287	633	1:00-1:15	287	374	661
1:15-1:30	92	100	192	7:15-7:30	371	361	732	1:15-1:30	339	409	748
1:30-1:45	75	87	162	7:30-7:45	370	364	734	1:30-1:45	327	376	703
1:45-2:00	81	99	180	7:45-8:00	427	353	780	1:45-2:00	314	387	701
2:00-2:15	69	108	177	8:00-8:15	329	373	702	2:00-2:15	351	367	718
2:15-2:30	71	87	158	8:15-8:30	331	402	733	2:15-2:30	322	408	730
2:30-2:45	47	76	123	8:30-8:45	252	380	632	2:30-2:45	345	412	757
2:45-3:00	41	67	108	8:45-9:00	303	388	691	2:45-3:00	353	455	809
3:00-3:15	49	55	104	9:00-9:15	257	342	624	3:00-3:15	284	432	716
3:15-3:30	39	59	98	9:15-9:30	282	378	664	3:15-3:30	309	377	686
3:30-3:45	37	49	86	9:30-9:45	277	275	552	3:30-3:45	334	480	814
3:45-4:00	46	59	105	9:45-10:00	270	306	576	3:45-4:00	292	474	766
4:00-4:15	52	67	119	10:00-10:15	235	319	554	4:00-4:15	350	458	808
4:15-4:30	35	67	103	10:15-10:30	266	311	577	4:15-4:30	371	447	818
4:30-4:45	39	85	124	10:30-10:45	239	327	566	4:30-4:45	343	477	820
4:45-5:00	37	82	119	10:45-11:00	286	376	662	4:45-5:00	328	508	835
5:00-5:15	38	110	148	11:00-11:15	267	323	590	5:00-5:15	285	457	742
5:15-5:30	51	120	171	11:15-11:30	300	344	644	5:15-5:30	346	439	845
5:30-5:45	73	153	226	11:30-11:45	278	352	630	5:30-5:45	289	452	741
5:45-6:00	70	191	261	11:45-12:00	270	366	636	5:45-6:00	296	470	765

AM COMPUTER PERIOD (05:00 - 09:00)
 TWO-DIRECTIONAL PEAK:
 AM PEAK HR TIME 8:30 AM 1,527
 AM PEAK HR VOLUME 2,559
 AM-FR FACTOR(1) 6.07
 AM-FR 5 100.00
 DIRECTIONAL PEAK:
 AM PEAK HR TIME 8:00 AM 1,514
 AM PEAK HR VOLUME 1,543
 AM PERIOD (09:00-12:00)
 TWO-DIRECTIONAL PEAK:
 AM PEAK HR TIME 7:30 AM 1,502
 AM PEAK HR VOLUME 2,959
 AM-FR FACTOR(1) 6.07
 AM-FR 5 100.00
 NON-COMPUTER PERIOD (09:00 - 15:00)
 TWO-DIRECTIONAL PEAK:
 PEAK HR TIME 2:00 PM 1,371
 DIRECTIONAL PEAK:
 PEAK HR TIME 2:00 PM 1,371
 PEAK HR VOLUME 1,643
 AM PERIOD (15:00 - 19:00)
 TWO-DIRECTIONAL PEAK:
 AM PEAK HR TIME 4:30 PM 1,392
 AM PEAK HR VOLUME 1,941
 AM-FR FACTOR(1) 6.73
 AM-FR 5 100.00
 DIRECTIONAL PEAK:
 AM PEAK HR TIME 4:00 PM 1,392
 AM PEAK HR VOLUME 1,941
 AM PERIOD (19:00-24:00)
 TWO-DIRECTIONAL PEAK:
 AM PEAK HR TIME 11:30 PM 1,392
 AM PEAK HR VOLUME 1,941
 AM-FR FACTOR(1) 6.73
 AM-FR 5 100.00
 DIRECTIONAL PEAK:
 AM PEAK HR TIME 11:00 PM 1,392
 AM PEAK HR VOLUME 1,941
 AM PERIOD (00:00-05:00)
 TWO-DIRECTIONAL PEAK:
 AM PEAK HR TIME 1:00 AM 1,392
 AM PEAK HR VOLUME 1,941
 AM-FR FACTOR(1) 6.73
 AM-FR 5 100.00
 DIRECTIONAL PEAK:
 AM PEAK HR TIME 1:00 AM 1,392
 AM PEAK HR VOLUME 1,941

State of Hawaii, Department of Transportation, Highways Division
 Volume Unclassified Output #1

12/08/87 12:57

ISLAND: 2 STATION NO: SL-51 STATION DESCRIPTION: KALAKAUA AVENUE, BRIDGE
 AT ALA WAI CANAL
 COUNT GROUP ID: 0.70 SURVEY DATE: 01/22/87 - 01/23/87 ASSIGNED DATE: 02/23/87
 ROUTE NO: 7612 M.P.:
 FUND SYSTEM: HWY ST. NAME: KALAKAUA AVENUE D-2 BEG SURVEY DATE: 01/22/87 START TIME: 10:00
 FILE: SECT MOV (1), DIR: TO BERETANIA STREET D-1 BEG SURVEY DATE: 01/22/87 START TIME: 10:00
 MOV (5), DIR: TO KUHIO AVENUE

TIME-AM	MOV	1	MOV	5	TOTAL	TIME-AM	MOV	1	MOV	5	TOTAL	TIME-PM	MOV	1	MOV	5	TOTAL
00:00 - 00:15	121	138	259	138	259	06:00 - 06:15	107	178	285	12:00 - 12:15	263	18:00 - 18:15	266	384	650		
00:15 - 00:30	113	121	234	116	234	06:15 - 06:30	116	242	358	12:15 - 12:30	275	18:15 - 18:30	270	373	643		
00:30 - 00:45	95	98	193	166	238	06:30 - 06:45	166	238	404	12:30 - 12:45	249	18:30 - 18:45	275	363	638		
00:45 - 01:00	78	88	166	219	244	06:45 - 07:00	219	244	463	12:45 - 13:00	267	18:45 - 19:00	284	324	608		
01:00 - 01:15	86	76	162	265	279	07:00 - 07:15	265	279	544	13:00 - 13:15	282	19:00 - 19:15	234	252	486		
01:15 - 01:30	76	86	162	323	329	07:15 - 07:30	323	329	652	13:15 - 13:30	279	19:15 - 19:30	188	328	516		
01:30 - 01:45	58	85	143	331	405	* 07:30 - 07:45	331	405	736	13:30 - 13:45	283	19:30 - 19:45	207	303	510		
01:45 - 02:00	66	87	153	348	419	* 07:45 - 08:00	348	419	767	13:45 - 14:00	325	19:45 - 20:00	208	271	479		
02:00 - 02:15	80	110	190	295	354	* 08:00 - 08:15	295	354	649	14:00 - 14:15	286	20:00 - 20:15	181	263	444		
02:15 - 02:30	48	61	129	294	374	* 08:15 - 08:30	294	374	668	14:15 - 14:30	328	20:15 - 20:30	194	270	464		
02:30 - 02:45	56	63	119	276	322	* 08:30 - 08:45	276	322	598	14:30 - 14:45	292	20:30 - 20:45	189	251	440		
02:45 - 03:00	41	66	107	254	329	* 08:45 - 09:00	254	329	583	14:45 - 15:00	260	20:45 - 21:00	160	264	424		
03:00 - 03:15	33	34	67	257	283	* 09:00 - 09:15	257	283	549	15:00 - 15:15	283	21:00 - 21:15	168	335	503		
03:15 - 03:30	44	55	99	239	297	* 09:15 - 09:30	239	297	540	15:15 - 15:30	268	21:15 - 21:30	167	278	445		
03:30 - 03:45	39	53	92	285	282	* 09:30 - 09:45	285	282	567	15:30 - 15:45	247	21:30 - 21:45	153	238	391		
03:45 - 04:00	39	64	103	236	266	* 09:45 - 10:00	236	266	502	15:45 - 16:00	274	21:45 - 22:00	181	256	437		
04:00 - 04:15	37	65	102	246	365	* 10:00 - 10:15	246	365	502	16:00 - 16:15	219	22:00 - 22:15	224	244	468		
04:15 - 04:30	44	66	110	271	324	* 10:15 - 10:30	271	324	611	16:15 - 16:30	300	22:15 - 22:30	239	231	470		
04:30 - 04:45	33	89	122	242	350	* 10:30 - 10:45	242	350	611	16:30 - 16:45	450	22:30 - 22:45	187	218	405		
04:45 - 05:00	29	80	109	277	328	* 10:45 - 11:00	277	328	595	16:45 - 17:00	229	22:45 - 23:00	207	219	426		
05:00 - 05:15	53	116	169	266	372	* 11:00 - 11:15	266	372	605	17:00 - 17:15	243	23:00 - 23:15	228	214	442		
05:15 - 05:30	53	131	184	269	385	* 11:15 - 11:30	269	385	638	17:15 - 17:30	293	23:15 - 23:30	237	173	410		
05:30 - 05:45	78	185	263	271	389	* 11:30 - 11:45	271	389	654	17:30 - 17:45	302	23:30 - 23:45	175	167	342		
05:45 - 06:00	78	185	263	271	389	* 11:45 - 12:00	271	389	660	17:45 - 18:00	243	23:45 - 00:00	119	119	238		
AM-TOTAL			MOV-1	MOV-5	TOTAL		MOV-1	MOV-5	PM-TOTAL		MOV-1	MOV-5	TOTAL				
			7545	9732	17277		17277	11495	16069		27564						
6:00-12:00 TOT			6106	7650	13756		13756	6554	9731		16285						
AM-PEAK HR TIME			07:30 - 08:30					16:30 - 17:30									
* PEAK-HR TOTAL			1268	1552	2820		2820	1067	1976		3043						
AM D-X (PEAK-HR)			45.0	55.0	100.00		100.00	35.1	64.9		100.00						
AM K FACTOR			43.7	56.3	100.00		100.00	41.7	58.3		100.00						
DIRECTIONAL TOTALS			MOV-1	MOV-5	MOV-1	MOV-5	MOV-5	DX	24-HOUR TOTAL		44841						
			MOV-1	MOV-5	MOV-1	MOV-5	MOV-5	DX	25801		57.5						
			19040	42.5	19040	42.5	42.5	57.5									

STATION NO.: SL-51 STATION DESCRIPTION: KALAKAUA AVENUE AT ALA WAI CANAL BRIDGE
 POLLING DATE MARCH 18-19, 1995 (MON-TUE)
 CHANNEL A: SOUTHEAST END KALAKAUA AVE TO WAIKIKI - HR #5696
 CHANNEL B: NORTHWEST END KALAKAUA AVE TO HAUKA - HR #5636

TIME-AM	CH-A	CH-B	TOTAL	TIME-AM	CH-A	CH-B	TOTAL	TIME-PM	CH-A	CH-B	TOTAL	TIME-PM	CH-A	CH-B	TOTAL
12:00-12:15	93	112	205	6:00-6:15	155	106	261	12:00-12:15	381	256	637	6:00-6:15	345	294	639
12:15-12:30	99	86	185	6:15-6:30	192	126	320	12:15-12:30	359	270	629	6:15-6:30	307	246	553
12:30-12:45	73	87	160	6:30-6:45	225	163	388	12:30-12:45	369	268	637	6:30-6:45	313	216	529
12:45-1:00	74	76	150	6:45-7:00	249	182	441	12:45-1:00	356	238	594	6:45-7:00	247	236	483
1:00-1:15	63	82	145	7:00-7:15	268	287	555	1:00-1:15	382	261	643	7:00-7:15	296	236	532
1:15-1:30	64	57	121	* 7:15-7:30	300	384	684	1:15-1:30	364	271	635	7:15-7:30	262	195	457
1:30-1:45	50	61	111	* 7:30-7:45	335	424	759	1:30-1:45	334	269	602	7:30-7:45	242	178	420
1:45-2:00	75	68	143	* 7:45-8:00	386	495	881	1:45-2:00	364	242	606	7:45-8:00	240	180	420
2:00-2:15	74	57	131	* 8:00-8:15	338	337	675	2:00-2:15	357	302	659	8:00-8:15	243	176	419
2:15-2:30	59	41	100	8:15-8:30	313	263	576	2:15-2:30	355	328	683	8:15-8:30	243	188	431
2:30-2:45	45	48	93	8:30-8:45	325	247	572	2:30-2:45	345	308	653	8:30-8:45	264	135	399
2:45-3:00	40	38	78	8:45-9:00	323	291	614	2:45-3:00	400	271	671	8:45-9:00	254	176	430
3:00-3:15	35	37	72	9:00-9:15	286	281	567	3:00-3:15	384	225	609	9:00-9:15	249	178	427
3:15-3:30	35	23	58	9:15-9:30	303	250	553	3:15-3:30	363	296	659	9:15-9:30	227	160	387
3:30-3:45	46	32	78	9:30-9:45	278	280	558	3:30-3:45	431	255	686	9:30-9:45	229	145	374
3:45-4:00	37	35	72	9:45-10:00	372	258	630	3:45-4:00	464	249	713	9:45-10:00	215	177	392
4:00-4:15	35	39	74	10:00-10:15	347	244	591	4:00-4:15	394	293	687	10:00-10:15	226	228	454
4:15-4:30	47	18	65	10:15-10:30	323	267	590	4:15-4:30	419	425	844	10:15-10:30	244	224	468
4:30-4:45	52	32	84	10:30-10:45	366	269	635	4:30-4:45	435	332	767	10:30-10:45	219	201	420
4:45-5:00	64	26	90	10:45-11:00	391	289	680	4:45-5:00	464	308	772	10:45-11:00	176	204	380
5:00-5:15	65	19	84	11:00-11:15	367	320	709	5:00-5:15	462	310	772	11:00-11:15	161	240	401
5:15-5:30	89	31	120	11:15-11:30	332	297	629	5:15-5:30	450	358	808	11:15-11:30	143	213	356
5:30-5:45	125	58	183	11:30-11:45	391	272	663	5:30-5:45	429	265	694	11:30-11:45	121	123	244
5:45-6:00	136	67	203	11:45-12:00	399	271	670	5:45-6:00	402	253	655	11:45-12:00	112	98	210

AM-TOTAL	CH-A	CH-B	TOTAL	PM-TOTAL	CH-A	CH-B	TOTAL
6:00-12:00 TOT	9161	7845	17006	12:00-6:00 TOT	15043	11500	26543
AM-PEAK HR TIME	7586	6615	14201	FM-PEAK HR TIME	9463	6853	16316
*PEAK-HR TOTAL	1359	1640	2999	*PEAK-HR TOTAL	1780	1375	3155
AM D-Z (PEAK-HR)	45.3	54.7	100.0	FM D-Z (PEAK-HR)	56.4	43.6	100.0
AM D-Z (MN-12N)	53.9	46.1	100.0	FM D-Z (12R-MN)	56.7	45.3	100.0
AM K FACTOR		6.9	6.9	FM K FACTOR		7.2	7.2
DIRECTIONAL TOTALS	CHAN-A = 24204	CHAN-B = 19345	24-HOUR TOTAL = 43549				
	CH-A DZ = 55.6	CH-B DZ = 44.4					

OAHU

February 8-9, 1984

Station SL-51

(wed-thu)

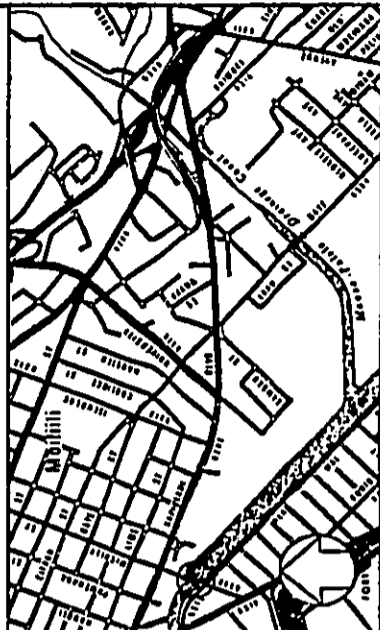
	A SE Bnd Waikiki	B NW Bnd Moiliili	TOTAL		
2/9					
	322	149	471		
	425	300	725		
	521	513	1034		
AM PEAK	1391 702	1194 667	2585 1369		
	689	527	1216		
	698	463	1161		
	538	506	1044		
	598	477	1075		
	606	510	1116		
	607	464	1071		
	670	469	1139		
	700	466	1166		
2/8					
	732	487	1219		
	619	444	1063		
	701	456	1157		
	652	562	1214		
	750	570	1320		
	786	587	1373		
	860	546	1406		
	897	498	1395		
PM PEAK	1775 833	1112 650	2887 1483		
	942	462	1404		
	895	557	1452		
	866	532	1398		
	16609	11862	28471		
	24220	17588	41808		

Station SL-51

VEHICLE TYPE CLASSIFICATION

VEHICLE TYPE	A.M. PEAK 7:30-8:30				P.M. PEAK 4:30-5:30				12-HOUR VOLUME 6:00am - 6:00pm				VERTICAL %
	Direction		TOTAL	Direction		TOTAL	Direction		TOTAL	Direction		TOTAL	
	NE	SW		NE	SW		NE	SW		NE	SW		
Passenger Cars	671	1109	1780	1368	844	2212	10903	9069	19972	86.21			
Buses	15	12	27	19	12	31	172	98	270	1.17			
SP	70	97	167	145	73	218	1266	1004	2270	9.80			
SS	11	18	29	18	5	23	224	129	353	1.52			
SD	6	5	11	6	4	10	158	95	253	1.09			
3X		2	2				26	18	44	.19			
2-S-1							2		2	.01			
2-S-2													
3-S-1	1		1				1		1	.00			
3-S-2							2		2	.01			
2-2													
2-3													
3-2													
3-3													
2-S1-2													
2-S1-3													
2-S2-2													
2-S2-3													
3-S1-2													
3-S1-3													
3-S2-2													
3-S2-3													
TOTAL	774	1243	2017	1556	938	2494	12754	10413	23167	100%			
% DISTRIBUTION	38.4	61.4	100%	62.4	37.6	100%	55.1	44.9	100%				
24-HR. VOL.							20608	15405	36013				
HORIZONTAL %			5.6			6.9			100%				

Station: SL-52
 Location: McCully Street at Ala Wai Canal Bridge
 Date: _____ Period: _____



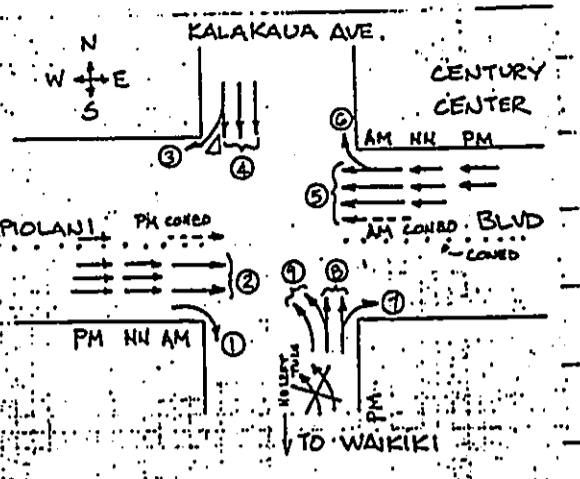
TRAFFIC RECORD - 24-HOUR VOLUME

Date	Direction		Total
	NE	SW	
04/73	18943	12916	31859
03/76	16703	14237	30940
06/77	18592	13514	32106
02/78	18689	14147	32836
09/79	17677	14104	31781
08/80	18908	15536	34444
05/81	20946	14281	35227
06/82	19700	14045	34745
01/83	23821	13477	37299
02/15-6/84	20608	15405	36013

HAWAII STATE DEPARTMENT OF TRANSPORTATION
 HIGHWAY PLANNING SECTION

Station SL-5:

SUBJECT: COMPUTERIZED TRAFFIC CONTROL SYSTEM
 LOCATION: KAPIOLANI BLVD / KALAKAUA AVE
 DATE: 11/19/85 (TUE)
 COUNT PERIOD: 0600 - 0830, 1030 - 1530, 1530 - 1830



TRAFFIC COUNT DATA

TIME	WEST APPROACH		NORTH APPROACH		EAST APPROACH		SOUTH APPROACH			AM TOTAL
	1	2	3	4	5	6	7	8	9	
0600	2	0	2	0	0	0	0	0	0	
0615	35	39	12	102	194	10	2	46	34	474
0630	45	40	12	148	365	13	2	68	49	742
0645	64	41	14	152	436	16	1	68	73	865
0700	115	66	13	173	682	29	8	100	97	1283
0715	71	87	19	180	677	33	1	114	129	1311
0730	112	83	16	201	707	38	6	141	159	1463
0745	116	121	24	197	655	20	3	165	152	1453
0800	123	64	21	252	679	22	5	166	169	1501
0815	144	93	32	240	670	46	6	171	157	1559
0830	137	118	29	270	554	42	6	143	139	1438
TOTALS	962	752	192	1915	5619	269	40	1182	1158	12089

TIME	WEST APPROACH		NORTH APPROACH		EAST APPROACH		SOUTH APPROACH			AM TOTAL	
	1	2	3	4	5	6	7	8	9		
1030	0	0	0	0	0	0	0	0	0		
1045	125	206	32	191	395	44	9	122	115	1149	
1100	134	202	30	192	314	56	13	122	122	1185	
1115	133	202	28	202	321	35	10	139	124	1194	
1130	152	219	39	215	292	37	14	112	127	1205	
1145	169	229	34	195	292	44	10	150	115	1236	
1200	151	220	35	192	326	43	17	131	139	1249	
1215	130	265	33	186	296	32	19	137	123	1221	
1230	147	229	27	189	303	37	11	146	114	1203	
1245	126	236	35	202	289	32	11	111	117	1161	
1300	137	247	24	244	264	39	13	137	116	1221	
1315	139	261	24	191	277	32	9	164	123	1223	
1330	156	243	27	211	286	36	19	126	113	1237	
TOTALS	1700	1699	2702	2781	3649	2408	153	155	1598	1597	14482

TIME	WEST APPROACH		NORTH APPROACH		EAST APPROACH		SOUTH APPROACH			PM TOTAL
	1	2	3	4	5	6	7	8	9	
1530	0	0	0	0	0	0	0	0	0	
1545	150	324	21	233	201	43	13	163	0	1146
1600	190	390	32	286	259	38	10	184	0	1389
1615	218	479	18	210	240	36	14	232	0	1447
1630	183	492	19	258	281	43	17	307	1 TURN	1601
1645	197	548	12	250	233	40	17	237	0	1534
1700	198	567	27	313	257	42	13	261	0	1678
1715	198	554	14	254	208	47	10	215	0	1508
1730	177	589	14	279	228	45	22	257	0	1611
1745	216	534	28	219	269	36	18	232	0	1552
1800	199	474	22	246	305	51	17	218	0	1532
1815	159	346	34	247	287	24	20	212	26	1353
1830	143	335	17	247	276	49	13	149	93	1321
TOTALS	2228	5632	258	3042	3044	493	192	2667	120	17676

Appendix H

AIR QUALITY ASSESSMENT REPORT
FOR THE PROPOSED WAIKIKI LANDMARK
Revision of January 1988 report

February 1989

Prepared for:

DHM, Inc.

Prepared by:

University Associates, Inc.
4336 Lanihale Place
Honolulu, Hawaii 96816

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I. INTRODUCTION

This report estimates the effect on the air quality that the proposed Waikiki Triangle development will have at its completion in 1991. Since traffic is the major source of pollutants in the area of the project, this report concentrates on carbon monoxide (CO), the major emission from traffic. It is also on this pollutant that the proposed project will have its main effect.

The report will first present one week of CO monitoring at the site, then compare these to simultaneous CO measurements at the Department of Health (DOH) long term site on Kalakaua Ave to estimate long term concentrations at the Waikiki Triangle project site. Concentration estimates for 1991 are then calculated as the product of:

- a) present long term concentration estimates for the site
- b) the ratio between estimated 1991 and 1987 traffic volumes with and without the proposed project
- c) the ratio between estimated average vehicular emissions for 1991 and 1987

The estimates are finally compared with State of Hawaii Ambient Air Quality Standards (AAQS) and conclusions drawn about the air quality at the site in 1991.

II. CO MONITORING AT THE SITE.

CO was monitored at the site for one week, Jan 6 - 13, 1988. The instrument was located in the parking attendant's booth along McCully Street about half way between Kalakaua Ave and Ala Wai Blvd.

The instrumentation consisted of an Ecolyzer model 2000 CO analyzer connected to a Campbell Research, Inc CR21X data logger. Hourly means based on one second samples were recorded.

The instrument was calibrated once a day for zero and span. The major source of error for this instrument is zero and span drift mainly due to temperature variations. It is estimated that the uncertainty due to this source can be as much as 5%. Errors due to non linearity in the instrument response is much smaller, at most 1% according to the

manufacturer. Thus following EPA's recommendations using several calibration points would not improve the accuracy of the readings significantly as non linearity is not the major source of uncertainty. It was therefore deemed unnecessary to calibrate at more than two points. The recording equipment had a very high input impedance and did not distort the readings.

The air intake to the instrument was mounted on a post two feet above the roof of the attendant's booth at a net height of about ten feet above the ground. A filter at the air intake hose removed particulates and an interference filter removed gases that could interfere with the CO measurements. A fast response anemometer was also mounted on the post about 4 feet above the air intake for the CO analyzer. Hourly mean wind speeds were recorded on the data logger based on one second samples. The anemometer was wind tunnel calibrated about six month previously.

CO readings are probably accurate to less than half a part per million by volume (ppm) and wind speeds to half a mile per hour.

Hourly mean diurnal wind speeds and CO concentrations are plotted in Fig. 1. Average CO was 1.8 ppm and the range 0.7 to 8.8 ppm.

As traffic increases in the morning, CO levels rise rapidly but as soon as the wind picks up, CO is rapidly diffused and concentrations reduce and remain almost constant at a level below 2 ppm. Responding to increasing traffic and decreasing winds, the concentrations increase in the evening up to about midnight and then decrease through out the night as traffic reaches a minimum.

On the day with the highest CO level, Jan 11, the winds remained close to zero for six hours allowing the CO to build up and reach a maximum of 8.8 ppm at 9 am but, as soon as the wind increased, the CO level went down rapidly.

The weather during the period was typical trades with speeds between 5 to 15 mph.

III. COMPARISON WITH DOH LONG TERM MEASUREMENTS

The State of Hawaii DOH maintains a CO monitoring site on Kalakaua Ave between Lewers and Beachwalk streets about half a mile from the Waikiki Triangle monitoring site. As CO levels have improved significantly throughout the last fifteen years as a result of vehicular emission control equipment, last year's record at the DOH site will be used rather than longer term data to estimate existing CO levels at the project site.

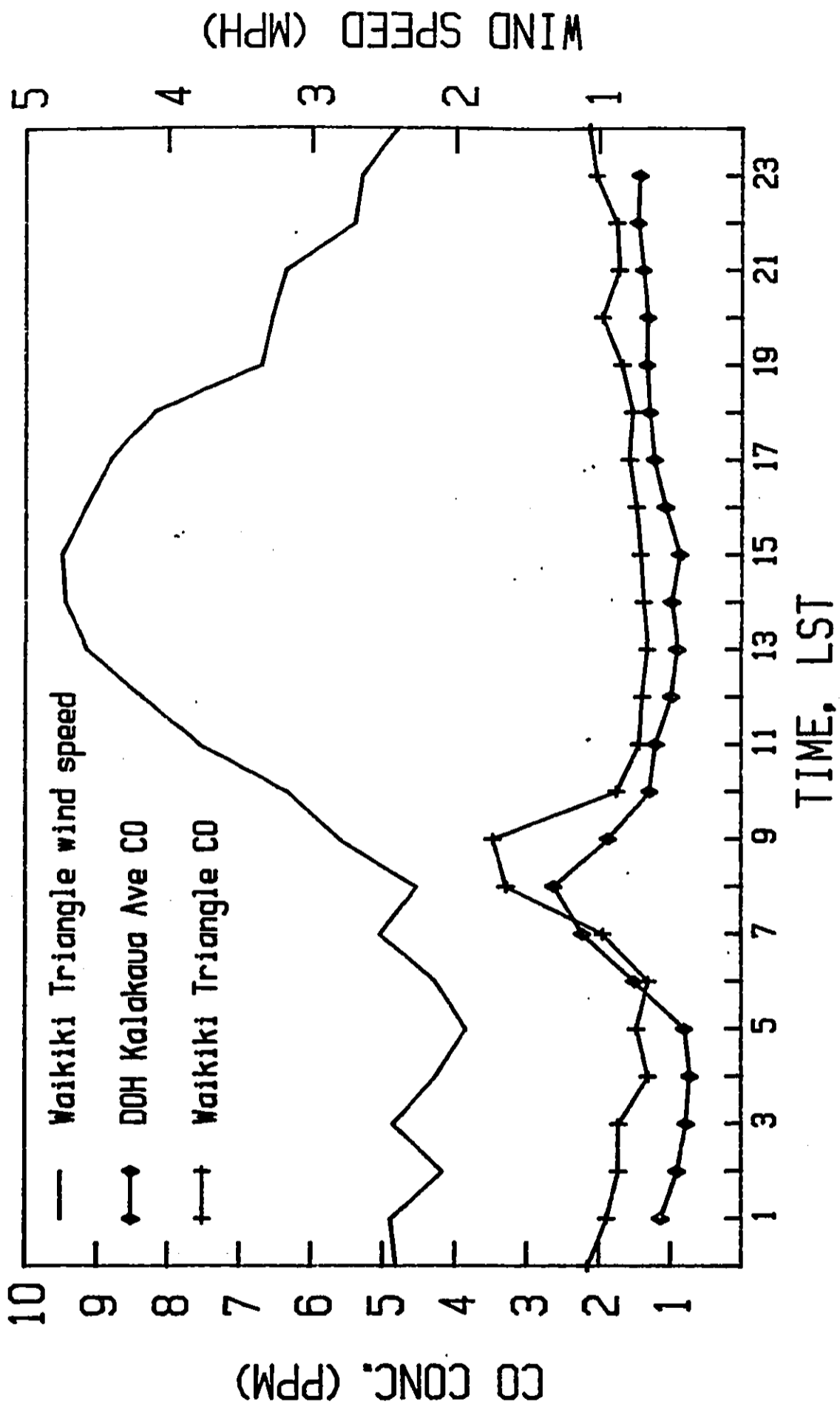


FIG. 1. MEAN DIURNAL WIND SPEED AT THE WAIKIKI TRIANGLE AND MEAN DIURNAL CARBON MONOXIDE CONCENTRATION AT THE WAIKIKI TRIANGLE AND AT THE DOH KALAKAUA AVE SITE 6 - 13 JAN 1988.

During 1987 the DOH site had a mean hourly concentration of 3.0 ppm and a range of 0.6 to 7.2 ppm. The second highest reading, which is regulated in the State AAQS for CO, was 6.8 ppm. The average eight hour mean value for the year was 1.6 ppm with a range from 0.3 to 3.9 ppm. The second highest value, also regulated by the State AAQS, was 3.6 ppm. Maximum concentrations occur during the winter months when wind speeds are lowest.

Mean diurnal concentrations at the sites during the survey period are plotted in Fig. 1. The correlation between individual hourly readings at the DOH site and those at the Waikiki Triangle site was poor ($R=0.1$) which excludes a regression analysis of the two data sets. Instead the ratio between the period mean concentration at DOH and that at the project site is used to make long term concentration estimates for the site. This ratio is 0.72.

The ratio is based on one week of measurements. The running mean of hourly ratios oscillated, as expected, in the beginning but soon became stable varying only within the error limit of the observations. Continued sampling would therefore probably not change the ratio significantly and the ratio was assumed representative of long term conditions. It is possible that the ratio would change with season, but this would not affect the results since maximum DOH readings extrapolated to the site occurred during winter months, when the ratio was calculated. The other option for make long term estimates is dispersion modeling using e.g. Caline-4. The accuracy of such estimates would in all likelihood be much less as input parameters such as the lowest annual hourly mean wind speed, stability wind direction and diffusion expressions are not known for the site. Such models should only be used where there are no nearby observation sites with approximately the same meteorological conditions as was the case for the two sites in this report.

If the 1987 annual figures for the DOH site is multiplied by above ratio, the annual hourly mean value for the project site is estimated at 4.2 ppm ($3.0/0.72$) and the second highest concentration at 9.4 ppm ($6.8/0.72$). The mean eight hour estimate becomes 2.2 ppm ($1.6/0.72$) and the second highest eight hour estimate 5.0 ppm ($3.6/0.72$).

These estimates should be compared with the State AAQS for CO of 8.7 ppm (10 mg/cum) for the second highest one hour period per year and 4.35 ppm (5 mg/cum) for the second highest eight hour period. Thus presently the State AAQS for CO are probably exceeded at the site.

Present site long term CO concentration estimates:

One hour maximum: 9.4 ppm	State AAQS: 8.7 ppm
Eight hr maximum: 5.0 ppm	State AAQS: 4.4 ppm

IV. ESTIMATE OF 1991 CO LEVELS

Table 1 shows present traffic volumes at intersections around the project area and volumes estimated in 1991 with and without the project (1).

Intersection	1987 traffic	1991 traffic with project and ratio to 1987 traffic		1991 traffic w/o project and ratio to 1987 traffic	
-----	-----	-----	-----	-----	-----
Kalakaua and Kapiolani	6650	6657	1.001	6690	1.006
Kalakaua and McCully	2641	2826	1.070	2641	1.000
Kalakaua and Ala Wai	3382	3577	1.058	3438	0.984
McCully and Ala Wai	3770	4097	1.087	3770	1.000

Table 1. 1987 and estimated 1991 pm peak hour traffic volumes (vehicles per hour) and ratios to 1987 traffic volumes at intersections around the proposed project with and without the project.

As can be seen traffic is estimated to generally increase by 1991 when the project is to be completed. However, as more cars are fitted with better catalytic converters and old cars disappear, the average emission rate for cars will drop significantly as shown in Table 2 developed from EPA's Composite Emission Model, MOBILE3.

Car speed	1987 emissions	1991 emissions	Ratio
-----	-----	-----	-----
Idle	15.46 gr/min	12.91 gr/min	1.198
5 mph	201.8 gr/mi	133.9 gr/mi	1.501
10 mph	102.8 gr/mi	75.8 gr/mi	1.360
15 mph	69.9 gr/mi	54.4 gr/mi	1.286
20 mph	53.9 gr/mi	42.5 gr/mi	1.270
25 mph	43.4 gr/mi	33.9 gr/mi	1.281

Table 2. 1987 and estimated 1991 vehicular emission rates from EPA's Composite Emission Model, MOBILE3.

(1) Traffic Impact Analysis. Prepared for DHM, Inc. by Pacific Planning and Engineering, Inc, Nov 1988.

Project site 1991 CO concentration estimates are made by multiplying estimated present concentrations by traffic increase ratios from Table 1 and dividing them by the emission reduction ratios in Table 2.

The highest traffic increase ratios: 1.087 (McCully and Ala Wai) with the project and 1.009 (Kalakaua and Kapiolani) without the project and the mean reduction ratio for idle, 5 mph and 10 mph, which probably is representative for traffic conditions at the site, 1.353 ((1.198 + 1.501 + 1.360)/3) are used.

Thus using estimated present annual second highest one hour and eight hour concentrations at the site with and without the project yields:

Estimated 1991 second highest one hour concentration:

With project : $9.4 * 1.087 / 1.353 = 7.6$ ppm
W/o project : $9.4 * 1.009 / 1.353 = 7.0$ ppm
State of Hawaii one hour CO AAQS = 8.7 ppm

Estimated 1991 second highest eight hour concentration:

With project : $5.0 * 1.087 / 1.353 = 4.0$ ppm
W/o project : $5.0 * 1.009 / 1.353 = 3.7$ ppm
State of Hawaii eight hour CO AAQS = 4.4 ppm

Thus both the State one hour and eight hour AAQS will likely be met in 1991 both with and without the proposed project. If an exceedence would occur in 1991, it will probably only last for one to two years due to a continued rapid decrease in vehicular emissions projected by the EPA.

Appendix I



**DARBY
& ASSOCIATES**
ACOUSTICAL CONSULTANTS

#87-42

January 5, 1988

DHM, Inc.
1188 Bishop Street, Suite 2405
Honolulu, Hawaii 96813

Attention: Ms. Duk Hee Murabayashi

Subject: Noise Impact Evaluation for the Proposed Waikiki Landmark
Project, Waikiki, Oahu, Hawaii

Dear Ms. Murabayashi:

Following is the result of our noise impact study for the subject project:

I. Project Definition - Figure 1 shows the triangular shaped project site which is to have BMX zoning with 15% commercial and 85% condominium units. It is understood that the first two stories will be commercial consisting of retail shops and restaurants and that one or two centrally airconditioned towers with a maximum height of 320 feet will be involved for the condominium units. Also there will be parking spaces provided for about 650 vehicles.

II. Potentially Noise Sensitive Neighboring Locations - Figure 1 shows the closest neighboring locations that may experience noise impact during construction and from normal project operations. The most noise sensitive situations are single-loaded, high-rise apartment buildings designed to be naturally ventilated with lanais facing the project, e.g. the Royal Aloha and the Ala Wai Manor. The occupants of low-rise apartment buildings and centrally airconditioned high-rise buildings should experience considerably less noise impact from the project.

III. The Existing Noise Environment - The exterior noise levels at the neighboring buildings are primarily controlled by motor vehicles moving on Kalakaua Avenue; Ala Wai Boulevard, and McCully Street. Averaged noise level measurements made on January 4, 1988 in the mid-morning along the edge of the three roadways with the microphone about 6 feet above the ground ranged from 65 dBA to 70 dBA over a 10-minute period. Traffic counts including the mix of vehicles were also made during the noise

PALI PALMS PLAZA • 970 NO. KALAHEO AVENUE • SUITE A-311
KAILUA, HAWAII 96734 • (808) 254-3318

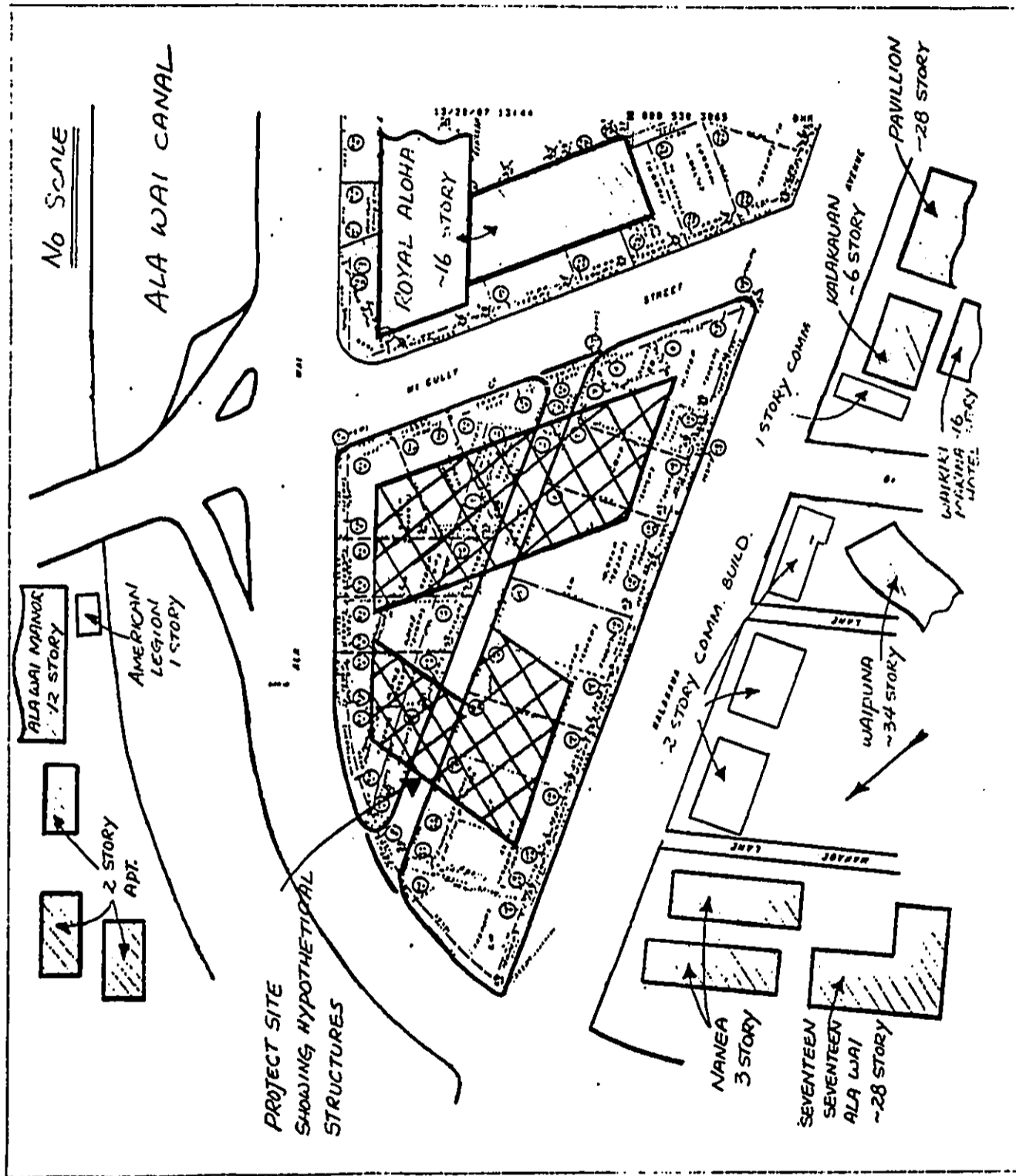


Figure 1 - Project Site Showing Potentially Noise Sensitive Neighbors

sample periods in order to validate the Federal Highway Administration's (FHWA) Traffic Noise Prediction Model (reference 1). Table I summarizes the comparison of the measured 10 minute Equivalent Noise Levels (L_{eq} [10 minutes]) with predicted hourly noise levels (L_{eq} [60 minutes]). The fact that the two values agree within about 2 dB for measurements made close to traffic that was not continuously flowing, and in the presence of reflecting surfaces, is considered acceptable. At the time of the measurements, there were no vehicles with sirens nor any caravans of tour buses moving on any of the three roadways as often happens from time-to-time in the project area.

Instrumentation used for the measurements included a Larson Davis Model 800B Sound Level Meter (SLM) and a General Radio Type 1562A SLM Calibrator.

Averaged noise levels over the same time period experienced by persons on the lanais of the high-rise buildings in the area would be somewhat greater due to more noise sources contributing with direct sound propagation paths to the listeners. For example, using the FHWA traffic noise model, it is predicted that during the noisiest hours of the day (the hours on each side of the p.m. peak when traffic can move freely) the average L_{eq} [60 minutes] on lanais in high-rises along Kalakaua Avenue will be about 70 dBA. Traffic noise levels from Ala Wai Boulevard on high-rises located across the canal are estimated as about L_{eq} [60 minutes] of 60 dBA during the noisiest hours. It is to be noted that traffic noise levels do not usually decrease at the lanais on the upper floors. The effect of longer propagation distances is offset by more traffic noise sources contributing directly without shielding to the total noise level at the listener's ears. In fact, studies (reference 2) have shown that traffic noise levels on the upper floors can be significantly greater than on the lower floors, sometimes increasing approximately 1 dB/floor up to about 18 floors.

Aircraft flyovers also contribute somewhat to the background noise in the area. During tradewind flight patterns from Honolulu International Airport (HIA) which occur about 95% of the time, there are typically about 100 propeller aircraft per day departing on flight tracks approximately

Table I
Comparisons of Predicted and Measured Traffic Noise Levels

Roadway	(feet) Distance to Center of Roadway	(dB) Measured L_{eq} [10 minutes]	(dB) Predicted L_{eq} [60 minutes]
Kalakaua Ave.	33	69.6	68.2
McCully Street	20	66.6	64.4
Ala Wai Blvd.	22	65.3	66.6

Note: Microphone was about 6' above the curb.
Measurements were made January 4, 1988;
8:30 a.m. to 10 a.m.

3,000 to 4,000 feet on either side of the project area. During times of Kona flight patterns (occurring about 5% of the time), a mix of heavy jet and propeller aircraft pass on approach flight tracks approximately 4,000 to 6,000 feet on either side of the project site. Although aircraft noise from HIA causes a day-night noise level (L_{dn}) of well less than 60 dB when averaged over a year at the project site; the noise from single aircraft events can often be heard during lulls in the traffic noise. Aircraft noise data is from reference 3.

Other noises heard in the project neighborhood were from people talking or shouting in the streets; mopeds and motorcycles; trash collection operations; loud amplified music from automobiles; and demolition/construction activities in the area.

IV. Traffic Noise Impact Caused by the Project - The project is predicted to cause an increase in traffic volumes on Kalakaua Avenue and McCully Street (reference 4). Table II shows the predicted ratios of the increased two-way traffic volumes caused by the project as well as the increase in traffic noise levels attributable to that traffic increase if the average vehicle speed and the mix of vehicles are the same upon project completion. From the table it can be seen that during the noisiest hours, the predicted traffic noise level increase is less than one decibel, except for about a two-decibel increase on the mauka portion of McCully Street.

Other considerations are that the proposed building (a.) will block (or shield) traffic noise from some of the distant roadways, and (b.) will tend to trap, or cause a reverberant noise buildup of sounds from the roadway in the space between an existing high-rise building and the new buildings. These effects are difficult to predict in detail and are dependent on the configuration of the new buildings. In general, it is believed that one effect may tend to counteract the other. For example, the FHWA traffic noise prediction model was used to predict the combined traffic noise levels on the 16th floor of the "Royal Aloha" from all three roadways. Presently, with the open space on the project site, it is estimated that the noisiest hour traffic noise level would be 65 dBA.

Table II

Predicted Two-Way Traffic Volume and Traffic Noise Level Increases *
Caused by the Project

Roadway	Two-Way Traffic Volume Increase Ratio	Traffic Noise Level Increase
Kalakaua Avenue	1.06	0.3 dB
McCully Street		
(a.) Mauka	1.54	1.8 dB
(b.) Makai	1.18	0.7 dB
Ala Wai Boulevard	1.0	0 dB

Note: Estimates for the noisiest hours of freely moving traffic before and after the p.m. peak.

Traffic mix assumptions: McCully and Ala Wai - Autos - 90%;
Medium Trucks - 6%; Heavy Trucks & Buses - 4%;
Kalakaua - Autos - 90%; Medium Trucks - 5%; Heavy Trucks
and Buses - 5%.

* These data are most applicable to listeners at ground level or on lanais at the 2nd to 3rd floors. The data do not take the effects of the new building structures into account.

DHM, Inc.
Attn: Duk Hee Murabayashi

January 5, 1988
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In the future, the new high-rise development (using the hypothetical footprint as shown in Figure 1) would block noise from traffic on Kalakaua Avenue and Ala Wai Boulevard sufficiently that the noisiest hour traffic noise level would be 63 dB despite the increased traffic volumes. However, this reduction in noise level may be overcome by the canyon-effect causing reverberant buildup of noise from McCully Street traffic. As cited in reference 5, it is presently beyond the state-of-the-art to reliably predict the urban noise problem. However, it is believed that the reverberant canyon-effect would probably add 2 to 3 dBA to the traffic noise levels - implying either none, or about one decibel, traffic noise increase at the "Royal Aloha" condominium. Thus, no significant traffic noise impacts should be caused by the project.

It is to be noted that many high-rise condo units facing the roads surrounding the project would be considered "Unacceptable" by the noise criteria of the Department of Housing and Urban Development (HUD) in reference 6 if naturally ventilated, second-floor bedrooms directly faced the traffic. The condo units in the new project will be centrally air-conditioned.

V. Equipment and Other Noises - The air-conditioning equipment; exhaust fans; the trash compactor; and any other stationary equipment on the project site will not exceed the allowable noise levels in references 7 and 8. Similarly, the design of the parking garage will be such that tire squeals and vehicle exhaust noises will not violate the regulations in reference 7.

VI. Noise from Commercial Tenant Operations - Trash pickup and delivery vehicles will be operated and scheduled to cause minimum disturbance to neighboring apartments if complaints arise. Minimally, these operations will meet the requirements in reference 7.

Proposed commercial uses will not cause "unreasonable" or "excessive" noise as defined in reference 7.

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VII. Noise Impact from Construction - Development of the project site will involve demolition, site preparation, and the construction of infrastructure and buildings. The various construction phases of a development project may generate significant amounts of noise; the actual amounts are dependent upon the methods employed during each stage of the process. Typical construction equipment noise ranges in dB(A) are shown on Figure 2. Pile-drivers; earthmoving equipment such as bulldozers; and diesel powered trucks will probably be the loudest equipment used during construction. Since it is anticipated that noise generated during construction will exceed allowable limits, in reference 7, a permit will be obtained from DOH. DOH may grant permits to operate vehicles, construction equipment, power tools, etc. which emit noise levels in excess of the allowable limits. Required permit conditions for construction activities are:

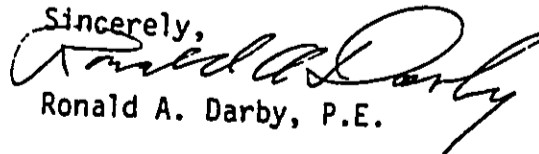
"No permit shall allow construction activities creating excessive noise...before 7:00 a.m. and after 6:00 p.m. of the same day."

"No permit shall allow construction activities which emit noise in excess of ninety-five dB(A)...except between 9:00 a.m. and 5:30 p.m. of the same day."

"No permit shall allow construction activities which exceed the allowable noise levels on Sundays and on...[certain] holidays. Activities exceeding ninety-five dB(A) shall [also] be prohibited on Saturdays."

In addition, construction equipment and on-site vehicles or devices requiring an exhaust of gas or air must be equipped with mufflers. Also, construction vehicles using trafficways will satisfy the noise level requirements defined in reference 9.

VIII. Noise Mitigation Measures - The design of the facility will include noise mitigation measures in the planning of the location and orientation of the air-conditioning equipment, exhaust fans, the trash compactor and loading docks, such that local noise regulations (references 7 and 8) will be satisfied.

Sincerely,

Ronald A. Darby, P.E.

Encls.

		NOISE LEVEL (dBA) AT 50 FT					
		60	70	80	90	100	110
EARTH MOVING	COMPACTERS (ROLLERS)		H				
	FRONT LOADERS		—	—			
	BACKHOES		—	—	—		
	TRACTORS		—	—	—	—	
	SCRAPERS, GRADERS			—	—	—	
	PAVERS				H		
	TRUCKS			—	—	—	
MATERIALS HANDLING	CONCRETE MIXERS		—	—	—		
	CONCRETE PUMPS			H			
	CRANES (MOVABLE)		—	—	—		
	CRANES (DERRICK)				H		
STATIONARY	PUMPS		H				
	GENERATORS		—	—			
	COMPRESSORS		—	—	—		
IMPACT EQUIPMENT	PNEUMATIC WRENCHES			—	—		
	JACK HAMMERS AND ROCK DRILLS			—	—	—	
	PILE DRIVERS (PEAKS)				—	—	
OTHER	VIBRATOR		—	—			
	SAWS		—	—			

Note: Based on Limited Available Data Samples

FIG. 2. CONSTRUCTION EQUIPMENT NOISE RANGES.
(from reference 9)

References:

1. "FHWA Highway Traffic Noise Prediction Model", Federal Highway Administration, December 1978.
2. "A Study of Noise in the Kalihi-Palama Area and Practical Sound Proofing for Housing", Prepared for the HCHA Model Cities Housing Development Corp., Honolulu, Hawaii, by Ronald A. Darby, March 26, 1971.
3. "Honolulu International Airport Master Plan Update and Noise Compatibility Program - Inventory of Existing Noise Mitigation Programs and Noise Map Information", Airports Division, State of Hawaii Department of Transportation, Draft, March 1987.
4. Phone conversation between R. Darby and H. Abe, December 28, 1987.
5. "Fundamentals and Abatement of Highway Traffic Noise", prepared for the Federal Highway Administration by Bolt Beranek and Newman, Inc., June 1973.
6. "Noise Abatement and Control", Department of Housing and Urban Development, 24 CFR 21, Part B, January 6, 1984.
7. "Chapter 43 - Community Noise Control for Oahu", Department of Health, State of Hawaii, Administrative Rules, Title 11, 1981.
8. "Section 3.100, Noise Regulations", Land Use Ordinance, City and County of Honolulu, October 22, 1986.
9. "Chapter 42 - Vehicular Noise Control for Oahu", Department of Health, State of Hawaii, Administrative Rules, Title 11, 1981.

Appendix J

WIND-TUNNEL TESTS:

**WAIKIKI LANDMARK
Honolulu, Hawaii**

**CPP Project
89-0585**

July 28, 1989

Prepared By:

**CERMAK PETERKA PETERSEN, INC.
1415 Blue Spruce Drive
Fort Collins, Colorado 80524**

Prepared For:

**SUKAMTO HOLDING COMPANY
Executive Centre, Penthouse
1088 Bishop Street
Honolulu, HI 96813**

**Architect
ARCHITECTS HAWAII LTD
Suite 300, Pacific Tower
1001 Bishop Street
Honolulu, HI 96813**

**Structural Engineer
WISS, JANNEY, ELSTNER ASSOCIATES, INC.
Suite 108
1210 Aushi Street
Honolulu, HI 96814**

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LIST OF SYMBOLS

D	Characteristic dimension (building height, width, etc.)
n	Mean velocity profile power law exponent
q	Reference dynamic pressure, $\frac{1}{2}\rho U_R^2$
T_U	Turbulence intensity, U_{rms}/U
U	Local mean velocity
U_R	Reference velocity at height z_R
U_{rms}	Root-mean-square of fluctuating velocity
x, y	Horizontal coordinates
z	Height above surface
z_R	Reference height at which U_R is measured
ν	Kinematic viscosity of approach flow
ρ	Density of approach flow
$()_{max}$	Maximum value during data record
$()_{min}$	Minimum value during data record

Section I

INTRODUCTION

Pedestrian acceptability of sidewalks, entrances, plazas, and terraces is often an important design parameter of interest to the building owner and architect. Assessment of the acceptability of the pedestrian-wind environment is desirable during the project design phase so that modifications can be made, if necessary, to improve areas found to be excessively windy. Analytical methods are not available, except in very simple geometries, to estimate the windiness in pedestrian areas.

Techniques have been developed which permit boundary-layer wind-tunnel modeling of proposed buildings to determine wind velocities in pedestrian areas. This report includes wind-tunnel test procedures, test results, and a discussion of test results obtained in the CERMAK PETERKA PETERSEN, INC. (CPP) Wind Engineering Laboratory shown in Figures 1 and 2.

Section 2

THE WIND-TUNNEL TEST

Modeling of the wind patterns around a structure requires special consideration of flow conditions to obtain similitude between the model and the prototype. A detailed discussion of the similarity requirements and their wind-tunnel implementation can be found in References 1, 2, and 3. In general, the requirements are that the model and prototype be geometrically similar, that the approach mean velocity at the model building site have a vertical profile shape similar to the full-scale flow, and that the Reynolds number for the model and prototype be equal.

These criteria are satisfied by constructing a scale model of the structure and its surroundings and performing the tests in a wind tunnel specifically designed to model atmospheric boundary-layer flows. Reynolds number similarity requires that the quantity UD/ν be similar for model and prototype. Since ν , the kinematic viscosity of air, is identical for both, Reynolds numbers cannot be made equal with reasonable wind velocity, for such a velocity would introduce unacceptable compressibility effects. However, for sufficiently high Reynolds number ($>2 \times 10^4$) the pressure coefficient at any location on the structure will be essentially constant for a large range of Reynolds numbers. Typical values encountered are $10^7 - 10^8$ for the prototype and $10^5 - 10^6$ for the model. In this range acceptable flow similarity is achieved without Reynolds number equality. All model tests reported herein were performed at a sufficiently high velocity to maintain Reynolds number independence.

The wind-tunnel test was performed in the boundary-layer wind tunnel shown in Figure 2. This wind tunnel has a 70-ft-long test section covered with roughness elements to reproduce at model scale the atmospheric wind characteristics required for the model test. The wind tunnel has a flexible roof, adjustable in height, to

maintain a zero pressure gradient along the test section and to minimize blockage effects.

A model of the building under study was constructed of styrofoam at a scale of 1:300 which was consistent with the modeled atmospheric flow and which was within wind-tunnel blockage limitations.

Other buildings or terrain features located nearby can have an important influence on wind pressure loads. Consequently, the surrounding area was modeled in detail to a radius of 1,400 ft using styrofoam and wood for buildings. The model and surrounding buildings were mounted on the turntable located near the downstream end of the wind-tunnel test section. The turntable permitted rotation of the modeled area for examination of velocities from many approach wind directions. The model installed in the wind tunnel is shown in Figure 3.

The wind-tunnel floor upstream from the modeled area was covered with roughness elements constructed from cubes. Different sized cubes represent various types of roughness upwind of the project site, so that different sets of roughness may be used for different approach wind directions. Spires and a low barrier were installed in the test section entrance to provide a thicker boundary layer than would otherwise be available, permitting a somewhat larger scale model. The spires, barrier and roughness were designed to provide a modeled atmospheric boundary layer approximately 4 ft thick, a mean velocity power law exponent similar to that expected to occur in the region approaching the modeled area for each wind direction (a number of wind directions may have the same approach roughness), and a turbulence structure in the modeled atmospheric boundary layer similar to that expected in the full-scale wind. The approach wind characteristics used for the model test are shown in Figure 4 and are explained more fully in Section 3.2.

At the beginning of the test, a flow visualization study was made using smoke to make the wind currents visible, to observe flow patterns, and to identify regions where local flow features might cause high pressures on the building curtainwall or

produce pedestrian discomfort. Photographs of flow visualization are presented in Figure 3 and are explained in more detail in Sections 3.1 and 4.1.

Velocity data was obtained in pedestrian areas and other locations of interest for 16 approach wind directions. Velocity data was processed in an on-line computer and combined with climatological wind records to predict local wind environment in pedestrian areas. Details for this procedure are provided in Sections 3.2.

Section 3

DATA ACQUISITION AND RESULTS

3.1 Flow Visualization

Observing air flow about the model using smoke is helpful in indicating area where pedestrian winds may be particularly high or low. Titanium dioxide smoke was released from sources on and near the model to make the flow lines visible to the eye and to make it possible to obtain photographic records of the tests. Several photographs of the flow visualization appear in Figure 3. A videotape of selected highlights was also made and sent to the sponsor separately from this report. Conclusions obtained from these smoke studies are discussed in Section 4.1.

3.2 Velocities

Velocity profile measurements were taken to verify that appropriate boundary layer flow approaching the site was established and to characterize the effect of surrounding buildings. Profile measurements are described below. Velocity measurements were also made to determine the climate around the test site that pedestrians are likely to experience. Pedestrian wind measurements and analysis are described in Section 3.2.2. All velocity measurements were made with the hot-film anemometer, which is discussed in Section 3.2.3.

3.2.1 Velocity Profiles. Vertical profiles of mean velocity and longitudinal turbulence intensity were measured upstream of the model to ensure that an approach boundary-layer flow appropriate to the site had been established. Profiles were also obtained at the building site with the test building removed to show the influences of surrounding buildings.

Mean velocity and turbulence intensity profiles for the boundary layer flow approaching the model and at the building site are shown in Figure 4. The mean velocity profile approaching the modeled area has the form

$$U/U_R = (z/z_R)^n$$

in which U is the mean velocity at height z , U_R is a reference wind speed at reference height z_R at which the Pitot-static probe was mounted in the wind tunnel, and n is a constant which depends on the characteristics of the upstream roughness.

Profiles of longitudinal turbulence intensity in the flow approaching the modeled area and at the building site are also shown in Figure 4. The turbulence intensities are appropriate for the approach mean velocity profile selected.

3.2.2 Pedestrian Winds. Wind speed measurements were made at a number of selected locations in order to evaluate pedestrian comfort around the project site. Mean (average) velocity and turbulence intensity measurements were made 5 to 7 ft (full-scale) above the surface for 16 wind directions each.

The measurement locations are shown in Figure 5. Locations were chosen to determine the degree of pedestrian comfort or discomfort at the building corners where relatively severe conditions frequently are found, near building entrances and on adjacent sidewalks with heavy pedestrian traffic, and in open plaza areas. One or more reference pedestrian positions, located near the project site, were also tested.

Velocity data obtained at each of the pedestrian measurement locations shown in Figure 5 are listed in Table 1 as mean velocity U normalized by the tunnel reference velocity U_R , as turbulence intensity (a measure of wind gustiness) U_{rms}/U , and as the largest normalized effective peak gust

$$T_U = U_{rms}/U$$

As an aid in identifying high velocity areas, the last page for each configuration of Table 1 shows the 15 largest values of the mean velocity ratio U/U_R , turbulence intensity U_{rms}/U_R , and effective peak gust U_{pk}/U_R measured during the pedestrian wind analysis. Also shown for comparison are typical values of mean, rms and peak velocities for an open-country environment such as an airport or large open field. Mean velocity percentages above 70 are quite high. High mean velocities for 3 to 5 or more approach wind azimuths for one location may indicate a highly windy environment. Values of U_{rms} are of concern if they are above 25 percent of U_R -- especially if accompanied by a large mean velocity. Peak gusts, represented by $(U + 3U_{rms})/U_R$, in Table 1 can be considered as very large if above 115-120 percent of U_R . Further comments on the data in Table 1 are presented in Section 4.2.

The mean and peak velocities relative to the tunnel reference velocity listed in Table 1 are plotted in polar form in Figure 6. The graphs show velocity magnitude and the approach wind direction for which that velocity was measured. The polar plots aid in visualization of the effects of the nearby structures.

To enable a quantitative assessment of the wind environment, the wind-tunnel data were combined with wind frequency and direction information obtained at a local airport. Table 2 shows wind frequency by direction and magnitude obtained from summaries published by the National Weather Service. These data, usually obtained at an elevation of about 20-40 ft, were combined statistically with the wind-tunnel data of Table 1 to obtain cumulative probability distributions of wind speed for the full-scale site at each pedestrian measurement location.

From the cumulative wind speed distributions, wind speeds at each location that are exceeded 10 percent and 1 percent of the time from all directions combined are shown in Figure 7. Both mean speeds U_R and effective peak gusts U_{pk} are shown. Interpretation of these wind levels can be aided by the description of the effects of wind of various magnitudes on people. The earliest quantitative description of wind effects was established by Sir Francis Beaufort in 1806 for use at sea and is still in use today [4]. The Beaufort scale from Reference 4 is based on mean velocity only and

is reproduced in Table 3 including qualitative descriptions of wind effects. Table 3 suggests that mean wind speeds below 12 mph are of minor concern and that mean wind speeds above 24 mph are definitely inconvenient.

Several recent investigators (Melbourne [5], Hunt *et al.* [6], Lawson and Penwarden [7], Penwarden and Wise [4] and Davenport [8]) have added to the knowledge of wind effects on pedestrians by suggesting criteria for acceptance. Because pedestrians will tolerate higher wind speeds for a smaller period of time than for lower wind speeds, these criteria provide a means of evaluating the overall acceptability of a pedestrian location. Also, a location can be evaluated for its intended use, such as for an outdoor cafe or a sidewalk.

Table 4, the major result of the pedestrian wind analysis, indicates the results of comparisons to the five sets of acceptability criteria [4-8] referenced above. Each set of criteria places a location into one of several categories, depending on the windiness of the location, as shown in the key of Table 4. Conclusions based on Table 4 are discussed in Section 4.2.

All of the criteria are subjective in nature, and no criteria has universal acceptability among practitioners. The criteria of Melbourne [5] tends to be more restrictive than the others, while those of Lawson and Penwarden [7] and Davenport [8] are more lenient. Penwarden and Wise [4], intend only to show when remedial action may be necessary to correct extreme situations and do not differentiate between walkways and plaza areas.

The use of mean and peak velocities varies among the five criteria. Penwarden and Wise [4] and Davenport [8] are based strictly on mean velocities, while Melbourne [5] specifies only peak gusts. Thus, the various criteria can reach different conclusions for a location depending on the relative level of gustiness. In addition, the exact definition of peak gusts differs among the criteria. For all criteria in Table 4, peak gusts were recalculated according to the original definitions of the criteria authors.

Because some pedestrian wind measurement positions are purposely chosen at sites where the smoke tests showed large velocities of small spatial extent, the general wind environment about the structure may be less severe than one might infer from an analysis only of Table 4. Discussion of the implications of Table 4 appears in Section 4.2.

3.2.3. Velocity Measurement Methods. Wind profile measurements were made using a single hot-film anemometer mounted on a computer-controlled vertical traverse, and oriented horizontally transverse to the flow. Velocity measurements were made with several hot-film anemometers which were mounted with their axes oriented vertically. The instruments used were TSI, Inc. constant-temperature anemometers (Model 1053b) with 0.002-inch diameter platinum-film sensing elements. Output was directed to the on-line data acquisition system for analysis.

Calibration of the hot-film anemometers was performed by comparing output with the Pitot-static probe in the wind tunnel. The calibration data were fit to a variable-exponent King's Law relationship. Turbulence intensities were calculated from

$$T_u = U_{rms}/U$$

For ease of interpretation, all turbulence measurements for pedestrian winds were divided by the tunnel reference mean velocity U_R near the top of the boundary layer. Turbulence intensity in velocity profile measurements, however, used the local mean velocity as a normalization reference for comparison against known field cases.

Section 4

DISCUSSION

The primary objectives of this investigation were the following:

1. Determination of changes in pedestrian-level wind climate over areas surrounding the **WAIKIKI LANDMARK** site
2. Determination of pedestrian-level wind climate at principal locations of pedestrian activity on the constructed **WAIKIKI LANDMARK** site
3. Evaluation of acceptability in terms of *pedestrian comfort* with recommendations for allocation of unacceptable wind speeds

These objectives were achieved by physical modeling in a wind tunnel using a 1:300 scale model of **WAIKIKI LANDMARK** and all buildings within a 1,400-ft radius of the site. Flow visualizations by injection of a chemical smoke with and without **WAIKIKI LANDMARK** in place were recorded on videotape to give a qualitative record of overall wind patterns before and after the project is constructed. Measurements of mean and peak gust wind speeds were made at 24 locations without **WAIKIKI LANDMARK** in place and at 39 locations with the **WAIKIKI LANDMARK** present. These data provide quantitative information which, when coordinated with meteorological data for Honolulu, enable all three objectives to be addressed.

4.1 **Flow Visualization**

The smoke visualized flow shows that wind speeds over *areas surrounding* the **WAIKIKI LANDMARK** will be affected primarily downwind of the building. Since the building presents an obstacle to the wind, flow is accelerated around the building to create a wake with winds of increased speeds and gustiness downwind from the corners. However, the leeward area downwind of the building is shielded and winds of lower speed and gustiness are observed.

At locations such as corners at ground level, garage roofs and balconies of the constructed project, wind speeds are seen to be greatest for wind directions in which accelerated flow around a corner or over a roof or balcony passes over a particular location. These flow features may be observed by viewing the videotape which complements this report.

4.2 Pedestrian Wind Measurements

Measurements of mean and peak gust wind speeds at a height of 5-7 ft above the surface were made at 39 locations with the WAIKIKI LANDMARK in place (Configuration A) as shown in Fig. 5a. Without the WAIKIKI LANDMARK in place (Configuration B) measurements were made at 24 locations which are identified by Fig. 5b. Figures 6a-g and 6h-k present polar plots of the mean and peak gust data (referenced to U_R the mean wind speed at 900 ft above ground over Honolulu) at each measurement location for Configuration A and B, respectively. These plots reveal the manner in which wind speed at a particular location varies with wind direction over the city. Data for these graphs are presented in Tables T1-1 through T1-13. Figures 7a-b and 7c integrate the meteorological data for Honolulu International Airport (see Table 2) with the wind-tunnel data to give mean and peak gust wind speeds that will be exceeded 1% and 10% of the time for Configurations A and B, respectively. These graphs provide the most useful data presentation for evaluating changes in wind climate for the surrounding area by construction of WAIKIKI LANDMARK as well as local wind climate on and near the WAIKIKI LANDMARK itself. Table 3 gives some typical wind effects on people for various increments of mean wind speed. Generally, mean wind speeds in excess of 30 mph will cause pedestrian discomfort. Various proposed criteria for evaluating the impact of wind on pedestrians are used in Table 4 to classify the wind climate for each location for Configuration A and B. For the warm climate of Honolulu CPP recommends classification in accordance with the criteria of Isyumov and Davenport (1975).

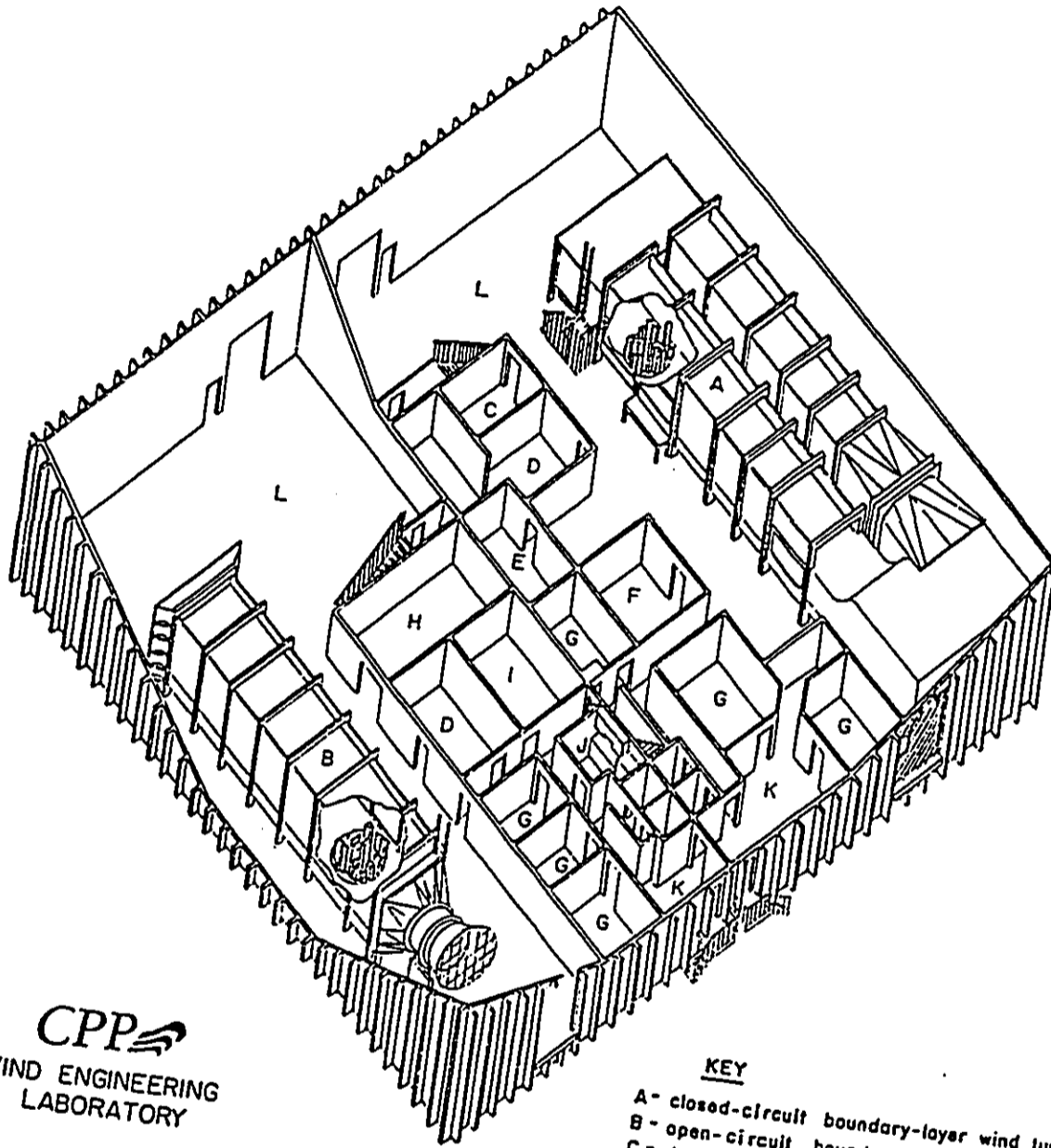
Evaluation of changes in pedestrian-level *wind speeds over areas surrounding the WAIKIKI LANDMARK* can be made by comparing wind speeds for locations 1-16 for Configurations A and B. Wind speed changes over the canal are given by data

for locations 1-6. Figures 7a and 7c show that wind speeds exceeded 1% of the time are essentially unchanged for locations 1-3 when the WAIKIKI LANDMARK is in place. On the other hand wind speeds exceeded 1% of the time show a modest increase at locations 4-6 when the WAIKIKI LANDMARK is in place—a maximum increase of 25% for the mean wind speed and 30% for the peak gust. However, Table 4 shows that the wind speeds at these locations are in the acceptable category according to the Isyumov-Davenport criteria. For the set of locations 8-16 wind speeds at only locations 10, 13 and 16 will be increased when the WAIKIKI LANDMARK is constructed. At location 10 Figures 7a and 7c show that the mean wind speed exceeded 1% of the time will be doubled and increased about 25% of the time for locations 13 and 16. The peak gust speed at locations 10, 13 and 16 will be increased by about 50%. The criteria of Isyumov and Davenport (Table 4) show these locations to be acceptable as walkways. For none of the locations 1-16 will a mean wind speed of 20 mph be exceeded more than 1% of the time. In summary, changes in wind speeds over surrounding areas will be acceptable when the WAIKIKI LANDMARK is constructed.

Examination of *pedestrian-level wind speeds over the WAIKIKI LANDMARK* reveals that four locations 30, 32, 33 and 36 have unacceptable wind speeds according to criteria of Isyumov and Davenport (Table 4). Of these locations, the area represented by location 33 is of greatest concern because of the intended use for swimming. Here the mean wind speed will exceed 31 mph 1% of the time and 22 mph 10% of the time. Peak gusts at this location will exceed 54 mph 1% of the time and 42 mph 10% of the time. Accordingly, remedial measures must be taken to permit satisfactory use of this area as planned. Previous experience of CPP in such cases suggests that the architectural addition of wind screens can provide an effective solution. Development of an effective wind-screen configuration will require wind-speed measurements for various configurations which are aesthetically and economically acceptable.

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LABORATORY

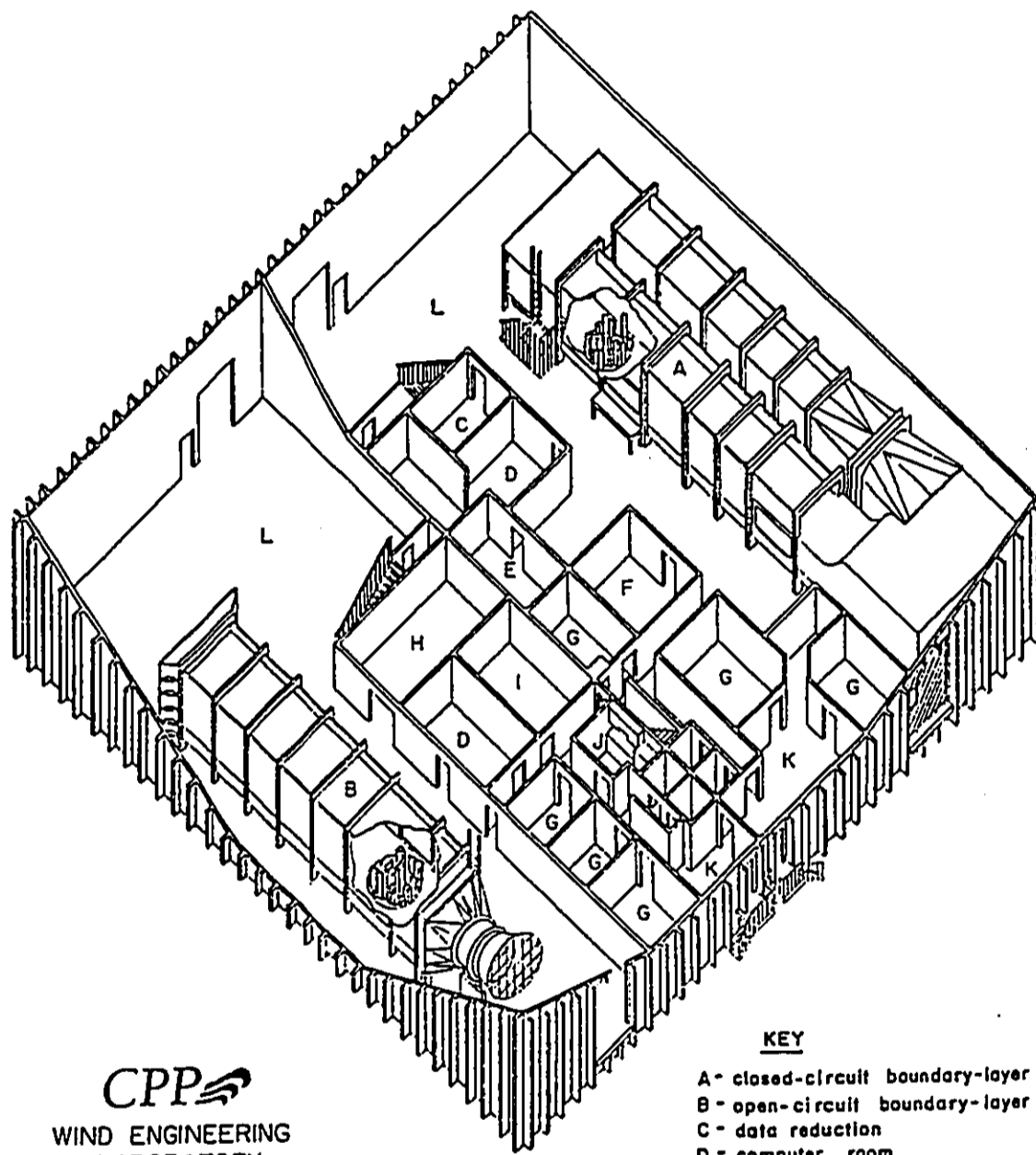
KEY

- A - closed-circuit boundary-layer wind tunnel
- B - open-circuit boundary-layer wind tunnel
- C - data reduction
- D - computer room
- E - instrumentation room
- F - model technicians
- G - office
- H - machine shop
- I - conference room
- J - lounge
- K - reception area
- L - work area

Figure 1 Wind-engineering Laboratory

CORRECTION

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



CPP
WIND ENGINEERING
LABORATORY

KEY

- A - closed-circuit boundary-layer wind tunnel
- B - open-circuit boundary-layer wind tunnel
- C - data reduction
- D - computer room
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- K - reception area
- L - work area

Figure 1 Wind-engineering Laboratory

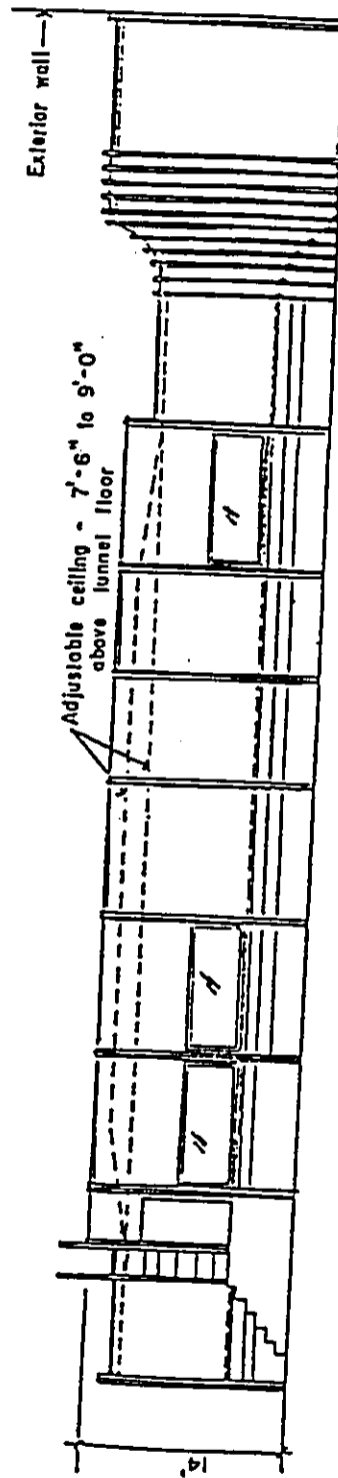
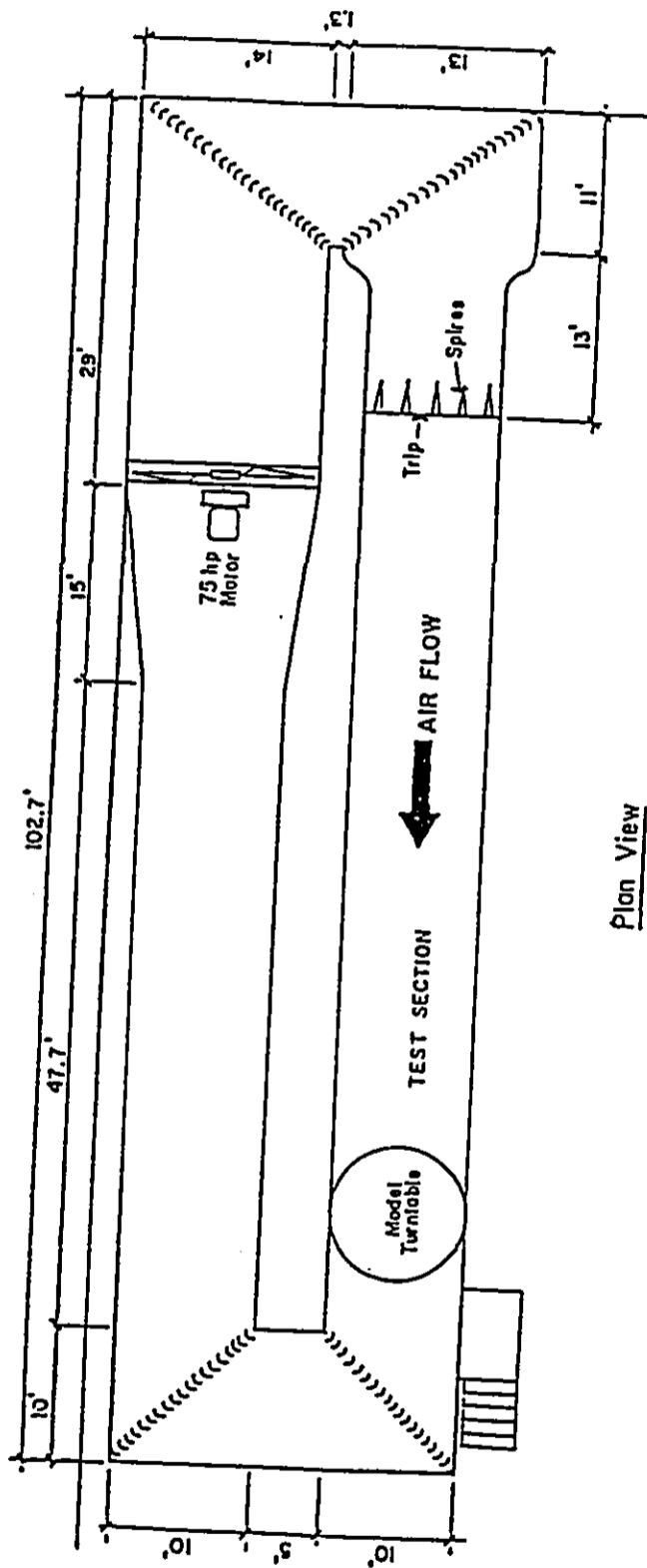


Figure 2 Closed-circuit Boundary-layer Wind Tunnel

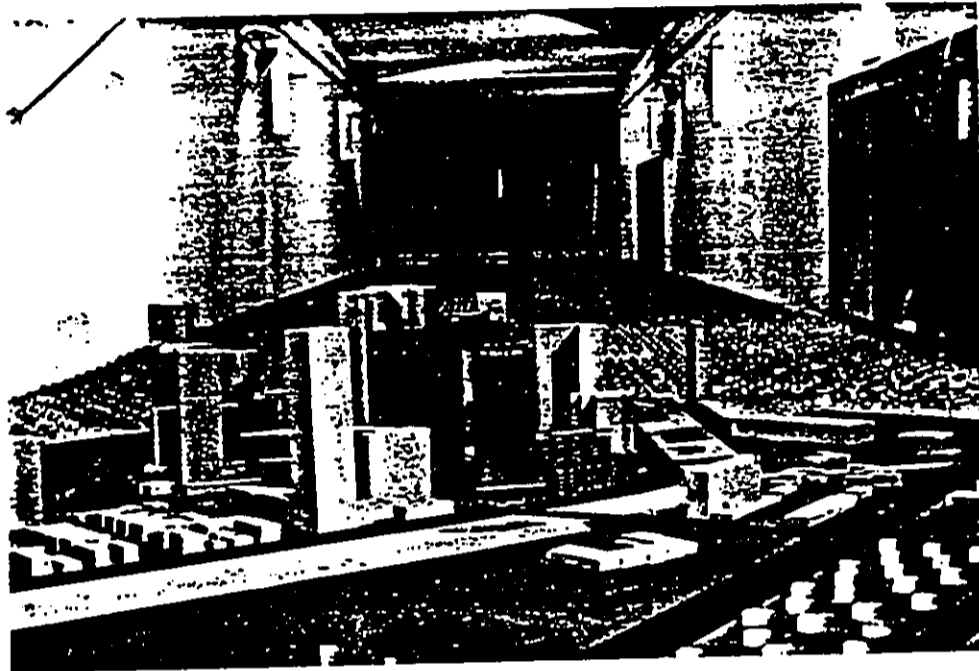


Figure 3 Completed Model in Wind Tunnel

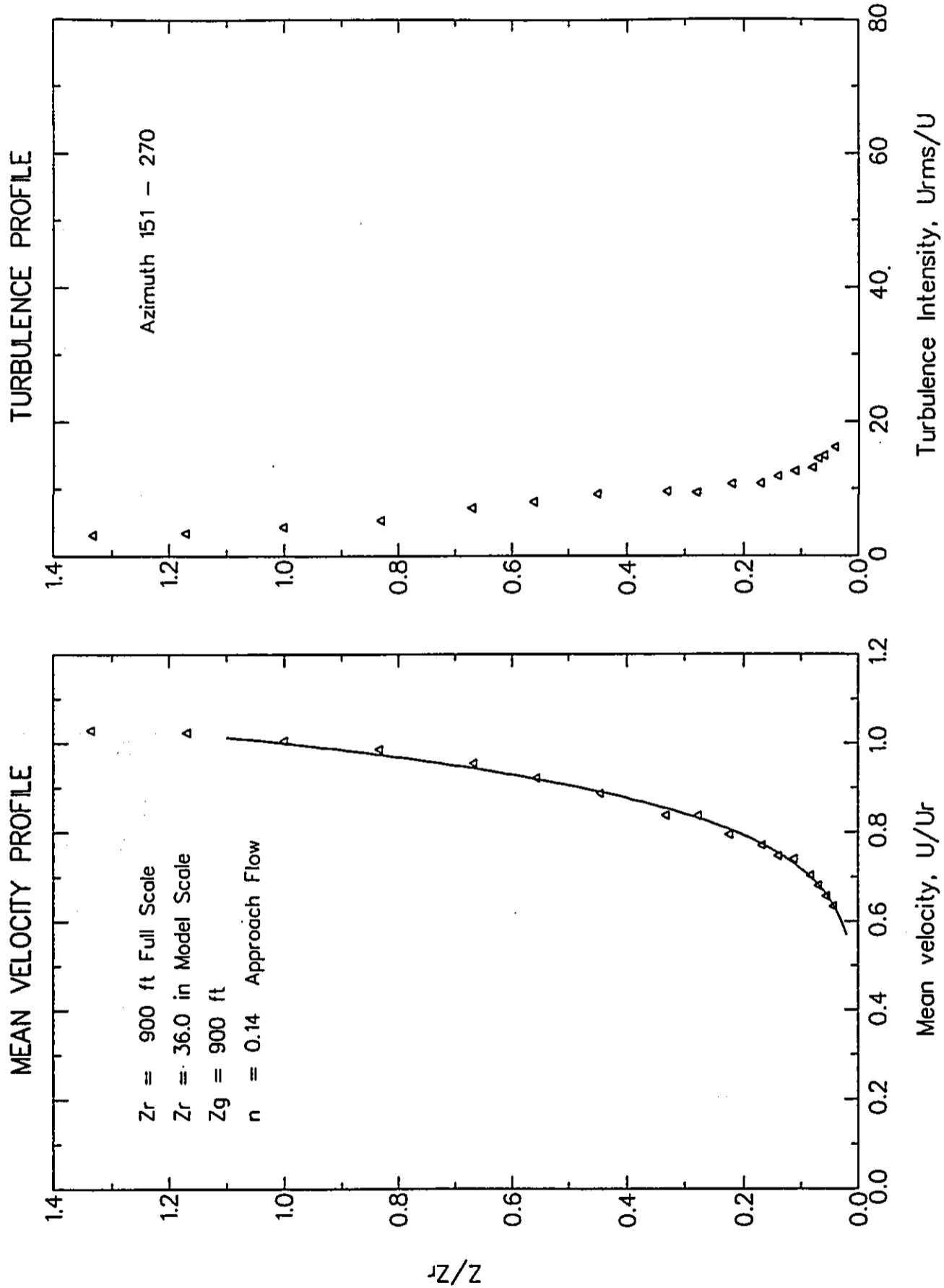


Figure 4b Mean Velocity and Turbulence Profiles Approaching the Model and at the Building Site

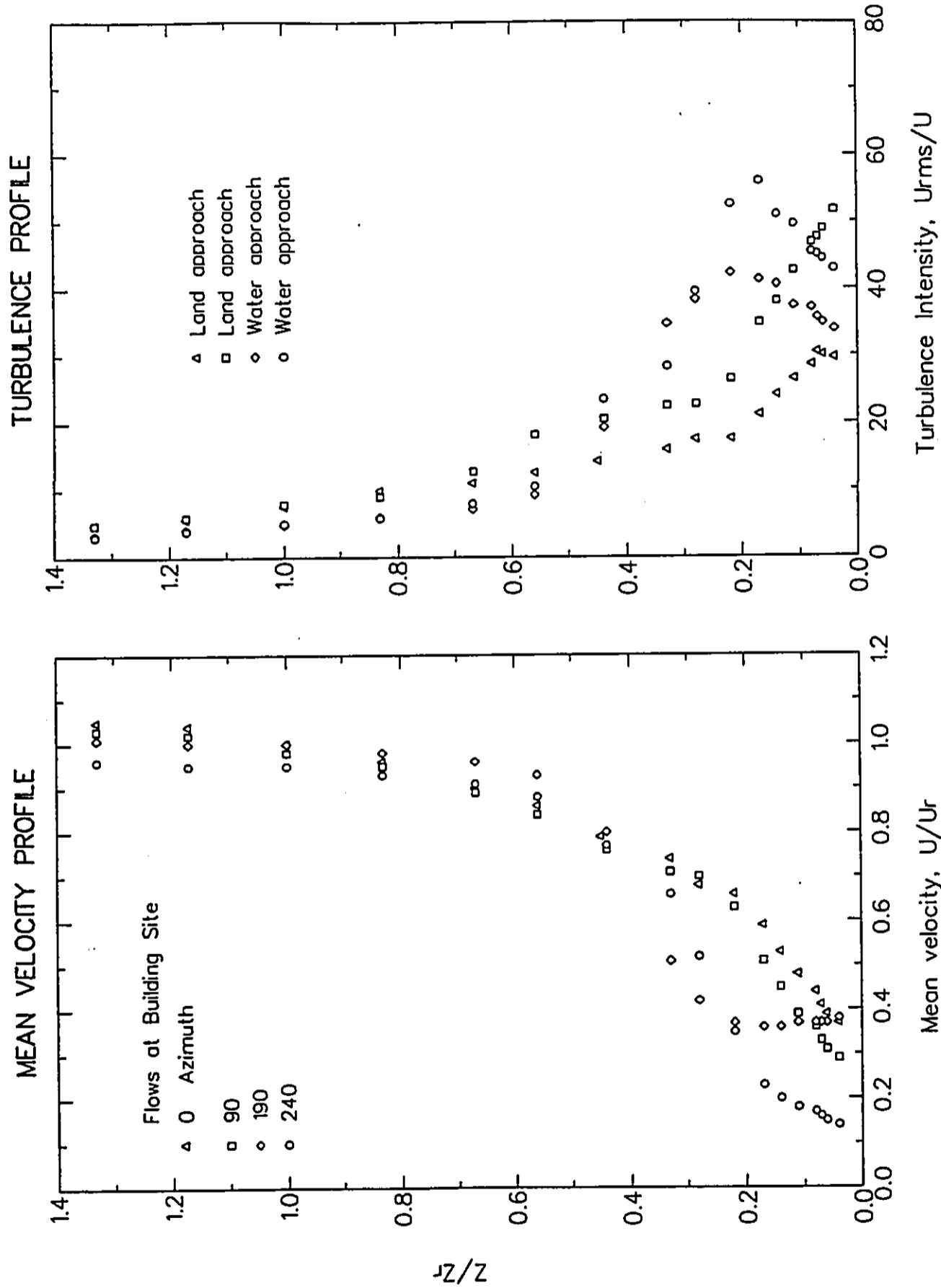
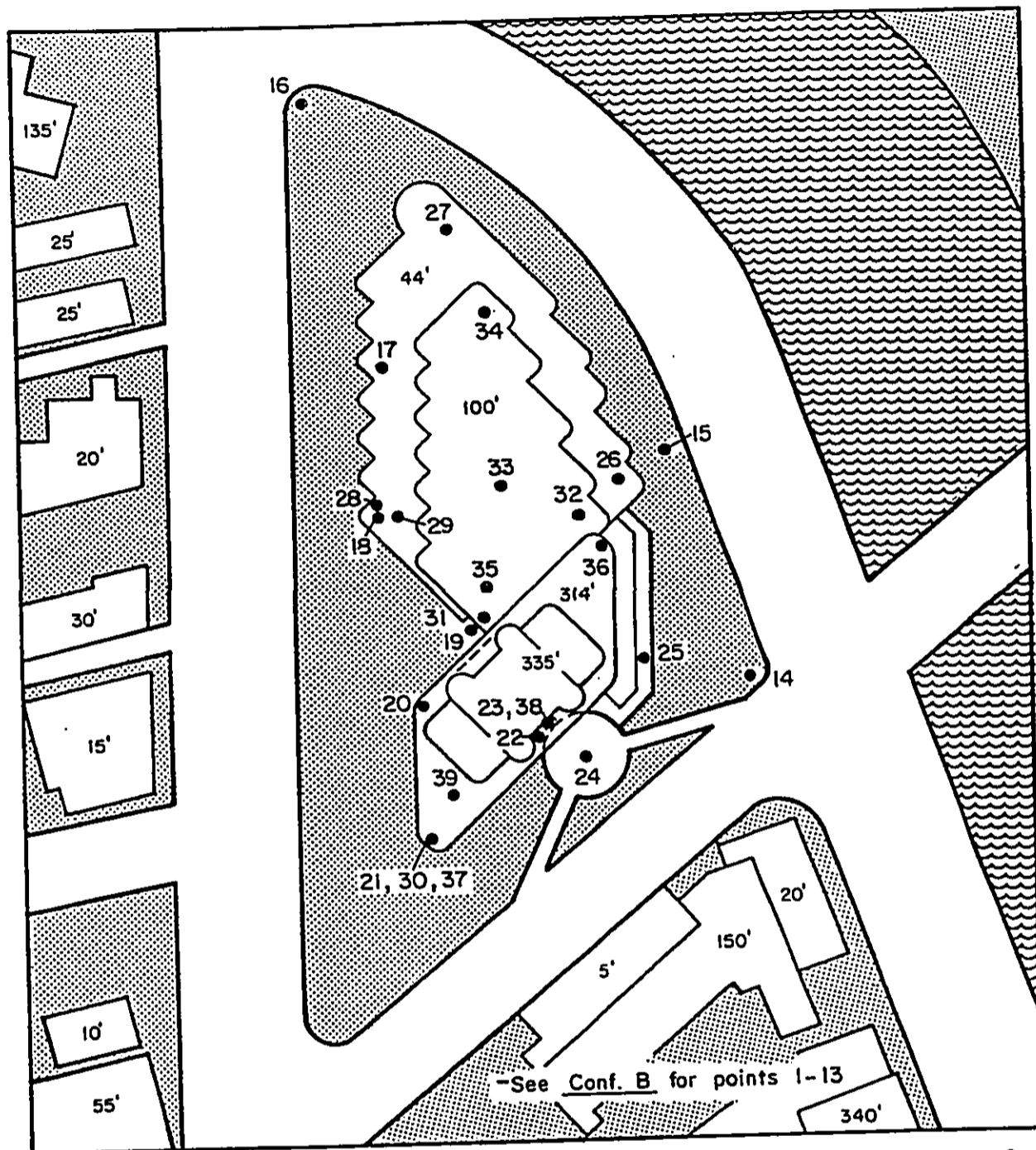


Figure 4c Mean Velocity and Turbulence Profiles Approaching the Model and at the Building Site

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000



CONFIGURATION A

- Points 14, 15, 16, 19 and 24 are at ground level.
- Points 17, 18 and 20-23 are at ground level under soffit.
- Point 25 is on balcony at el. 22'.
- Points 26, 27 and 29 are on garage roof at 44'.
- Point 28 is on balcony at el. 28'.
- Point 30 is on balcony at el. 25'.
- Point 31 is on garage level at el. 85'.
- Points 32-35 are on garage roof at el. 100'.
- Points 36, 37 are on upper soffit at el. 272'.
- Point 38 is on upper soffit at el. 304'.
- Point 39 is on roof at el. 314'.

Figure 5a Building Locations and Pedestrian Wind Velocity Measurement Positions

Waikiki Landmark
Conf A - Waikiki Landmark in, with area model

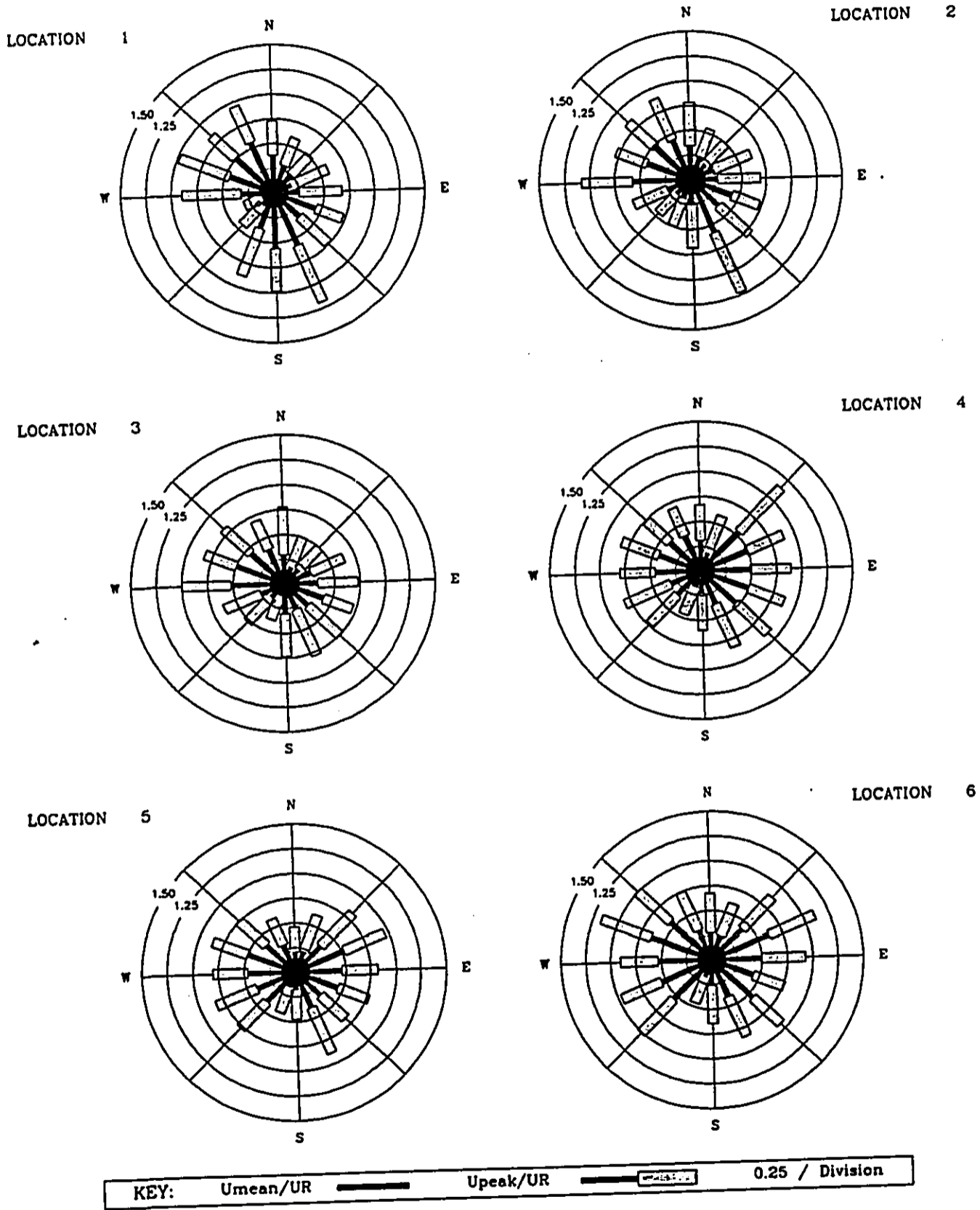


Figure 6a Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf A - Waikiki Landmark in, with area model

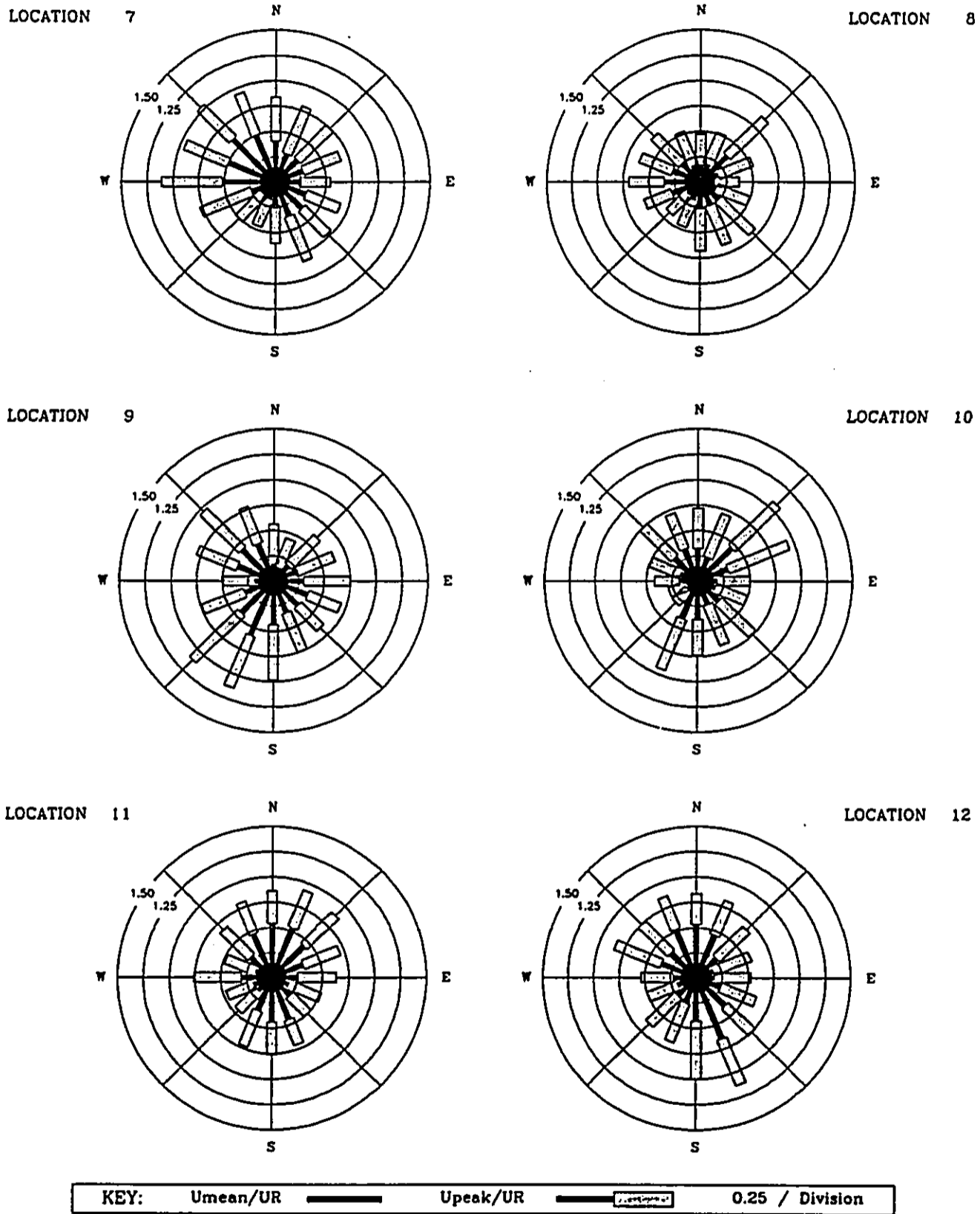


Figure 6b Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf A - Waikiki Landmark in, with area model

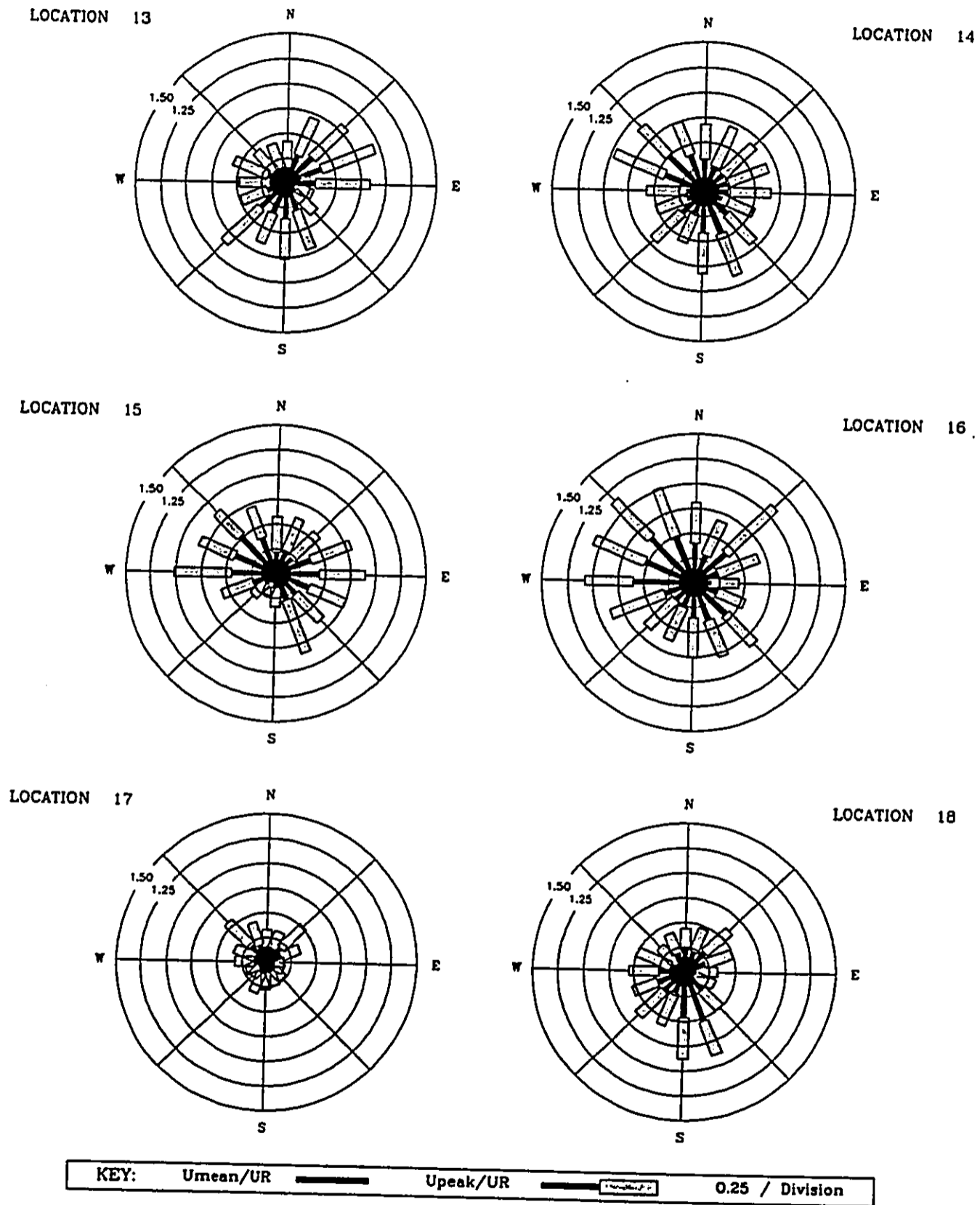


Figure 6c Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf A - Waikiki Landmark in. with area model

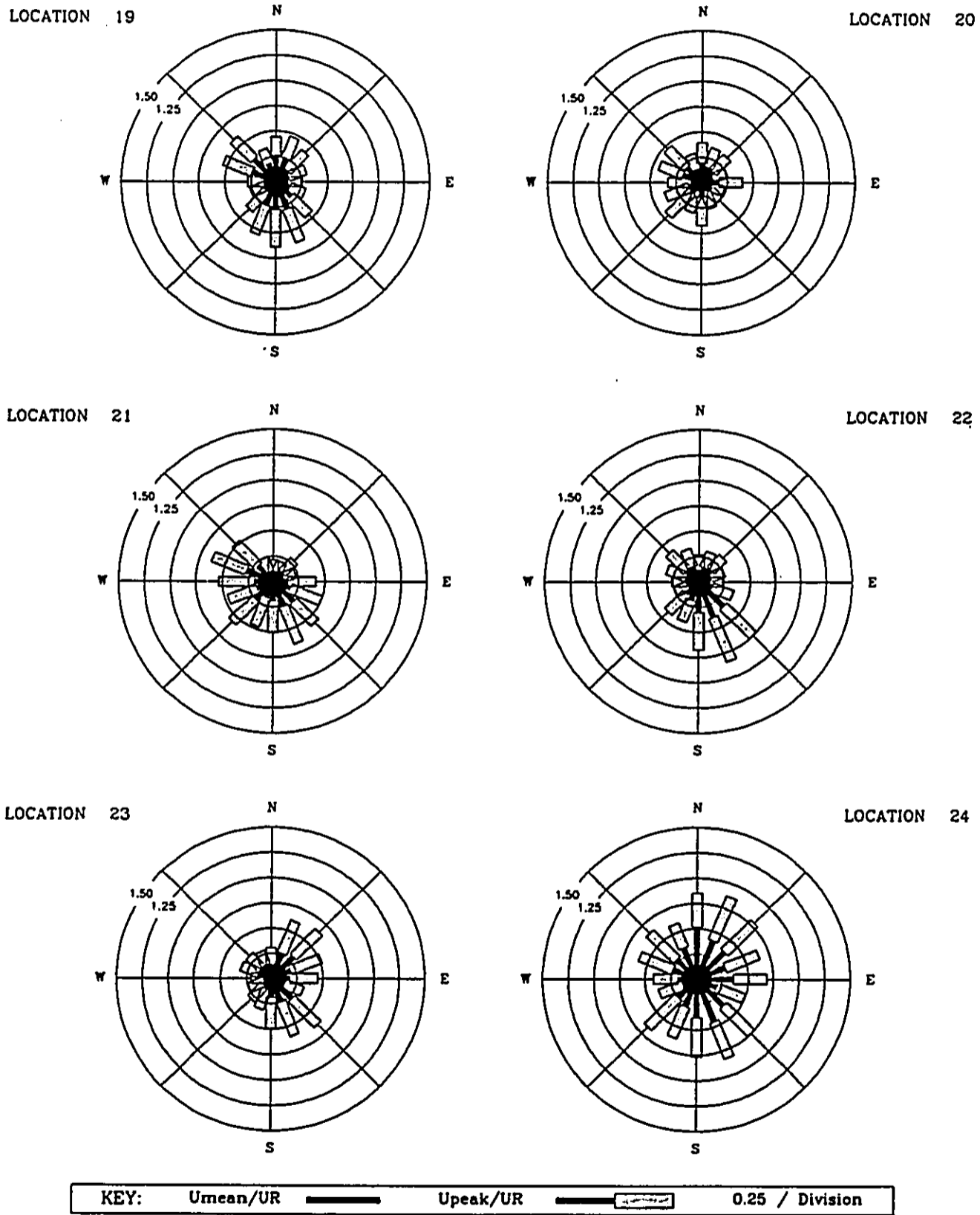


Figure 6d Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf A - Waikiki Landmark in, with area model

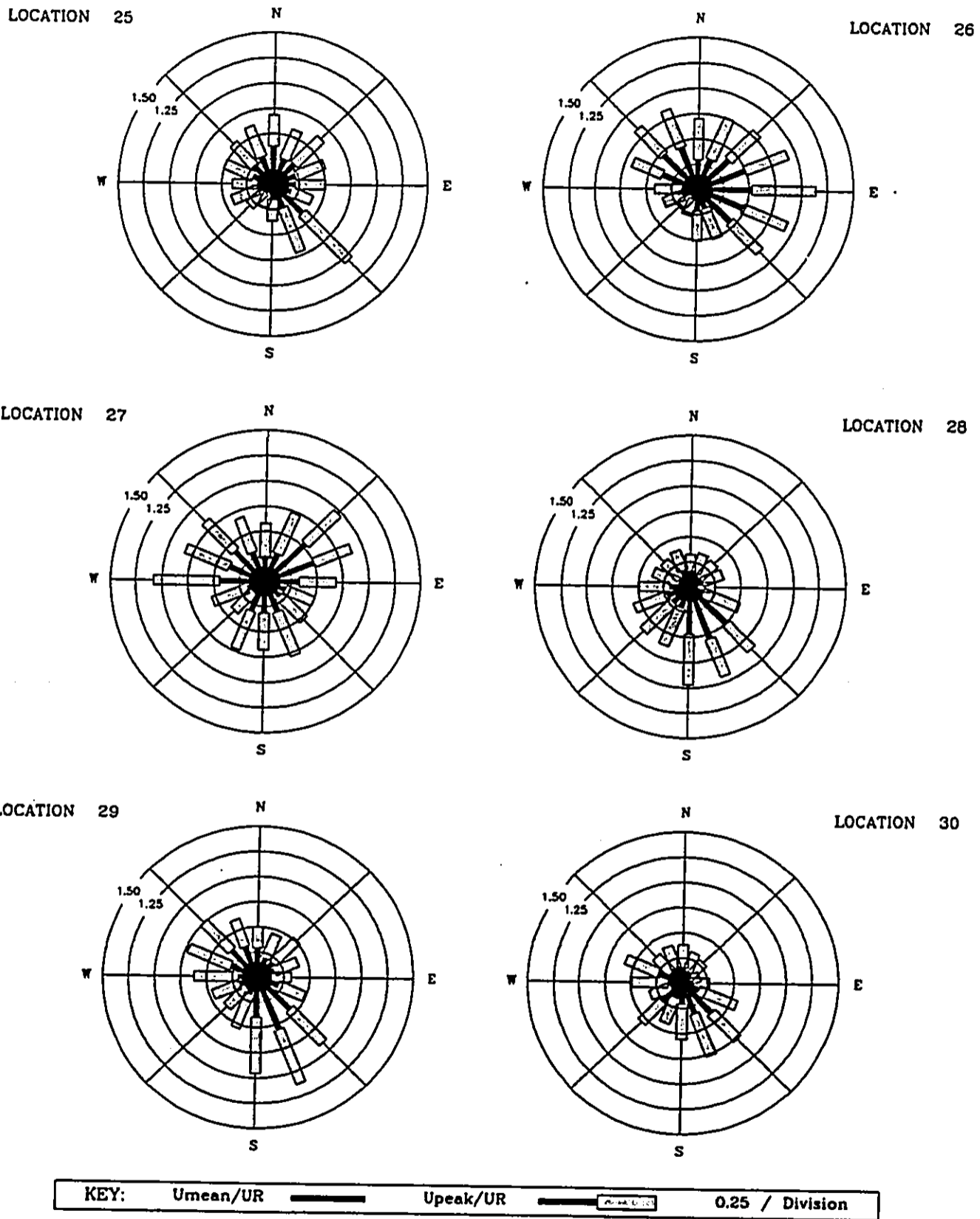


Figure 6e Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf A - Waikiki Landmark in, with area model

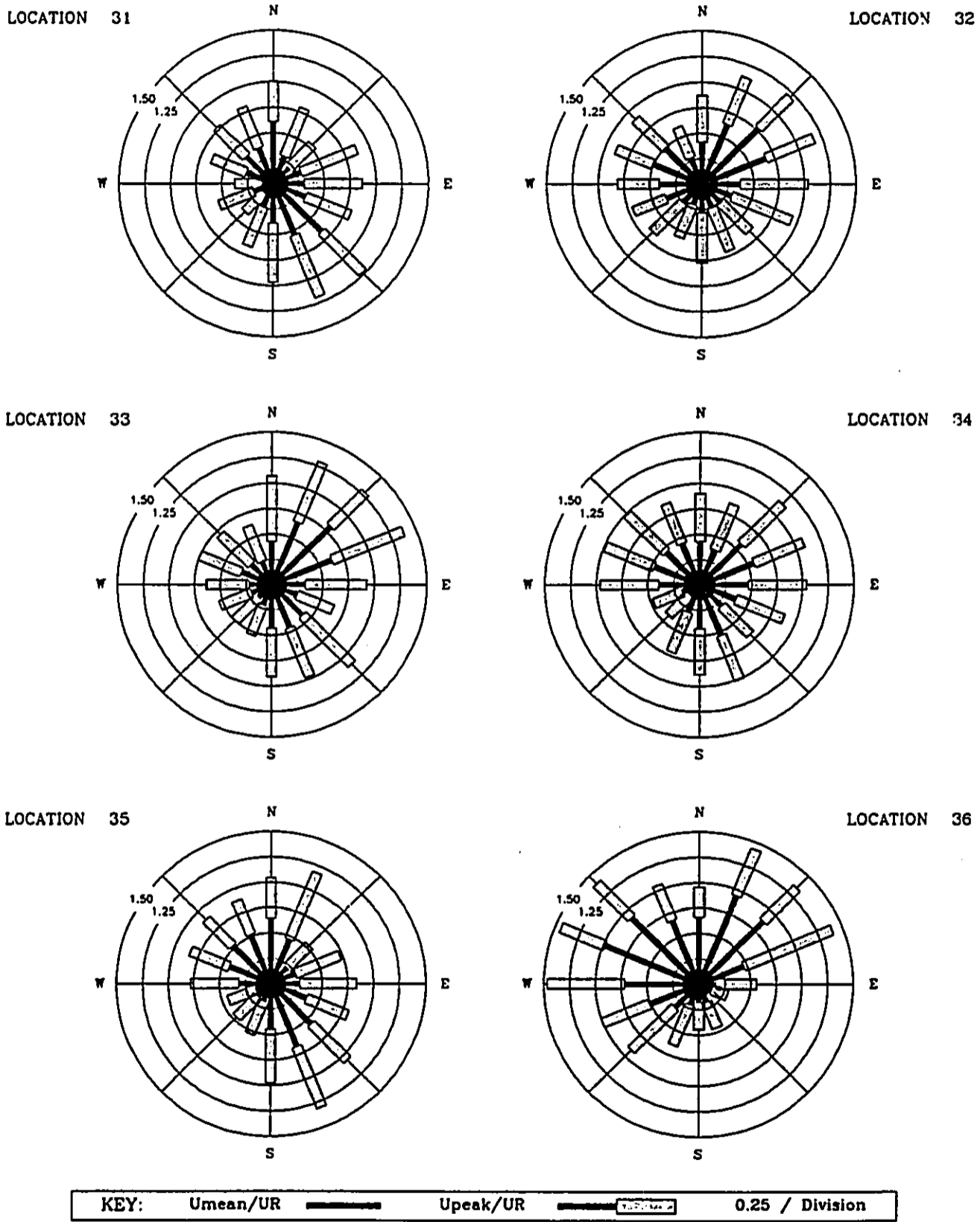
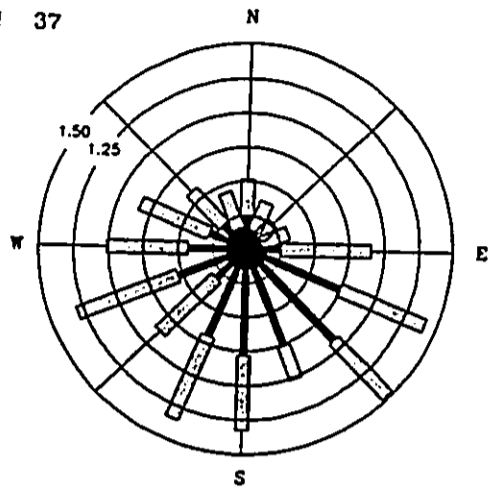


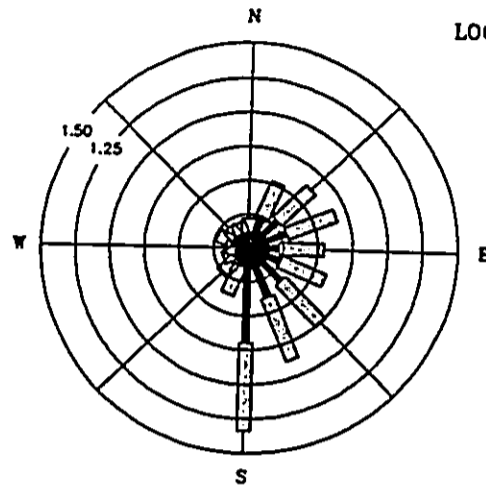
Figure 6f Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf A - Waikiki Landmark in, with area model

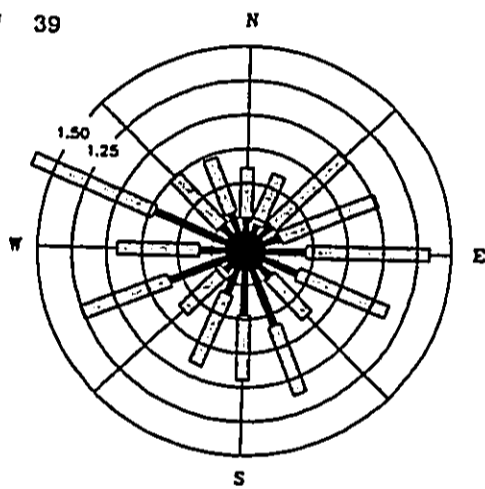
LOCATION 37



LOCATION 38



LOCATION 39



KEY: U_{mean}/UR  U_{peak}/UR  0.25 / Division

Figure 6g Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf B - Waikiki Landmark out. with area model

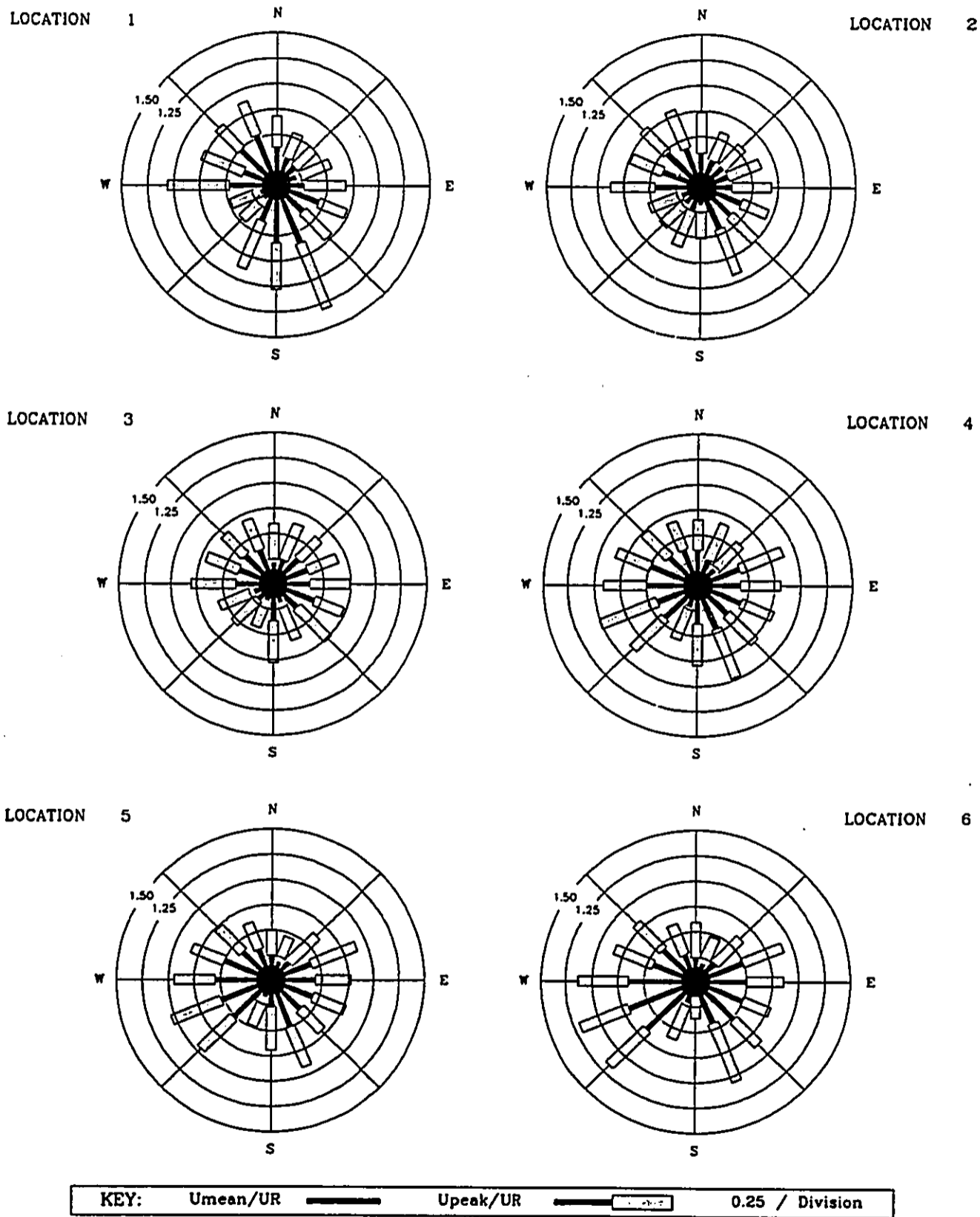


Figure 6h Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf B - Waikiki Landmark out. with area model

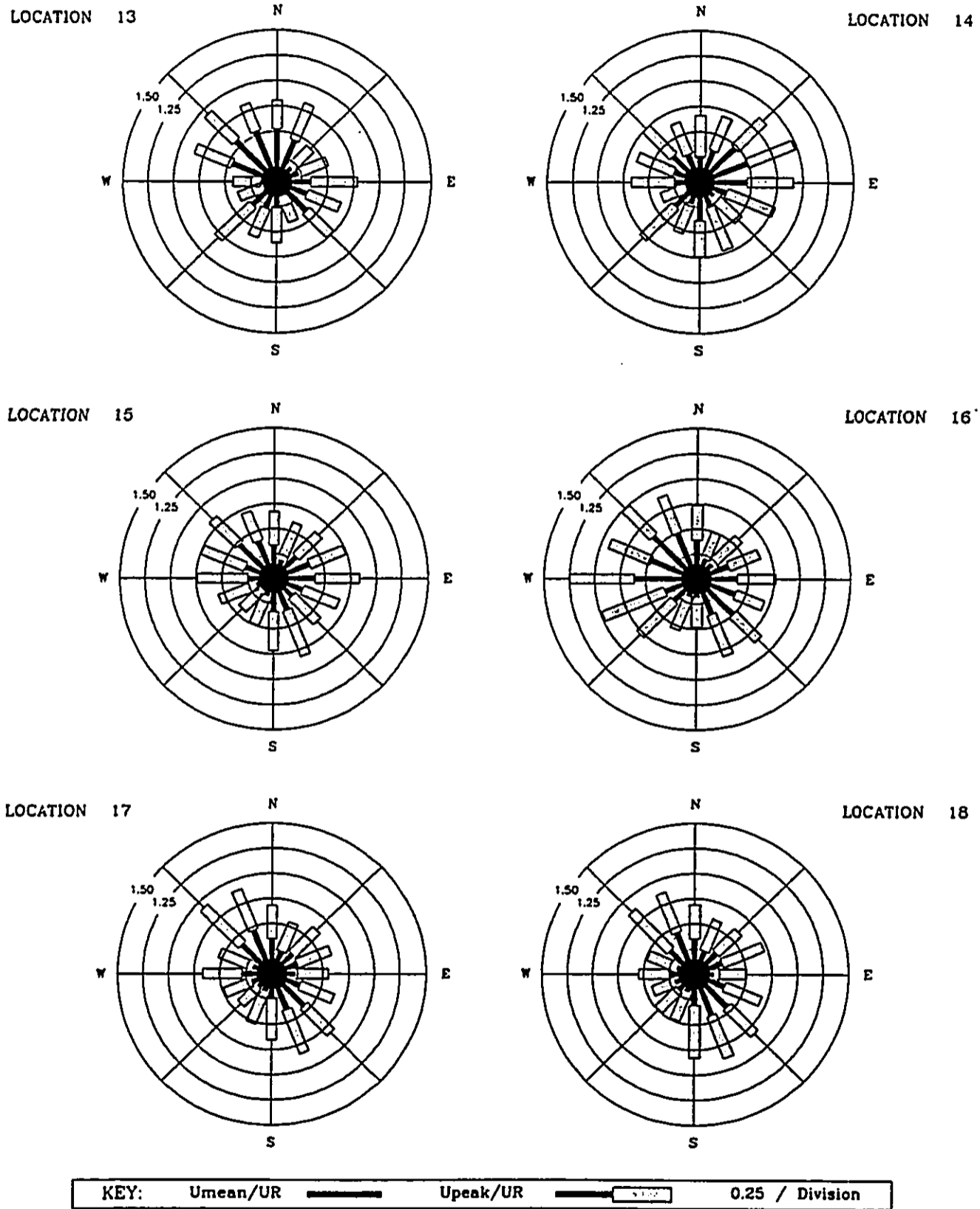
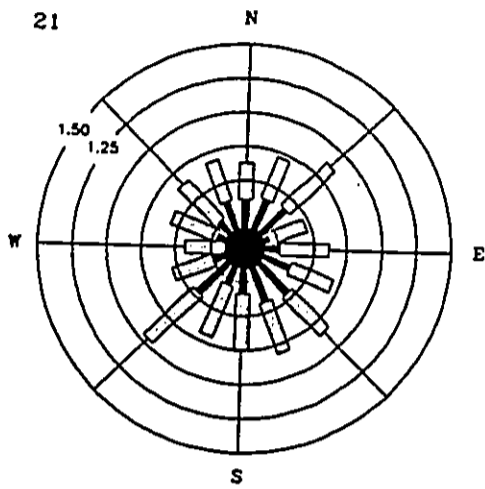


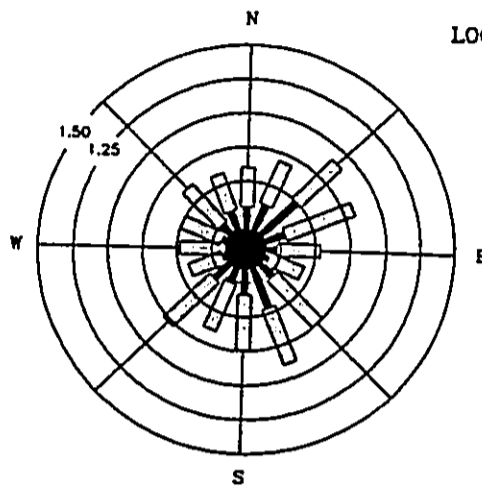
Figure 6j Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

Waikiki Landmark
Conf B - Waikiki Landmark out, with area model

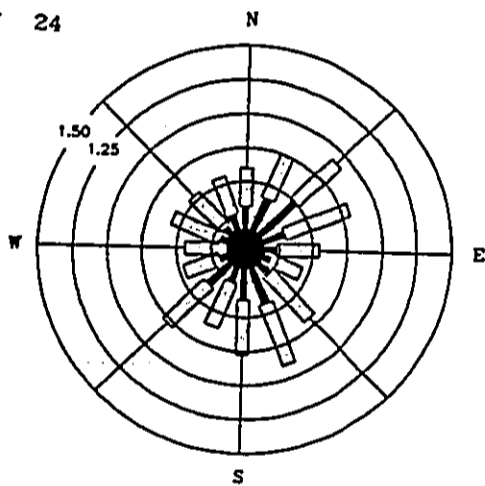
LOCATION 21



LOCATION 23



LOCATION 24




KEY: U_{mean}/UR  U_{peak}/UR  0.25 / Division

Figure 6k Non-dimensional Mean Velocities and Peak Gusts at Pedestrian Locations

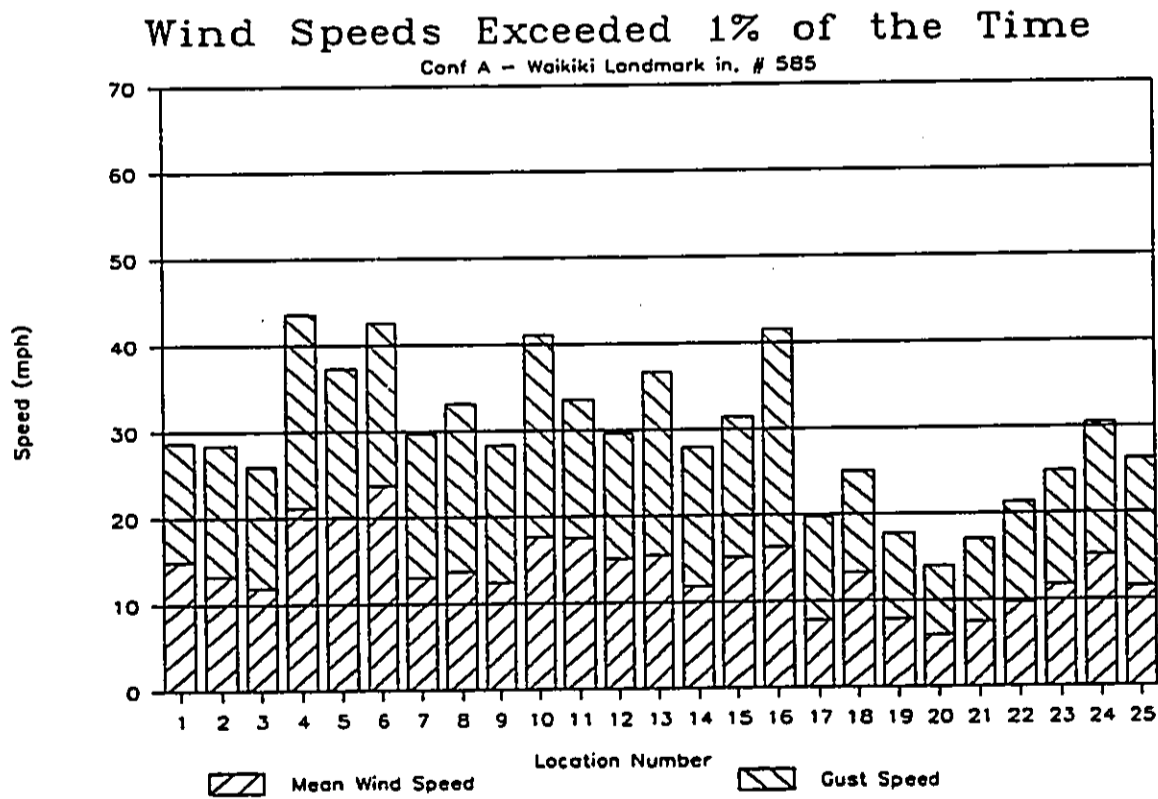
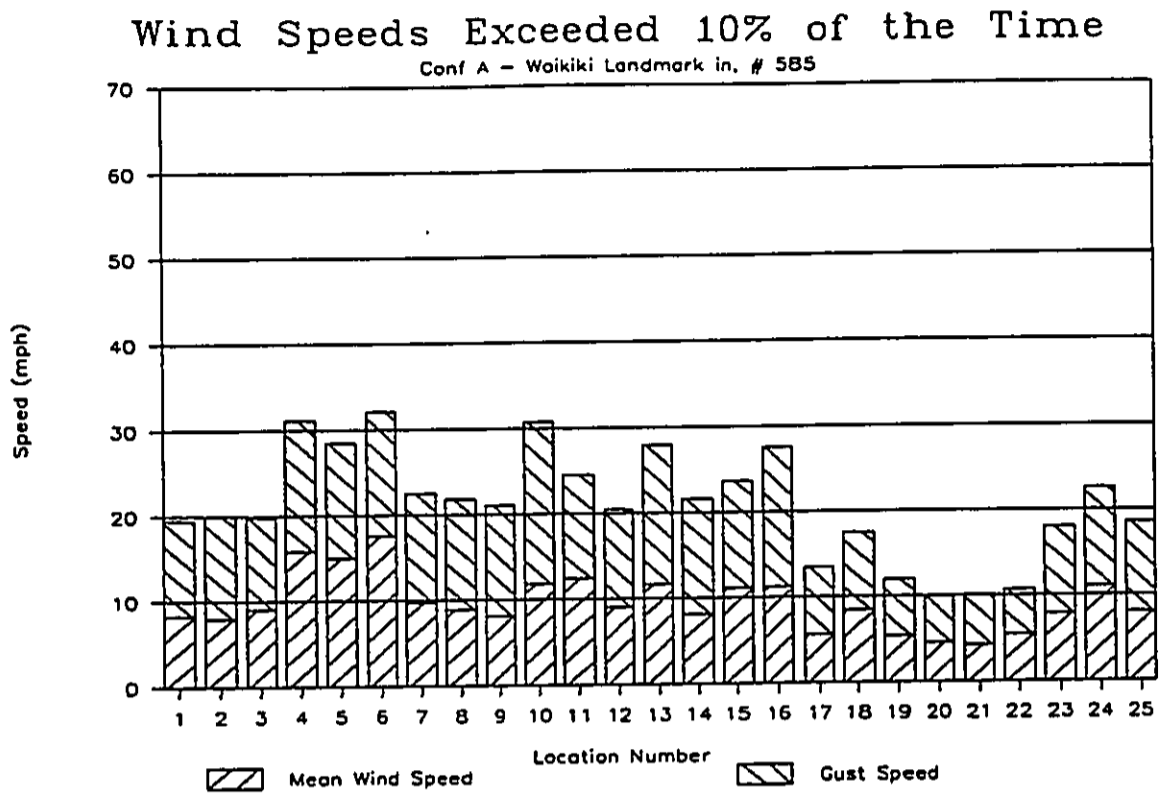


Figure 7a Wind Speeds Exceeded 10 Percent and 1 Percent of the Time

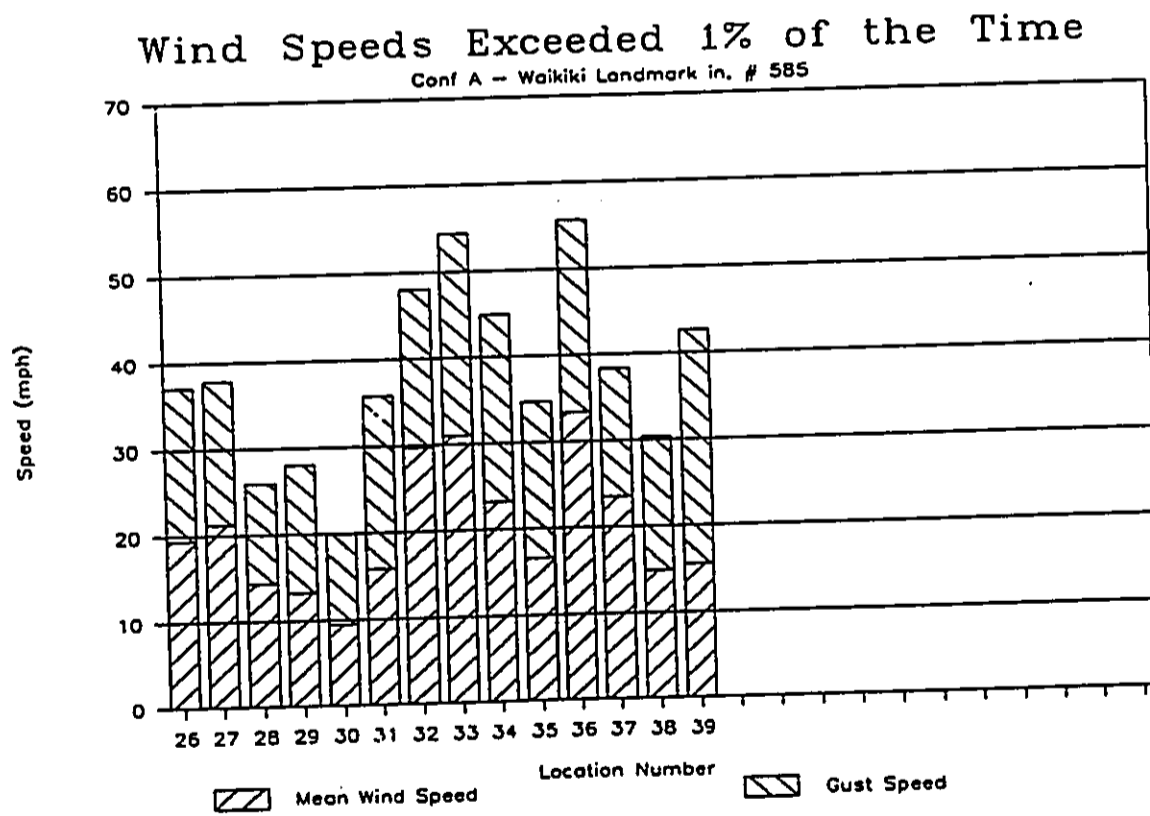
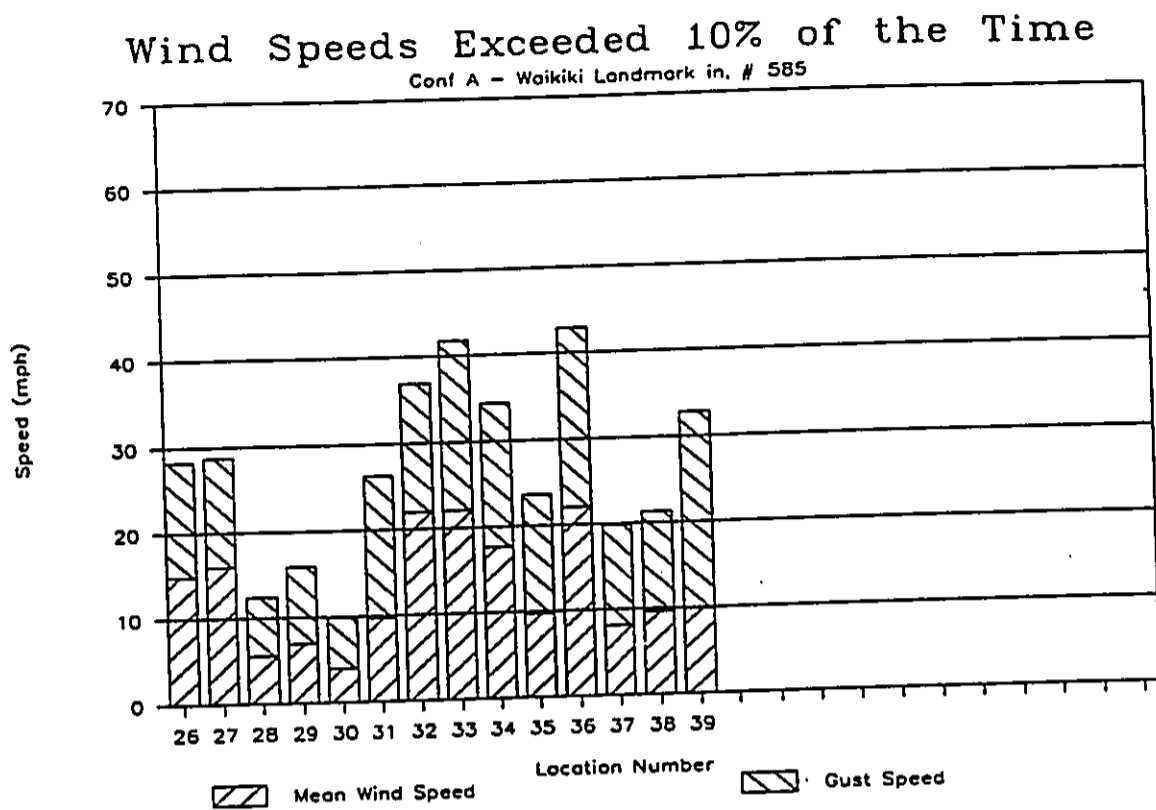


Figure 7b Wind Speeds Exceeded 10 Percent and 1 Percent of the Time

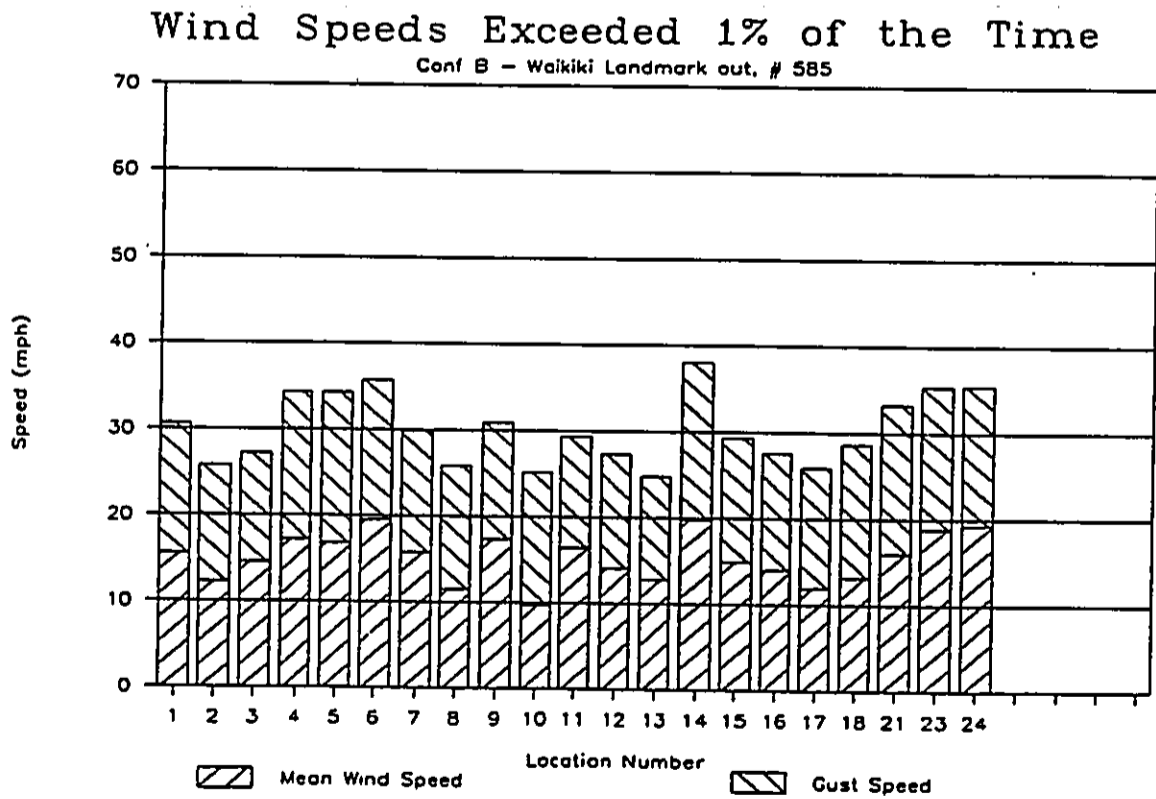
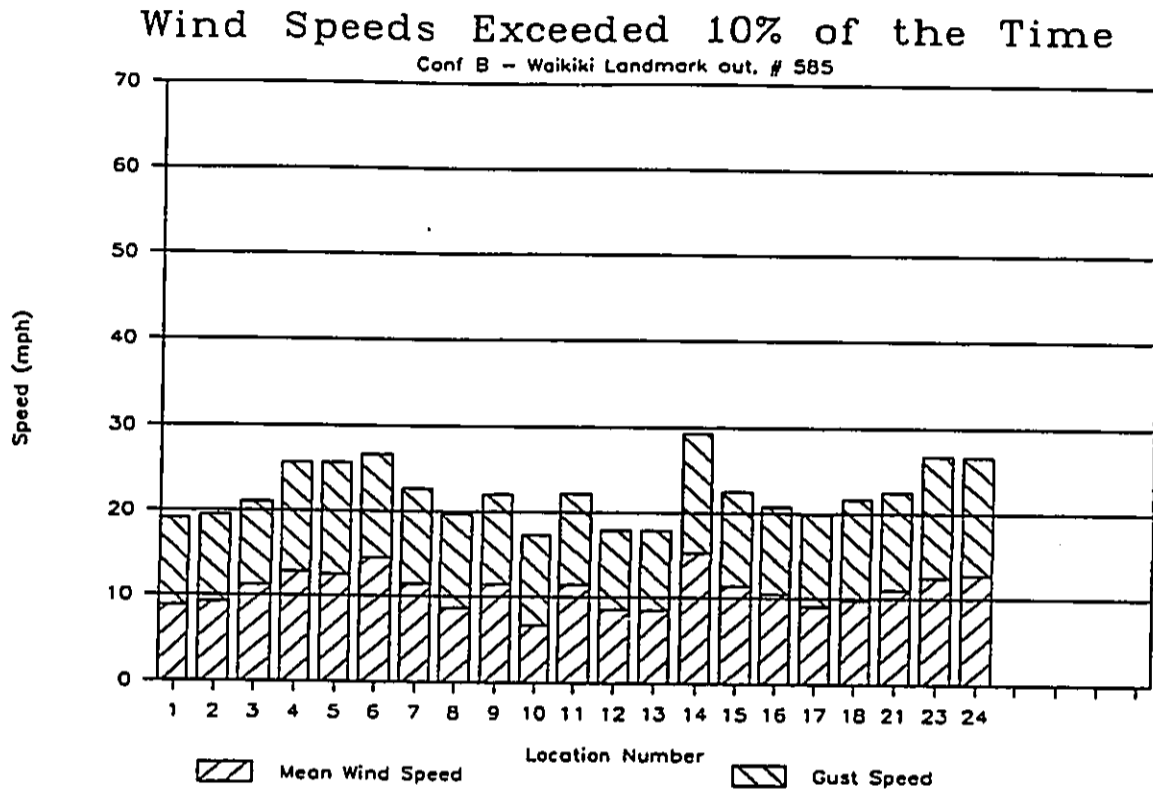


Figure 7c Wind Speeds Exceeded 10 Percent and 1 Percent of the Time

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 1				Location 2			
.0	38.1	11.5	72.7	.0	34.1	14.7	78.3
22.5	29.4	9.9	59.0	22.5	23.6	10.2	54.1
45.0	23.4	9.4	51.5	45.0	20.6	9.8	50.0
67.5	18.8	13.2	58.4	67.5	23.4	13.6	64.3
90.0	25.1	14.2	67.7	90.0	27.4	14.1	69.6
112.5	44.2	9.5	72.7	112.5	43.5	9.7	72.5
135.0	34.4	13.1	73.8	135.0	38.1	13.8	79.5
157.5	57.8	20.4	118.9	157.5	58.1	21.6	122.9
180.0	56.0	14.1	98.1	180.0	23.2	15.1	68.5
202.5	38.2	16.7	88.3	202.5	19.5	9.8	48.9
225.0	16.0	9.4	44.1	225.0	19.2	8.9	45.9
247.5	12.0	6.4	31.2	247.5	24.0	12.3	60.9
270.0	32.0	19.1	89.5	270.0	57.2	17.0	108.3
292.5	45.9	17.3	97.8	292.5	45.7	10.9	78.4
315.0	51.2	10.8	83.7	315.0	47.9	12.3	84.7
337.5	55.9	13.1	95.2	337.5	43.9	15.1	89.1
Location 3				Location 4			
.0	29.5	16.1	77.8	.0	30.8	11.9	66.6
22.5	17.9	10.9	50.6	22.5	19.1	13.2	58.8
45.0	19.9	10.2	50.5	45.0	53.9	20.3	114.8
67.5	28.9	11.7	64.1	67.5	48.3	13.5	88.9
90.0	33.2	13.3	73.0	90.0	47.9	13.8	89.3
112.5	41.5	10.1	71.8	112.5	49.3	12.8	87.8
135.0	31.9	14.7	76.0	135.0	47.5	14.6	91.3
157.5	28.1	16.7	78.2	157.5	36.5	15.6	83.3
180.0	30.2	14.4	73.4	180.0	22.7	12.4	59.9
202.5	12.4	8.5	38.0	202.5	17.2	9.8	46.6
225.0	18.6	11.2	52.3	225.0	32.8	13.3	72.8
247.5	25.4	12.6	63.1	247.5	31.8	16.5	81.5
270.0	51.9	15.9	99.6	270.0	45.1	11.6	79.9
292.5	50.2	10.9	82.8	292.5	44.4	13.0	83.4
315.0	45.1	11.9	80.8	315.0	41.9	10.7	74.0
337.5	37.9	10.6	69.8	337.5	38.5	10.2	69.1
Location 5				Location 6			
.0	20.4	8.6	46.2	.0	27.4	13.4	67.7
22.5	22.2	13.0	61.2	22.5	26.1	11.3	60.1
45.0	35.8	15.3	81.7	45.0	42.6	14.6	86.4
67.5	52.3	14.6	96.2	67.5	61.6	16.4	110.7
90.0	46.3	11.8	81.8	90.0	49.1	14.6	93.0
112.5	44.6	11.1	77.8	112.5	43.9	10.7	76.1
135.0	34.0	11.2	67.7	135.0	55.7	12.7	93.7
157.5	39.3	16.6	89.1	157.5	40.7	14.4	83.8
180.0	17.7	10.0	47.7	180.0	26.0	12.7	64.1
202.5	16.1	9.0	43.2	202.5	17.8	9.6	46.6
225.0	40.8	12.2	77.3	225.0	54.0	15.8	101.5
247.5	40.5	14.3	83.3	247.5	54.3	14.2	96.9
270.0	46.9	11.2	80.4	270.0	53.3	12.4	90.5
292.5	49.1	12.2	85.9	292.5	63.8	17.5	116.4
315.0	39.2	12.2	75.7	315.0	55.9	14.9	100.5
337.5	29.8	9.6	58.7	337.5	32.7	13.9	74.3

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 7				Location 8			
.0	40.7	14.3	83.6	.0	17.3	10.2	47.9
22.5	29.9	16.4	79.2	22.5	18.4	11.1	51.7
45.0	30.3	14.9	75.0	45.0	35.9	17.1	87.3
67.5	29.0	12.7	67.2	67.5	18.1	11.6	52.8
90.0	23.4	10.1	53.6	90.0	13.9	7.8	37.3
112.5	32.2	11.6	67.1	112.5	16.6	11.0	49.5
135.0	36.9	11.9	72.4	135.0	24.2	15.3	70.1
157.5	36.1	15.7	83.1	157.5	23.7	14.1	66.0
180.0	22.8	12.5	60.4	180.0	26.0	14.0	68.0
202.5	17.5	9.6	46.4	202.5	18.4	9.5	47.0
225.0	16.7	11.3	50.7	225.0	16.3	8.5	41.8
247.5	24.5	17.7	77.6	247.5	29.2	9.3	57.2
270.0	52.1	19.8	111.4	270.0	35.1	11.2	68.8
292.5	49.3	15.4	95.6	292.5	28.7	11.2	62.2
315.0	59.5	14.6	103.3	315.0	25.1	12.8	63.5
337.5	49.3	15.0	94.2	337.5	17.5	11.7	52.7
Location 9				Location 10			
.0	17.3	13.0	56.4	.0	32.4	13.2	72.0
22.5	14.5	9.9	44.3	22.5	25.3	15.1	70.5
45.0	21.5	13.1	60.6	45.0	46.1	20.1	106.5
67.5	23.0	13.5	63.5	67.5	30.7	21.1	94.0
90.0	30.0	15.1	75.3	90.0	18.5	10.5	50.1
112.5	36.3	11.1	69.5	112.5	17.8	10.6	49.6
135.0	33.9	10.6	65.9	135.0	28.2	15.2	73.7
157.5	34.1	13.6	74.9	157.5	25.3	14.1	67.6
180.0	43.3	18.4	98.5	180.0	37.9	12.0	74.0
202.5	58.0	18.4	113.2	202.5	40.0	18.1	94.3
225.0	44.6	22.2	111.1	225.0	12.3	5.9	30.1
247.5	30.4	14.4	73.7	247.5	11.0	6.2	29.5
270.0	18.3	10.2	48.9	270.0	18.2	7.9	41.9
292.5	38.3	13.6	79.2	292.5	17.8	10.6	49.8
315.0	43.8	17.7	96.9	315.0	31.7	14.5	75.2
337.5	39.9	12.6	77.6	337.5	33.9	12.4	71.1
Location 11				Location 12			
.0	53.8	10.8	86.2	.0	52.8	10.2	83.4
22.5	53.6	12.8	92.1	22.5	45.9	11.9	81.5
45.0	44.4	14.3	87.2	45.0	27.3	13.5	67.7
67.5	33.2	12.5	70.8	67.5	17.7	12.6	55.4
90.0	25.8	12.4	62.9	90.0	17.7	11.6	52.4
112.5	18.1	11.2	51.8	112.5	25.1	11.9	60.9
135.0	25.3	8.3	50.4	135.0	39.1	12.1	75.5
157.5	44.9	8.5	70.5	157.5	64.9	16.0	113.0
180.0	44.5	10.6	76.3	180.0	42.7	19.1	99.9
202.5	35.2	12.5	72.6	202.5	26.7	13.6	67.5
225.0	18.0	9.4	46.3	225.0	23.9	13.4	64.2
247.5	18.4	9.5	46.9	247.5	19.0	10.3	50.0
270.0	30.1	15.4	76.2	270.0	22.4	10.3	53.3
292.5	17.0	10.4	48.3	292.5	36.8	15.9	84.4
315.0	28.8	12.8	67.3	315.0	34.4	13.3	74.5
337.5	46.7	11.2	80.4	337.5	52.2	11.2	85.9

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 13				Location 14			
.0	15.8	8.7	41.8	.0	32.7	11.8	67.9
22.5	30.3	13.5	70.8	22.5	27.1	14.5	70.5
45.0	36.3	14.9	80.9	45.0	24.4	14.1	66.7
67.5	37.9	18.8	94.4	67.5	23.0	14.6	66.6
90.0	29.6	18.2	84.2	90.0	22.9	14.3	65.7
112.5	9.4	6.5	28.8	112.5	18.0	11.6	52.7
135.0	12.2	9.5	40.8	135.0	31.0	12.8	69.5
157.5	29.2	13.8	70.6	157.5	44.7	15.0	89.7
180.0	36.1	13.5	76.6	180.0	41.4	13.6	82.2
202.5	33.0	10.6	65.0	202.5	22.9	10.5	54.5
225.0	35.2	16.6	85.1	225.0	30.6	13.1	70.0
247.5	20.0	9.4	48.3	247.5	18.8	10.5	50.4
270.0	16.6	10.3	47.6	270.0	18.0	13.2	57.7
292.5	19.7	12.4	56.9	292.5	42.2	18.2	96.7
315.0	16.7	9.0	43.8	315.0	50.9	13.0	90.0
337.5	15.9	8.6	41.8	337.5	39.5	11.5	74.1
Location 15				Location 16			
.0	21.9	11.9	57.5	.0	40.1	13.6	81.0
22.5	23.8	12.1	60.1	22.5	30.1	12.3	67.2
45.0	21.9	11.6	56.7	45.0	42.0	22.6	109.7
67.5	37.7	14.0	79.8	67.5	24.7	14.2	67.5
90.0	44.0	15.2	89.6	90.0	17.1	9.0	44.1
112.5	36.3	13.1	75.6	112.5	24.1	9.8	53.4
135.0	28.7	12.1	65.1	135.0	43.9	13.7	85.0
157.5	28.7	18.8	84.9	157.5	40.9	12.7	78.9
180.0	14.3	6.5	33.8	180.0	35.6	13.4	75.7
202.5	9.9	4.4	23.2	202.5	26.8	11.8	62.2
225.0	13.3	6.2	31.9	225.0	24.0	13.4	64.2
247.5	23.4	11.3	57.2	247.5	30.6	19.2	88.2
270.0	44.9	19.0	102.0	270.0	59.5	16.2	108.1
292.5	45.0	12.6	82.9	292.5	52.7	18.1	107.0
315.0	52.0	11.3	85.9	315.0	62.2	17.3	114.0
337.5	38.8	11.0	71.8	337.5	48.7	17.6	101.5
Location 17				Location 18			
.0	15.1	5.9	32.7	.0	22.7	7.0	43.7
22.5	14.9	6.1	33.1	22.5	22.1	8.4	47.3
45.0	19.9	10.6	51.8	45.0	28.2	10.5	59.7
67.5	15.8	6.8	36.3	67.5	22.2	8.9	48.8
90.0	8.4	2.9	17.2	90.0	11.4	7.0	32.5
112.5	8.8	3.3	18.8	112.5	9.8	7.4	31.9
135.0	10.5	4.3	23.4	135.0	25.4	8.0	49.3
157.5	10.1	5.2	25.8	157.5	53.2	11.7	88.5
180.0	10.6	5.7	27.6	180.0	46.3	13.8	87.7
202.5	11.7	7.2	33.2	202.5	22.8	11.6	57.7
225.0	7.6	4.2	20.1	225.0	27.2	11.7	62.4
247.5	8.4	4.6	22.4	247.5	28.3	8.3	53.3
270.0	12.1	6.6	31.8	270.0	25.9	9.5	54.4
292.5	12.9	7.2	34.4	292.5	14.5	12.1	50.7
315.0	21.9	11.2	55.6	315.0	10.2	8.1	34.4
337.5	18.3	7.9	42.0	337.5	19.8	7.2	41.4

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 19				Location 20			
.0	25.7	6.1	44.2	.0	19.0	6.7	39.2
22.5	24.4	7.5	47.0	22.5	15.9	6.6	35.6
45.0	15.0	8.5	40.4	45.0	15.0	6.6	34.7
67.5	12.7	6.1	31.0	67.5	11.2	4.8	25.5
90.0	11.4	4.7	25.6	90.0	16.9	7.4	39.2
112.5	14.2	5.2	29.8	112.5	10.4	4.3	23.2
135.0	20.4	8.3	45.2	135.0	11.2	4.3	24.0
157.5	28.6	11.4	62.8	157.5	8.6	6.0	26.7
180.0	26.9	12.3	63.7	180.0	13.9	9.5	42.5
202.5	24.1	10.2	54.6	202.5	9.4	7.1	30.8
225.0	12.2	8.5	37.7	225.0	13.1	10.7	45.1
247.5	10.7	5.3	26.7	247.5	12.8	8.1	37.0
270.0	11.3	5.8	28.7	270.0	10.4	7.4	32.7
292.5	25.5	9.7	54.7	292.5	19.5	8.2	44.0
315.0	31.1	9.0	58.1	315.0	20.6	8.8	47.1
337.5	18.8	5.1	34.1	337.5	13.7	5.2	29.3
Location 21				Location 22			
.0	9.9	3.9	21.5	.0	12.0	4.9	26.9
22.5	9.6	3.6	20.4	22.5	14.9	5.4	31.0
45.0	12.1	5.5	28.6	45.0	16.7	5.5	33.2
67.5	10.2	4.1	22.4	67.5	12.3	4.7	26.4
90.0	14.0	9.1	41.3	90.0	10.9	4.1	23.1
112.5	18.1	10.4	49.4	112.5	14.1	7.0	35.0
135.0	27.9	10.0	57.9	135.0	34.3	13.6	75.1
157.5	26.4	12.9	65.3	157.5	37.9	15.4	84.3
180.0	19.2	10.5	50.8	180.0	30.3	12.5	67.8
202.5	17.2	10.1	47.7	202.5	19.3	7.5	41.7
225.0	24.3	10.6	56.0	225.0	16.5	8.3	41.3
247.5	17.7	9.7	46.8	247.5	11.0	4.3	23.8
270.0	19.3	11.3	53.3	270.0	11.8	4.8	26.3
292.5	29.1	11.5	63.7	292.5	13.1	6.4	32.4
315.0	21.4	10.3	52.4	315.0	16.0	8.1	40.3
337.5	10.4	4.8	24.7	337.5	16.2	5.9	33.8
Location 23				Location 24			
.0	13.8	5.5	30.3	.0	51.5	11.3	85.3
22.5	27.0	11.2	60.6	22.5	41.3	15.2	87.0
45.0	30.3	11.5	64.7	45.0	38.0	13.4	78.3
67.5	20.2	10.5	51.6	67.5	29.8	11.5	64.2
90.0	18.0	9.0	45.1	90.0	35.2	11.1	68.5
112.5	14.0	6.4	33.2	112.5	20.4	9.6	49.1
135.0	28.3	11.9	64.0	135.0	36.8	12.7	75.0
157.5	23.9	12.1	60.3	157.5	45.1	12.6	83.0
180.0	18.4	10.5	49.8	180.0	38.3	12.8	76.6
202.5	11.2	7.0	32.1	202.5	28.9	10.9	61.5
225.0	9.8	6.2	28.5	225.0	25.0	13.7	66.3
247.5	7.8	5.2	23.5	247.5	14.4	7.9	38.0
270.0	7.2	4.4	20.5	270.0	18.1	8.0	42.0
292.5	13.4	6.1	31.6	292.5	24.7	11.5	59.1
315.0	13.5	6.0	31.5	315.0	27.4	12.2	64.1
337.5	14.0	4.9	28.6	337.5	33.5	8.3	58.3

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 25				Location 26			
.0	37.4	10.5	68.8	.0	29.7	13.4	69.8
22.5	26.8	10.1	57.1	22.5	32.1	14.6	76.0
45.0	28.2	11.9	63.9	45.0	41.3	12.5	78.9
67.5	22.6	10.0	52.6	67.5	49.2	14.4	92.4
90.0	21.7	9.5	50.3	90.0	52.1	20.7	114.3
112.5	18.5	7.3	40.4	112.5	47.7	15.1	92.9
135.0	40.2	21.5	104.6	135.0	45.1	13.5	85.6
157.5	25.5	15.3	71.5	157.5	20.3	10.4	51.4
180.0	15.4	6.9	36.1	180.0	22.1	9.6	50.9
202.5	9.3	4.8	23.7	202.5	10.8	5.5	27.3
225.0	10.7	6.4	30.0	225.0	9.0	4.4	22.3
247.5	14.4	9.4	42.4	247.5	15.7	6.4	34.7
270.0	14.4	8.4	39.5	270.0	15.6	8.6	41.2
292.5	19.7	10.2	50.4	292.5	36.6	10.5	68.1
315.0	23.1	10.7	55.2	315.0	47.0	12.2	83.5
337.5	28.7	10.8	61.0	337.5	44.5	13.2	84.1
Location 27				Location 28			
.0	22.7	11.8	58.2	.0	15.7	5.6	32.5
22.5	30.0	14.4	73.0	22.5	15.4	6.5	35.0
45.0	53.4	14.7	97.4	45.0	12.8	6.9	33.6
67.5	50.3	12.8	88.7	67.5	13.2	6.8	33.5
90.0	32.4	12.1	68.8	90.0	7.9	5.6	24.6
112.5	20.4	10.0	50.3	112.5	14.7	12.5	52.2
135.0	19.8	11.1	53.1	135.0	51.2	11.6	86.0
157.5	32.6	15.2	78.3	157.5	55.1	13.0	94.1
180.0	31.4	12.2	68.1	180.0	47.4	16.6	97.0
202.5	31.8	13.7	72.8	202.5	22.3	13.4	62.4
225.0	14.2	9.1	41.6	225.0	21.5	13.5	62.1
247.5	17.3	12.4	54.3	247.5	22.7	11.3	56.5
270.0	44.1	21.4	108.2	270.0	19.0	10.0	49.0
292.5	37.9	15.0	83.0	292.5	11.1	8.9	37.8
315.0	41.9	13.7	83.1	315.0	12.6	7.4	34.8
337.5	31.1	12.2	67.8	337.5	17.5	6.9	38.1
Location 29				Location 30			
.0	29.2	6.9	49.9	.0	15.1	7.7	38.2
22.5	20.2	8.5	45.5	22.5	12.2	6.6	32.1
45.0	20.2	10.6	51.8	45.0	10.8	6.0	28.9
67.5	16.9	7.9	40.5	67.5	7.8	3.5	18.3
90.0	13.9	6.1	32.1	90.0	10.3	5.4	26.5
112.5	21.1	9.1	48.4	112.5	17.8	12.9	56.5
135.0	44.2	15.4	90.5	135.0	40.9	12.1	77.1
157.5	55.7	19.1	112.9	157.5	32.5	14.8	77.0
180.0	39.9	18.4	95.2	180.0	20.9	11.5	55.5
202.5	18.0	12.1	54.3	202.5	15.9	8.9	42.5
225.0	14.7	8.9	41.5	225.0	26.0	9.6	54.9
247.5	18.6	9.2	46.3	247.5	11.3	7.2	32.8
270.0	19.0	14.2	61.7	270.0	14.0	11.7	49.1
292.5	28.3	14.7	72.4	292.5	24.7	11.4	59.0
315.0	36.8	12.9	75.4	315.0	15.2	6.9	36.0
337.5	32.3	9.5	60.9	337.5	15.8	7.7	38.8

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 31				Location 32			
.0	60.8	13.3	100.7	.0	41.6	15.1	86.9
22.5	28.7	16.8	79.2	22.5	63.4	16.5	112.7
45.0	21.2	10.7	53.3	45.0	77.4	14.4	120.6
67.5	29.3	19.5	87.7	67.5	66.3	16.8	116.8
90.0	30.3	18.8	86.8	90.0	37.6	21.9	103.1
112.5	34.2	15.6	81.1	112.5	30.9	21.0	93.9
135.0	66.7	18.7	122.7	135.0	23.3	13.9	65.1
157.5	54.6	21.6	119.3	157.5	24.1	15.6	70.8
180.0	38.9	19.2	96.7	180.0	28.0	16.3	77.0
202.5	24.1	13.9	65.7	202.5	21.4	11.6	56.1
225.0	12.6	8.8	39.0	225.0	25.0	13.7	66.1
247.5	20.7	11.8	56.0	247.5	36.5	11.4	70.6
270.0	11.0	8.6	36.9	270.0	40.8	13.6	81.5
292.5	28.3	11.8	63.8	292.5	50.9	12.7	89.0
315.0	37.3	13.4	77.4	315.0	48.5	13.7	89.8
337.5	37.4	14.3	80.2	337.5	28.1	10.8	60.5
Location 33				Location 34			
.0	42.9	21.3	107.0	.0	43.1	15.6	89.8
22.5	66.7	20.8	129.2	22.5	37.1	16.2	85.6
45.0	81.4	15.6	128.3	45.0	57.1	18.6	112.8
67.5	63.6	24.8	138.0	67.5	56.4	17.4	108.6
90.0	33.2	19.8	92.8	90.0	47.3	18.9	104.0
112.5	26.9	12.4	64.2	112.5	37.4	16.8	87.8
135.0	42.6	22.6	110.5	135.0	29.1	13.2	68.7
157.5	45.9	17.4	98.0	157.5	53.8	15.6	100.8
180.0	42.8	16.0	90.8	180.0	43.1	15.1	88.5
202.5	21.5	10.4	52.9	202.5	29.0	14.2	71.4
225.0	17.6	11.0	50.4	225.0	14.0	9.4	42.3
247.5	21.3	10.8	53.8	247.5	17.3	10.1	47.6
270.0	22.4	13.6	63.1	270.0	39.5	19.0	96.5
292.5	32.0	14.4	75.2	292.5	47.4	17.0	98.5
315.0	28.1	14.1	70.3	315.0	45.8	17.6	98.5
337.5	24.4	12.7	62.4	337.5	44.2	14.1	86.4
Location 35				Location 36			
.0	64.3	13.3	104.2	.0	65.6	10.0	95.6
22.5	46.8	23.7	118.0	22.5	94.3	16.3	143.2
45.0	21.7	10.5	53.1	45.0	87.3	15.6	134.0
67.5	26.2	15.5	72.6	67.5	46.8	30.9	139.6
90.0	28.5	18.5	84.0	90.0	16.2	13.0	55.1
112.5	37.7	14.5	81.1	112.5	13.4	5.1	28.7
135.0	55.9	16.8	106.3	135.0	12.4	4.1	24.7
157.5	67.1	21.2	130.7	157.5	19.1	9.0	46.0
180.0	44.7	17.6	97.5	180.0	18.1	8.9	44.8
202.5	18.6	11.5	53.1	202.5	21.6	14.2	64.2
225.0	17.7	9.8	47.1	225.0	31.9	19.9	91.6
247.5	15.8	9.3	43.7	247.5	51.2	16.4	100.5
270.0	31.3	15.4	77.6	270.0	71.5	25.1	146.7
292.5	43.3	13.6	84.2	292.5	98.1	15.4	144.5
315.0	52.6	12.1	88.9	315.0	91.7	15.9	139.5
337.5	52.0	12.0	88.0	337.5	67.4	12.7	105.4

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 37				Location 38			
.0	23.7	9.3	51.5	.0	11.3	3.6	22.0
22.5	14.6	7.4	36.9	22.5	22.8	9.8	52.1
45.0	12.3	4.8	26.8	45.0	28.5	11.2	62.2
67.5	11.5	6.9	32.3	67.5	29.1	12.5	66.7
90.0	25.4	21.6	90.1	90.0	21.9	10.9	54.4
112.5	73.7	22.3	140.7	112.5	23.5	12.0	59.4
135.0	93.0	18.5	148.3	135.0	33.3	14.1	75.5
157.5	76.5	8.4	101.7	157.5	38.6	16.3	87.6
180.0	78.3	18.0	132.4	180.0	69.8	21.4	134.0
202.5	69.8	21.5	134.4	202.5	13.9	7.6	36.8
225.0	30.6	18.9	87.2	225.0	11.6	5.0	26.6
247.5	53.6	25.5	130.1	247.5	9.5	3.2	19.0
270.0	42.9	19.3	100.9	270.0	8.4	2.4	15.7
292.5	29.7	17.9	83.3	292.5	12.2	3.9	23.8
315.0	23.7	11.5	58.2	315.0	11.1	3.2	20.6
337.5	16.7	9.2	44.2	337.5	11.2	2.8	19.7
Location 39							
.0	24.7	12.1	61.1				
22.5	21.1	13.1	60.3				
45.0	26.6	24.1	98.8				
67.5	27.1	24.8	101.6				
90.0	44.6	29.5	133.3				
112.5	41.5	23.4	111.7				
135.0	26.2	13.2	65.7				
157.5	58.8	17.7	111.9				
180.0	47.3	15.8	94.8				
202.5	34.2	18.7	90.5				
225.0	20.3	14.2	62.8				
247.5	59.7	22.0	125.9				
270.0	33.9	19.5	92.4				
292.5	72.1	31.7	167.2				
315.0	25.7	16.8	76.0				
337.5	30.1	13.9	72.0				

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration A - Waikiki Landmark in place, with area model

>> GREATEST VALUES <<

Location	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Greatest Values of Umean/Uref				
36	292.5	98.1	15.4	144.5
36	22.5	94.3	16.3	143.2
37	135.0	93.0	18.5	148.3
36	315.0	91.7	15.9	139.5
36	45.0	87.3	15.6	134.0
33	45.0	81.4	15.6	128.3
37	180.0	78.3	18.0	132.4
32	45.0	77.4	14.4	120.6
37	157.5	76.5	8.4	101.7
37	112.5	73.7	22.3	140.7
39	292.5	72.1	31.7	167.2
36	270.0	71.5	25.1	146.7
38	180.0	69.8	21.4	134.0
37	202.5	69.8	21.5	134.4
36	337.5	67.4	12.7	105.4
Greatest Values of Urms/Uref				
39	292.5	72.1	31.7	167.2
36	67.5	46.8	30.9	139.6
39	90.0	44.6	29.5	133.3
37	247.5	53.6	25.5	130.1
36	270.0	71.5	25.1	146.7
39	67.5	27.1	24.8	101.6
33	67.5	63.6	24.8	138.0
39	45.0	26.6	24.1	98.8
35	22.5	46.8	23.7	118.0
39	112.5	41.5	23.4	111.7
33	135.0	42.6	22.6	110.5
16	45.0	42.0	22.6	109.7
37	112.5	73.7	22.3	140.7
9	225.0	44.6	22.2	111.1
39	247.5	59.7	22.0	125.9
Greatest Values of Upeak/Uref				
39	292.5	72.1	31.7	167.2
37	135.0	93.0	18.5	148.3
36	270.0	71.5	25.1	146.7
36	292.5	98.1	15.4	144.5
36	22.5	94.3	16.3	143.2
37	112.5	73.7	22.3	140.7
36	67.5	46.8	30.9	139.6
36	315.0	91.7	15.9	139.5
33	67.5	63.6	24.8	138.0
37	202.5	69.8	21.5	134.4
36	45.0	87.3	15.6	134.0
38	180.0	69.8	21.4	134.0
39	90.0	44.6	29.5	133.3
37	180.0	78.3	18.0	132.4
35	157.5	67.1	21.2	130.7

Typical Values For An Open-Country Site

Umean/Uref = 45-50 %

Urms/Uref = 10-12 %

Upeak/Uref = 75-85 %

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration B - Waikiki Landmark out, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 1				Location 2			
.0	37.4	10.3	68.2	.0	34.0	13.1	73.4
22.5	28.6	8.5	54.2	22.5	28.1	9.6	57.0
45.0	25.6	8.2	50.2	45.0	27.4	9.4	55.5
67.5	20.8	12.0	56.9	67.5	27.2	11.5	61.6
90.0	26.7	13.4	66.9	90.0	29.5	13.0	68.7
112.5	45.0	9.3	72.9	112.5	42.3	9.3	70.1
135.0	36.4	12.0	72.4	135.0	39.4	11.8	74.7
157.5	61.9	23.0	131.0	157.5	45.0	15.8	92.4
180.0	57.1	15.3	103.0	180.0	16.9	11.3	50.8
202.5	38.1	16.6	88.0	202.5	25.2	12.4	62.3
225.0	17.3	9.8	46.6	225.0	21.1	10.3	52.1
247.5	16.8	10.5	48.2	247.5	20.6	11.0	53.6
270.0	46.5	20.0	106.3	270.0	44.8	14.1	87.1
292.5	34.4	14.6	78.1	292.5	40.2	11.0	73.3
315.0	48.9	10.4	80.1	315.0	47.1	10.7	79.3
337.5	52.8	11.6	87.8	337.5	41.1	13.2	80.7
Location 3				Location 4			
.0	21.6	12.7	59.9	.0	35.3	10.0	65.3
22.5	25.9	12.5	63.5	22.5	27.6	12.7	65.6
45.0	34.3	9.3	62.3	45.0	21.8	11.9	57.5
67.5	35.7	10.4	66.9	67.5	43.7	14.9	88.3
90.0	35.7	12.6	73.6	90.0	42.1	12.7	80.3
112.5	43.2	9.8	72.6	112.5	45.4	11.1	78.9
135.0	32.4	14.7	76.5	135.0	39.6	12.9	78.3
157.5	19.1	13.3	59.0	157.5	46.4	17.2	98.1
180.0	36.9	13.6	77.8	180.0	37.9	13.8	79.2
202.5	17.2	9.5	45.6	202.5	22.0	11.6	56.9
225.0	21.2	10.9	53.9	225.0	44.8	14.5	88.2
247.5	19.9	12.3	56.8	247.5	42.0	19.6	100.8
270.0	36.8	14.4	80.0	270.0	49.3	13.9	91.0
292.5	36.1	11.3	69.9	292.5	48.6	12.0	84.6
315.0	39.2	9.8	68.5	315.0	39.5	11.2	73.1
337.5	36.1	10.7	68.3	337.5	38.0	9.9	67.8
Location 5				Location 6			
.0	25.1	8.4	50.2	.0	24.0	11.7	59.0
22.5	19.4	8.9	46.1	22.5	19.8	9.3	47.6
45.0	24.7	12.5	62.1	45.0	26.2	11.6	60.9
67.5	42.0	15.5	88.5	67.5	48.9	13.9	90.6
90.0	43.3	11.3	77.3	90.0	49.0	12.1	85.2
112.5	43.7	11.1	77.0	112.5	49.1	9.6	78.0
135.0	40.2	10.0	70.2	135.0	52.2	11.4	86.3
157.5	49.3	14.1	91.7	157.5	43.9	20.6	105.7
180.0	26.8	14.1	69.2	180.0	14.5	7.3	36.4
202.5	17.3	10.4	48.4	202.5	21.8	12.8	60.4
225.0	52.0	14.7	96.1	225.0	66.3	16.9	117.0
247.5	52.5	17.0	103.7	247.5	69.6	16.7	119.7
270.0	54.6	13.3	94.3	270.0	65.2	16.1	113.4
292.5	49.6	11.1	82.8	292.5	44.2	13.3	84.1
315.0	39.3	11.3	73.2	315.0	44.6	12.2	81.1
337.5	33.0	9.2	60.7	337.5	29.1	10.6	60.9

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration B - Waikiki Landmark out, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 7				Location 8			
.0	43.3	13.8	84.7	.0	17.0	9.2	44.7
22.5	32.8	14.7	77.0	22.5	18.9	9.0	45.9
45.0	26.2	12.7	64.3	45.0	27.1	10.6	58.9
67.5	35.7	11.1	68.9	67.5	27.0	12.5	64.5
90.0	46.5	13.2	86.1	90.0	15.8	9.4	43.9
112.5	53.9	11.3	88.0	112.5	19.0	11.1	52.2
135.0	58.3	12.6	96.1	135.0	23.5	13.3	63.5
157.5	42.4	18.5	98.0	157.5	30.1	17.9	83.7
180.0	14.9	8.0	39.0	180.0	15.4	8.8	41.9
202.5	18.2	8.8	44.6	202.5	18.2	10.6	50.0
225.0	24.4	14.5	68.0	225.0	15.5	7.9	39.4
247.5	29.7	19.7	88.9	247.5	24.0	10.1	54.2
270.0	56.0	20.9	118.8	270.0	37.9	11.6	72.7
292.5	48.3	15.1	93.5	292.5	24.0	9.3	51.9
315.0	61.7	14.2	104.2	315.0	18.7	9.5	47.3
337.5	52.9	13.6	93.6	337.5	16.4	9.9	46.1
Location 9				Location 10			
.0	30.2	11.4	64.3	.0	30.7	11.7	65.8
22.5	40.7	11.4	74.8	22.5	33.7	12.2	70.3
45.0	45.4	11.7	80.3	45.0	23.0	13.8	64.5
67.5	18.4	13.8	59.9	67.5	14.3	8.0	38.1
90.0	24.2	13.1	63.5	90.0	15.8	8.1	40.0
112.5	29.3	10.9	62.1	112.5	16.3	8.5	41.8
135.0	30.9	10.2	61.6	135.0	24.8	12.7	63.0
157.5	26.6	11.2	60.2	157.5	17.0	12.4	54.1
180.0	39.8	14.9	84.6	180.0	25.1	14.7	69.3
202.5	45.6	14.7	89.8	202.5	29.5	19.1	86.7
225.0	35.9	18.9	92.5	225.0	10.4	6.7	30.6
247.5	29.3	11.9	64.9	247.5	7.3	5.2	22.8
270.0	15.1	9.2	42.7	270.0	14.6	7.7	37.9
292.5	16.6	9.9	46.2	292.5	16.1	7.7	39.2
315.0	16.6	10.5	48.1	315.0	27.2	10.2	57.8
337.5	35.8	11.7	70.8	337.5	29.1	11.1	62.5
Location 11				Location 12			
.0	56.7	10.7	88.6	.0	50.5	9.7	79.7
22.5	61.7	11.2	95.3	22.5	40.9	13.5	81.3
45.0	36.8	11.4	71.0	45.0	19.7	9.0	46.8
67.5	30.2	12.4	67.2	67.5	20.5	9.6	49.3
90.0	23.3	11.1	56.7	90.0	29.7	14.3	72.5
112.5	20.2	10.1	50.5	112.5	31.9	11.2	65.4
135.0	32.3	8.1	56.7	135.0	42.6	11.4	76.9
157.5	48.1	9.8	77.4	157.5	56.4	14.3	99.4
180.0	50.4	12.2	87.0	180.0	44.6	18.0	98.7
202.5	44.9	14.6	88.7	202.5	27.9	13.1	67.1
225.0	20.5	11.4	54.7	225.0	18.7	11.0	51.8
247.5	22.9	11.7	58.1	247.5	15.4	9.4	43.7
270.0	29.3	15.8	76.7	270.0	20.4	9.7	49.4
292.5	21.0	10.6	52.7	292.5	44.9	12.1	81.1
315.0	34.7	11.7	69.7	315.0	53.4	12.6	91.2
337.5	45.7	11.4	79.9	337.5	52.5	9.8	82.0

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration B - Waikiki Landmark out, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 13				Location 14			
.0	52.5	9.3	80.4	.0	26.0	13.2	65.5
22.5	44.3	12.6	82.2	22.5	34.1	11.6	68.8
45.0	19.1	9.0	46.3	45.0	47.7	12.7	85.7
67.5	22.4	10.1	52.6	67.5	49.0	16.3	98.0
90.0	33.4	15.0	78.5	90.0	45.5	15.2	91.0
112.5	31.9	11.4	66.0	112.5	28.1	16.4	77.3
135.0	41.0	11.2	74.7	135.0	18.6	11.4	52.9
157.5	14.7	9.2	42.3	157.5	26.5	15.2	72.0
180.0	26.3	11.5	61.0	180.0	38.5	12.1	74.8
202.5	28.1	10.2	58.7	202.5	22.7	10.4	53.7
225.0	32.7	15.5	79.2	225.0	33.4	14.9	78.1
247.5	13.5	8.6	39.2	247.5	14.1	8.5	39.6
270.0	15.7	8.9	42.4	270.0	24.0	14.4	67.2
292.5	46.6	12.6	84.5	292.5	27.0	12.9	65.7
315.0	56.5	12.5	93.9	315.0	36.8	12.5	74.4
337.5	53.5	9.5	82.0	337.5	30.1	10.9	62.9
Location 15				Location 16			
.0	33.4	11.2	67.0	.0	39.1	11.5	73.6
22.5	19.6	13.2	59.3	22.5	21.7	9.3	49.5
45.0	30.5	10.4	61.7	45.0	20.3	12.3	57.1
67.5	37.6	12.0	73.7	67.5	33.4	10.5	65.0
90.0	40.5	14.4	83.7	90.0	39.2	12.5	76.7
112.5	30.4	12.3	67.4	112.5	40.4	9.7	69.5
135.0	25.1	11.6	60.0	135.0	49.7	11.7	84.9
157.5	33.9	16.0	82.0	157.5	38.3	14.4	81.6
180.0	33.4	12.9	72.1	180.0	18.1	10.2	48.7
202.5	18.4	10.2	48.9	202.5	18.4	11.7	53.6
225.0	15.5	9.0	42.5	225.0	30.7	15.7	77.8
247.5	17.6	12.6	55.4	247.5	32.9	21.9	98.5
270.0	25.2	16.2	73.7	270.0	61.6	21.2	125.3
292.5	29.3	14.9	74.0	292.5	47.9	14.7	91.9
315.0	47.6	11.9	83.3	315.0	60.2	13.1	99.5
337.5	40.0	10.3	71.0	337.5	48.8	13.5	89.3
Location 17				Location 18			
.0	35.2	11.0	68.3	.0	35.1	11.3	68.9
22.5	23.8	10.1	53.9	22.5	25.1	10.9	57.8
45.0	27.8	11.3	61.8	45.0	29.8	10.0	59.7
67.5	26.5	11.6	61.3	67.5	29.4	14.0	71.4
90.0	22.3	11.0	55.2	90.0	18.5	10.5	49.9
112.5	29.5	11.6	64.2	112.5	31.7	12.4	69.1
135.0	44.9	12.3	81.9	135.0	45.2	12.5	82.7
157.5	38.4	15.2	83.9	157.5	43.6	14.9	88.1
180.0	23.6	13.9	65.3	180.0	31.1	17.3	82.9
202.5	17.8	11.4	51.9	202.5	17.9	10.2	48.5
225.0	17.8	8.0	41.7	225.0	21.1	9.4	49.3
247.5	20.5	9.4	48.5	247.5	20.0	7.8	43.5
270.0	29.1	12.4	66.3	270.0	23.4	10.5	54.8
292.5	19.3	11.5	53.8	292.5	17.8	10.3	48.7
315.0	40.9	17.3	92.9	315.0	33.4	17.9	87.2
337.5	47.0	14.1	89.4	337.5	44.8	13.9	86.6

TABLE 1
NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration B - Waikiki Landmark out, with area model

Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Location 21				Location 23			
.0	36.0	9.0	62.9	.0	31.5	9.5	60.0
22.5	39.4	10.8	71.7	22.5	35.5	11.3	69.3
45.0	41.4	15.1	86.9	45.0	49.1	13.8	90.4
67.5	19.0	9.3	46.7	67.5	30.0	17.4	82.1
90.0	26.1	11.9	61.7	90.0	22.6	10.3	53.4
112.5	36.6	11.0	69.7	112.5	18.2	8.4	43.6
135.0	45.9	12.9	84.6	135.0	28.1	15.5	74.5
157.5	42.4	13.0	81.5	157.5	46.2	14.4	89.3
180.0	34.0	13.9	75.6	180.0	34.0	13.5	74.6
202.5	29.2	13.4	69.5	202.5	26.7	12.4	63.8
225.0	47.0	16.4	96.3	225.0	31.5	15.1	76.8
247.5	23.8	10.1	54.1	247.5	17.4	8.4	42.6
270.0	14.3	9.6	43.0	270.0	14.7	11.0	47.8
292.5	21.6	11.5	56.2	292.5	18.4	10.5	49.8
315.0	26.5	12.6	64.4	315.0	24.9	12.3	61.7
337.5	36.8	10.3	67.9	337.5	30.0	9.4	58.3
Location 24							
.0	31.7	9.4	59.9				
22.5	40.4	11.5	74.7				
45.0	50.5	13.7	91.5				
67.5	30.6	16.8	80.9				
90.0	22.7	10.4	53.8				
112.5	19.5	8.3	44.4				
135.0	24.5	14.9	69.1				
157.5	42.4	15.7	89.5				
180.0	37.1	13.3	77.1				
202.5	26.3	11.5	60.8				
225.0	36.5	13.7	77.7				
247.5	20.0	8.8	46.3				
270.0	13.7	9.9	43.3				
292.5	20.0	12.4	57.2				
315.0	21.6	10.6	53.5				
337.5	26.8	9.6	55.5				

TABLE 1

NON-DIMENSIONAL PEDESTRIAN WIND VELOCITIES AND PEAK GUSTS

Waikiki Landmark

Configuration B - Waikiki Landmark out, with area model

>> GREATEST VALUES <<

Location	Azimuth (deg)	Umean/Uref (%)	Urms/Uref (%)	Upeak/Uref (%)
Greatest Values of Umean/Uref				
6	247.5	69.6	16.7	119.7
6	225.0	66.3	16.9	117.0
6	270.0	65.2	16.1	113.4
1	157.5	61.9	23.0	131.0
7	315.0	61.7	14.2	104.2
11	22.5	61.7	11.2	95.3
16	270.0	61.6	21.2	125.3
16	315.0	60.2	13.1	99.5
7	135.0	58.3	12.6	96.1
1	180.0	57.1	15.3	103.0
11	.0	56.7	10.7	88.6
13	315.0	56.5	12.5	93.9
12	157.5	56.4	14.3	99.4
7	270.0	56.0	20.9	118.8
5	270.0	54.6	13.3	94.3
Greatest Values of Urms/Uref				
1	157.5	61.9	23.0	131.0
16	247.5	32.9	21.9	98.5
16	270.0	61.6	21.2	125.3
7	270.0	56.0	20.9	118.8
6	157.5	43.9	20.6	105.7
1	270.0	46.5	20.0	106.3
7	247.5	29.7	19.7	88.9
4	247.5	42.0	19.6	100.8
10	202.5	29.5	19.1	86.7
9	225.0	35.9	18.9	92.5
7	157.5	42.4	18.5	98.0
12	180.0	44.6	18.0	98.7
18	315.0	33.4	17.9	87.2
8	157.5	30.1	17.9	83.7
23	67.5	30.0	17.4	82.1
Greatest Values of Upeak/Uref				
1	157.5	61.9	23.0	131.0
16	270.0	61.6	21.2	125.3
6	247.5	69.6	16.7	119.7
7	270.0	56.0	20.9	118.8
6	225.0	66.3	16.9	117.0
6	270.0	65.2	16.1	113.4
1	270.0	46.5	20.0	106.3
6	157.5	43.9	20.6	105.7
7	315.0	61.7	14.2	104.2
5	247.5	52.5	17.0	103.7
1	180.0	57.1	15.3	103.0
4	247.5	42.0	19.6	100.8
16	315.0	60.2	13.1	99.5
12	157.5	56.4	14.3	99.4
12	180.0	44.6	18.0	98.7

Typical Values For An Open-Country Site

Umean/Uref = 45-50 %
 Urms/Uref = 10-12 %
 Upeak/Uref = 75-85 %

TABLE 2
PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED

Honolulu, Hawaii

Honolulu International Airport 1965-1974

Season: Annual
Number of Observations: 29215 Height of Measurement: 25 ft

AZIMUTH	0-3 mph	4-7 mph	8-12 mph	13-18 mph	19-24 mph	25-31 mph	>32 mph	TOTAL
N	0.5	2.5	1.3	0.5	0.0	---	---	4.8
NNE	0.3	1.2	1.6	1.5	0.2	0.0	---	4.7
NE	0.3	2.1	6.1	11.0	3.2	0.3	0.0	23.0
ENE	0.2	2.5	10.9	16.6	4.1	0.3	0.0	34.7
E	0.1	1.0	2.5	2.8	0.5	0.0	---	7.0
ESE	0.0	0.3	0.4	0.3	0.0	0.0	---	1.1
SE	0.0	0.3	0.8	1.0	0.1	0.0	---	2.2
SSE	0.1	0.4	1.2	0.7	0.1	---	---	2.4
S	0.1	0.5	1.4	0.6	0.1	0.0	---	2.7
SSW	0.0	0.3	0.8	0.3	0.0	---	---	1.5
SW	0.0	0.2	0.8	0.4	0.0	0.0	---	1.5
WSW	0.0	0.3	0.5	0.4	0.0	---	---	1.2
W	0.1	0.5	0.2	0.2	---	---	---	1.1
WNW	0.2	1.4	0.3	0.1	0.0	---	---	2.0
NW	0.4	2.3	0.8	0.1	0.0	0.0	---	3.8
NNW	0.5	2.3	0.8	0.2	0.0	---	---	3.8
CALM	2.5	---	---	---	---	---	---	2.5
TOTAL	5.4	18.3	30.6	36.5	8.5	0.7	0.0	100.00

TABLE 3
SUMMARY OF WIND EFFECTS ON PEOPLE

Description	Beaufort Number	Speed (mph)	Effects
Calm, light air	0,1	0-3	Calm, no noticeable wind.
Light breeze	2	4-7	Wind felt on face.
Gentle breeze	3	8-12	Wind extends light flag. Hair is disturbed. Clothing flaps.
Moderate breeze	4	13-18	Raises dust, dry soil, and loose paper. Hair disarranged.
Fresh breeze	5	19-24	Force of wind felt on body. Drifting snow becomes airborne. Limit of agreeable wind on land.
Strong breeze	6	25-31	Umbrellas used with difficulty. Hair blown straight. Difficult to walk steadily. Wind noise on ears unpleasant Windborne snow above head height (blizzard).
Near gale	7	32-38	Inconvenience felt when walking.
Gale	8	39-46	Generally impedes progress. Great difficulty with balance in gusts.
Strong gale	9	47-54	People blown over by gusts.

NOTE: Table from Penwarden and Wise, 1975.

TABLE 4
 COMPARISONS OF WIND SPEEDS TO PEDESTRIAN COMFORT CRITERIA
 Waikiki Landmark
 Conf A - Waikiki Landmark in place, with area model

Location	Criteria of Melbourne (1978)				Criteria of Hunt, Poulton Mumford (1976)			Criteria of Lawson and Penwarden (1975)				Criteria of Penward & Wise (1975)		Criteria of Isyumov and Davenport (1975)									
	Lng	Sht	Wlk	Ucf	Uac	Lng	Plz	Wlk	Uac	Cov	Std	Wlk	Ucf	Uac	NRm	Rem	Lng	Sht	Str	Wlk	Ucf	Uac	
1																							
2																							
3																							
4																							
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38																							
39																							

KEY

Lng - acceptable for long duration activities
 Cov - acceptable for covered areas
 Sht - acceptable for short duration activities
 Std - acceptable for standing areas
 Plz - acceptable for plazas
 Str - acceptable for strolling

Wlk - acceptable for walkways
 Ucf - uncomfortable for walkways
 Uac - unacceptable or dangerous
 NRm - no remedial action necessary
 Rem - remedial action recommended

• - indicates Conf A criteria
 o - indicates Conf B criteria, where different

TABLE 4
 COMPARISONS OF WIND SPEEDS TO PEDESTRIAN COMFORT CRITERIA
 Waikiki Landmark
 Conf B - Waikiki Landmark out, with area model

Location	Criteria of Melbourne (1978)					Criteria of Hunt, Poulton Mumford (1976)				Criteria of Lawson and Penwarden (1975)					Criteria of Penward & Wise (1975)		Criteria of Isyumov and Davenport (1975)					
	Lng	Sht	Wlk	Ucf	Uac	Lng	Plz	Wlk	Uac	Cov	Std	Wlk	Ucf	Uac	NRm	Rem	Lng	Sht	Str	Wlk	Ucf	Uac
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
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14																						
15																						
16																						
17																						
18																						
21																						
23																						
24																						

KEY

Lng - acceptable for long duration activities	Wlk - acceptable for walkways
Cov - acceptable for covered areas	Ucf - uncomfortable for walkways
Sht - acceptable for short duration activities	Uac - unacceptable or dangerous
Std - acceptable for standing areas	NRm - no remedial action necessary
Plz - acceptable for plazas	Rem - remedial action recommended
Str - acceptable for strolling	

TABLE 5
CONFIGURATIONS FOR DATA ACQUISITION

Configuration A:

- Geometry** - **WAIKIKI LANDMARK, Honolulu, Hawaii, in place, with surrounding area model.**
- Velocities** - **Pedestrian winds measured for 16 wind directions, in 22.5-degree increments from 0, for locations 1 - 39 (see Figure 5 for details).**

Configuration B:

- Geometry** - **WAIKIKI LANDMARK out (flat site), with area model.**
- Velocities** - **Pedestrian winds measured for 16 wind directions, in 22.5-degree increments from 0, for locations 1 - 18, 21, and 23 - 24 (see Figure 5 for details).**

Appendix K

WAIKIKI LANDMARK
SHADOW STUDY
ARCHITECTS HAWAII LTD.

- 1.0 **PURPOSE:** The purpose of this study was to determine the impact of shadows cast on surrounding properties by the proposed Waikiki Landmark Project.
- 2.0 **DESCRIPTION:** The project site is triangular and bordered by three streets: McCully Street, Kalaukua Avenue and Ala Wai Boulevard. The area considered is shown in Attachment A. Three site conditions were considered in the study: 1) the existing conditions; 2) the proposed project scheme with two towers linked at the top, situated toward McCully Street (Scheme 1); and 3) the proposed project scheme with two independent towers situated toward Ala Wai Boulevard (Scheme 2).
- 3.0 **PROCEDURE:** Shadows cast by scale models of the two proposed designs were photographed on a model of the site (scale 1" = 50'-0"). Since the existing buildings on the site are two-story or less and do not cast significant shadows, the existing conditions were modeled as a flat, empty site. This allowed the shadows cast by surrounding buildings to be seen clearly.

The site model was positioned for the months and times of day indicated, using a sun path indicator manufactured by the Crowther Solar Group. The shadows for each condition were photographed for the 21st day of each month at two hour increments (6 AM, 8 AM, 10 AM, 12 Noon, 2 PM, 4 PM and 6 PM). As the sun's path is symmetrical in the fall and spring, seven months were photographed to represent a complete year. The photographs were examined to determine the shadow patterns created by the two proposed building schemes as well as the prevailing shadow patterns created by the existing conditions surrounding the site.

- 4.0 **CRITERIA:** Shadows reaching the sidewalk on the opposite side of a street from the project were judged to have an impact to be recorded. The depth to which the shadows reached into the properties opposite the project was not considered. The same impact was judged whether a shadow merely touched the sidewalk or extended deeply into the properties, since it was felt that the additional variable would make the study difficult to quantify. Shadows that did not reach the opposite sidewalk or remained on the project site were judged not to have an impact.

When a shadow reached the sidewalk opposite the site, the percentage of length of the sidewalk in shadow was estimated and recorded numerically. Note that this shadow length included the shadows from both the proposed and existing buildings.

5.0 RESULTS:

The results of the study are shown photographically at Attachment B and numerically at Attachment C. The numbers in the numerical chart represent the fraction of the full sidewalk length of each street which is in shadow at the hour indicated, for the individual months noted and as an average of those monthly fractions for the entire year. Note that the shadows at 6 AM and 6 PM, although photographed, were not evaluated since they were found to be so long, due to extremely low sun angles, that the results were meaningless.

In general, there is no shadow impact on McCully Street from the buildings in the proposed project until after 12 noon, since the sun is in the east and casting shadows to the west, although shadows are cast on the street from the surrounding buildings. Similarly, there is no impact on Kalakaua Avenue from the project after 12 noon, since the sun is then in the west and casting shadows to the east. There is an impact on Ala Wai Boulevard throughout the day, but generally only during the later months of the year when the sun at noon is at a low angle.

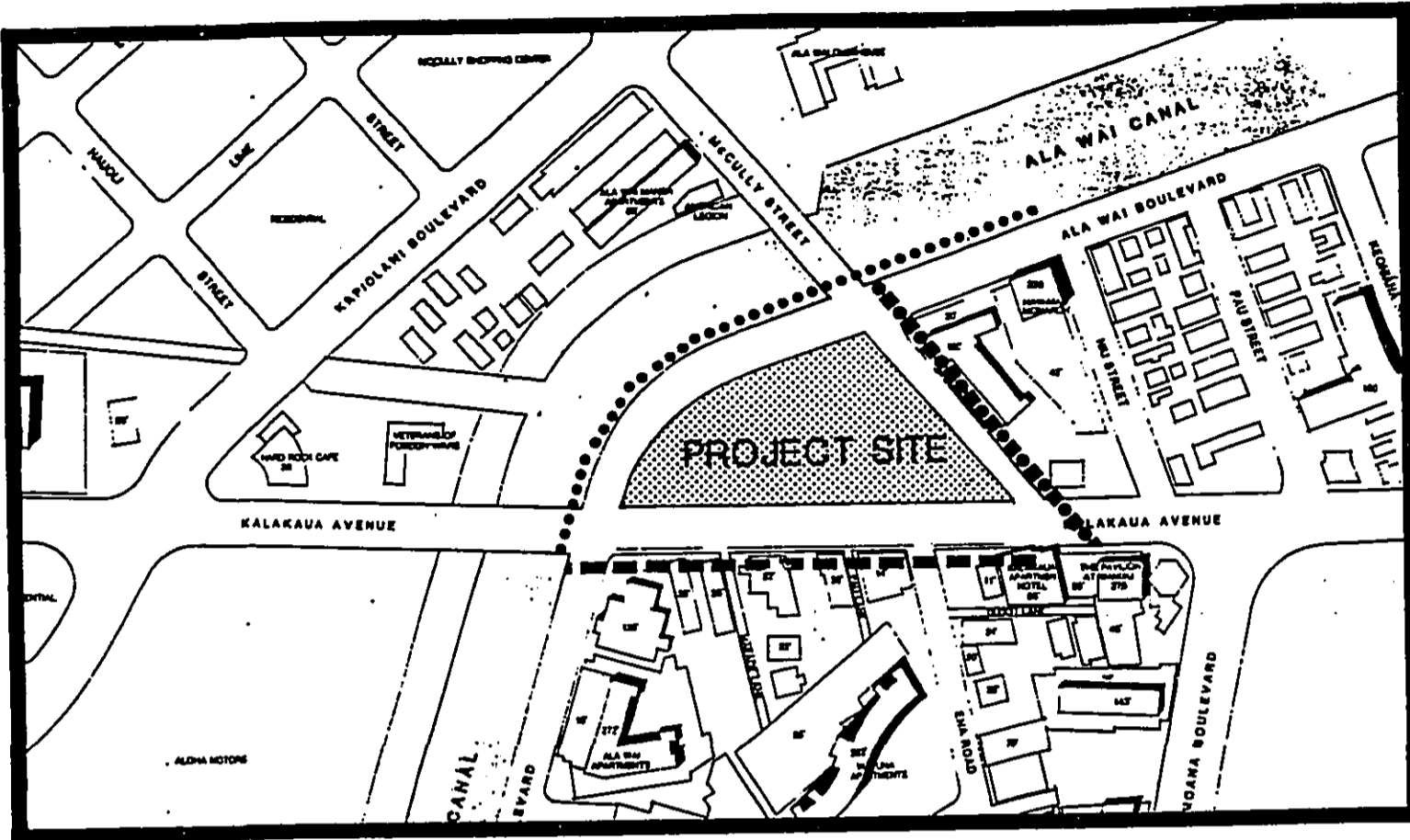
McCully Street was found to be in shadow from existing buildings for 54% of its length throughout the year at 8 AM and for 41% at 10 AM. Scheme 1 creates an average of 4% more shadow at 2 PM throughout the year than does Scheme 2. However, Scheme 2 creates 4% more shadow at 4 PM than does Scheme 1. The maximum impact occurs with Scheme 2 at 4 PM, increasing shadow from 19% to 56% for a 37% increase (vs a 33% increase for Scheme 1).

Kalakaua Avenue was found to be in shadow from existing buildings for 9% of its length at 2 PM and 48% at 4 PM. Scheme 1 creates an average of 6% more shadow at 8 AM than does Scheme 2, and at 5% more at 10 AM. However, the total shadow cast by all buildings at 10 AM is only 6%. The maximum impact occurs with Scheme 1 at 8 AM, increasing shadow from 24% to 50% for a 26% increase (vs a 20% increase for Scheme 2).

Ala Wai Boulevard is impacted by both schemes throughout the day. Scheme 2 consistently casts greater shadows than Scheme 1: 17% vs 14% at 10 AM, 19% vs 13% at 12 noon, and 36% vs 32% at 2 PM, except that at 4 PM Scheme 1 casts a 66% shadow vs 56% for Scheme 2. The maximum impact occurs with Scheme 1 at 4 PM, increasing shadow from 46% to 66% for a 20% increase (vs a 10% increase for Scheme 2).

6.0 CONCLUSION:

There can be no clear conclusion drawn that either scheme creates a significantly greater shadow impact than the other for all three streets throughout the year. It can be found that one scheme creates a greater impact on any one street during a particular month than does the other, and in general Scheme 1 has a somewhat greater impact on McCully Street and on Kalakaua Avenue than does Scheme 2, but Scheme 2 has a similarly greater impact on Ala Wai Boulevard than does Scheme 1.



VICINITY MAP

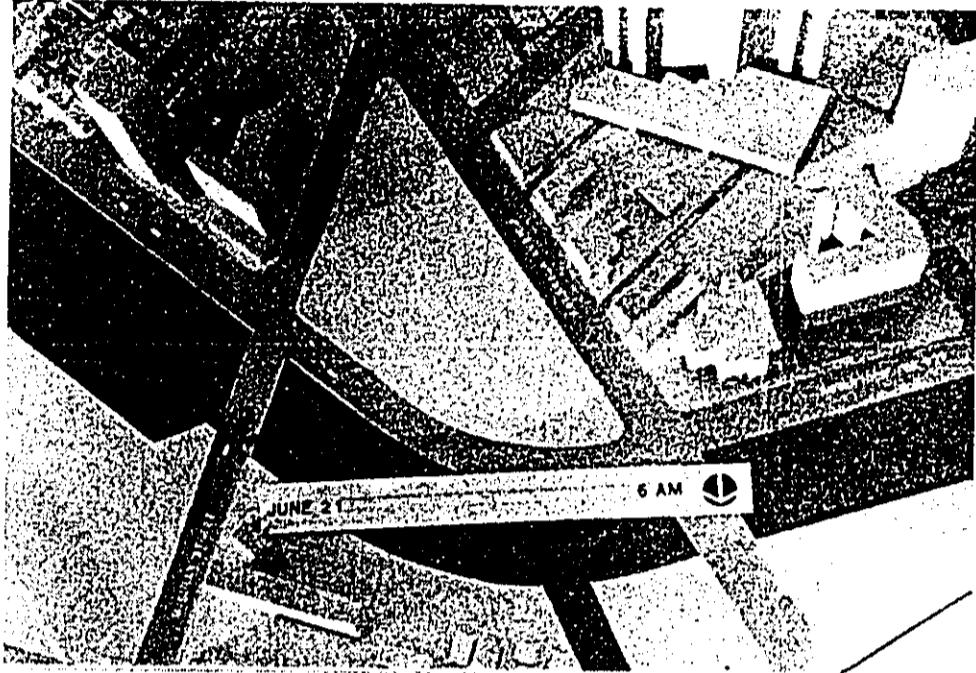
STUDY AREAS

- — — — — KALAKAUA AVENUE
- — — — — MC CULLY STREET
- ALA WAI BOULEVARD

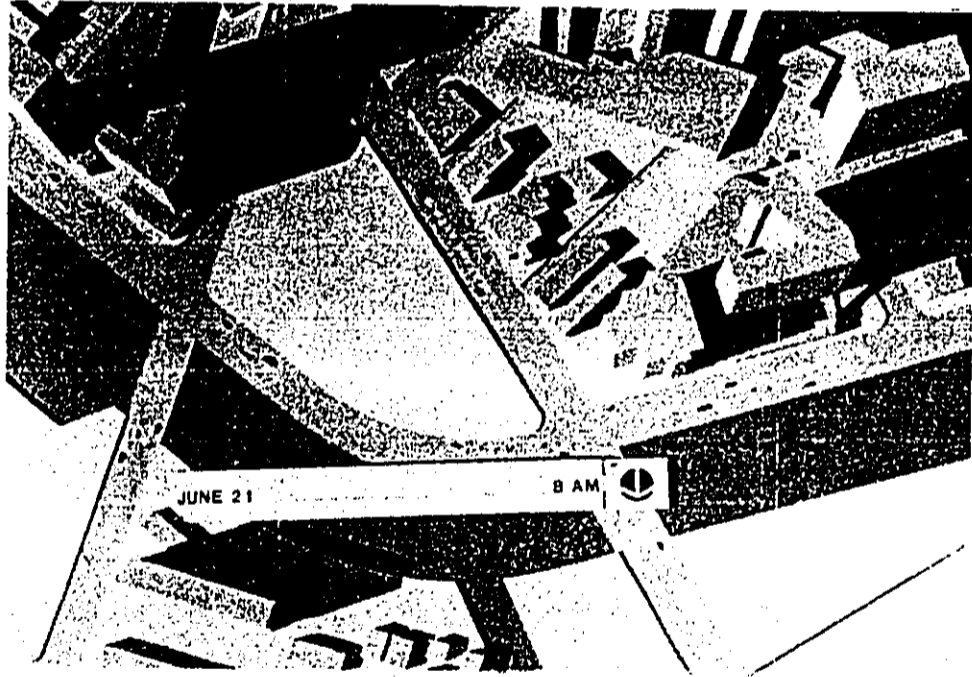
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**SHADOW STUDY
EXISTING CONDITIONS**

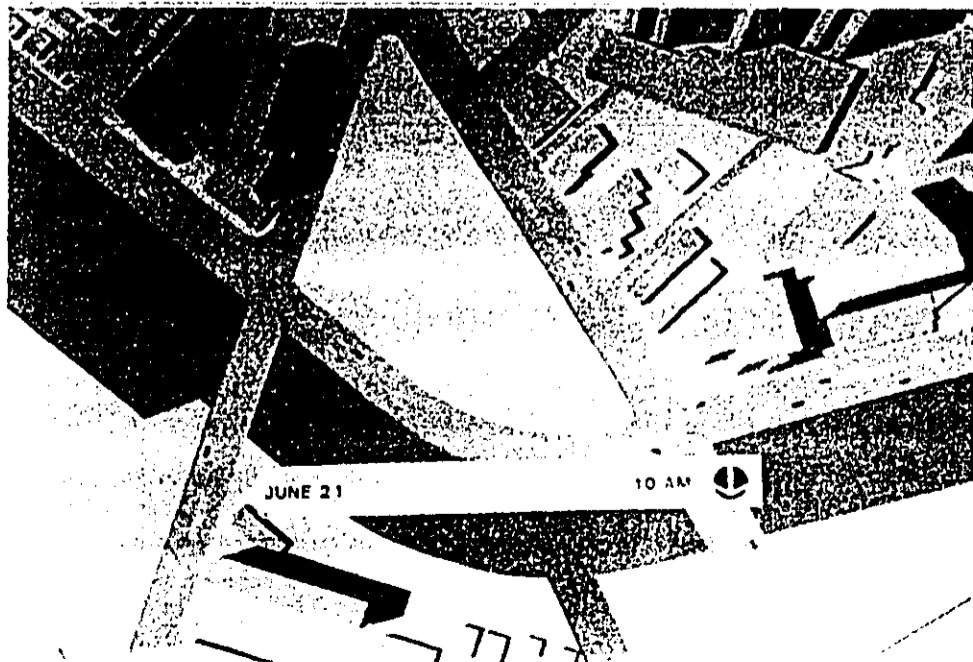
6 AM



8 AM



10 AM



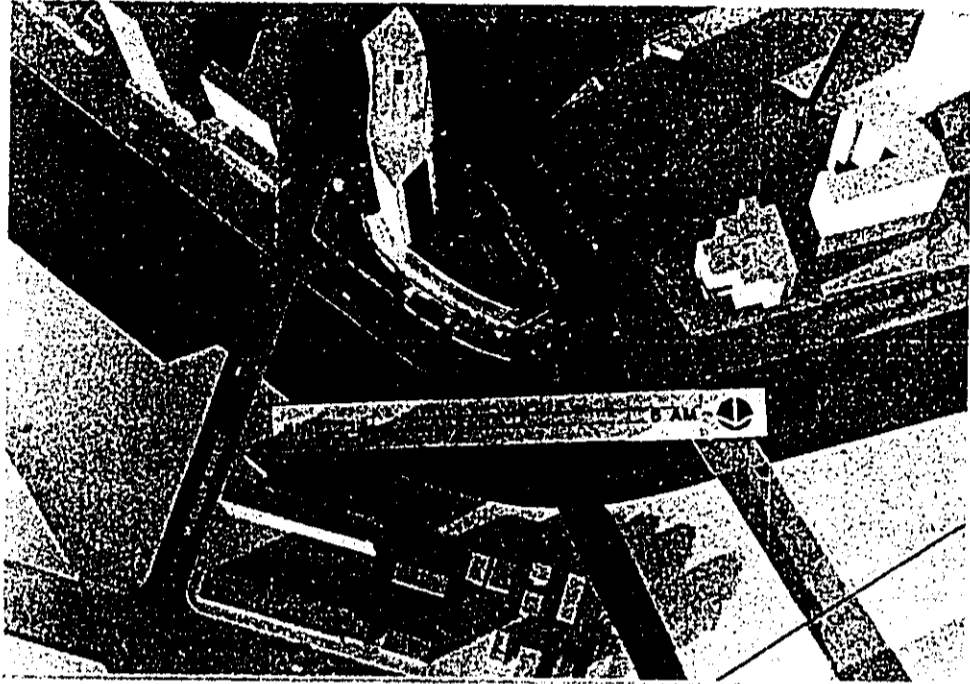
ATTACHMENT B

K-5

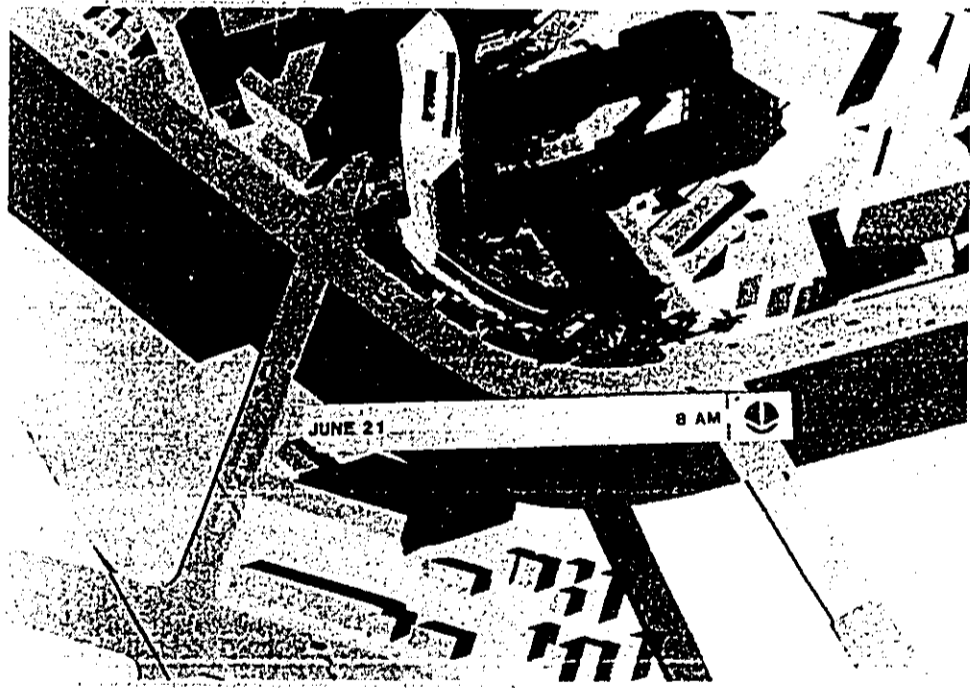
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**SHADOW STUDY
SCHEME # 1**

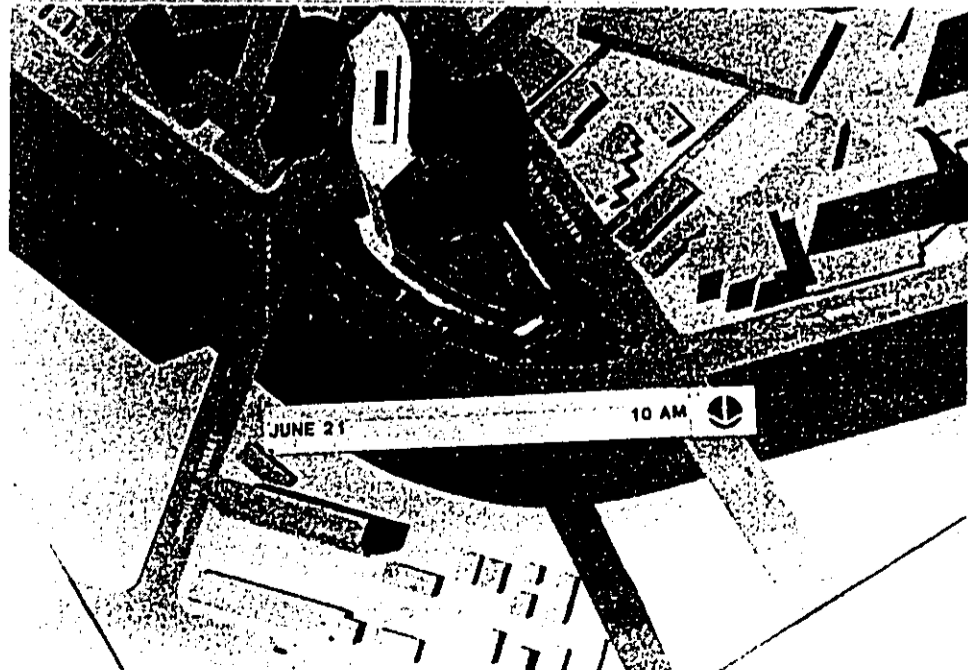
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8 AM



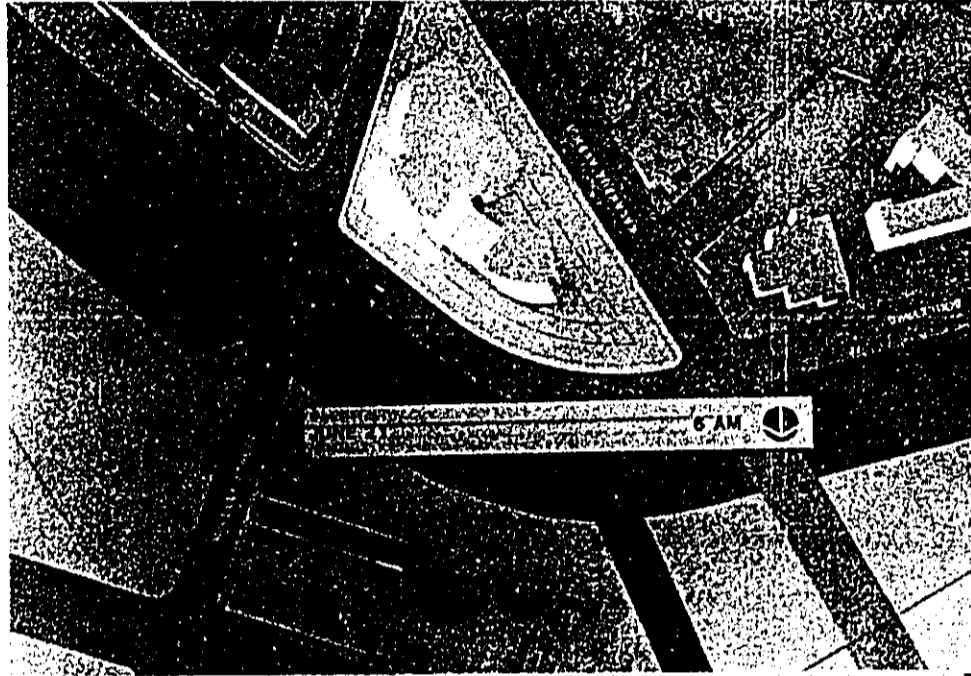
10 AM
K-6



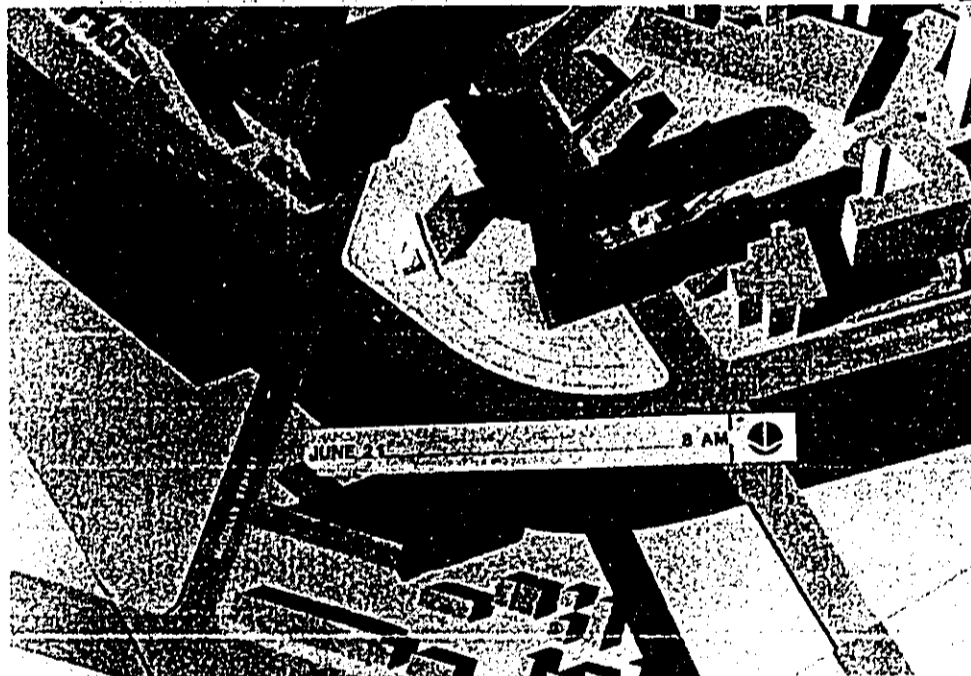
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**SHADOW STUDY
SCHEME #2**

6 AM

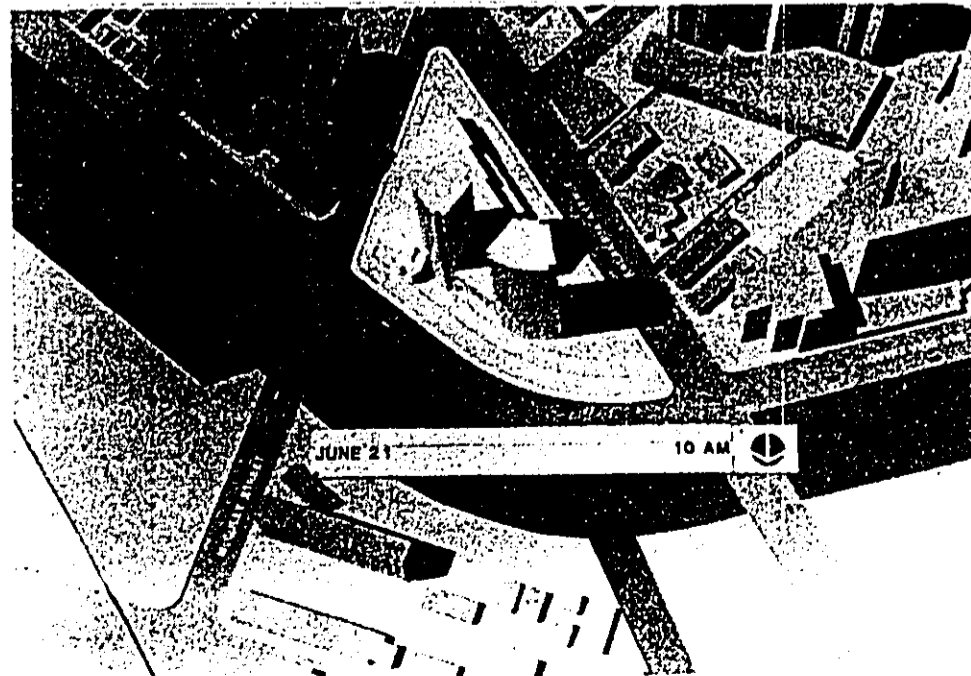


8 AM



10 AM

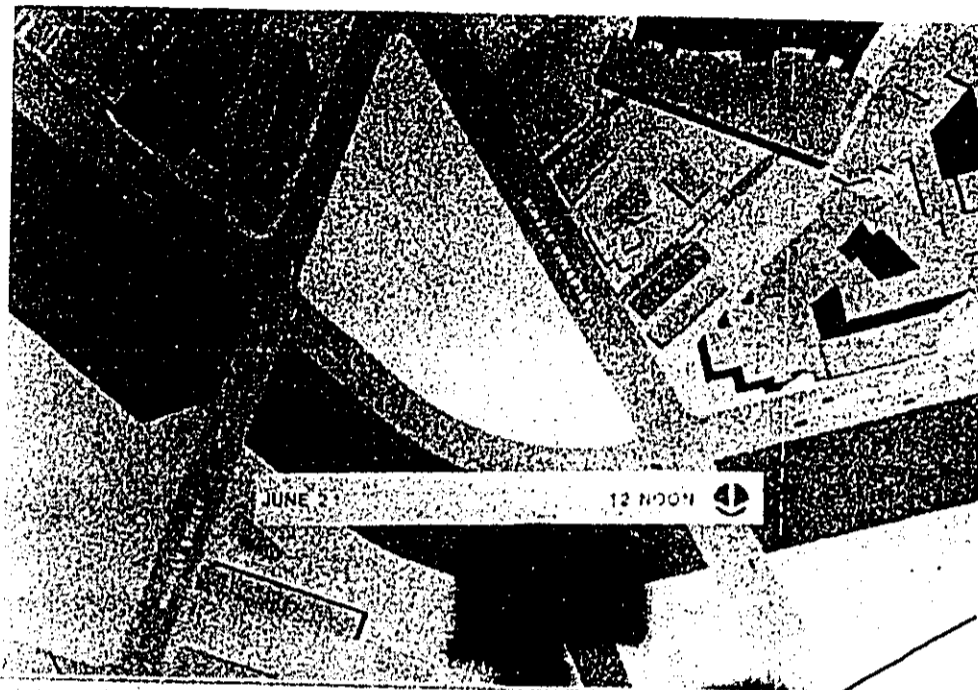
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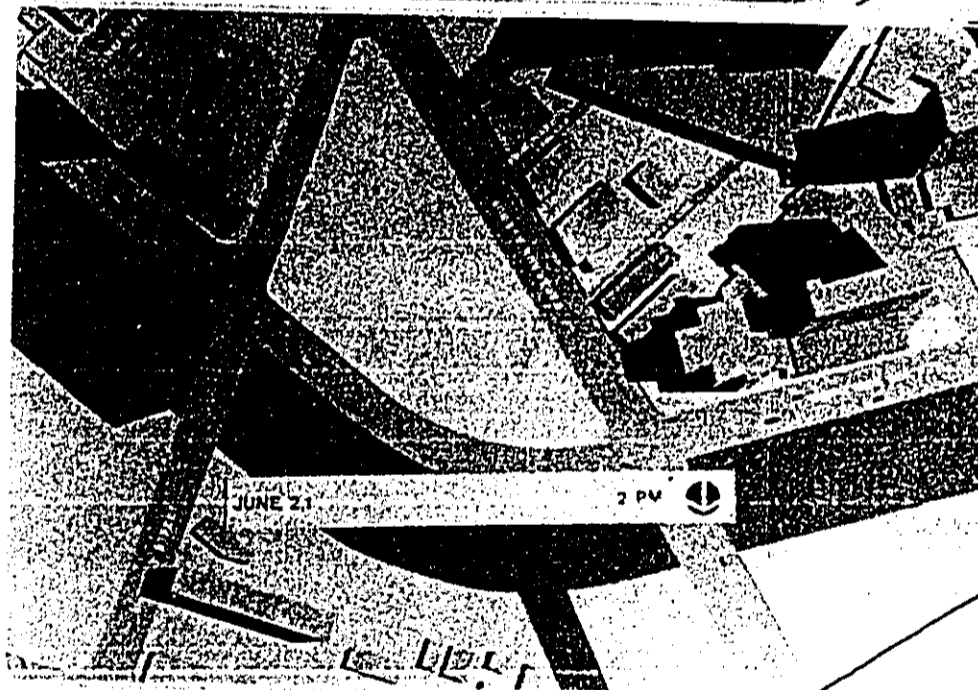
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SHADOW STUDY
EXISTING CONDITIONS

12 NOON

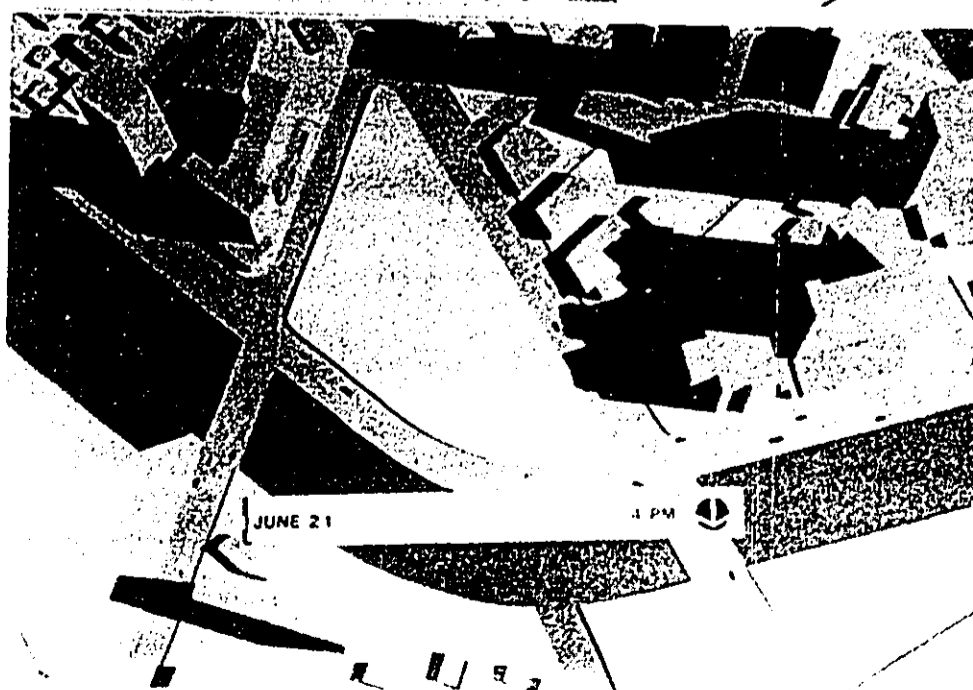


2 PM



4 PM

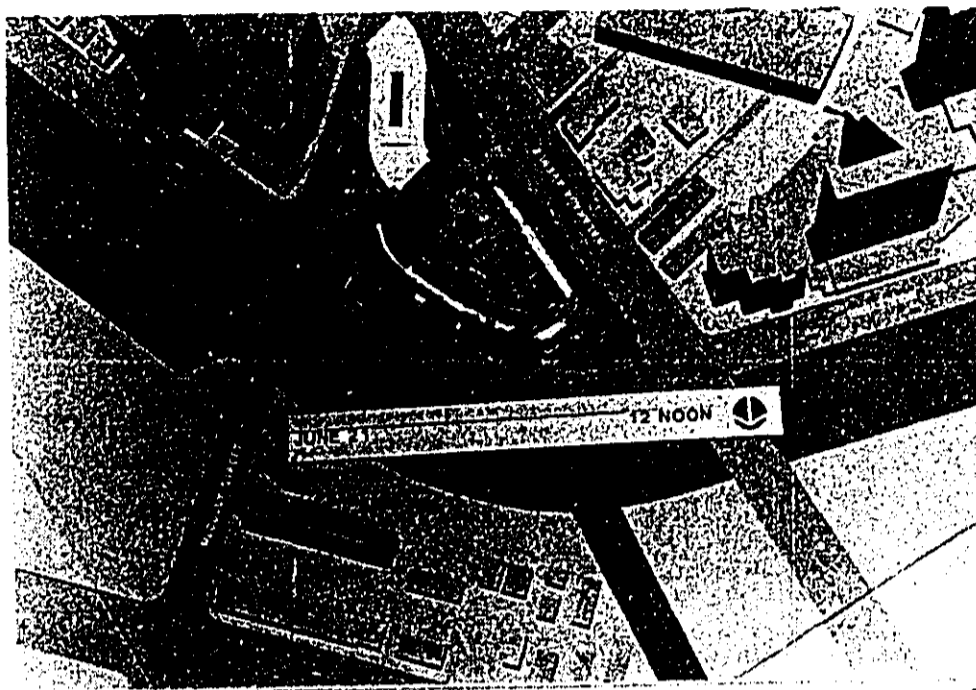
K-8



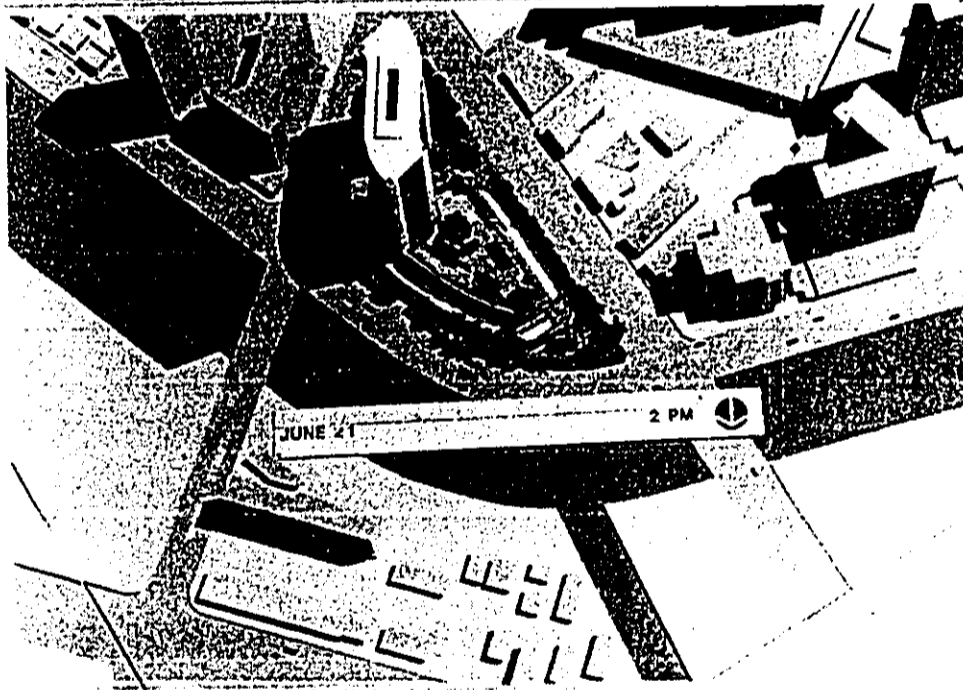
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SHADOW STUDY
SCHEME # 1

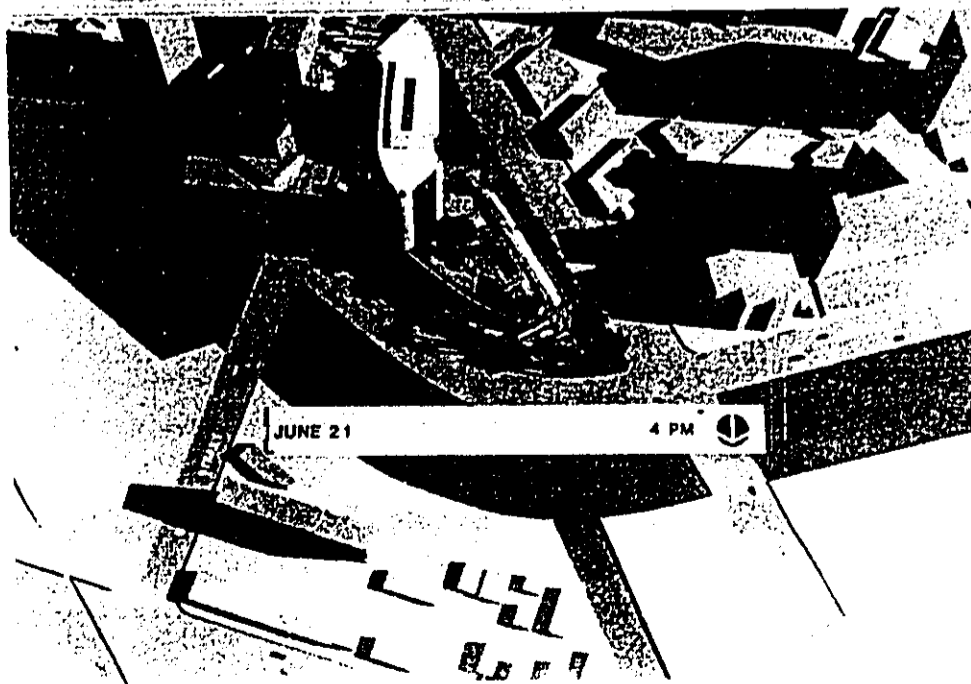
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2 PM



4 PM

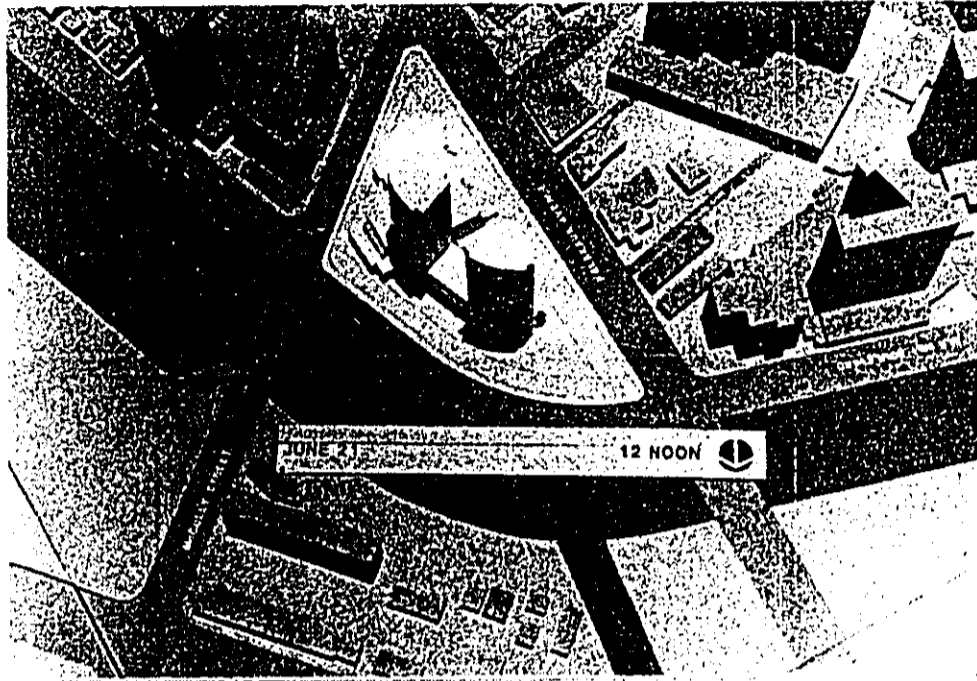


K-9

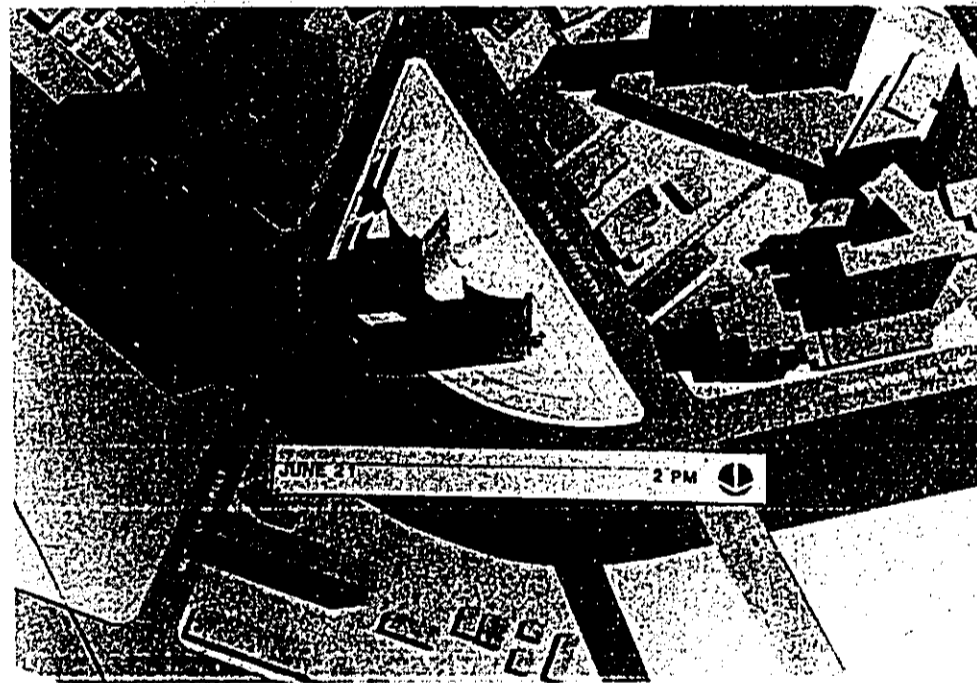
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SHADOW STUDY
SCHEME #2

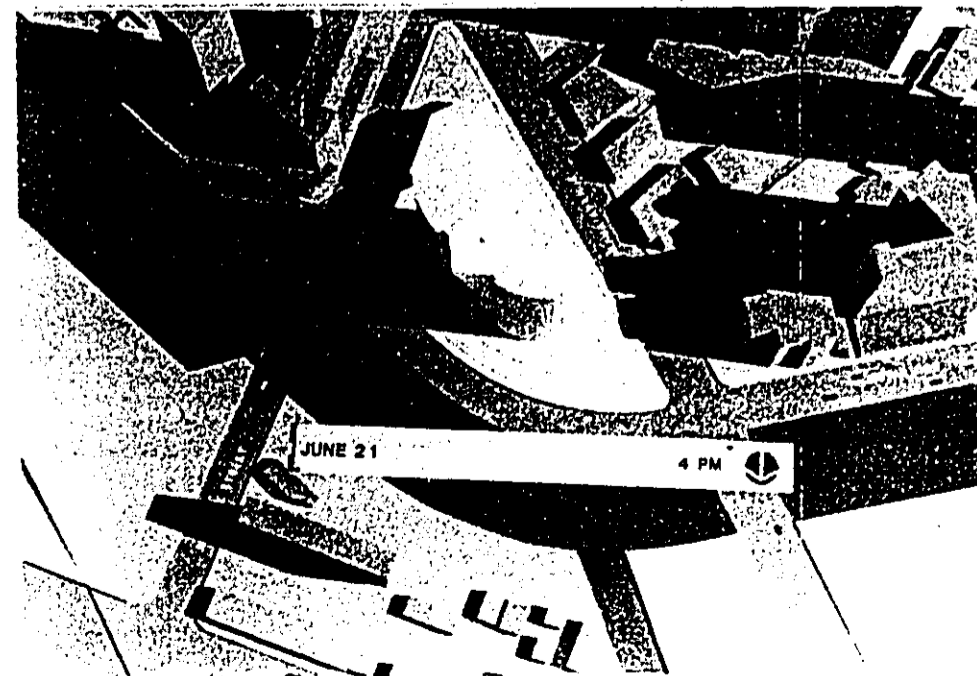
12 NOON



2 PM



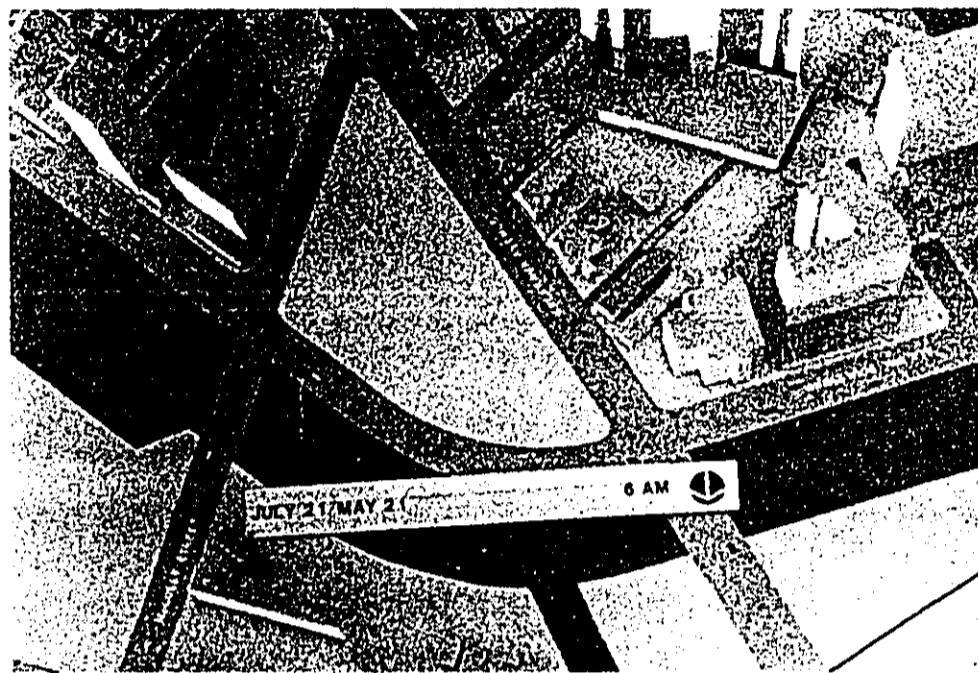
4 PM
K-10



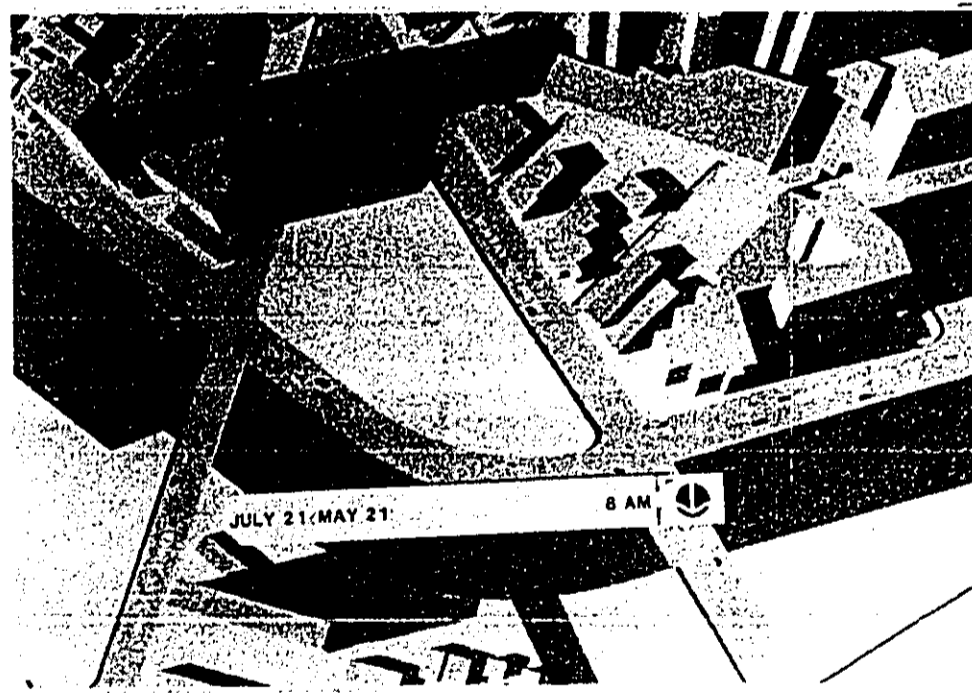
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**SHADOW STUDY
EXISTING CONDITIONS**

6 AM

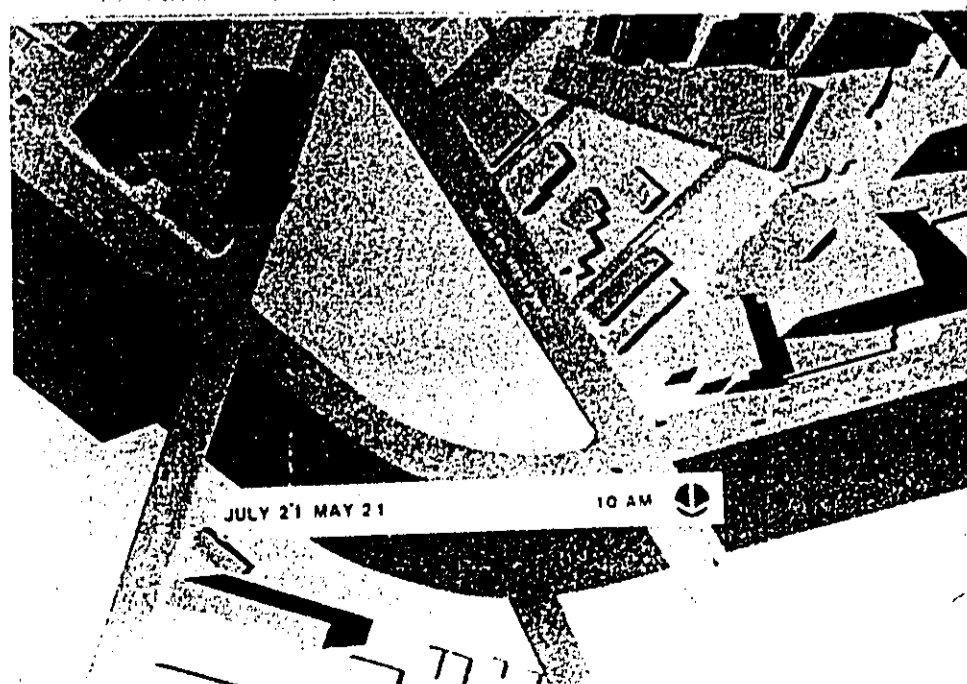


8 AM



10 AM

K-11

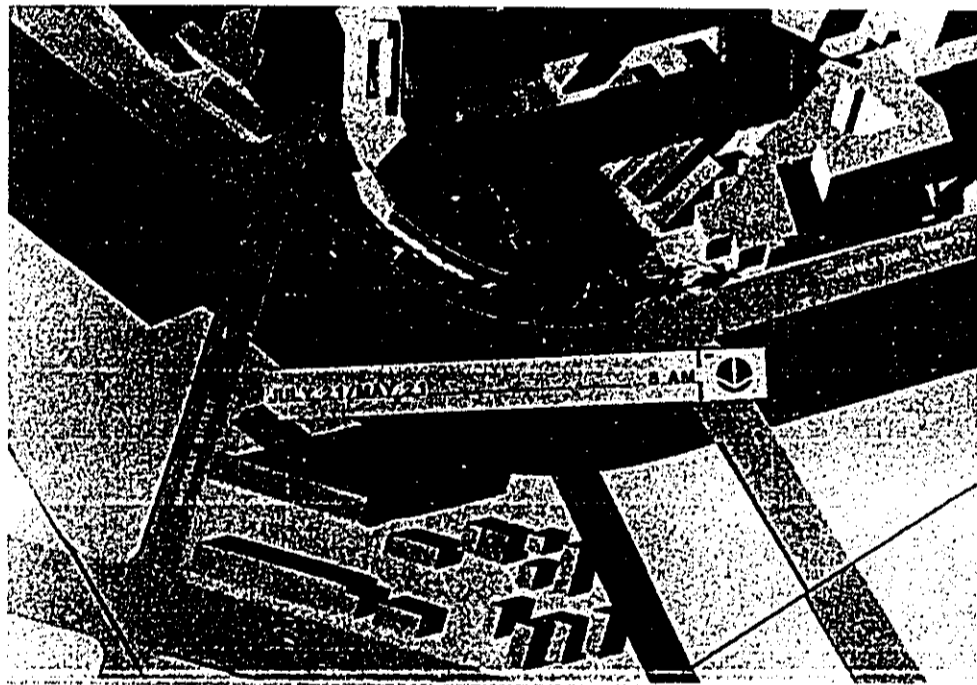


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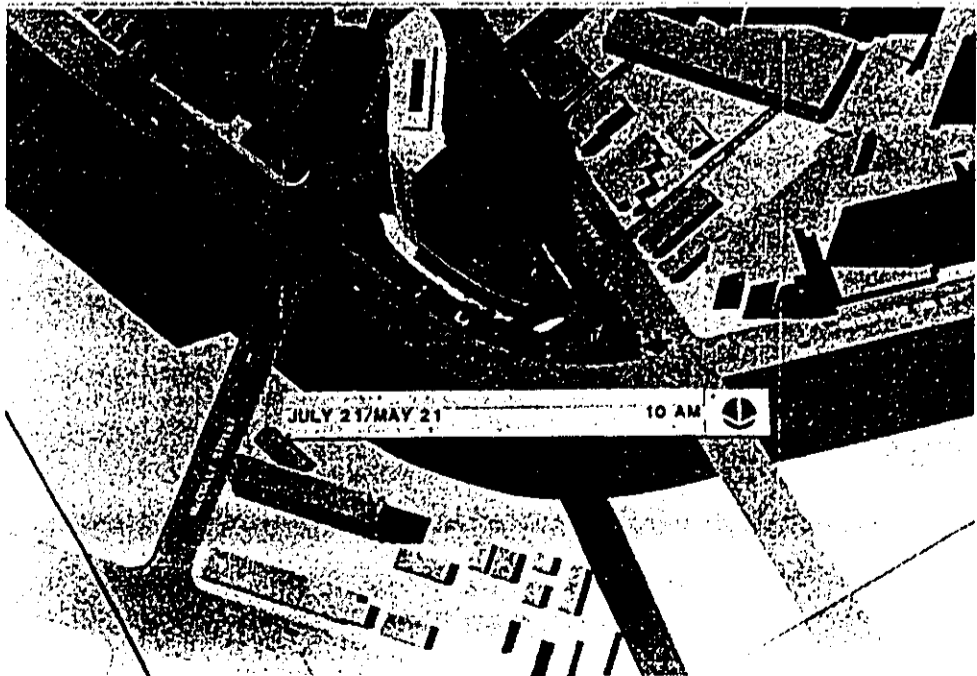
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SCHEME # 1**

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6 AM



8 AM



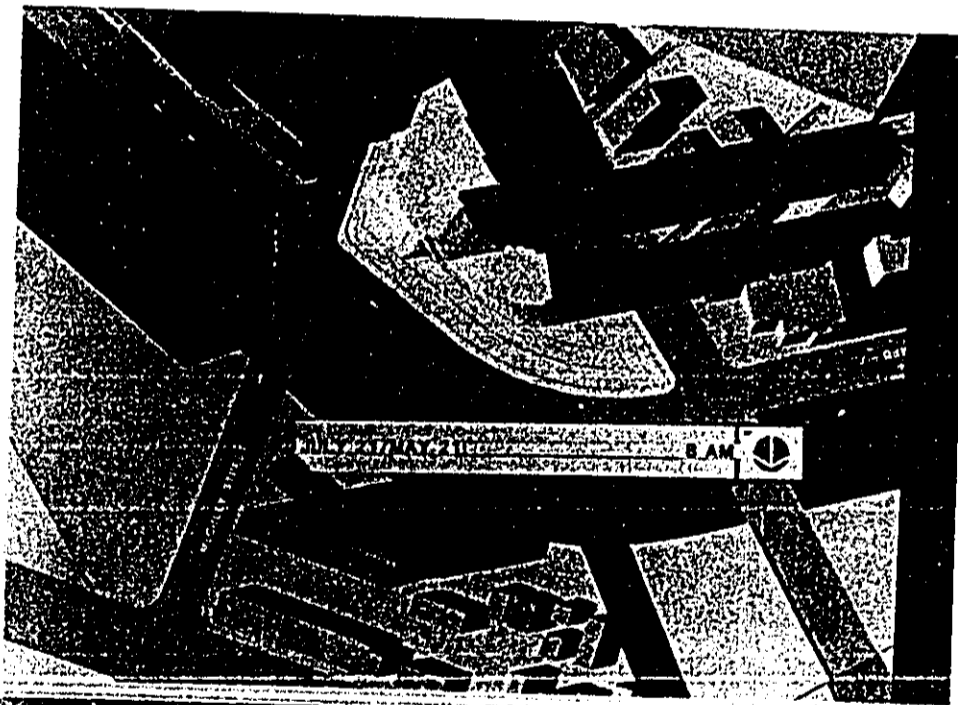
**10 AM
K-12**

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**SHADOW STUDY
SCHEME #2**

NOT APPLICABLE

6 AM



8 AM



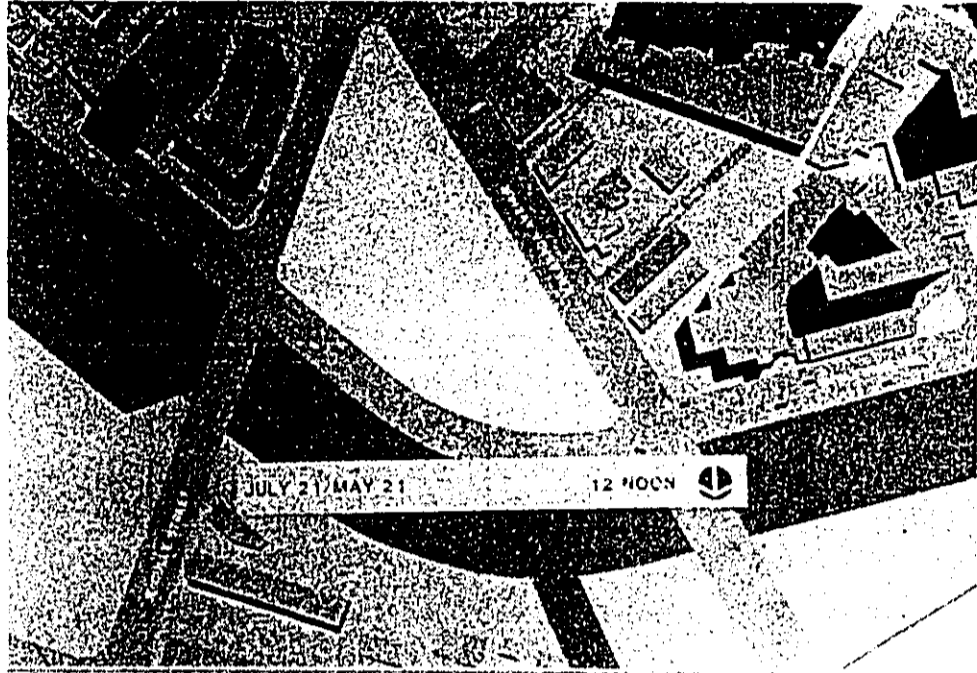
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K-13

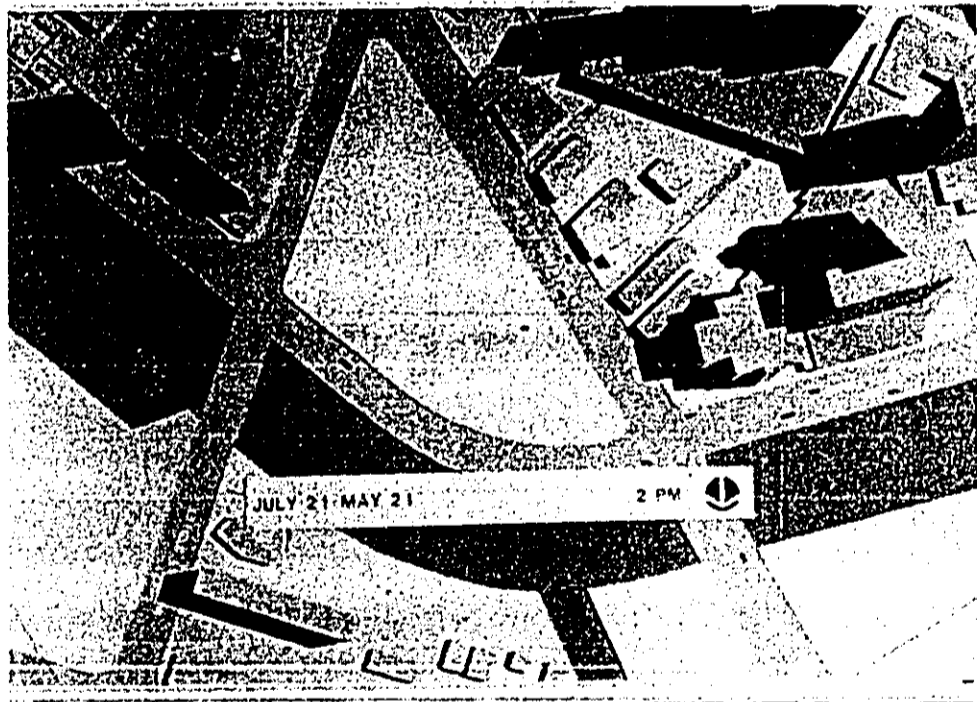
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EXISTING CONDITIONS**

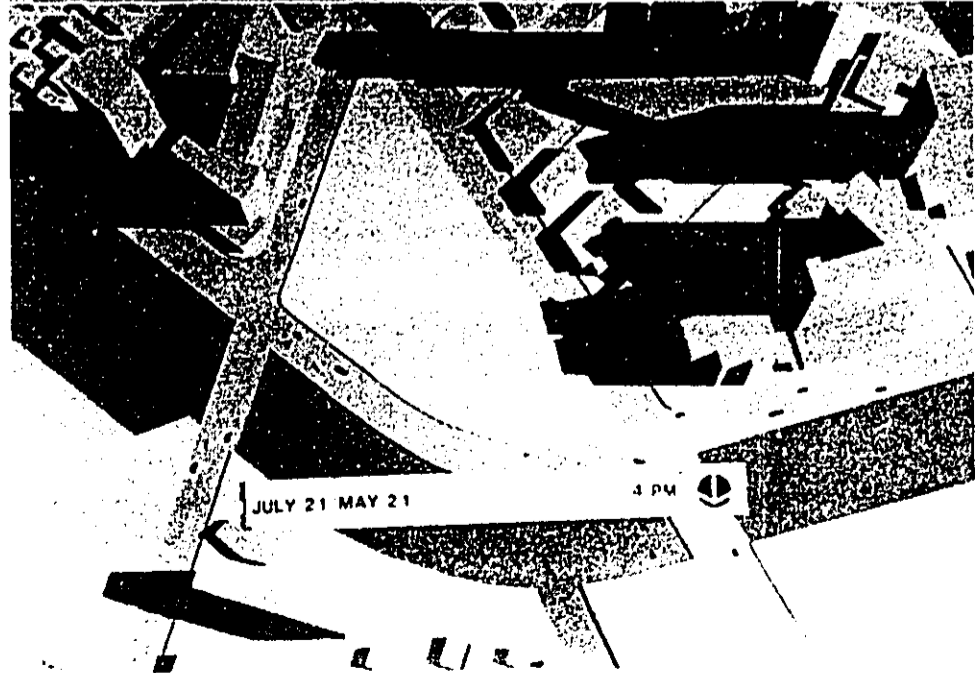
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2 PM



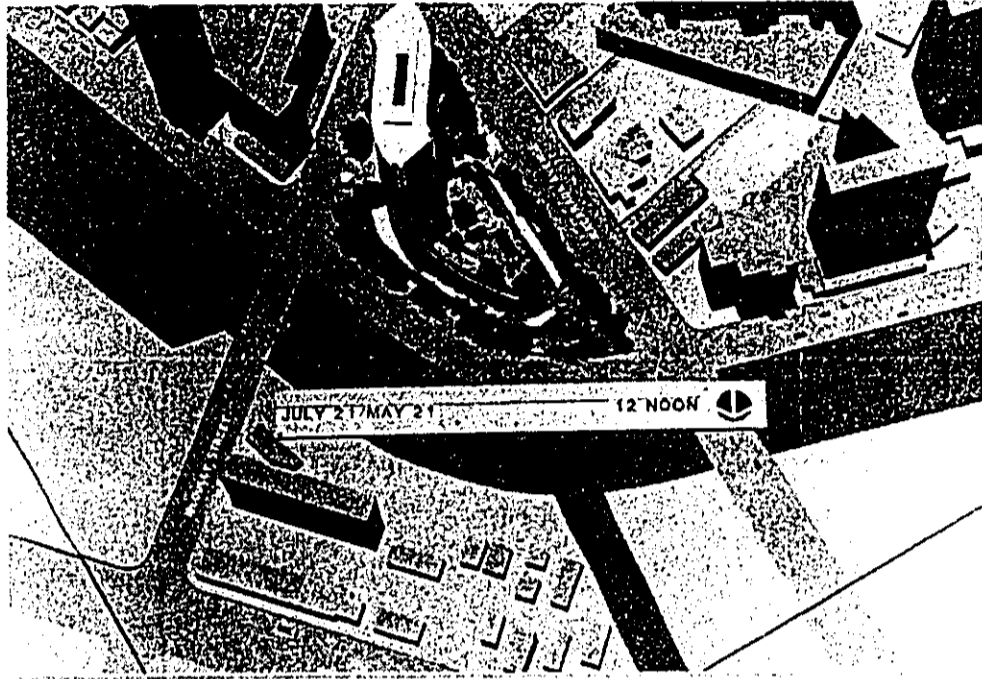
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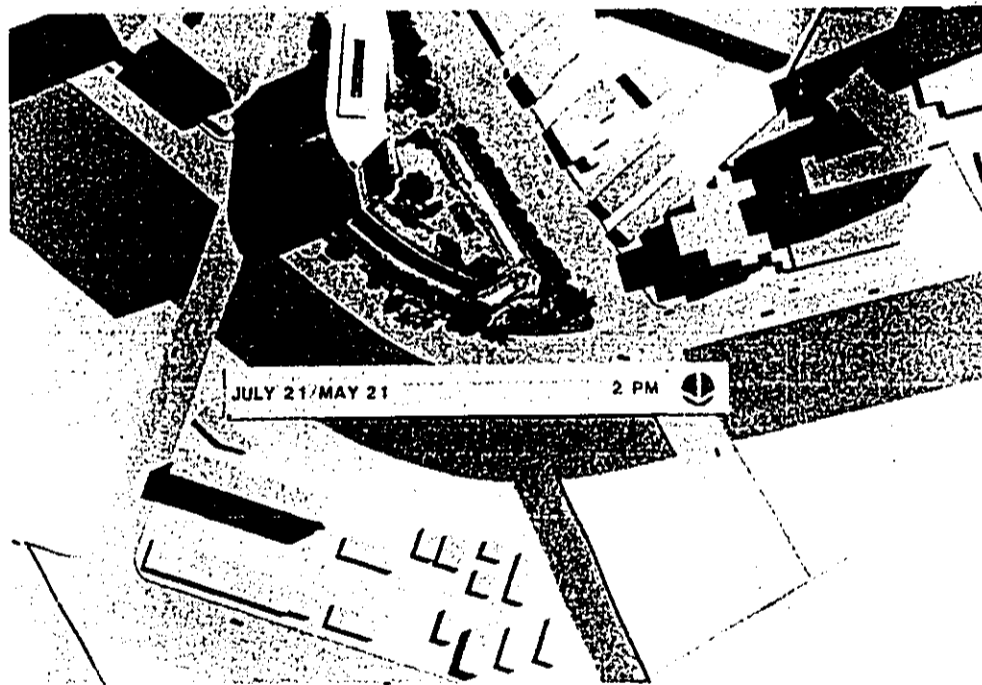
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SHADOW STUDY
SCHEME # 1

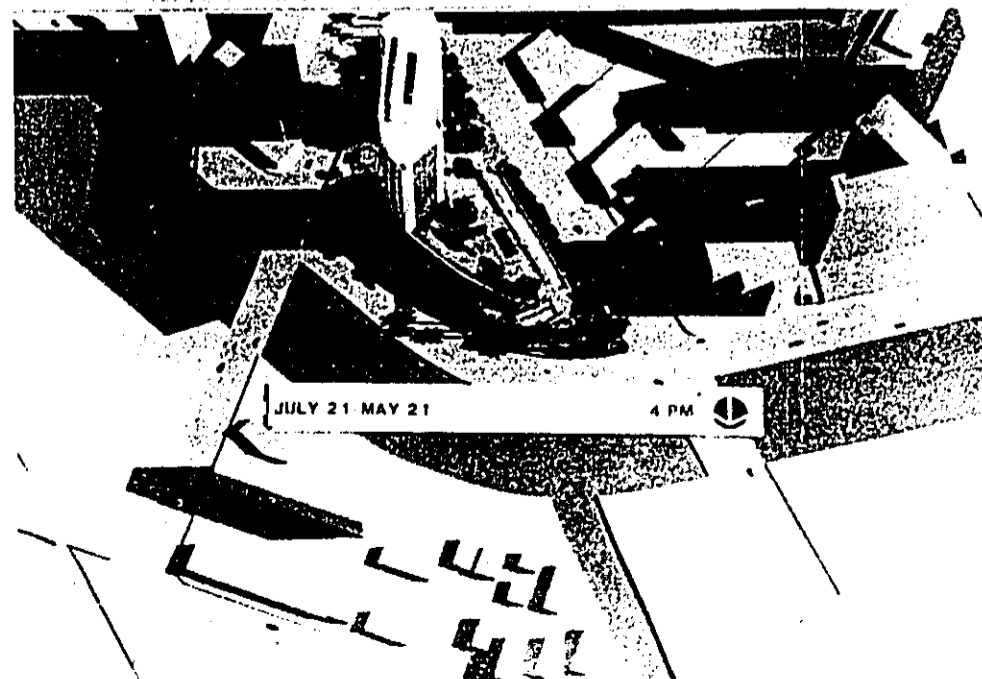
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2 PM



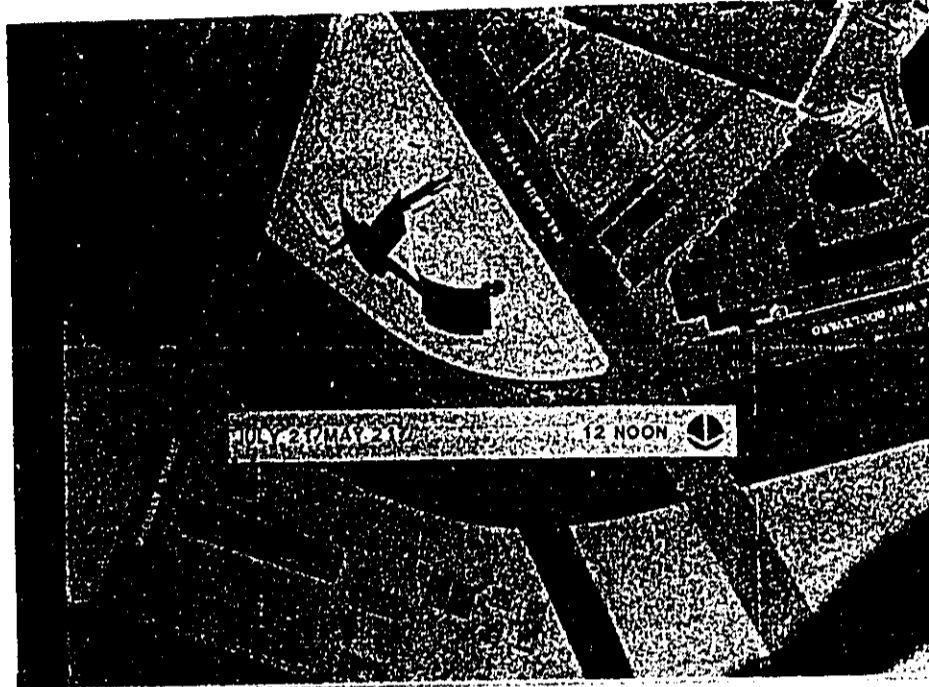
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K-15



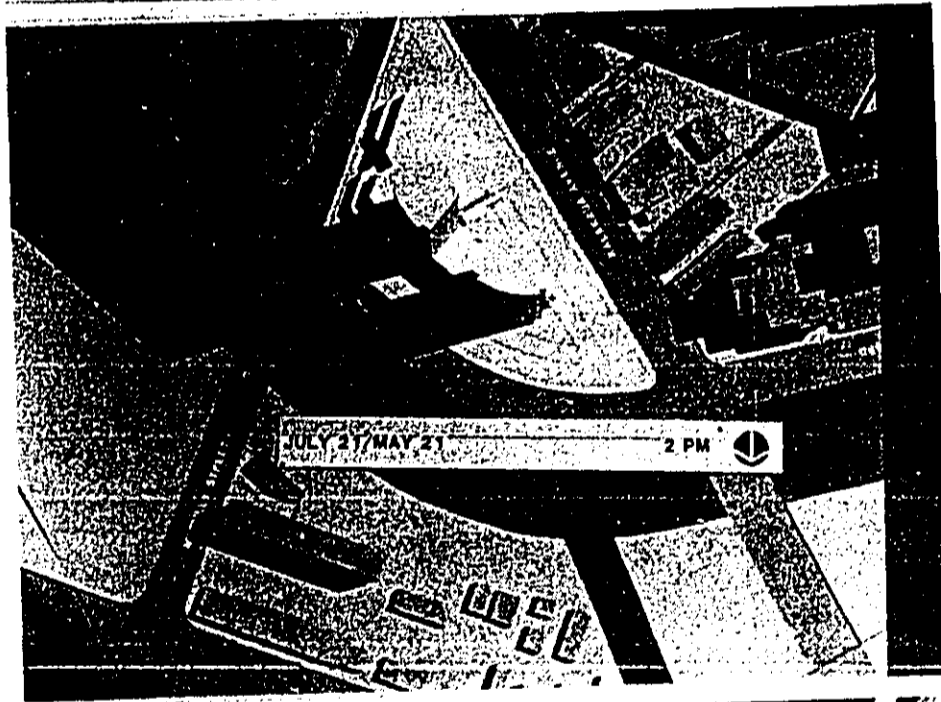
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SCHEME #2**

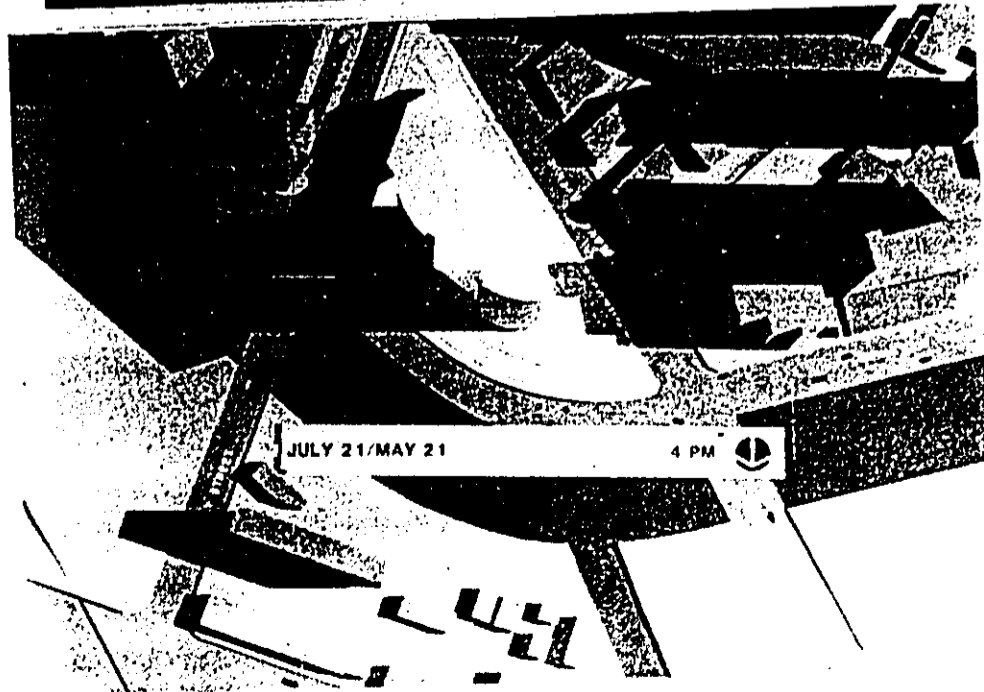
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2 PM



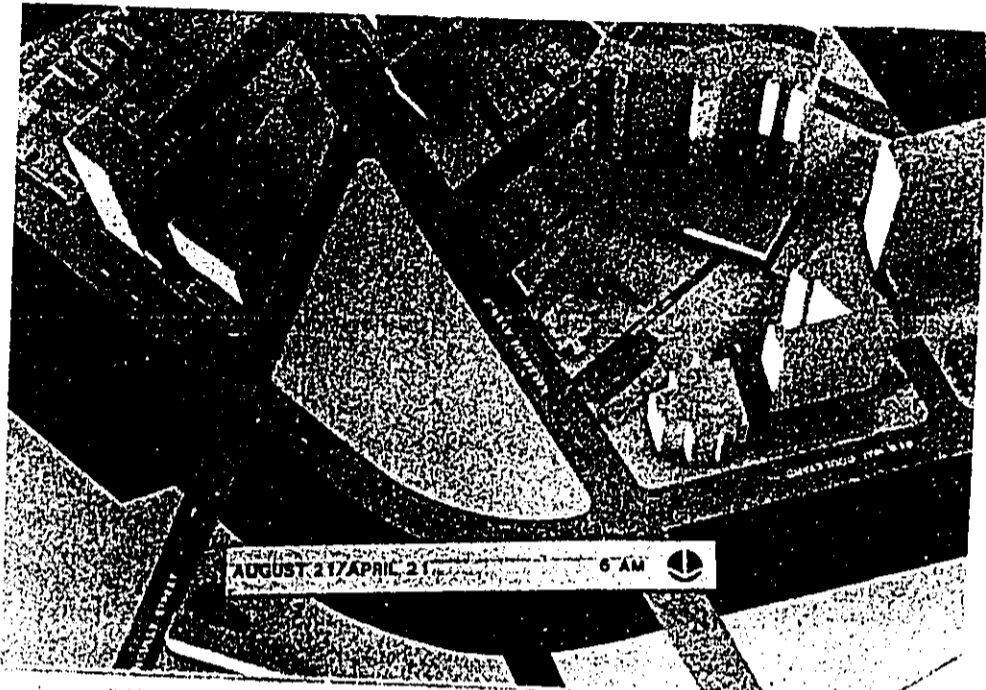
4 PM
K-16



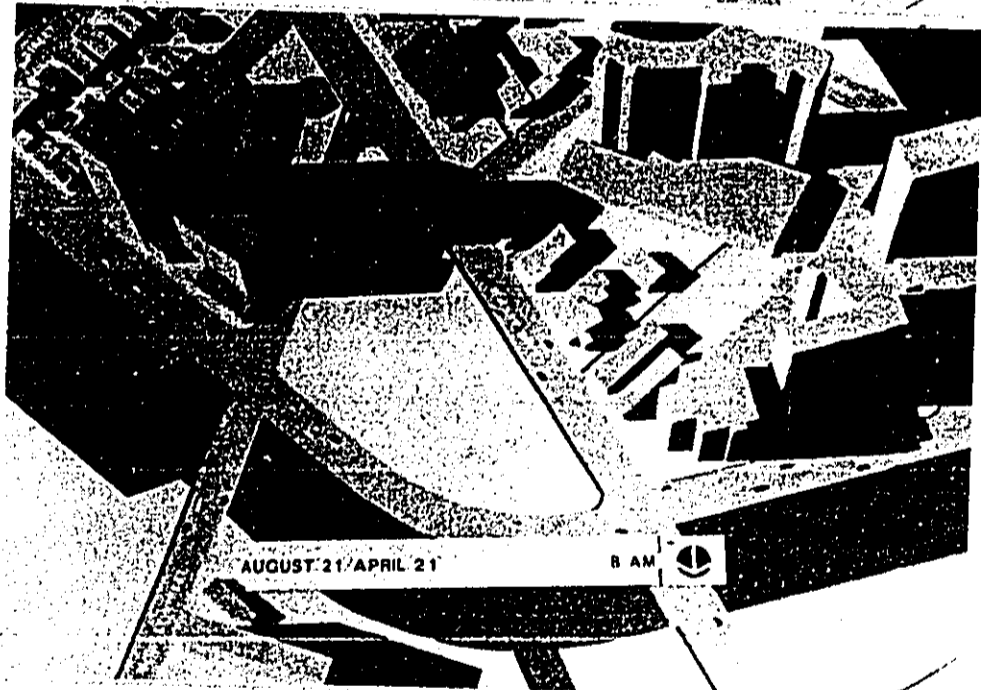
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SHADOW STUDY
EXISTING CONDITIONS

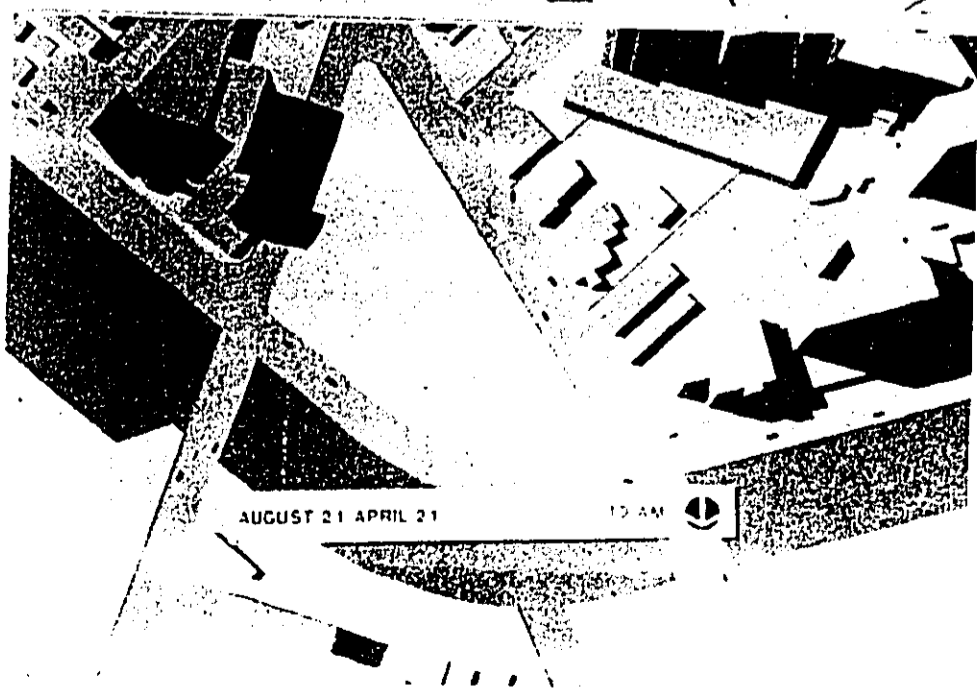
6 AM



8 AM



10 AM



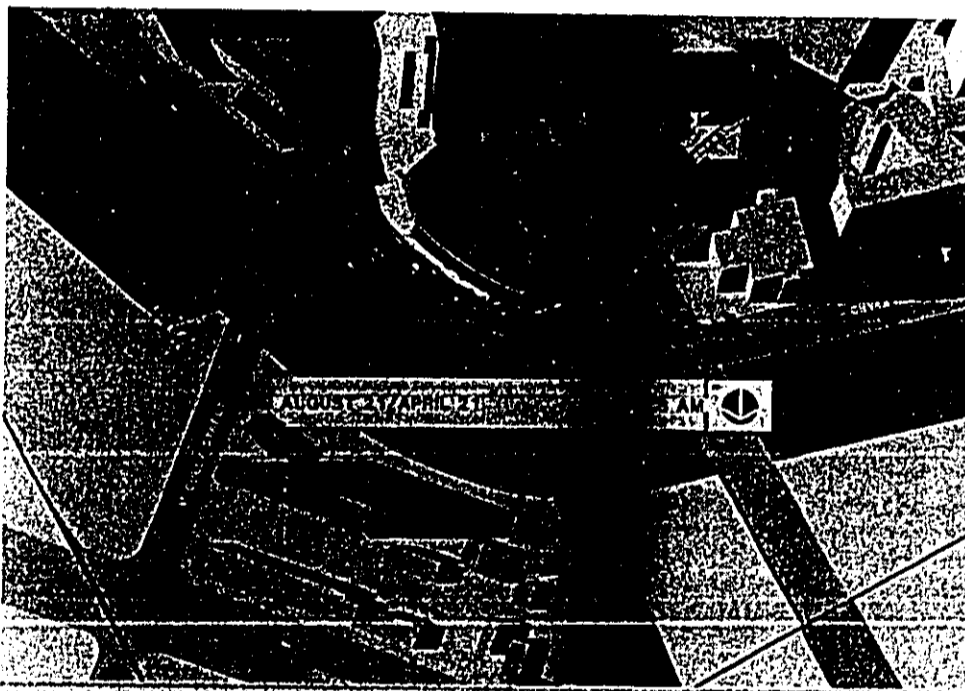
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SHADOW STUDY

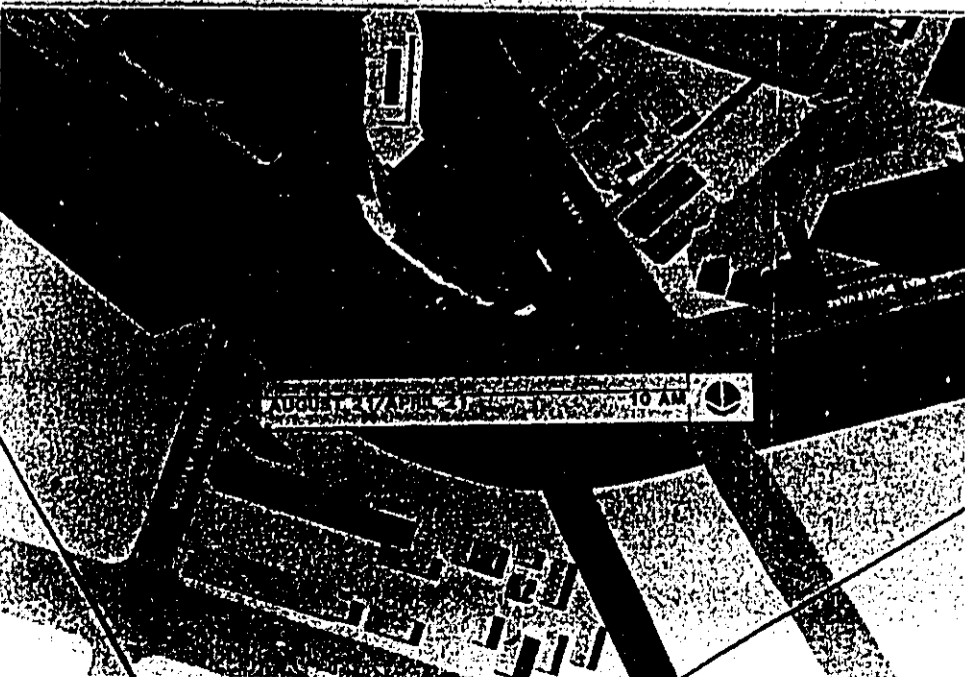
SCHEME # 1

NOT APPLICABLE

6 AM



8 AM



10 AM

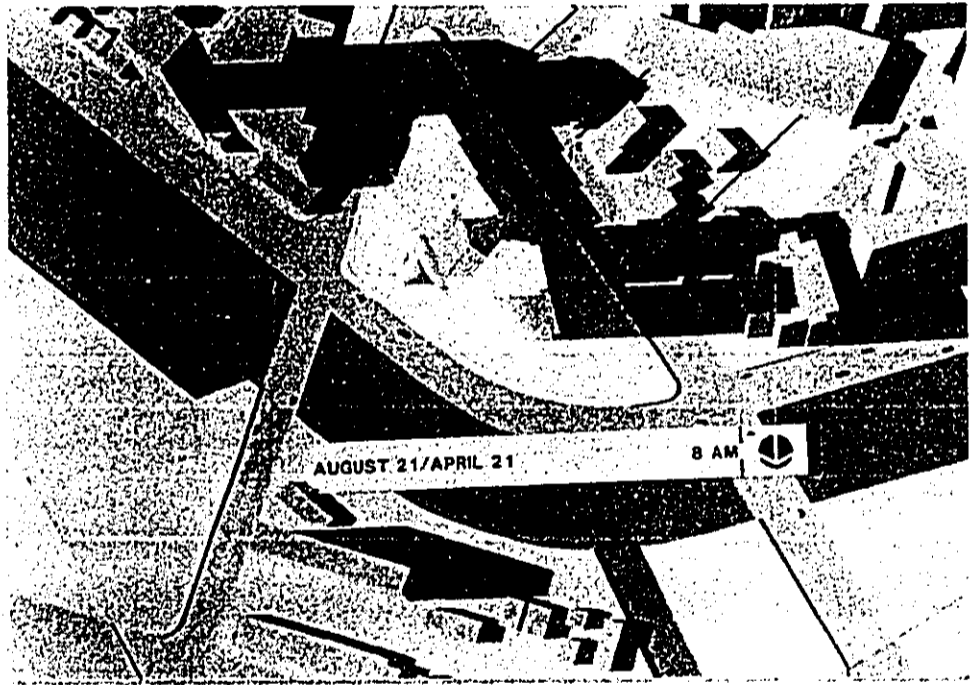
K-18

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**SHADOW STUDY
SCHEME #2**

NOT APPLICABLE

6 AM



8 AM



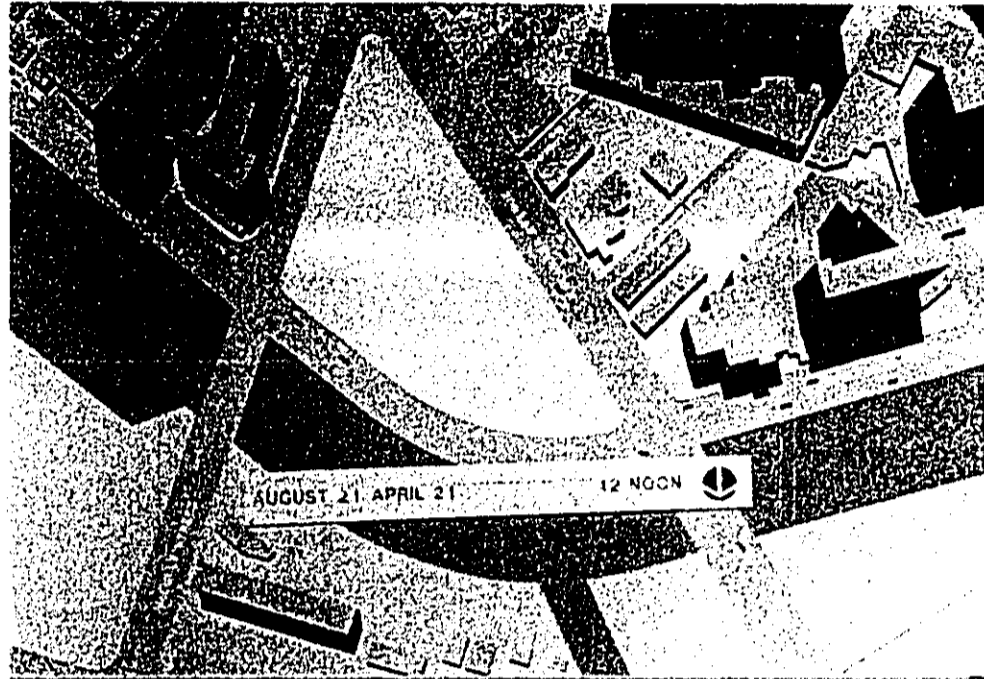
10 AM

K-19

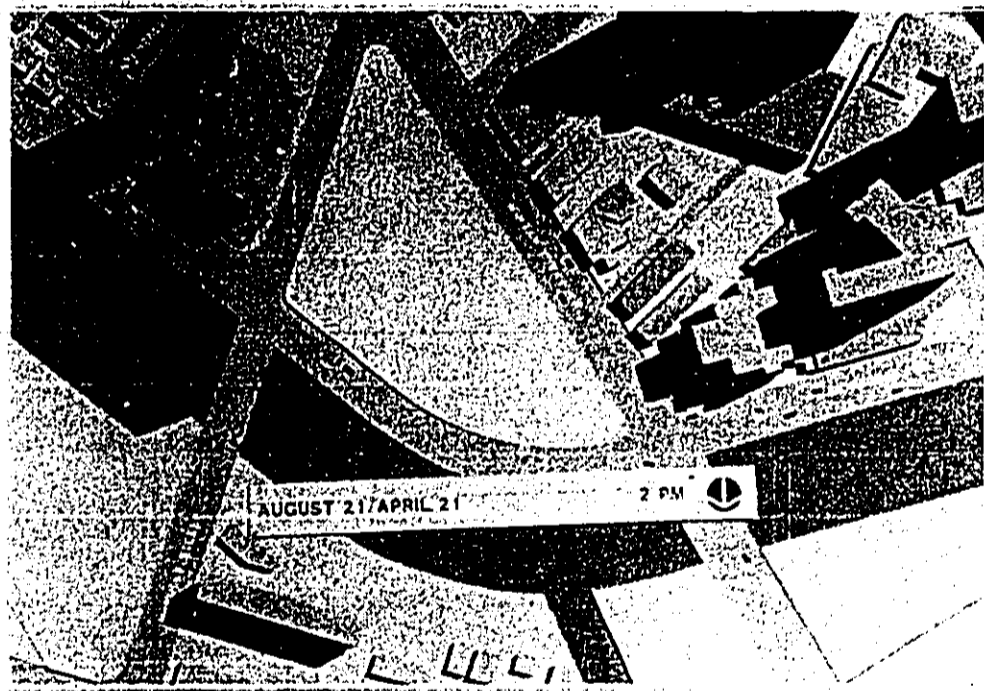
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SHADOW STUDY
EXISTING CONDITIONS

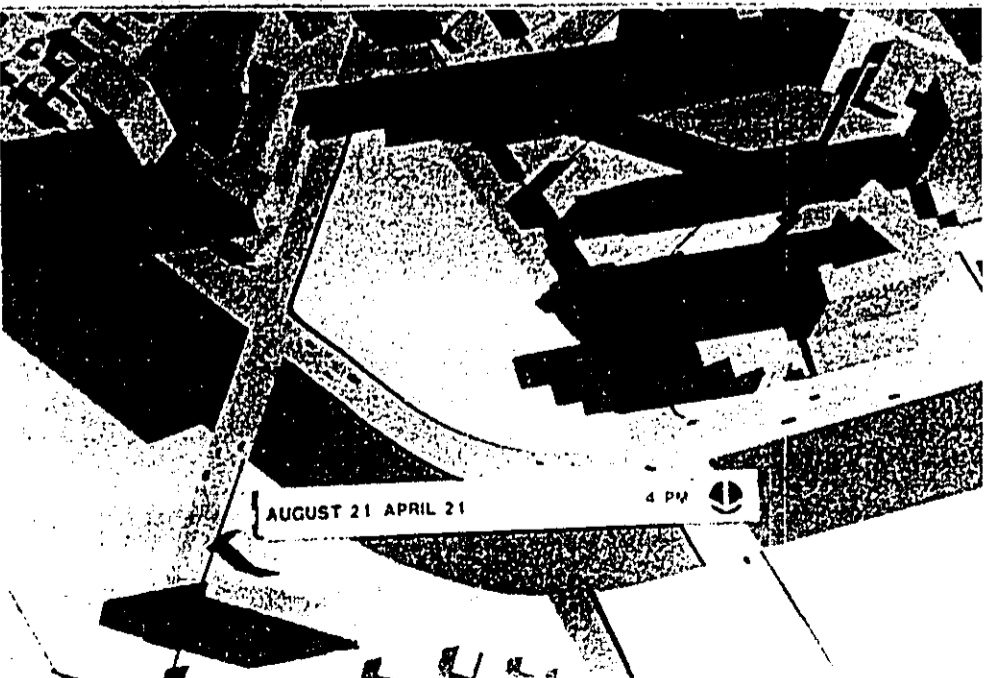
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2 PM



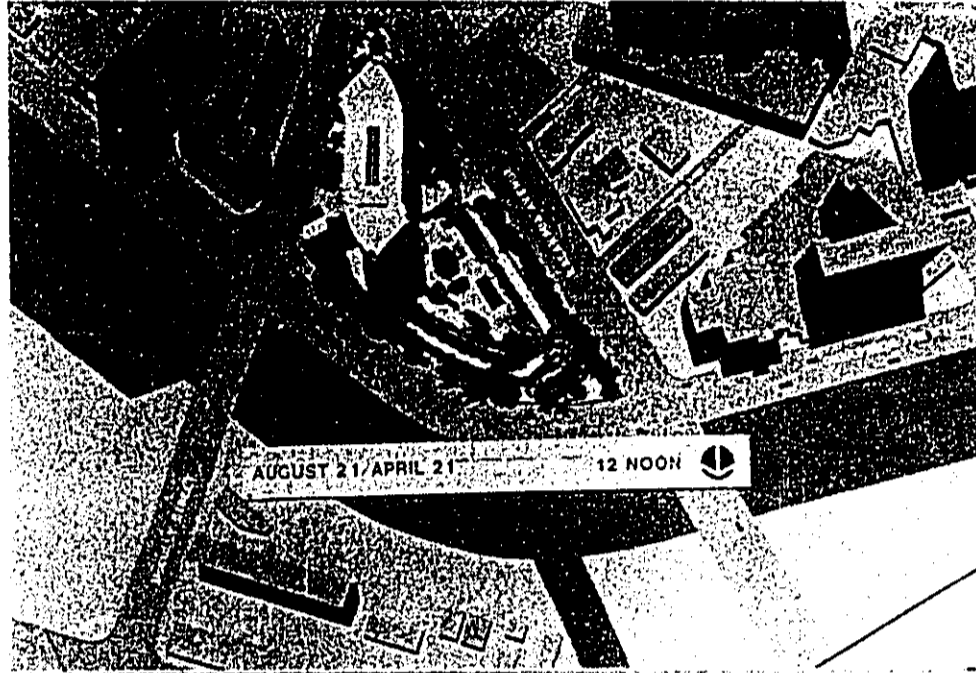
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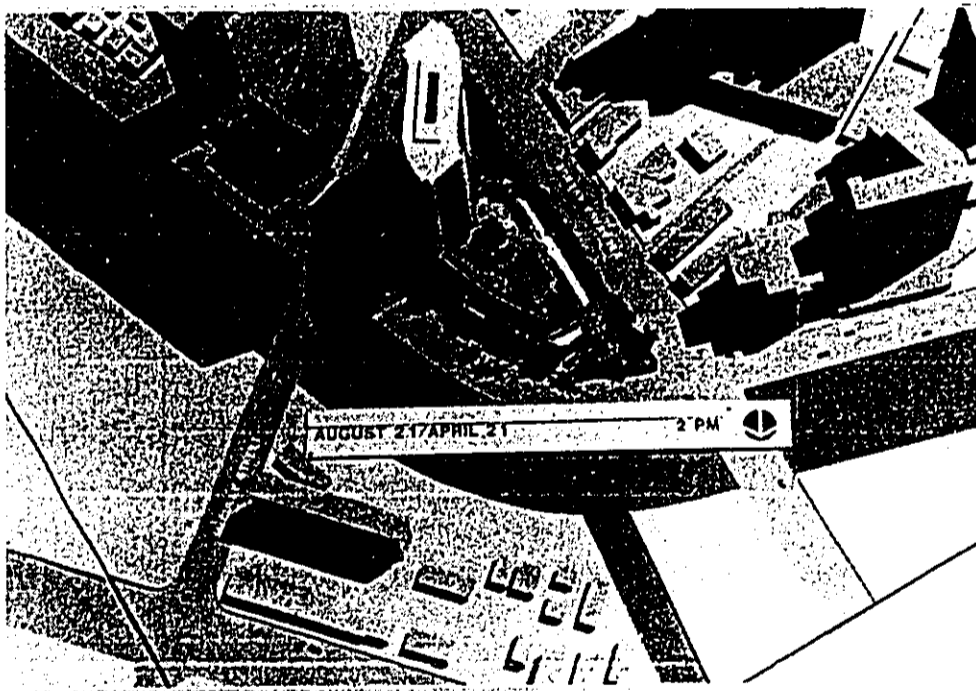
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**SHADOW STUDY
SCHEME # 1**

12 NOON

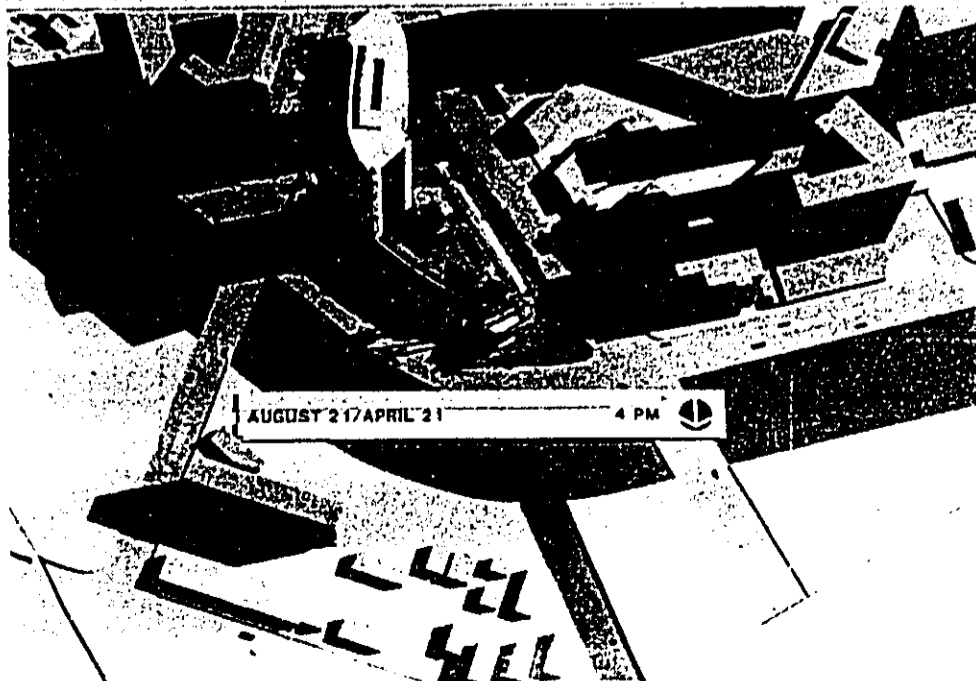


2 PM



4 PM

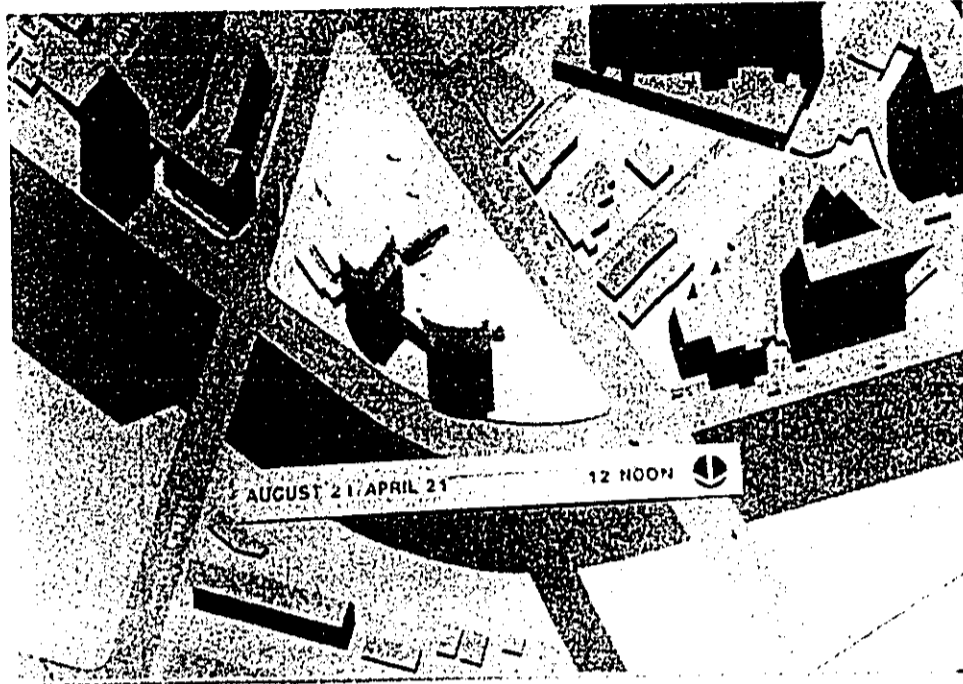
K-21



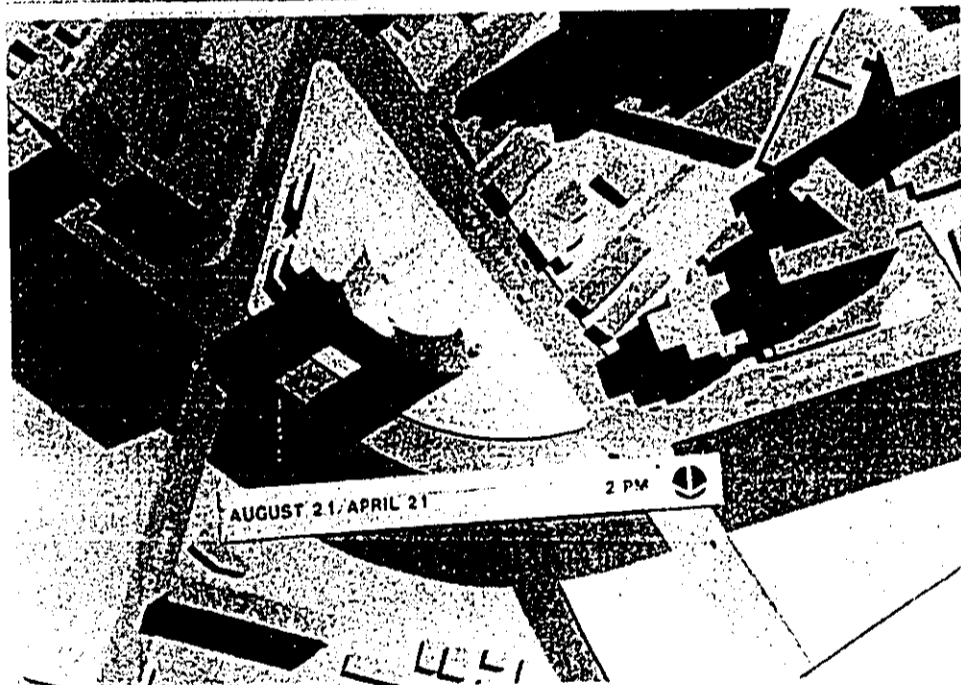
DOCUMENT CAPTURED AS RECEIVED

SHADOW STUDY
SCHEME #2

12 NOON



2 PM



4 PM

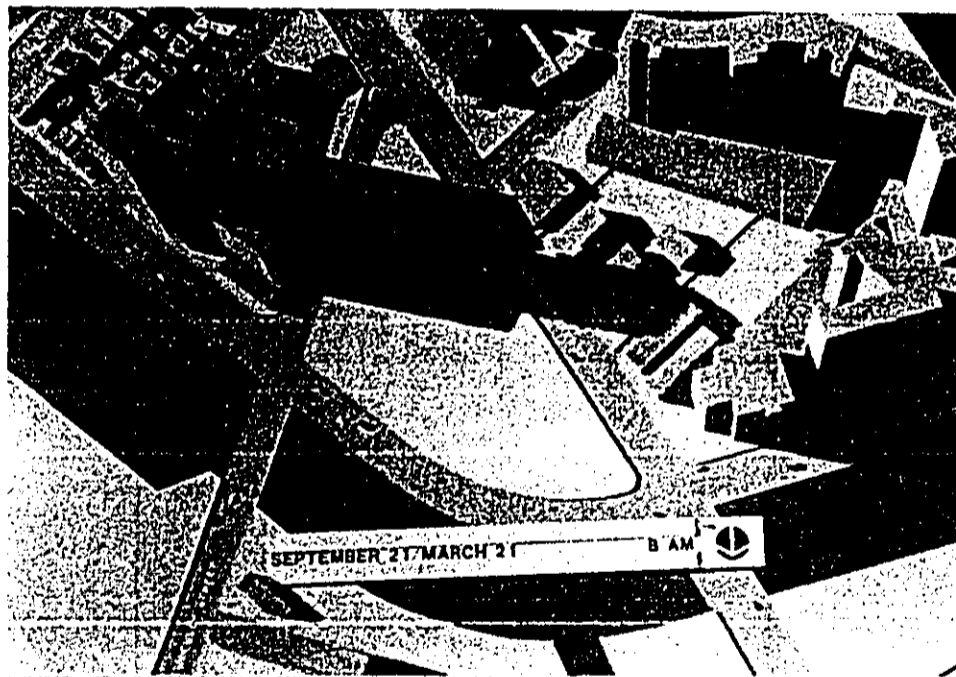


DOCUMENT CAPTURED AS RECEIVED

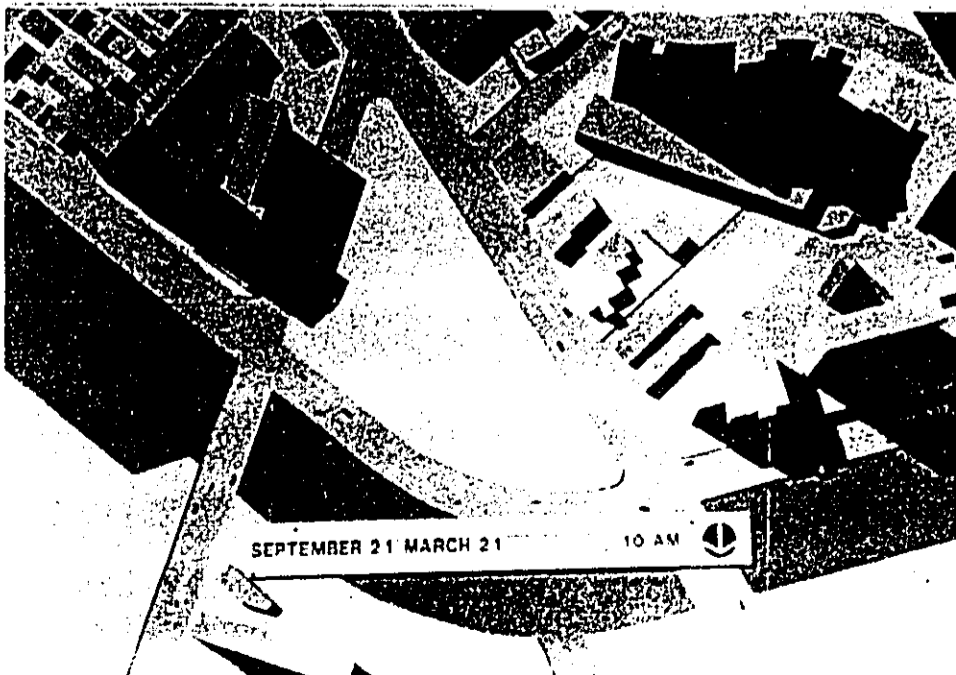
**SHADOW STUDY
EXISTING CONDITIONS**

NOT APPLICABLE

6 AM



8 AM



10 AM

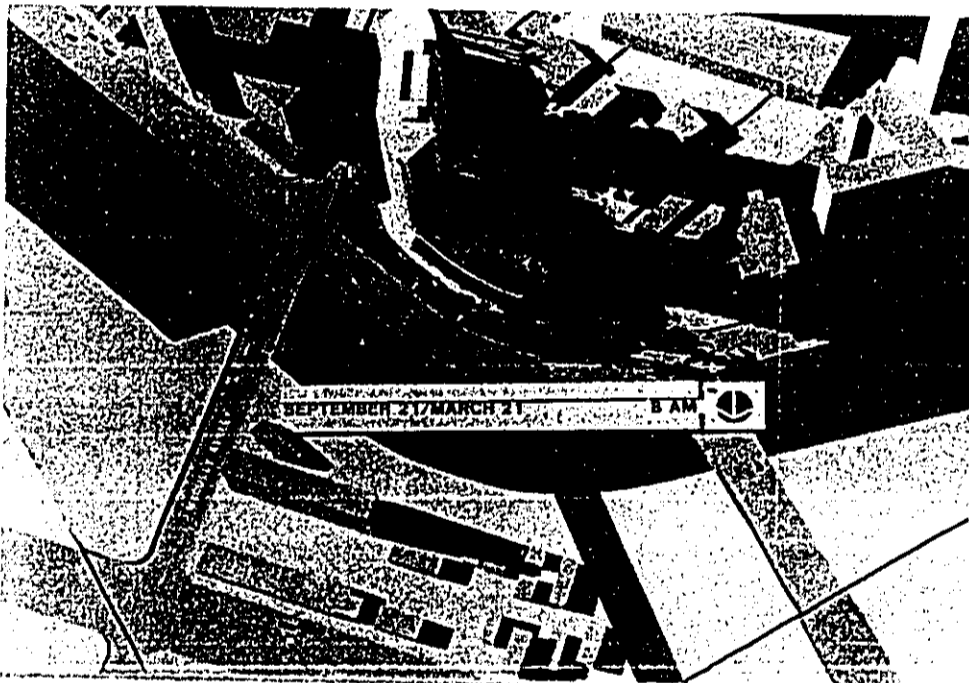
K-23

DOCUMENT CAPTURED AS RECEIVED

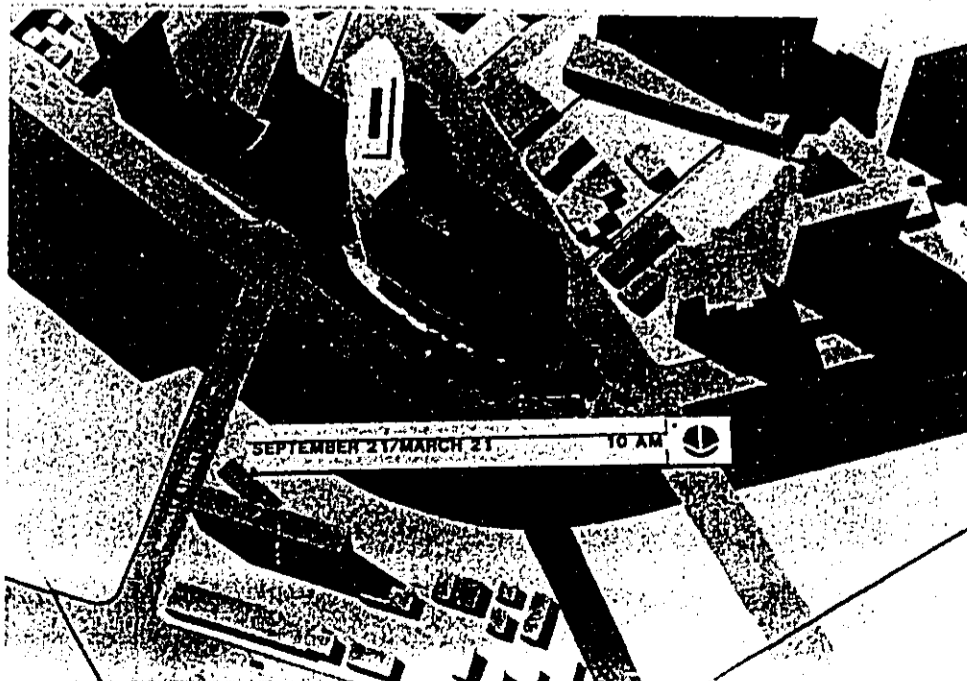
**SHADOW STUDY
SCHEME # 1**

NOT APPLICABLE

6 AM



8 AM



10 AM

K-24

DOCUMENT CAPTURED AS RECEIVED

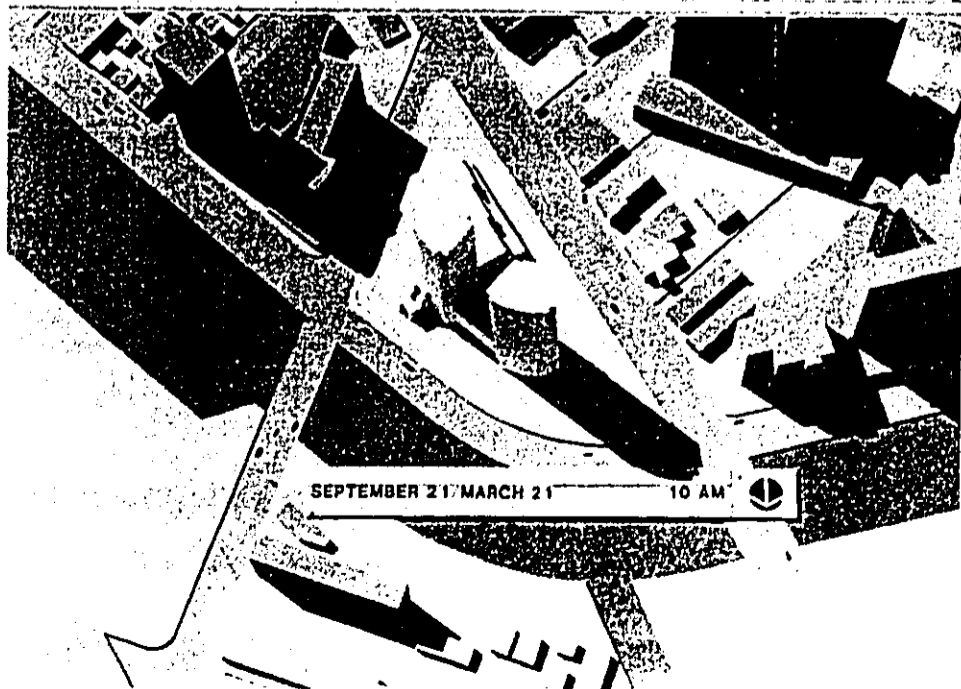
**SHADOW STUDY
SCHEME #2**

NOT APPLICABLE

6 AM



8 AM



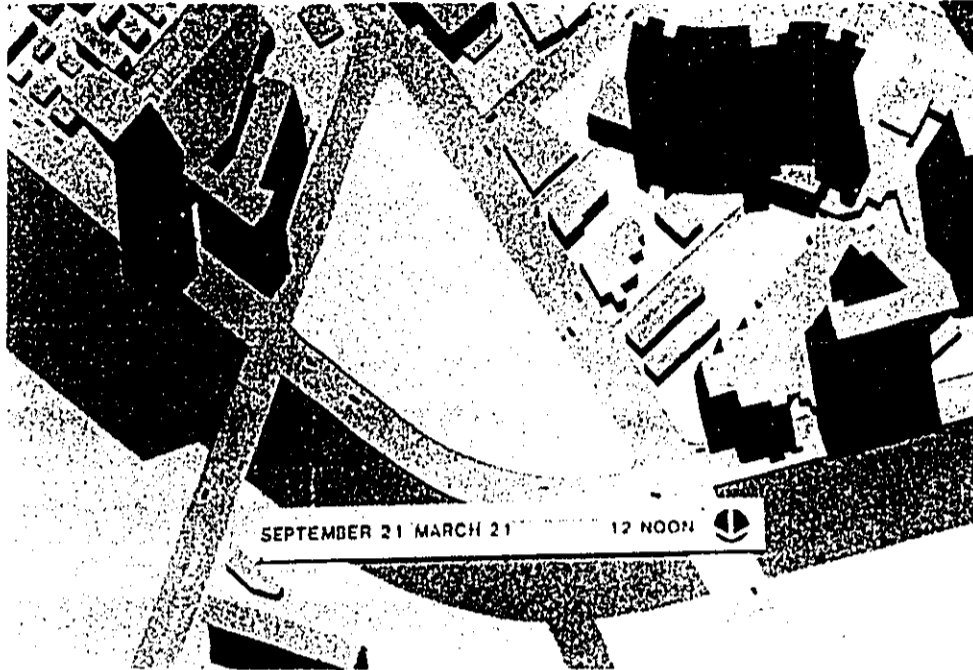
10 AM

K-25

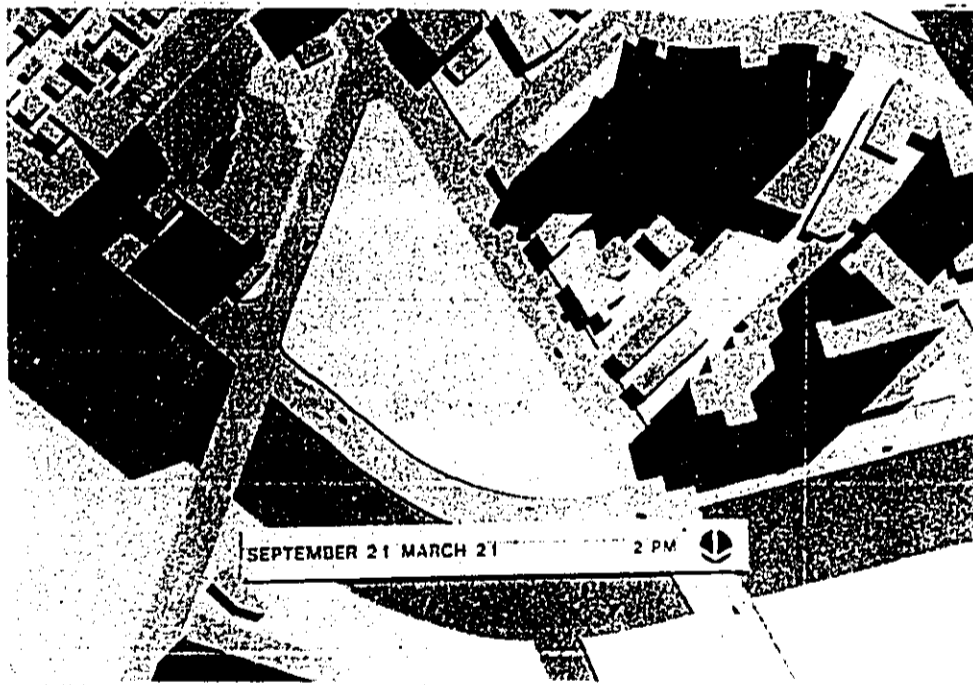
DOCUMENT CAPTURED AS RECEIVED

SHADOW STUDY
EXISTING CONDITIONS

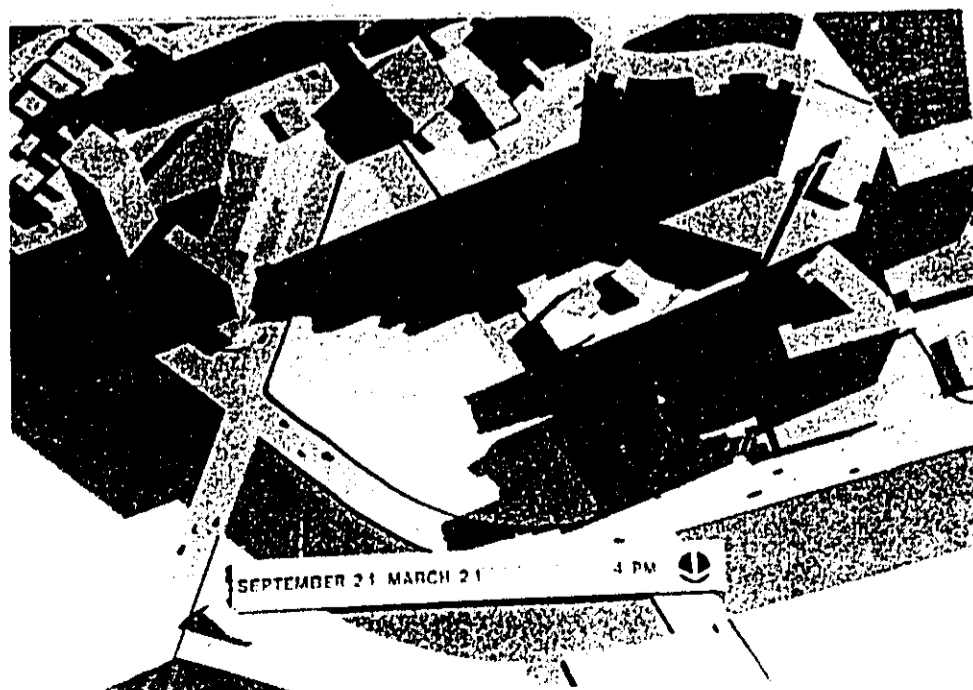
12 NOON



2 PM



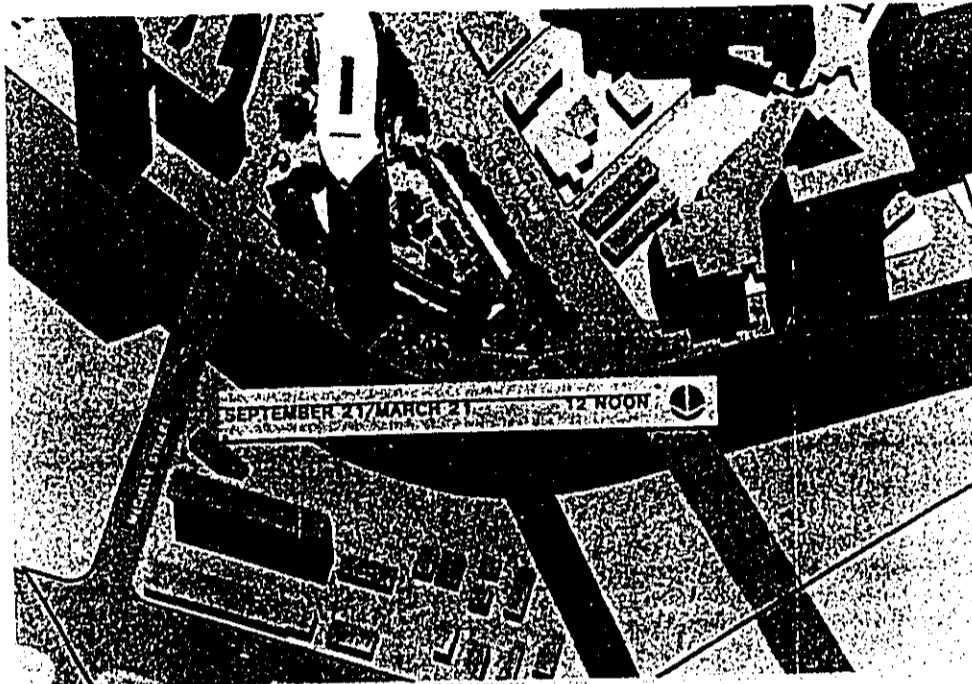
4 PM



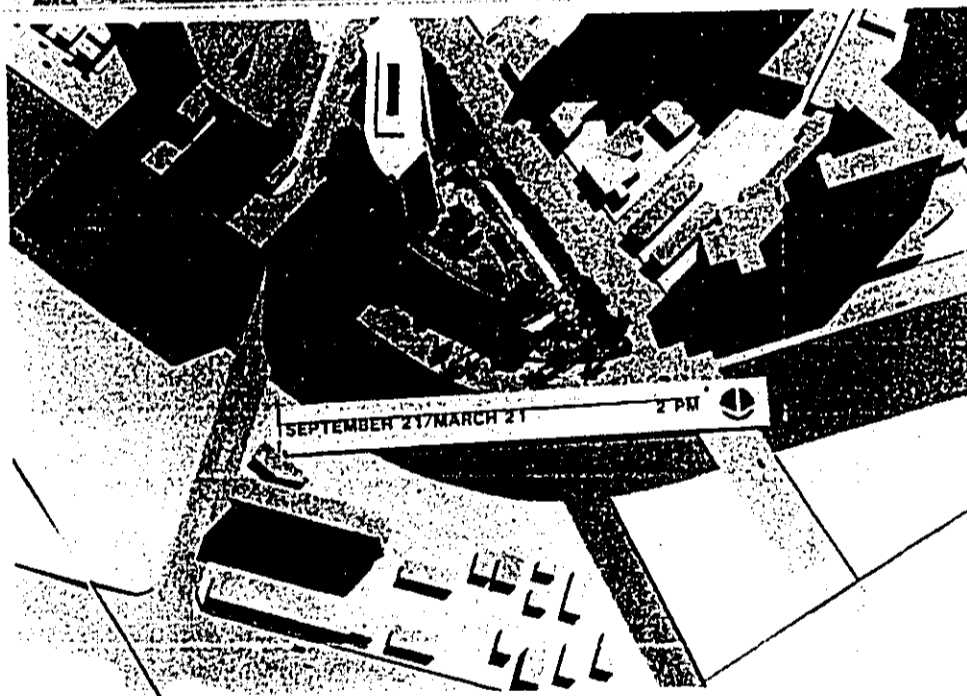
DOCUMENT CAPTURED AS RECEIVED

**SHADOW STUDY
SCHEME # 1**

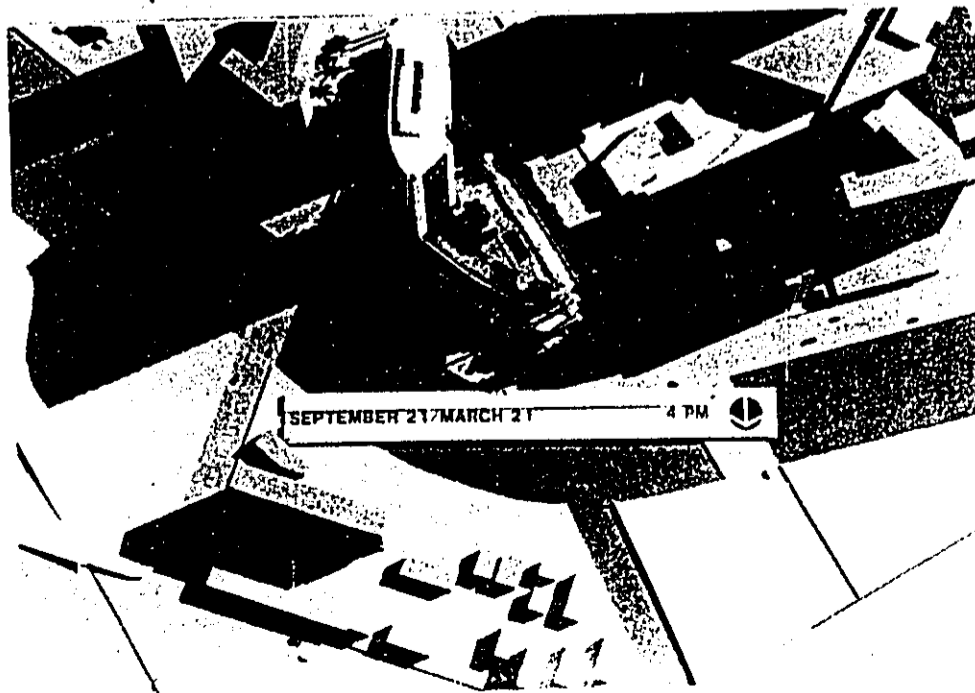
12 NOON



2 PM



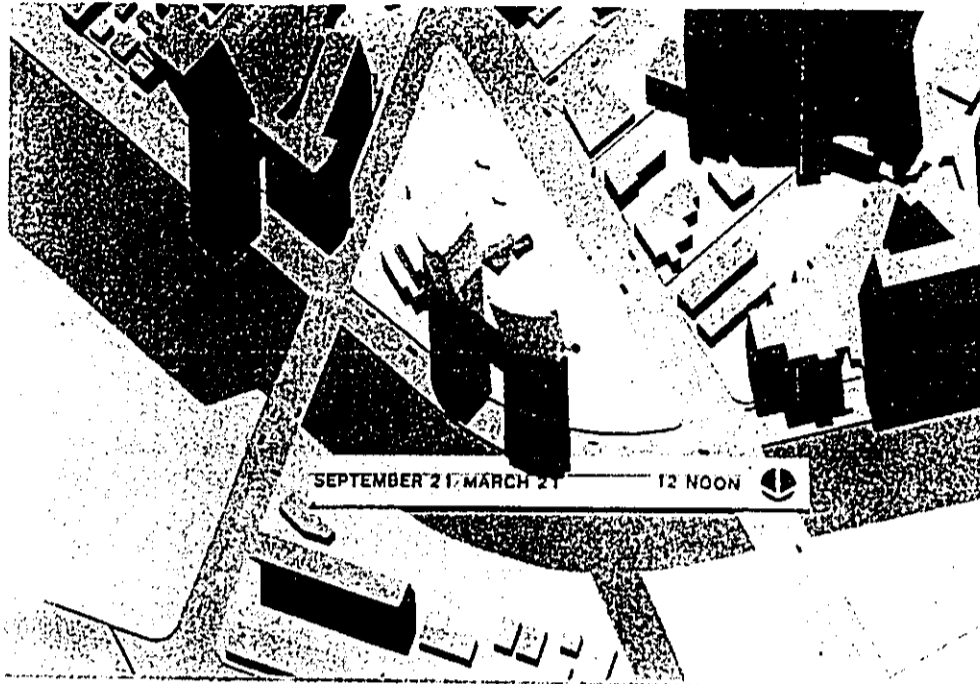
4 PM



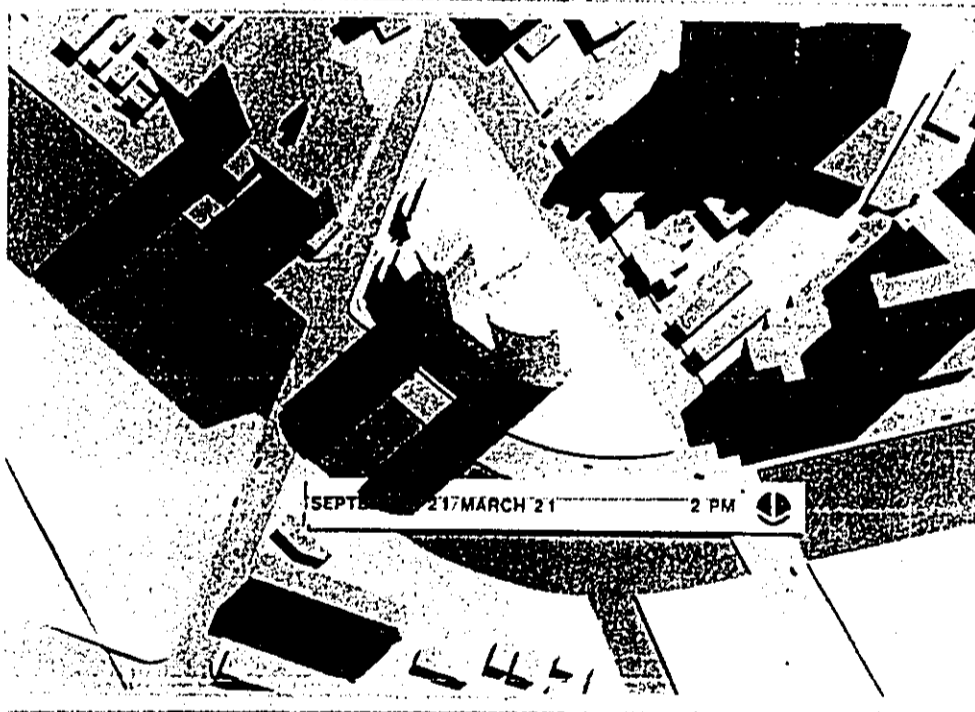
DOCUMENT CAPTURED AS RECEIVED

SHADOW STUDY
SCHEME #2

12 NOON

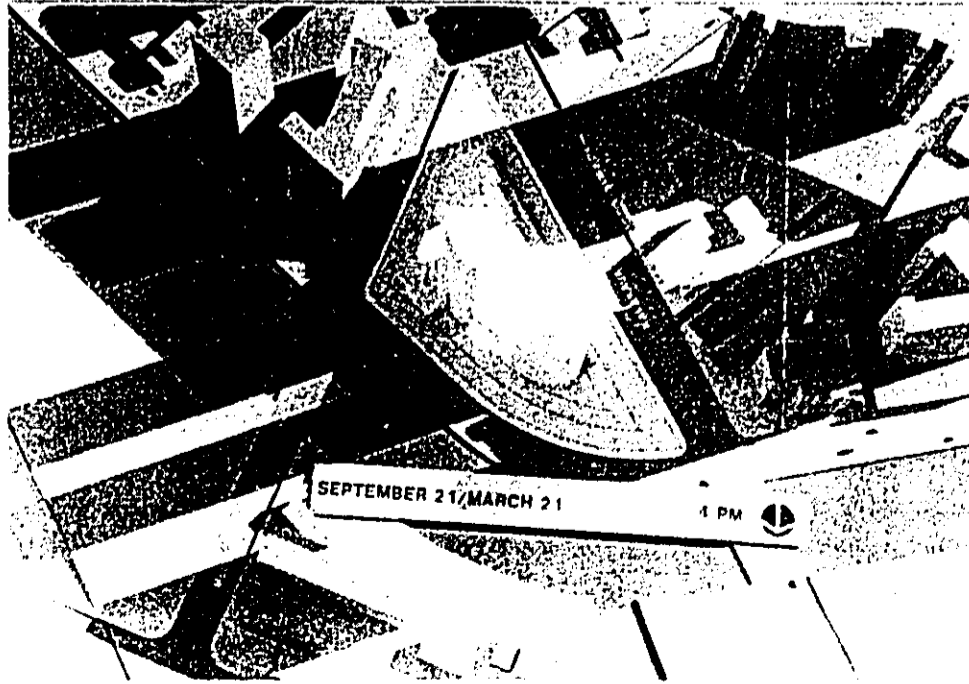


2 PM



4 PM

K-28

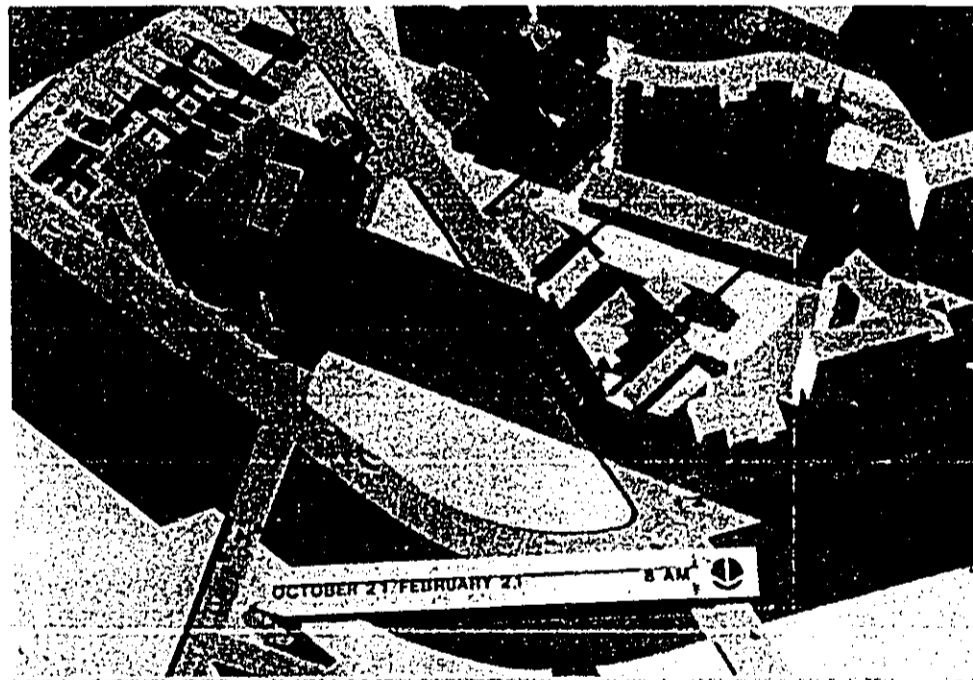


DOCUMENT CAPTURED AS RECEIVED

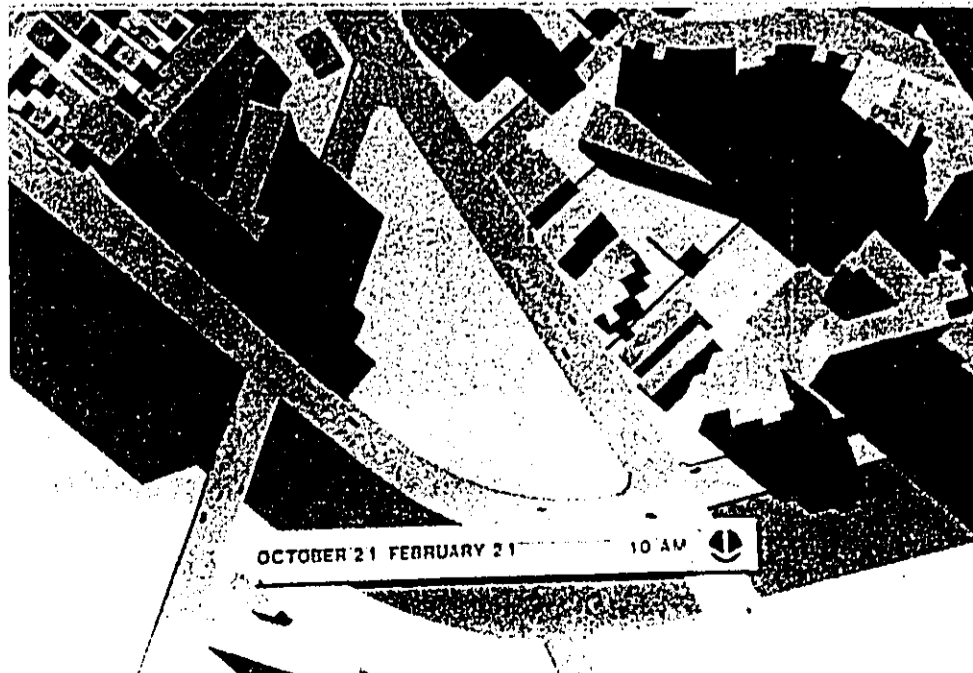
**SHADOW STUDY
EXISTING CONDITIONS**

NOT APPLICABLE

6 AM



8 AM



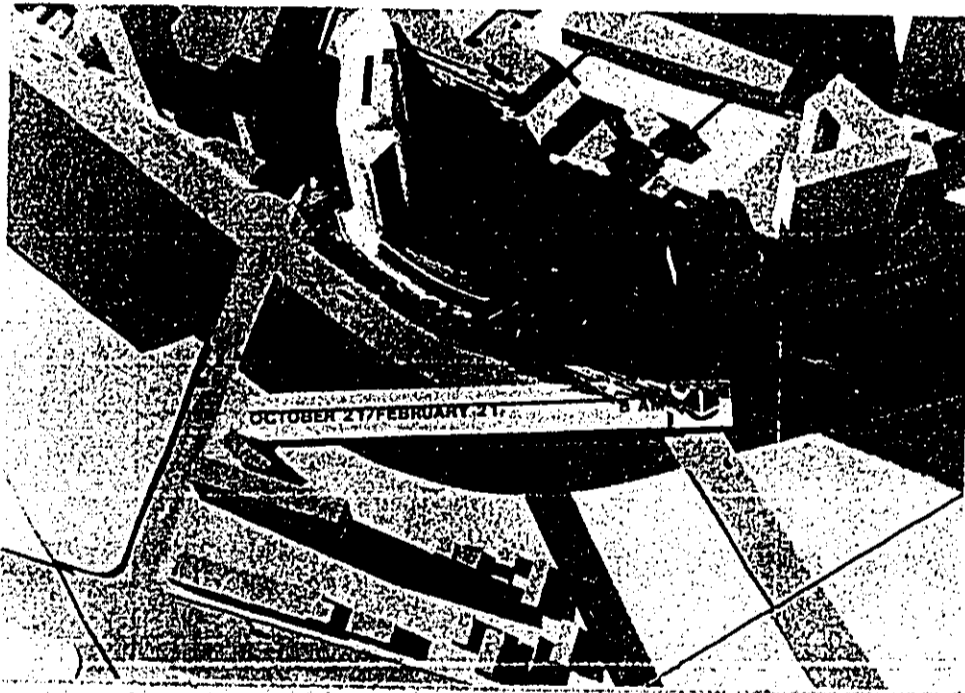
10 AM

DOCUMENT CAPTURED AS RECEIVED

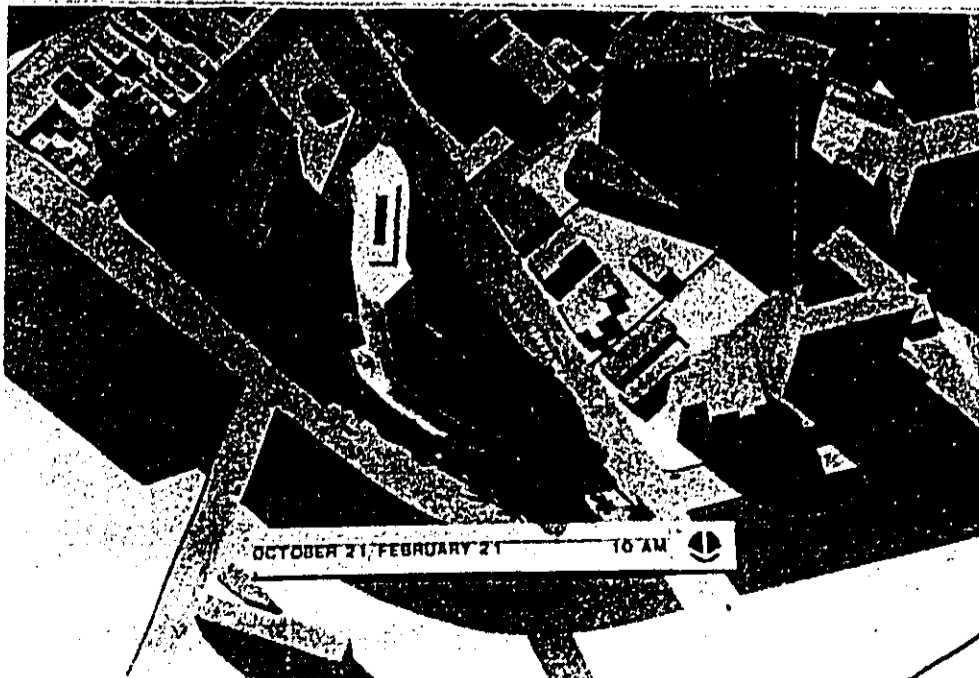
**SHADOW STUDY
SCHEME # 1**

NOT APPLICABLE

6 AM



8 AM



10 AM

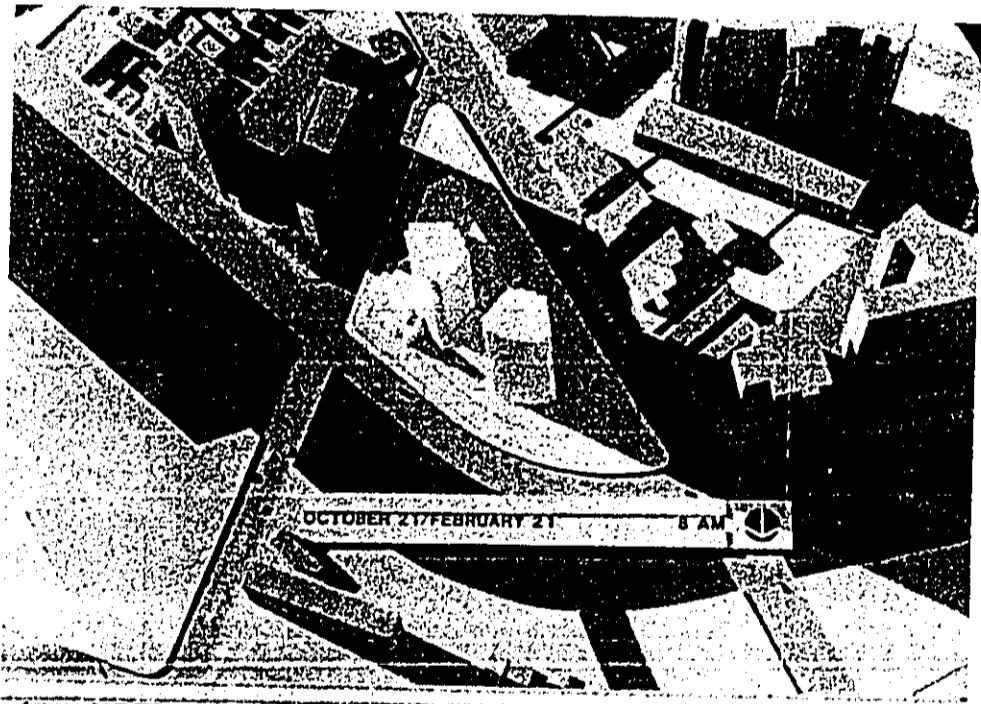
K-30

DOCUMENT CAPTURED AS RECEIVED

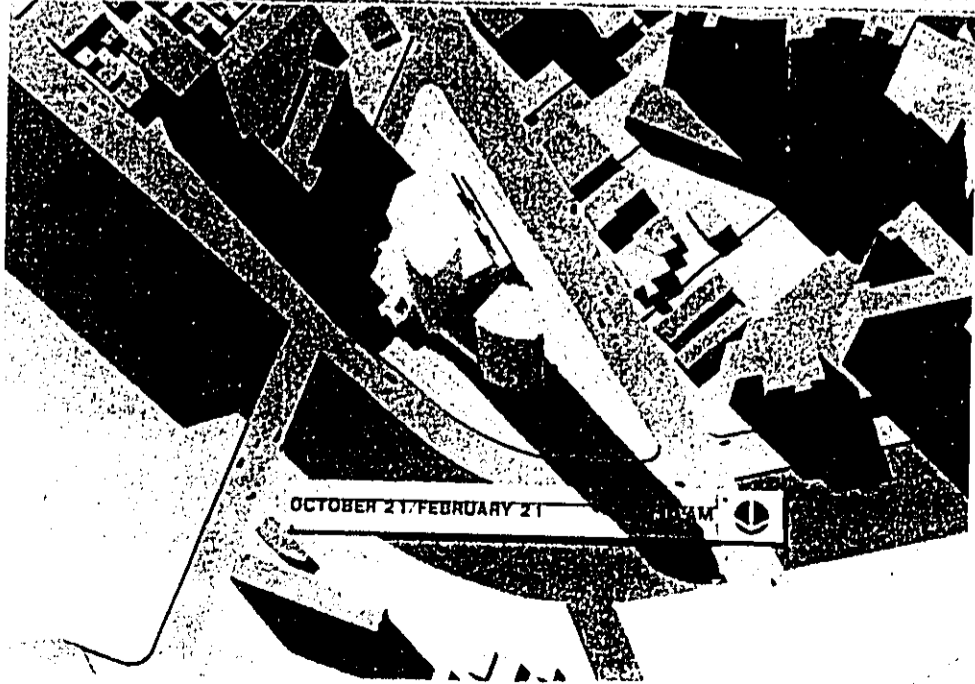
**SHADOW STUDY
SCHEME #2**

NOT APPLICABLE

6 AM



8 AM



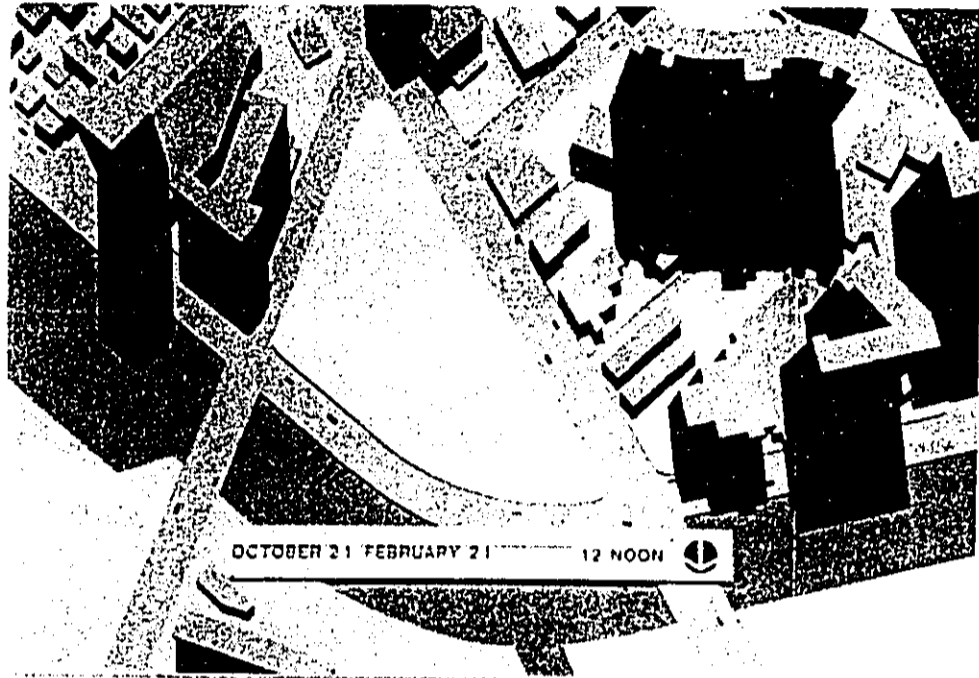
10 AM

K-31

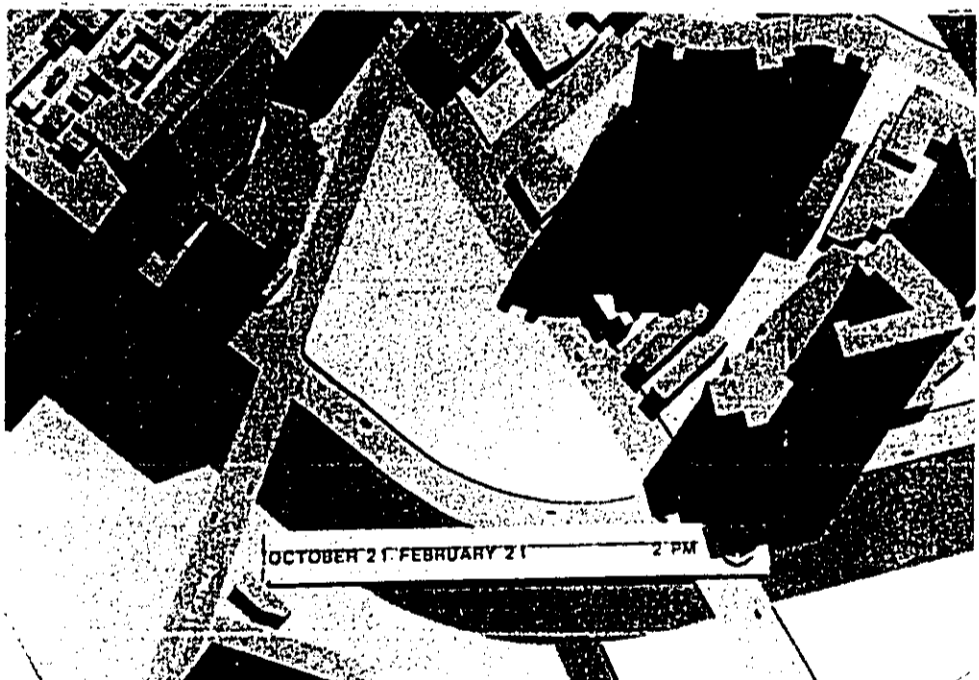
DOCUMENT CAPTURED AS RECEIVED

— SHADOW STUDY
— EXISTING CONDITIONS

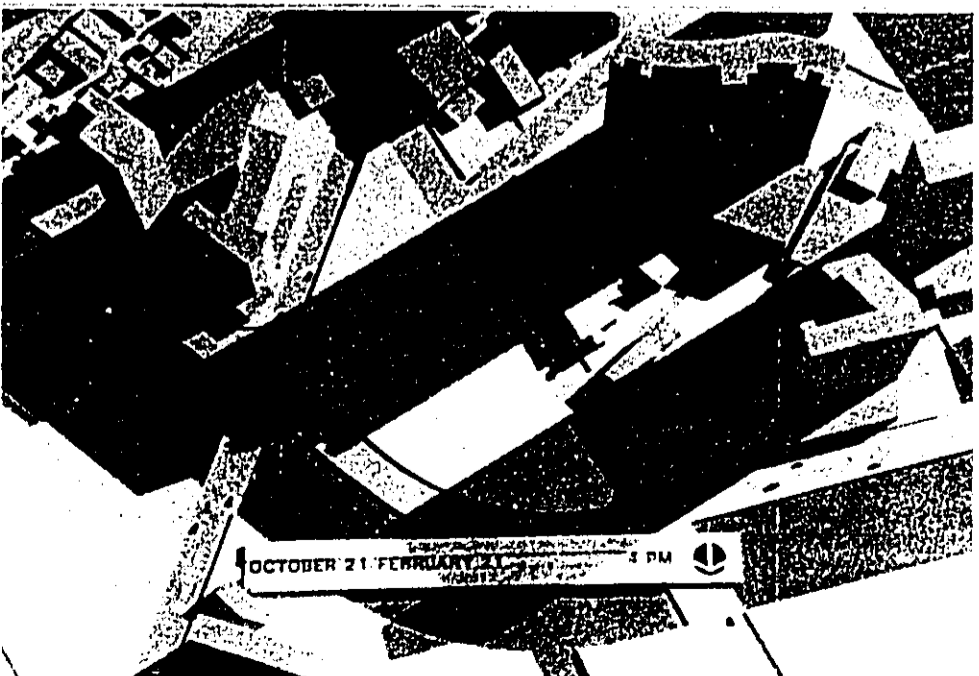
12 NOON



2 PM



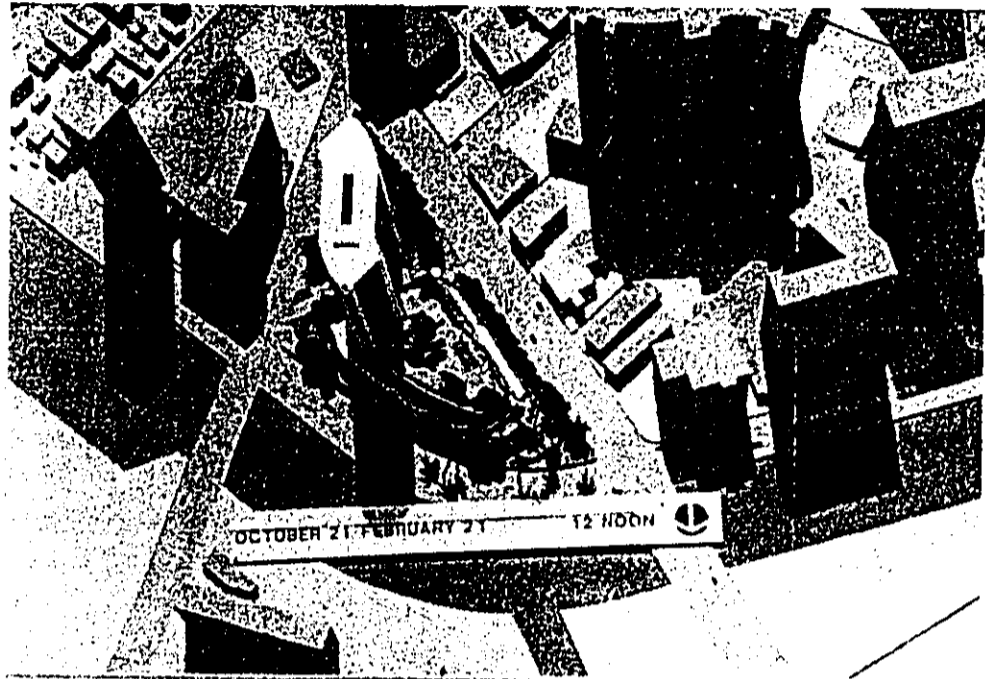
4 PM



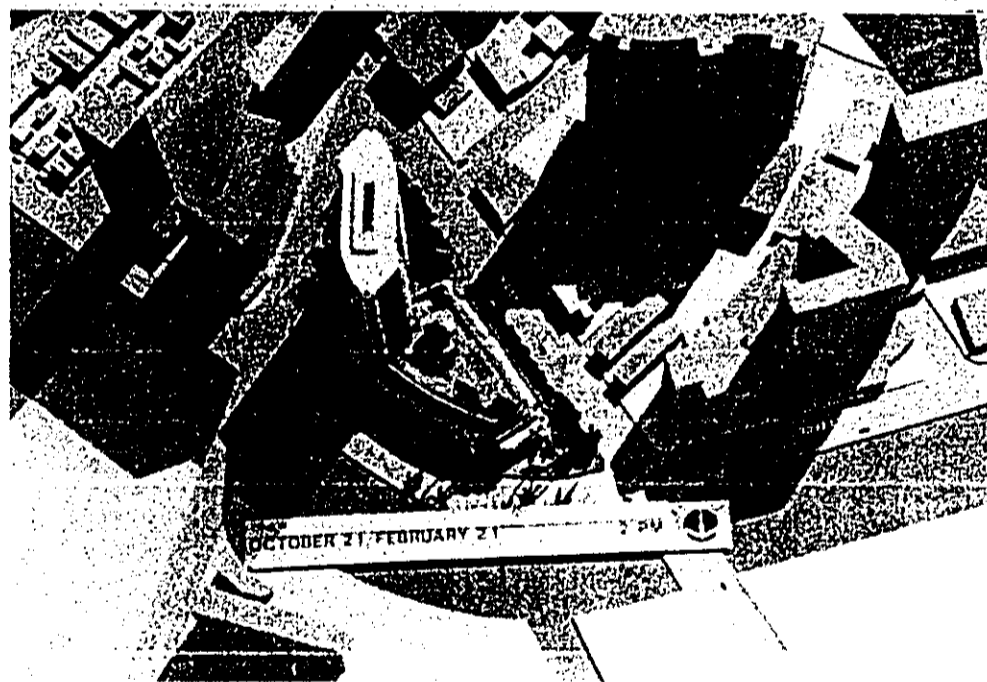
DOCUMENT CAPTURED AS RECEIVED

**SHADOW STUDY
SCHEME # 1**

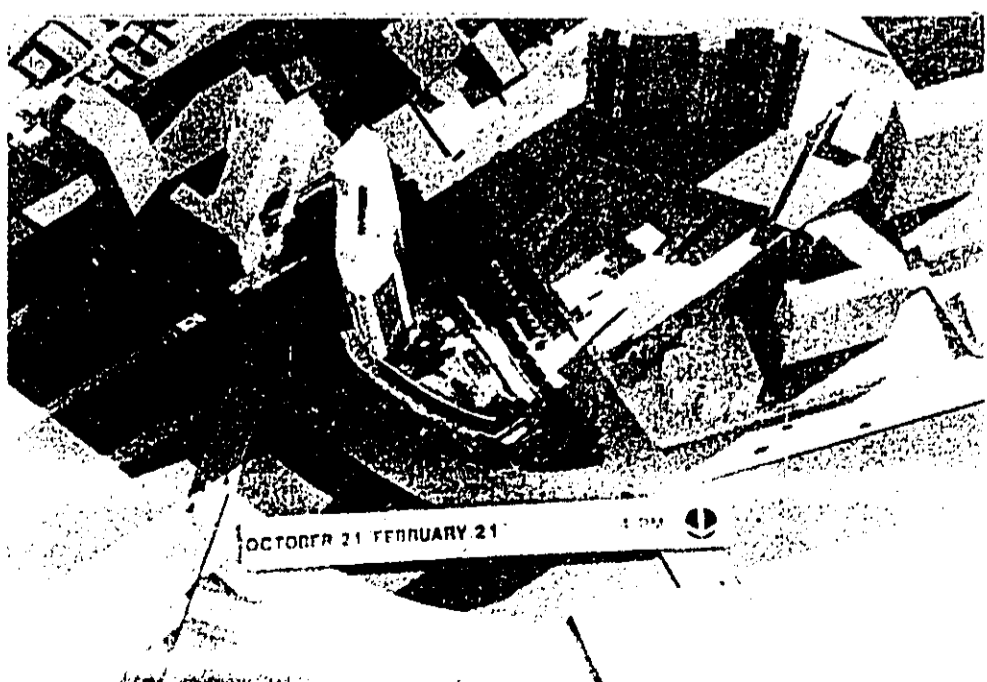
12 NOON



2 PM



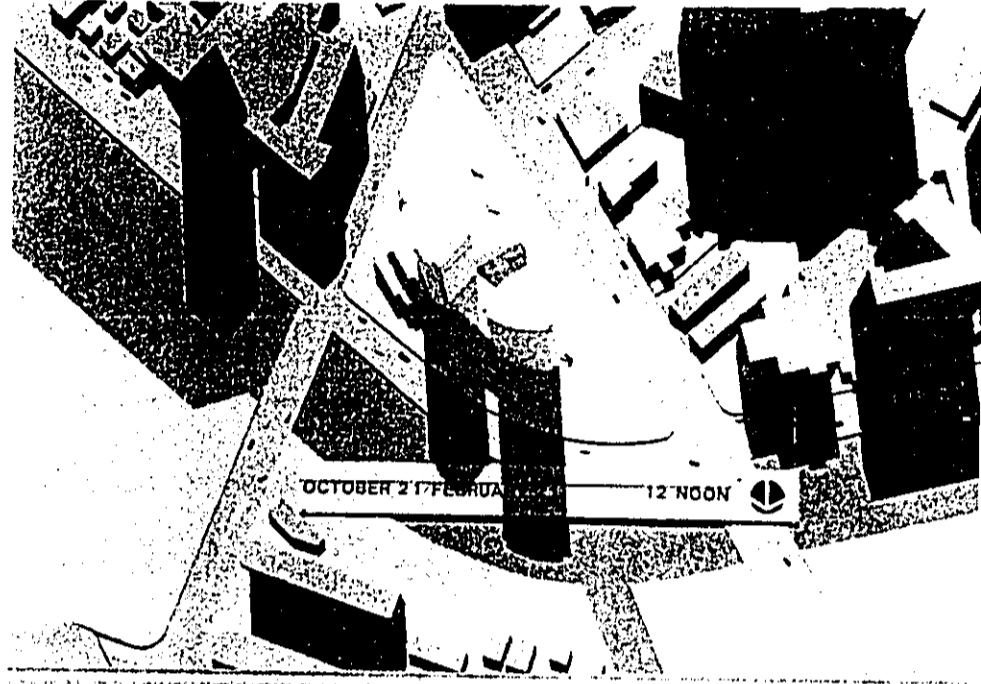
4 PM
K-33



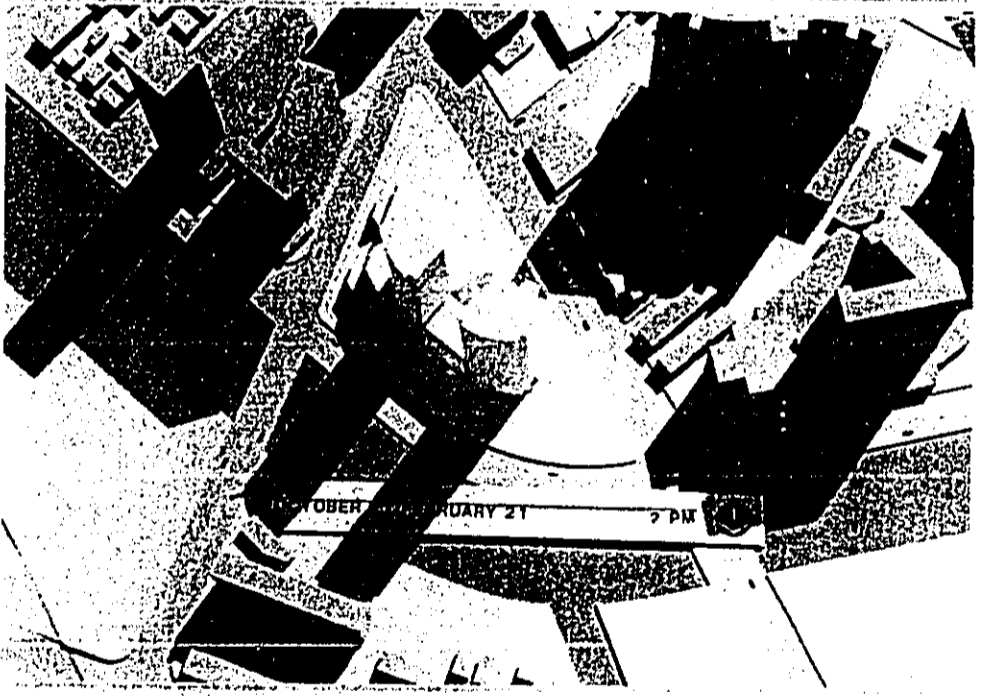
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**SHADOW STUDY
SCHEME #2**

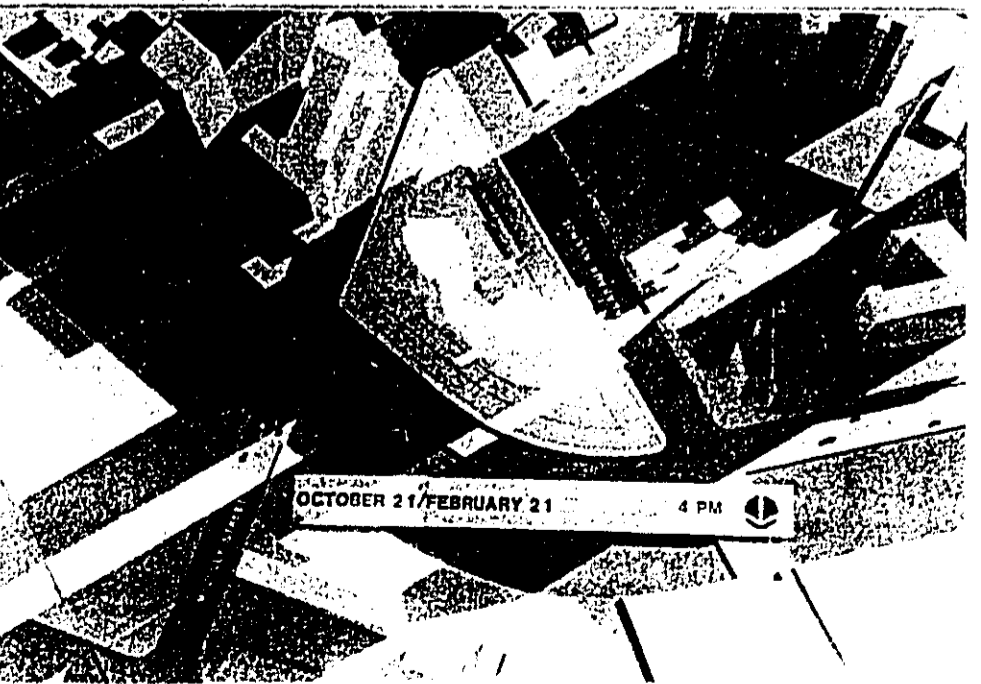
12 NOON



2 PM



4 PM



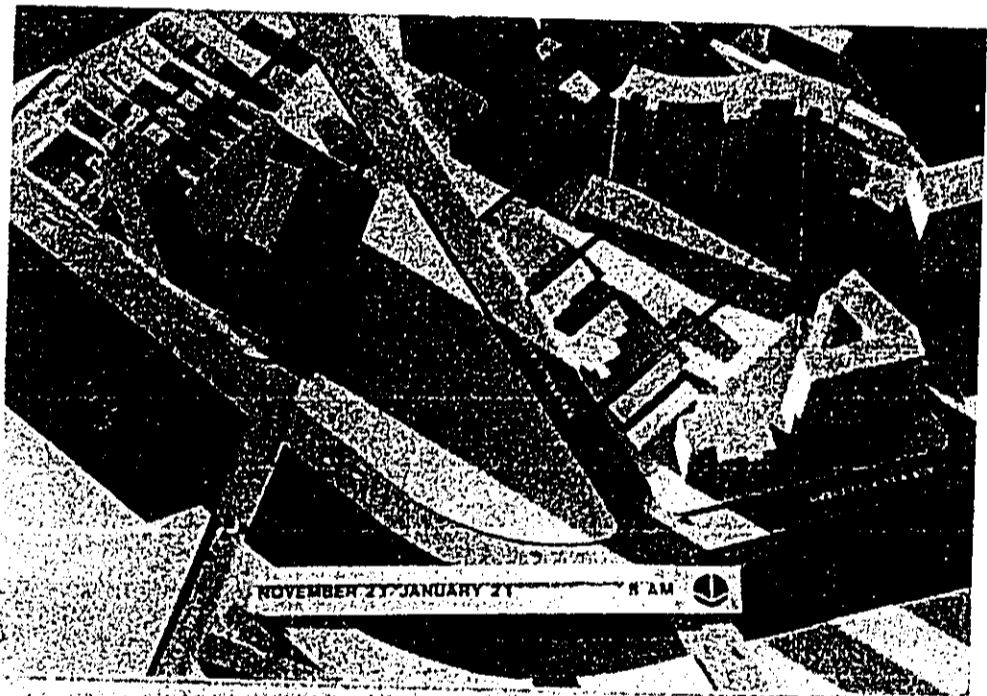
K-34

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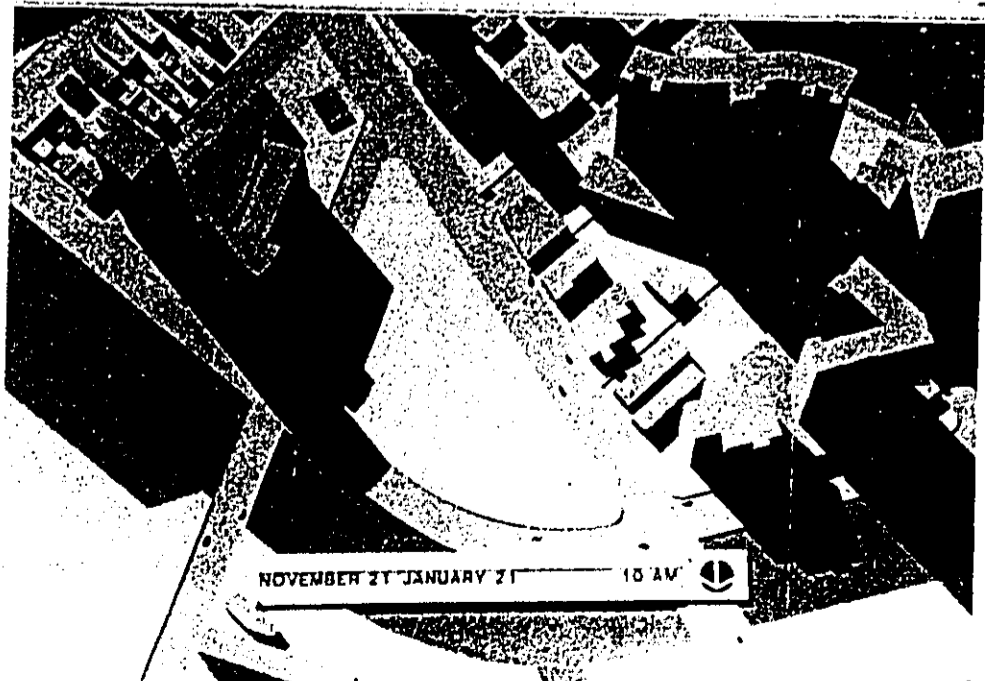
SHADOW STUDY
 EXISTING CONDITIONS

NOT APPLICABLE

6 AM



8 AM



10 AM

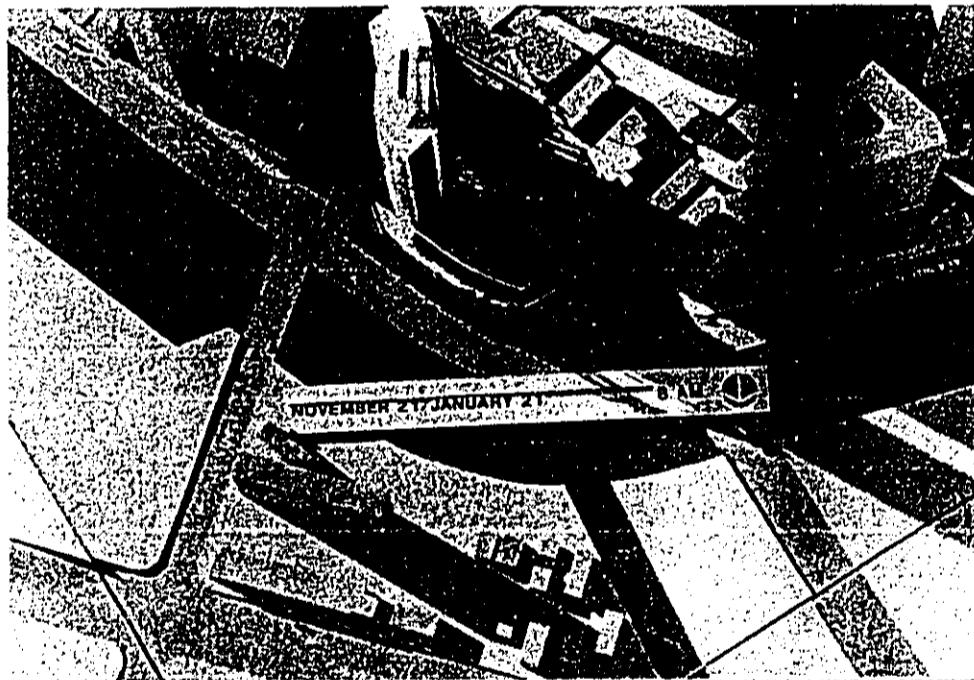
K-35

DOCUMENT CAPTURED AS RECEIVED

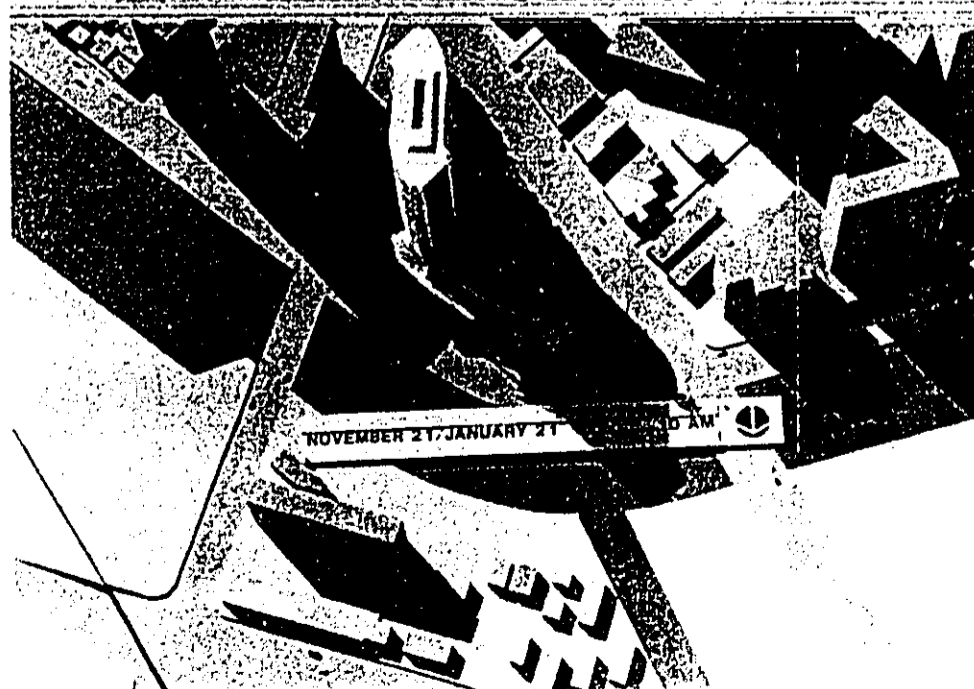
**SHADOW STUDY
SCHEME # 1**

NOT APPLICABLE

6 AM



8 AM



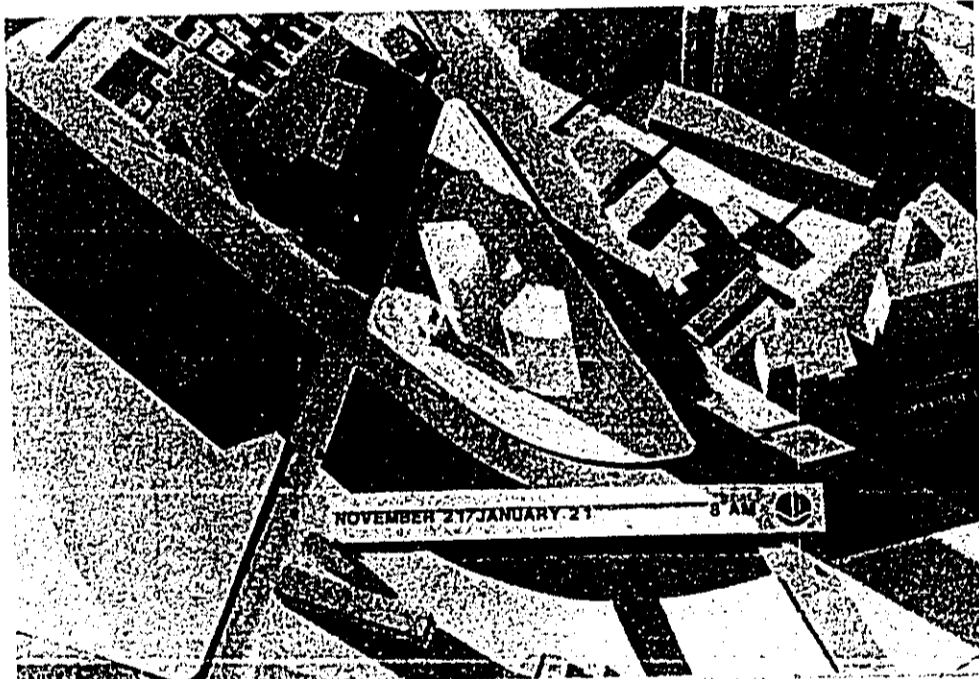
**10 AM
K-36**

DOCUMENT CAPTURED AS RECEIVED

**SHADOW STUDY
SCHEME #2**

NOT APPLICABLE

6 AM



8 AM



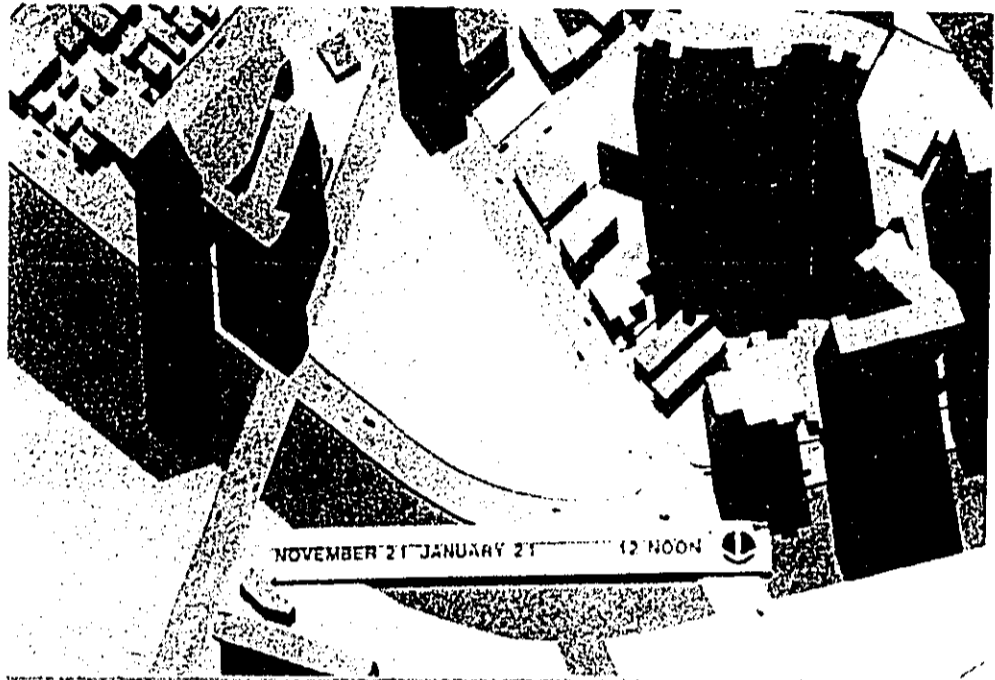
10 AM

K-37

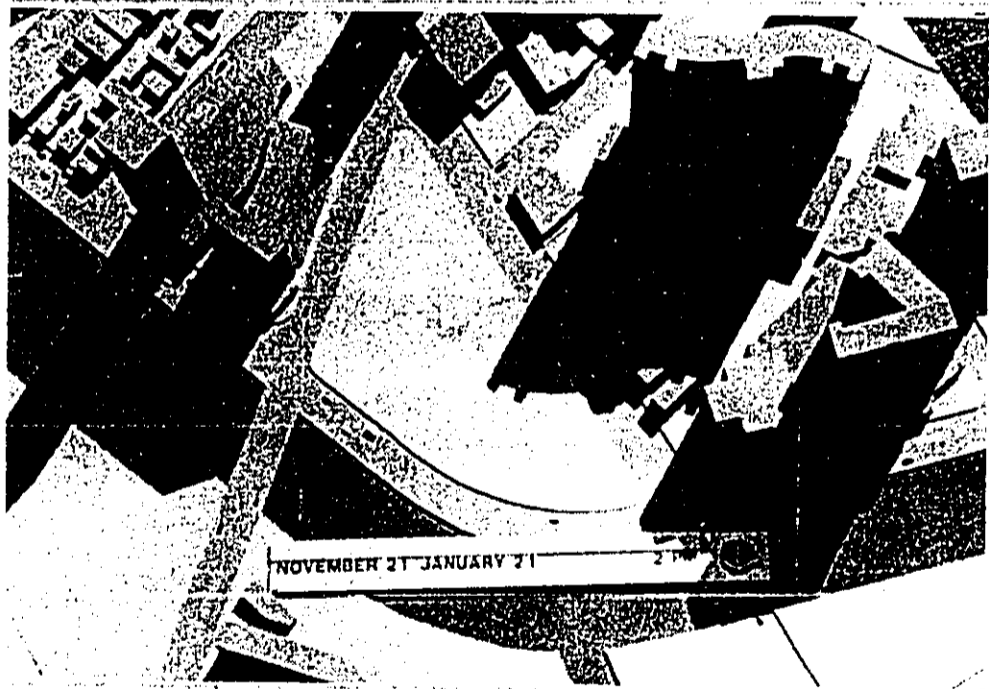
DOCUMENT CAPTURED AS RECEIVED

SHADOW STUDY
EXISTING CONDITIONS

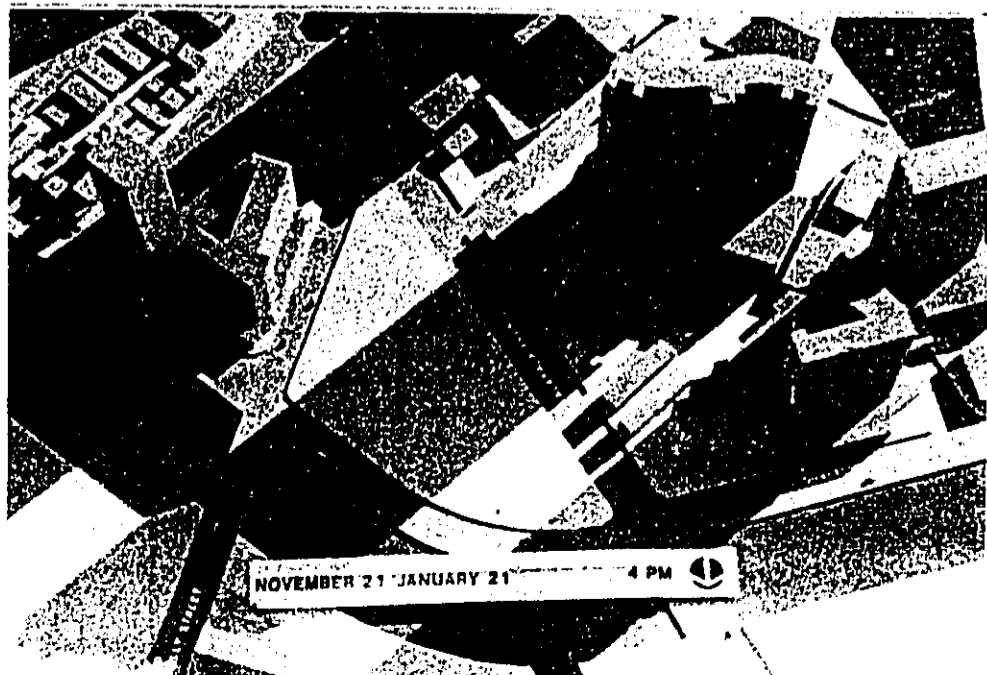
12 NOON



2 PM



4 PM

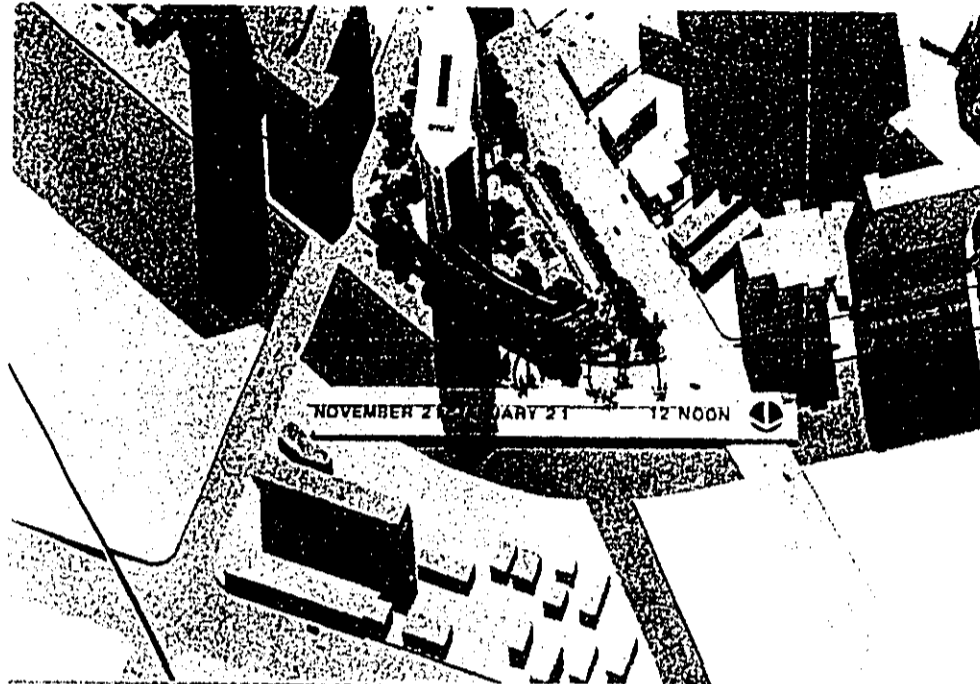


K-38

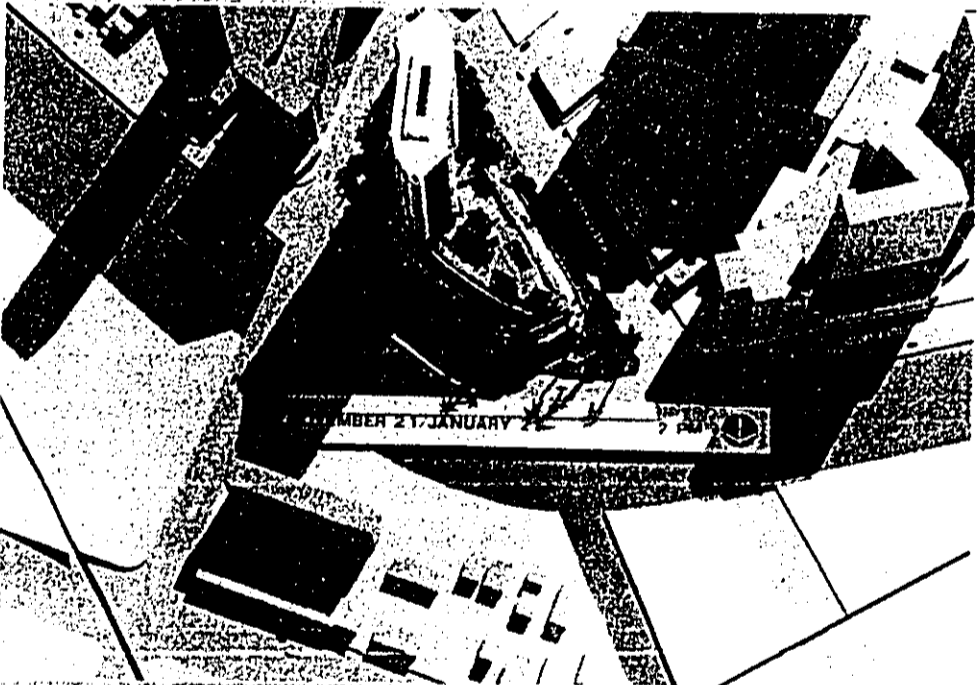
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**SHADOW STUDY
SCHEME # 1**

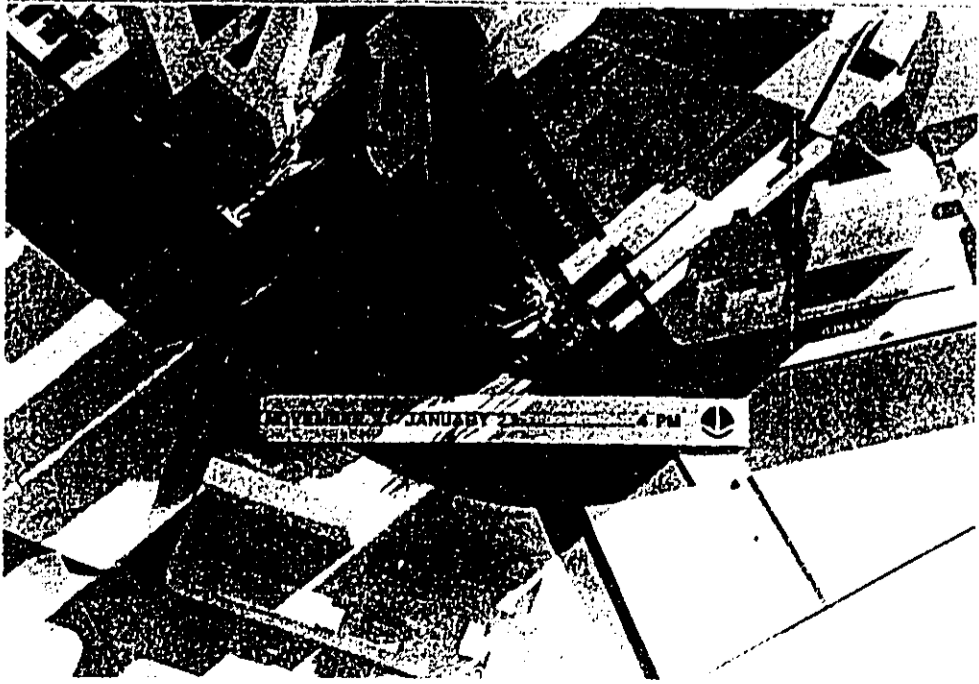
12 NOON



2 PM



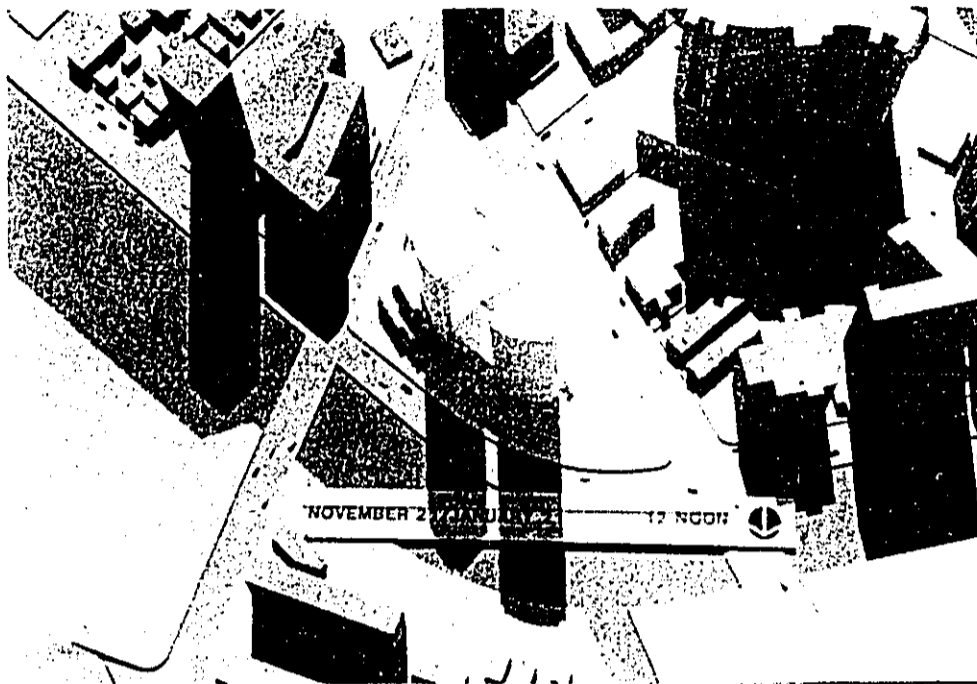
4 PM



DOCUMENT CAPTURED AS RECEIVED

**SHADOW STUDY
SCHEME #2**

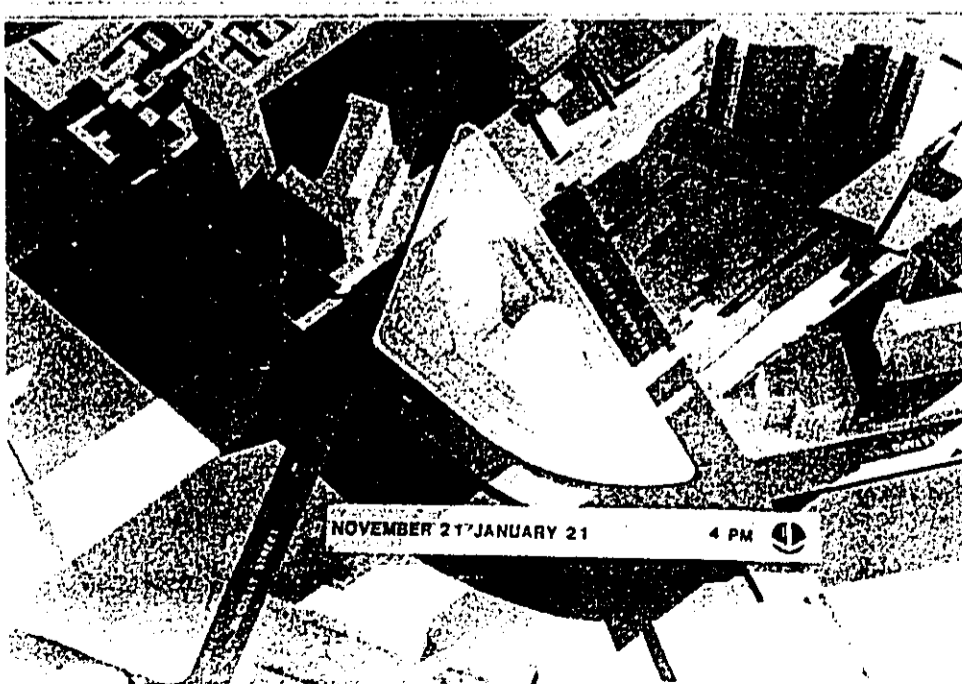
12 NOON



2 PM



4 PM
K-40

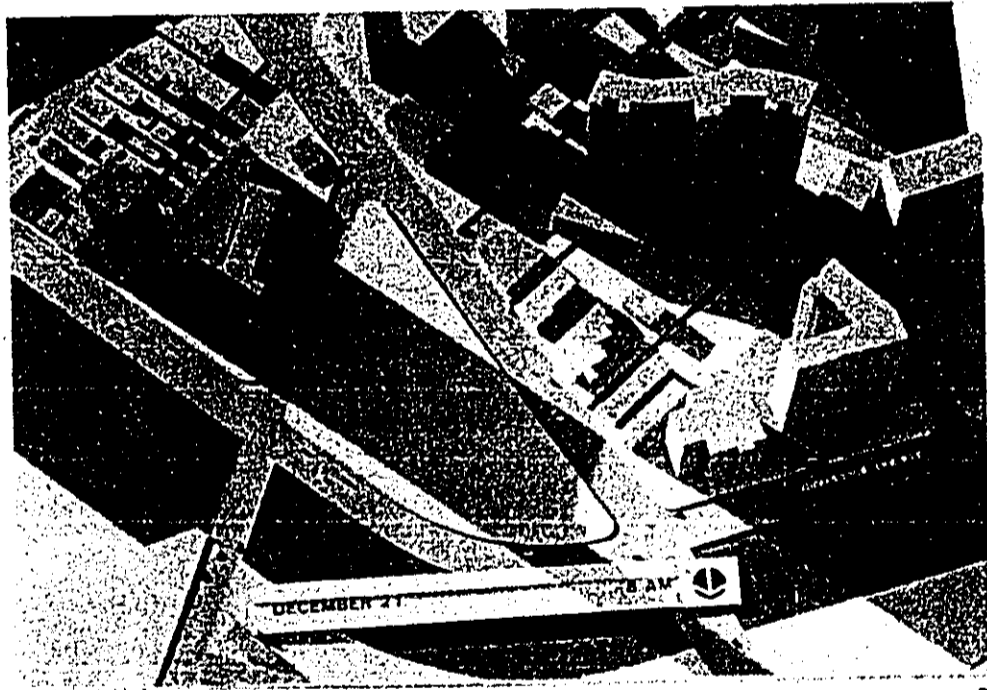


DOCUMENT CAPTURED AS RECEIVED

**SHADOW STUDY
EXISTING CONDITIONS**

NOT APPLICABLE

6 AM



8 AM



10 AM

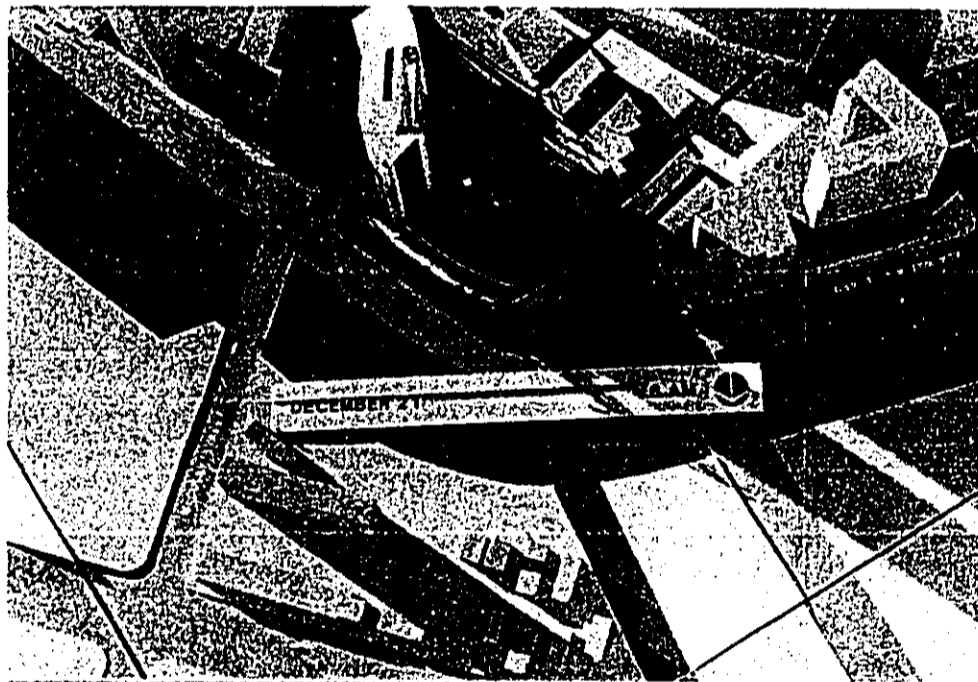
K-41

DOCUMENT CAPTURED AS RECEIVED

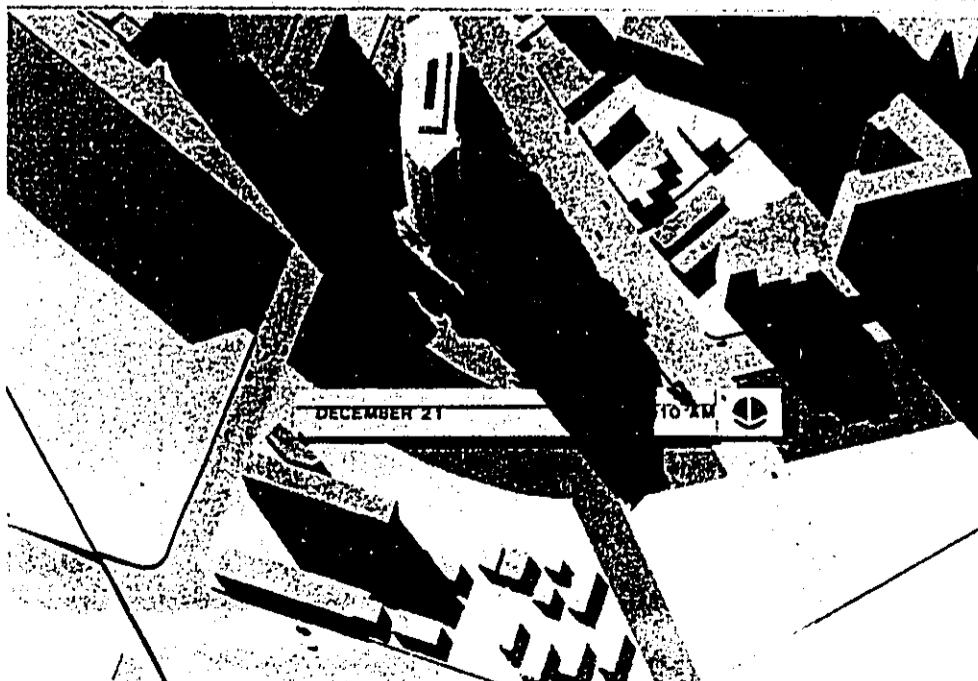
**SHADOW STUDY
SCHEME # 1**

NOT APPLICABLE

6 AM



8 AM



**10 AM
K-42**

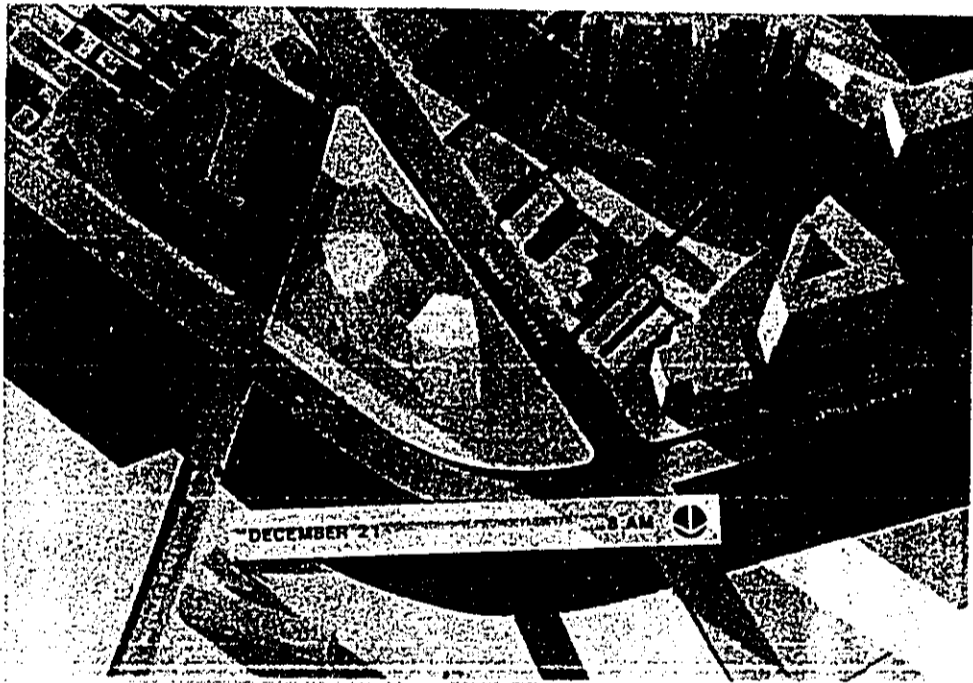
DOCUMENT CAPTURED AS RECEIVED

SHADOW STUDY

SCHEME #2

NOT APPLICABLE

6 AM



8 AM



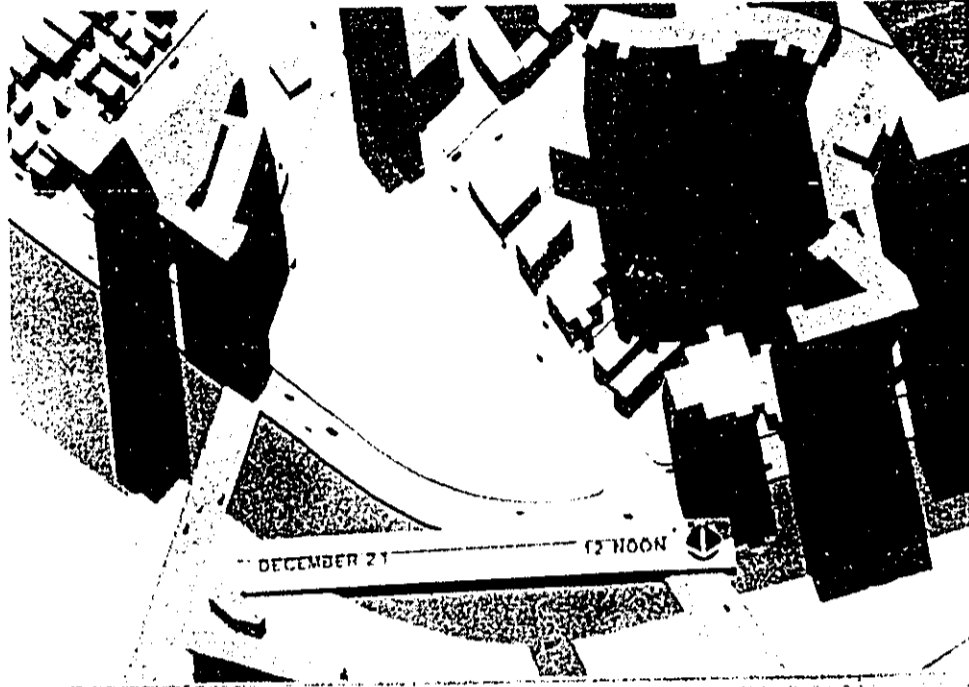
10 AM

K-43

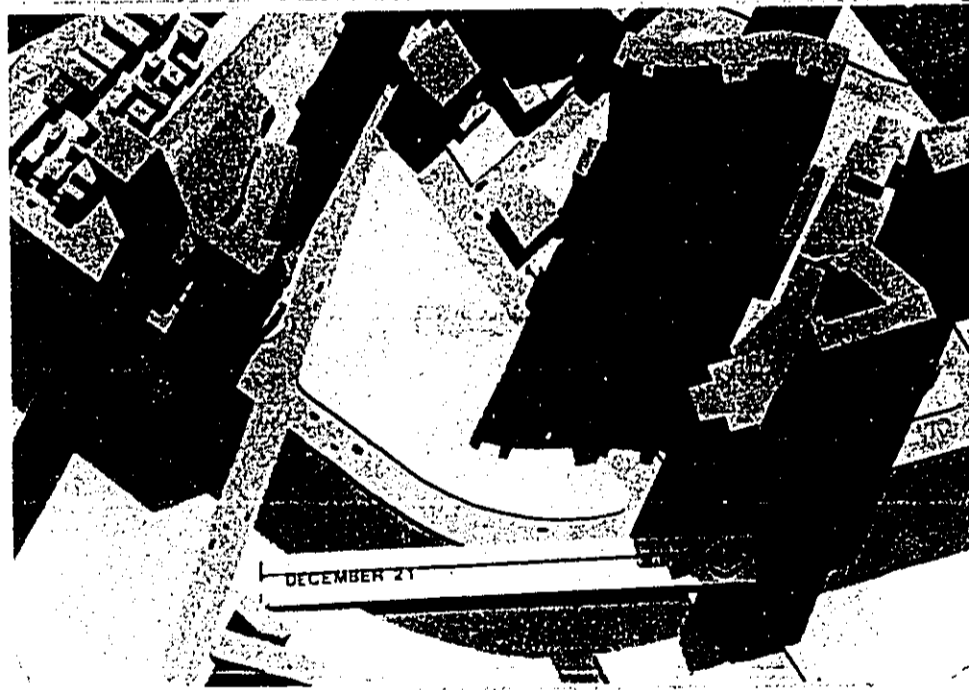
DOCUMENT CAPTURED AS RECEIVED

SHADOW STUDY
EXISTING CONDITIONS

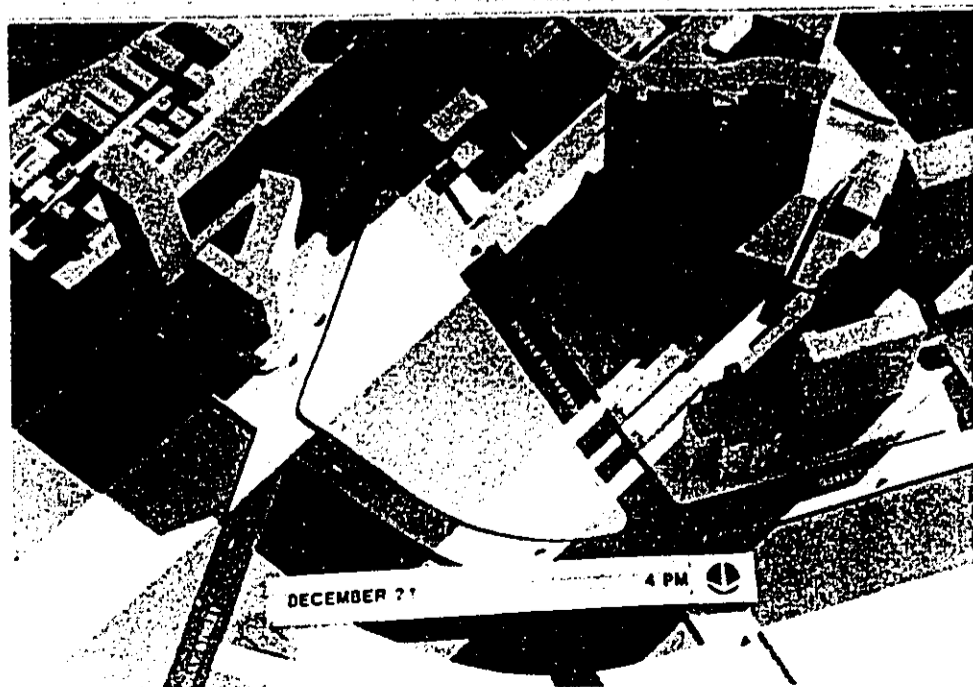
12 NOON



2 PM



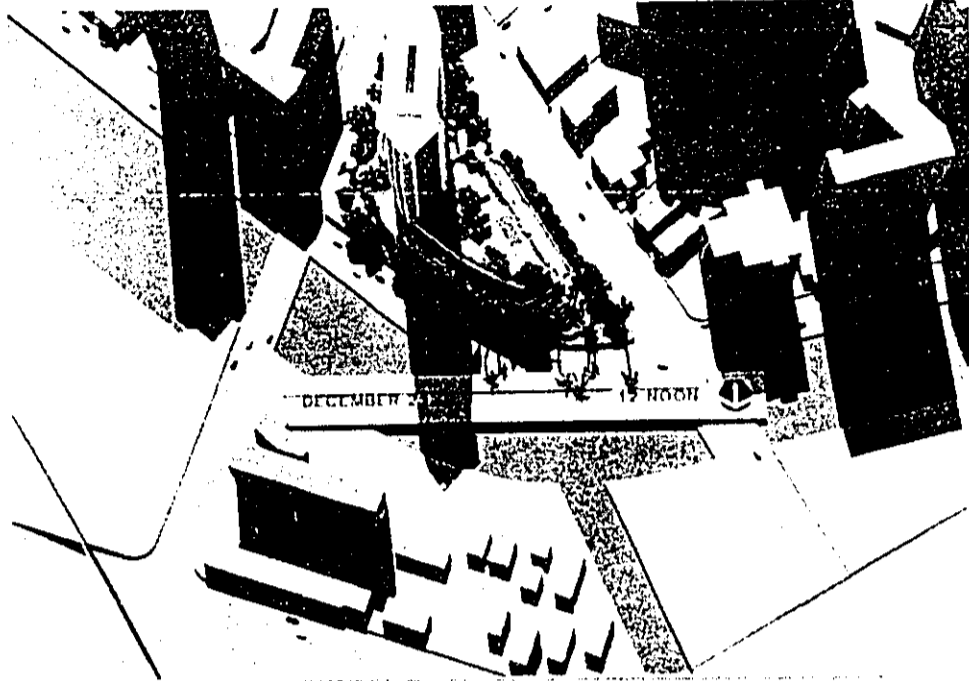
4 PM
K-44



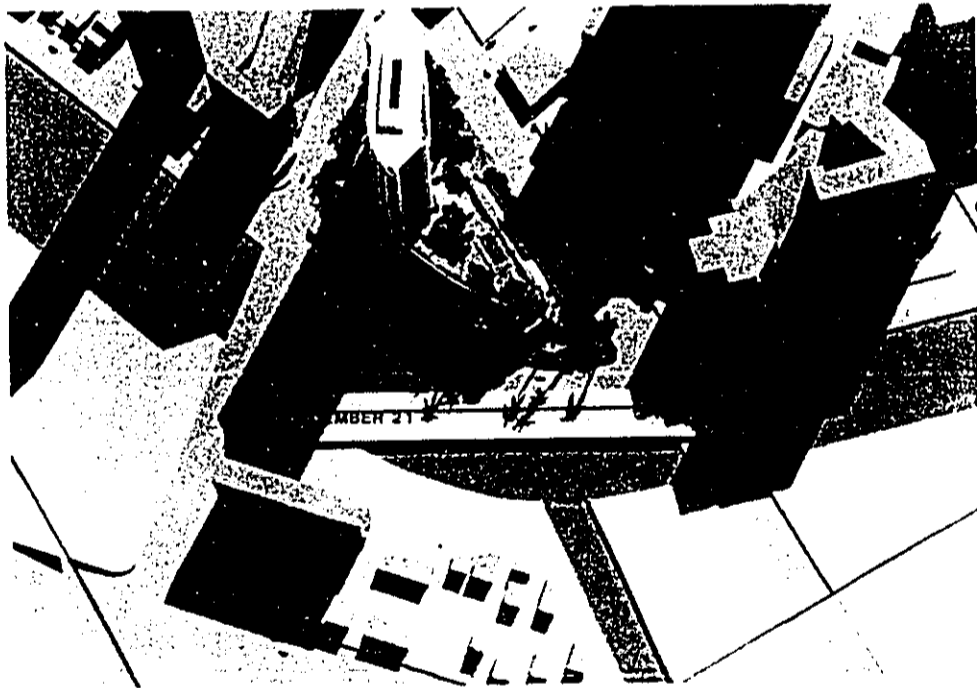
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**SHADOW STUDY
SCHEME # 1**

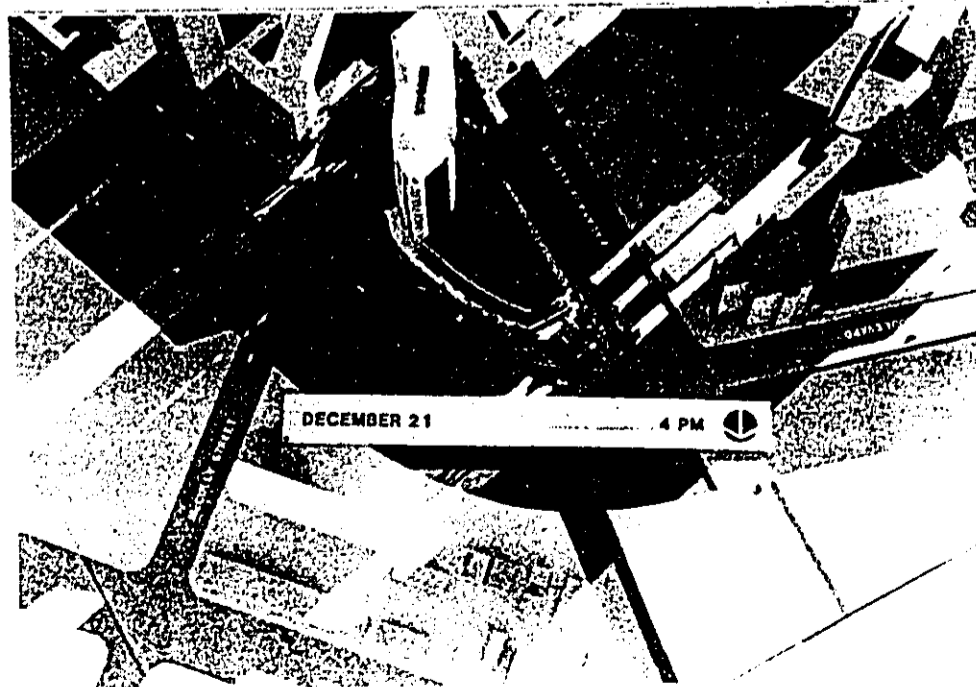
12 NOON



2 PM



**4 PM
K-45**



DOCUMENT CAPTURED AS RECEIVED

**SHADOW STUDY
SCHEME #2**

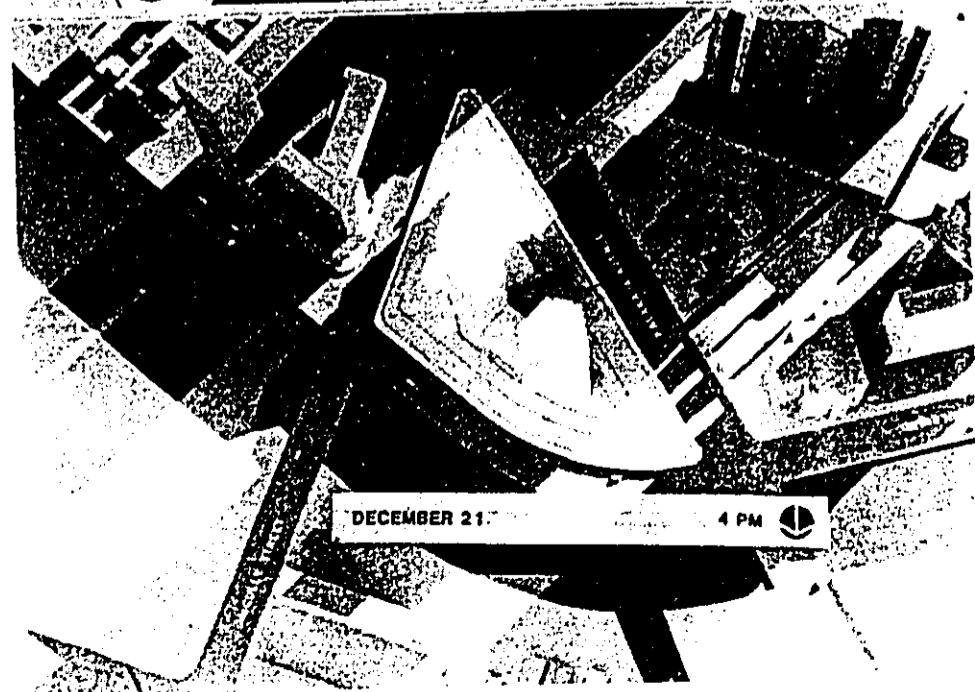
12 NOON



2 PM



**4 PM
K-46**



NUMERICAL SHADOW ANALYSIS

JUNE	8AM	10AM	12NOON	2PM	4PM
	MKA	MKA	MKA	MKA	MKA
EXISTING	.5.1 -	.1 - -	- - -	- - -	.1 - .15.1
SCHEME 1	.5.2 -	.1.2 -	- - -	.3 - .15	.4.15.4
SCHEME 2	.5.2 -	.1 - -	- - -	.05 - .25	.5.15.3
JUL/MAY					
EXISTING	.5.2 -	.1 - -	- - -	- - -	.1.3.3
1	.5.4 -	.1.1 -	- - -	.2 -	.3.3.3
2	.5.5 -	.1.05 -	- - -	.5 -	.5.3.5
AUG/APR					
EXISTING	.4.2 -	.4 - -	- - -	- - -	.1.1.4.3
1	.4.4 -	.4.1 -	- - -	.3 - .3	.6.4.4
2	.4.4 -	.4.05 -	- - -	- - -	.3.7.4.5
SEP/MAR					
EXISTING	.5.4 -	.5 - -	- - -	.1 - -	.1.1.7.3
1	.5.4 -	.5 - -	- - -	.2.1 - .4	.4.7.8
2	.5.4 -	.5 - .1	- - -	.3 - -	.4.5.7.8

LEGEND

M = McCULLY STREET
 K = KALAKAUA AVENUE
 A = ALA WAI BOULEVARD
 .5 = 50% OF SIDEWALK IN SHADOW

	8 AM	10 AM	12 NOON	2 PM	4 PM
OCT/FEB	M.K.A	M.K.A	M.K.A	M.K.A	M.K.A
EXISTING	.6 .5 - .6 - - - .1 - .1 .2 .3 .6 .6				
SCHEME 1	.6 .7 .1 .6 - - - .2 - .1 .3 .6 .6 .9				
SCHEME 2	.6 .6 .1 .6 - .1 - - .3 - .1 .4 .4 .6 .9				
NOV/JAN					
EXISTING	.6 .3 .1 .6 - .2 - .1 .1 - .2 .2 .4 .6 .8				
1	.6 .6 .15 .6 - .5 - .1 .2 - .2 .4 .8 .6 .9				
2	.6 .3 .15 .6 - .5 - .1 .3 - .2 .4 .7 .6 .9				
DEC					
EXISTING	.5 - .1 .6 - .3 .1 .1 .2 - .3 .3 .3 .6 .8				
1	.5 .4 .2 .6 - .5 .1 .1 .3 - .3 .5 .8 .6 .9				
2	.5 .3 .2 .6 - .5 .1 .1 .4 - .3 .5 .6 .6 .8				
ANNUAL					
EXISTING	.51 .21 .03 .41 - .07 .01 .03 .07 - .09 .16 .17 .48 .46				
1	.51 .51 .00 .41 .00 .11 .01 .03 .13 .15 .07 .32 .52 .48 .66				
2	.51 .44 .00 .41 .01 .17 .01 .03 .19 .07 .07 .36 .50 .48 .50				

Appendix L

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA STREET

HONOLULU, HAWAII 96843



RSI
DM ✓

FRANK F. FASI, Mayor

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

KAZU HAYASHIDA
Manager and Chief Engineer

January 21, 1988

Mr. Daniel S. Miyasato
Richard M. Sato & Associates, Inc.
2065 South King Street, Room 303
Honolulu, Hawaii 96826

Dear Mr. Miyasato:

Subject: Your Letter of January 8, 1988 Concerning the Proposed Waikiki Landmark Project on Kalakaua Avenue, TMK: 2-6-14: 39, 41, 43, 44, 49-56, and 59

Thank you for your letter concerning the proposed Waikiki Landmark project.

The water system is presently adequate to accommodate the proposed development.

The availability of water will be determined when the building permit application is submitted for our review and approval. If your development plan requires action by the City Department of Land Utilization, the plan should be approved by that department before we take action on the proposed development. If water is made available, the applicant will be required to pay our Water System Facilities Charges for source-transmission and daily storage.

If a three-inch or larger meter is required for the proposed development, construction drawings showing the installation of the meter should be submitted for our review and approval.

If you have any questions, please contact Albert Koga at 527-6123.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

RECEIVED
JAN 25 1988

Appendix M

DIVISION OF WASTEWATER MANAGEMENT
City and County of Honolulu

APPLICATION FOR SEWER CONNECTION
(Allow at least three weeks for processing of application)

RECEIVED
DIV. 30-11

JUL 24 2 46 PM '89

PUBLIC SERVICE
SECTION

PART A - TO BE FILLED BY APPLICANT

1. Project Name: WAIKIKI LANDMARK
2. Address or Location: Parcels at Ala Wai Blvd. - McCully Street - Kalakaua Avenue
3. Tax Map Key: 2-6-14: 39, 41, 43, 44, 49, 50, 51, 52, 53, 54, 55, 56 & 59
4. Type Development: PD-H _____ Cluster _____ Subdiv. _____
Apt. X Other: Commercial
5. Total No. of Units 206 (Give breakdown below)
Studio _____ 1 Bdrm. 32 2 Bdrm. 166 3 Bdrm. 8
4 Bdrm. _____ Other: Comm. = 36,795 SF
6. Sewer Connection Work Desired: (Give length, size, depth, etc.)
Connection to existing sewer mains within the roadways.
7. Approximate Date Connection is Required: December 1990
8. Number and Type of Existing Structures on Property: _____
5 buildings for office and commercial uses.
(Check One: Structures to Remain 0 To be Demolished 5)
9. Remarks: _____
10. Information provided By:
Name: Daniel S. Miyasato Date: July 24, 1989
Firm: Richard M. Sato & Assoc., Inc. Phone: 955-4441
Address: 2065 So. King St., #303 Honolulu 96826
Street City Zip Code

PART B - TO BE FILLED BY DIVISION OF WASTEWATER MANAGEMENT

1. Present Zoning: _____ General Plan: _____
2. Sewers: Adequate Inadequate _____ Not Available _____
Other: _____
3. Charges: Yes _____ No
a. Sewer Assessment Rate _____ Area _____ sq. ft. \$ _____
b. Sewer Connection \$ _____
c. Total Estimated Charge \$ _____
4. Remarks: _____

5. Application: _____
Approved: [Signature] Date 8/7/89
(Valid for One Year After Date of Approval)

Appendix N

ORDINANCE NO. 89-146

BILL NO. 155 (1989)
CD-2

A BILL FOR AN ORDINANCE TO AMEND CHAPTER 21A, REVISED ORDINANCES OF HONOLULU 1978, AS AMENDED (THE LAND USE ORDINANCE), RELATING TO THE LAND USE ORDINANCE.

BE IT ORDAINED by the people of the City and County of Honolulu:

~~SECTION 1 Section 21A-3.80, Revised Ordinances of Honolulu 1978, as amended, is amended to read as follows:~~

~~"Sec. 21A-3.80. Landscaping.~~

~~"Parking lots, automobile service stations, service and loading spaces, trash enclosures and utility substations shall be landscaped in all zoning districts as follows:~~

~~"A. Parking lots of 5 or more spaces and automobile service stations shall provide a minimum 5-foot landscape strip adjacent to any adjoining street right-of-way. This 5-foot strip shall contain a screening hedge not less than 36 inches in height with plantings no more than 18 inches on center. A minimum 36-inch high wall or fence may be placed behind the setback line in lieu of a hedge. If a wall or solid fence is erected, either a vine or shrub shall be planted at the base of the wall or solid fence on the side fronting the property line. One (1) canopy form tree a minimum of 2-inch caliper shall be planted in the landscape strip for each 50 feet or major fraction of adjacent lineal street frontage."~~

~~SECTION 2 Chapter 21A-3.90-1, Revised Ordinances of Honolulu 1978, as amended, is amended by amending the definitions of "Special Event Displays," and "Sign," and by adding a new definition for "Window Display" as follows:~~

~~a. "Special Event Displays. Signs erected on the premises of an establishment having a grand opening or special event. Special event signs are to advertise an opening, occasion, or particular event, and not an establishment, service, price, product, or commodity.~~

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SECTION 9. Subsection 21A-7.80-6.A, Revised Ordinances of Honolulu 1978, as amended, is amended to read as follows to add a new use and to renumber subsequent uses:

"A. Permitted Uses.

1. Amusement and recreation facilities, indoor.
2. Art galleries and museums.
3. Automobile service stations and car rental establishments, excluding repair facilities.
4. Bars, taverns and nightclubs.
5. Cabarets, dance halls.
6. Commercial parking lots and garages.
7. Day-care facilities.
8. Dwellings, Multi-family, between Ala Wai Boulevard and Kuamoo Avenue.
- [8] 9. Eating establishments.
- [9] 10. Financial institutions.
- [10] 11. Marina accessories.
- [11] 12. Medical clinics.
- [12] 13. Meeting facilities.
- [13] 14. Office buildings.
- [14] 15. Photography studios.
- [15] 16. Public uses and structures.
- [16] 17. Recreation facilities, outdoor.
- [17] 18. Retail establishments, including the incidental manufacturing of goods for sale only as retail on the premises; retail sales and display rooms, but storage of new or used vehicles, building materials, or any scrap or salvage operations or storage or display of any scrap, salvage or second-hand building materials or automobile parts shall not be permitted.
- [18] 19. Theaters.
- [19] 20. Uses and structures customarily accessory and clearly incidental and subordinate to principal uses and structures, but amusement arcades shall not be permitted.
- [20] 21. Utility installations, Type A.
- [21] 22. Zoos."

SECTION 10. Section 21A-7.80-6.C, Revised Ordinances of Honolulu 1978, as amended, is amended to read as follows by adding a new subsection for the Waikiki Resort-Commercial Precinct:

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"C. Density.

1. The FAR of all buildings and structures situated on a lot shall not exceed 1.75. However, in addition to such maximum, five square feet of floor area may be added for each square foot of open space devoted to pedestrian use and landscape area at ground level, exclusive of the front 20 feet of the required yards, and three square feet of floor area may be added for each square foot of arcade area. [However, in no event shall the total FAR exceed 2.50.]

2. For the purpose of subdivision, the lot area for resort commercial uses shall not be less than 5,000 square feet.

3. In computing the permissible floor area, in the case of Residential-Commercial Mixed Use Buildings, the FAR may be applied to the zoning lot area plus one half the abutting right-of-way area of any public street from which the required building setback is at least thirty (30) feet. However, in no event shall the total FAR exceed 3.5."

SECTION 11. Chapter 21A, Revised Ordinances of Honolulu 1978, as amended, Table 1, is amended by adding a new off-street parking standard for the Waikiki Resort-Commercial Precinct as follows:

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OFF-STREET PARKING REQUIREMENTS
WAIKIKI SPECIAL DISTRICT (continued)

Resort-Commercial Precinct

<u>Use</u>	<u>Requirement</u>
<u>Dwellings, multi-family</u>	<u>1 per dwelling or lodging unit</u>
<u>All other permitted uses</u>	<u>1 per 800 sq. ft.</u>

Public Precinct

<u>All permitted uses</u>	<u>As determined by the Director as appropriate for the particular use and its location</u>
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SECTION 19. Ordinance material to be repealed is bracketed. New material is underscored. When revising, compiling, or printing this ordinance for inclusion in the Revised Ordinances of Honolulu, the Corporation Counsel need not include the brackets, the bracketed material or the underscoring. When printing this ordinance for inclusion in the Revised Ordinances of Honolulu, the Corporation Counsel may italicize those words or phrases thereof that are defined in Chapter 21A, Article 9, Revised Ordinances of Honolulu 1978, as amended. The failure to set forth the text of any footnote herein shall not be deemed a repeal thereof.

When printing the tables revised by this ordinance in the Revised Ordinances of Honolulu, the Corporation Counsel may adjust the location of the table and column headings and footnotes as may be appropriate and indicate that a table or column is continued. The Corporation Counsel shall amend Chapter 21A, Revised Ordinances of Honolulu 1978, Table A, and Table 2 as necessary, to conform to this ordinance. To the extent that the tables of contents to Chapter 21A, Revised Ordinances of Honolulu 1978, or of specific articles thereof, or any table of Tables or Figures or any number references therein, requires amendment to reflect the amendments made by this ordinance, the Corporation Counsel is directed to make such amendments.

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SECTION 20. This ordinance shall take effect upon its approval.

Anna Mercedes

DATE OF INTRODUCTION:

October 5, 1989
Honolulu, Hawaii

APPROVED AS TO FORM AND LEGALITY:

James H. Howell

Deputy Corporation Counsel

APPROVED this 22nd day of December, 1989.

Frank F. Fasi

FRANK F. FASI, Mayor
City and County of Honolulu

Appendix O

PACIFIC PLANNING & ENGINEERING, INC.
1144 TENTH AVENUE, SUITE 202
HONOLULU, HAWAII 96816

TEL (808) 735-0242

October 31, 1989

Mr. Peter Ho
Division Chief
Traffic Engineering Division
Department of Transportation Services
City & County of Honolulu
Honolulu, Hawaii 96813

Dear Mr. Ho:

Subject: Waikiki Landmark Project
Access Driveways

Enclosed is a partial ground floor plan for the Waikiki Landmark Project, indicating the proposed access driveway as discussed with your staff on October 27, 1989.

In accordance with our discussion, the architect for the project made the following changes as recommended by your staff:

1. The entrance driveway to the condominium towers was relocated as far away as possible from the McCully Street/Ala Wai Boulevard intersection as shown on the plans.
2. The directional flow of traffic at the service and commercial parking entrances were reversed in accordance with your recommendation.
3. The existing separate right-turn lane from McCully Street onto Ala Wai Boulevard will be scarified and the strip of land between Ala Wai Canal and Ala Wai Boulevard landscaped by the Developer.
4. The Developer will also construct a new right-turn lane on McCully Street as shown on the enclosed plan. The exact details and turning radius to be determined later during the design phase.

We conducted a traffic count on Friday, October 27, 1989 between the afternoon peak hours of 4:00 and 5:00 p.m. at the intersection of McCully Street and Ala Wai Boulevard. The result of the traffic count are as follows:

Afternoon Peak Hour	McCully Street @ Ala Wai Boulevard	Ala Wai Boulevard @ Kalakaua Street		
	<u>RT</u>	<u>LT</u>	<u>TH</u>	<u>RT</u>
4:00-4:15	23	2	17	4
4:15-4:30	39	4	31	4
4:30-4:45	60	8	50	2
4:45-5:00	<u>88</u>	<u>16</u>	<u>71</u>	<u>1</u>
Totals	210	30	169	11
	100%	14%	80%	5%

A total of 210 vehicles turned right from McCully Street onto Ala Wai Boulevard during the afternoon peak hour. Of the total number turning right, 30 vehicles or 14% turned left at the intersection of Ala Wai Boulevard and Kalakaua Avenue; 169 vehicles or 80% drove straight through on Ala Wai Boulevard; and only 11 vehicles or 5% turned right on Kalakaua Avenue.

We hope the above changes will facilitate the approval of the project access driveways so that the developer can expedite construction of the project.

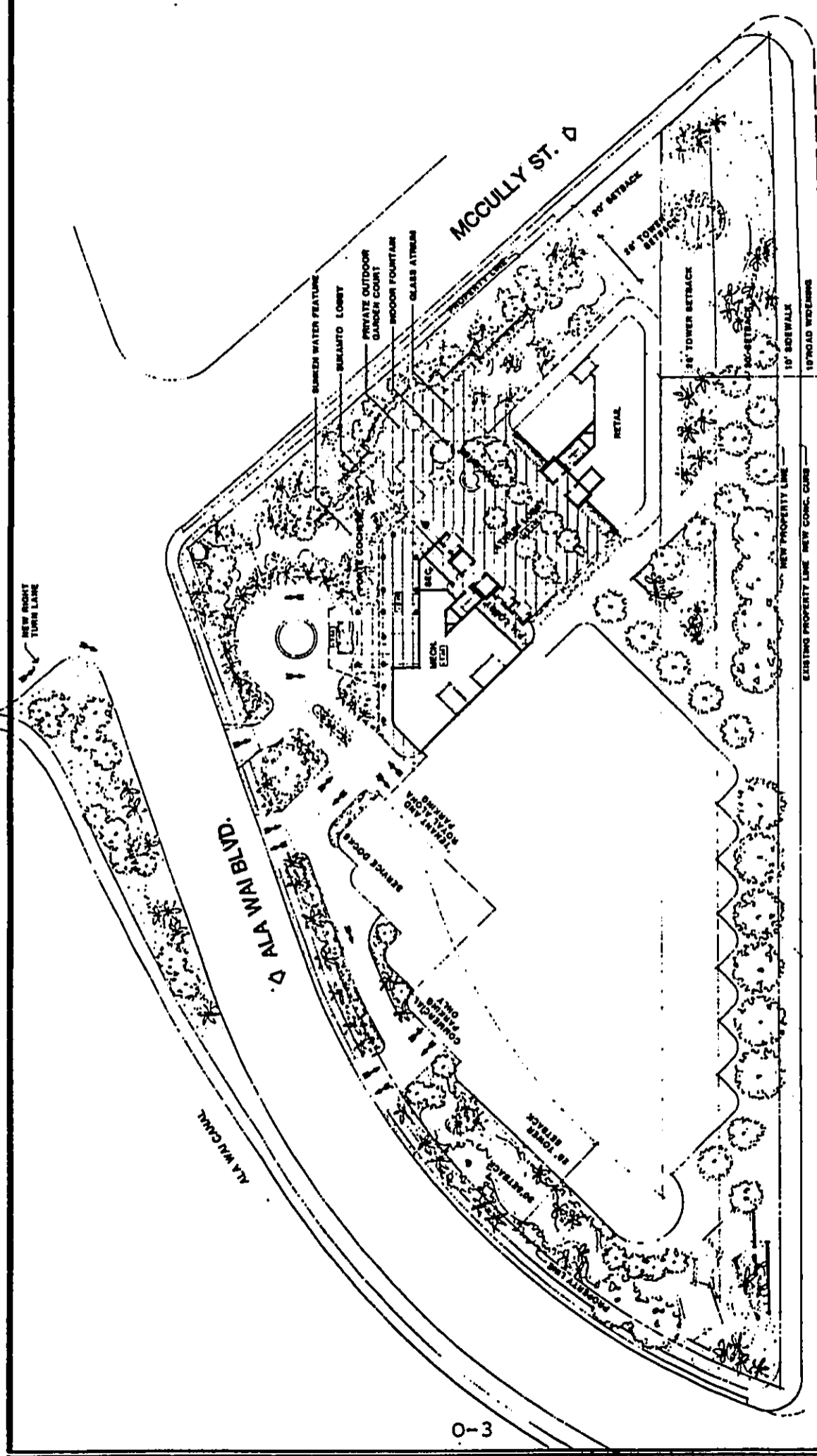
Sincerely Yours,

Howard Abe
Howard Abe, P.E.
Principal

sl

Enclosure

cc: Mr. Alex Weinstein, Architects Hawaii (w/o enclosure)



KALAKAUA AVE.



PARTIAL GROUND FLOOR PLAN
SCALE: 1/8" = 1'-0"

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PACIFIC PLANNING & ENGINEERING, INC.
1144 TENTH AVENUE, SUITE 202
HONOLULU, HAWAII 96816

TEL. (808) 735-0242

FAX (808) 737-0687

January 18, 1990

Mr. Alfred J. Thiede
Director
Department of Transportation Services
City & County of Honolulu
650 South King St.
Honolulu, HI 96813

Dear Sir:

Subject: Waikiki Landmark Project
Access Driveways TMK 2-C-14

This is in response to your comments dated November 28, 1989 regarding the subject project.

Per your recommendation the access for ingress and egress will be physically separated with concrete curb raised medial and appropriate signing will be installed. Landscaping, structures, and new street appurtenances will be located so that they will not obstruct vehicular sight distance to other vehicles and pedestrians. The driveway grades at the access points from Ala Wai Boulevard will be relatively level by virtue of the existing site topography.

The proposed right turn lane from McCully Street onto Ala Wai Boulevard will be constructed and the existing channelized right turn lane will be retained to support the present demand for right turns onto Ala Wai Boulevard. The remaining area will be designed for low landscaping.

The off-site construction plans will indicate widening of Kalakaua Avenue fronting the project site by one additional lane width. The mauka Ewa corner of McCully

Street and Kalakaua Avenue will be rounded to provide an optional right turn movement from McCully Street onto Kalakaua Avenue, in the Ewa bound direction.

Whenever feasible, a raised island will be constructed to channelize traffic, and all property line radii will be adjusted to reflect the required roadway widening.

We hope that the inclusion of all of the recommendations will facilitate final approval of the construction plans for subject project.

Very truly yours,

Jonathan Shimada, PhD
Principal

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