EXECUTIVE CHAMBERS

HONOLULU

GEORGE R. ARIYOSHI
GOVERNOR

January 26, 1982

Mr. Roy R. Takemoto, Chairman
Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Takemoto:

Based upon the recommendation of the Office of Environmental Quality Control I am pleased to accept the Final Environmental Impact Statement for the Proposed Sand Island Access Road Widening and Improvements, FAP Route 64, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding whether or not the action described therein should or should not be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws, and does not constitute an endorsement of the proposed action.

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

With warm personal regards, I remain,

Yours very truly,

George R. Ariyoshi

George R. Ariyoshi

cc: Honorable R. Higashionna

FHWA-HI-EIS-80-02-F

FINAL

ENVIRONMENTAL IMPACT STATEMENT

FOR THE PROPOSED

SAND ISLAND ACCESS ROAD WIDENING

AND IMPROVEMENTS

FAP ROUTE 64

PROJECT NO. 64A-01-79

Feb. 1982

FEDERAL HIGHWAY ADMINISTRATION

U.S. DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

DEPARTMENT OF TRANSPORTATION

STATE OF HAWAII

SUMMARY

FHWA-HI-EIS-80-02-F

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS
FAP ROUTE 64, PROJECT NO. 64A-01-79
HONOLULU, ISLAND OF OAHU, STATE OF HAWAII

FINAL

ENVIRONMENTAL IMPACT STATEMENT

Pursuant to Section 102(2)(C), PL 91-190 and Chapter 343, Hawaii Revised Statutes

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

and

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION
Highway Division

_____
Date

_____
Director
Office of Environment and Design
Federal Highway Administration
Region 9

The following persons may be contacted for additional information concerning this document:

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Honolulu, Hawaii 96813

(Telephone Number 548-3205)

ABSTRACT. The proposed Federal action is approval of a grant application to widen and improve Sand Island Access Road (FAP Route 64). The purpose of this proposed project is to increase the traffic carrying capacity of the corridor affecting Sand Island, a man-made island opposite Honolulu Harbor, on the island of Oahu. Sand Island is now undergoing a rapid change. The south shore is being developed into a State park (181± acres), the container handling facilities for the major private companies servicing Honolulu Harbor will be relocated to Sand Island (161± acres), the Sand Island Sewage Treatment Plant serving the Honolulu area, and other present and planned land uses will create a demand for a more efficient transportation system serving Sand Island.

SUMMARY

A. ADMINISTRATIVE ACTION

FEDERAL HIGHWAY ADMINISTRATION

( ) DRAFT (X) FINAL

(X) ENVIRONMENTAL IMPACT STATEMENT

B. DESCRIPTION OF THE PROPOSED ACTION

The project is located in Honolulu, the capital of Hawaii, on the island of Oahu. Sand Island Access Road (FAP Route 64) is 2.6 miles in length; the length from Nimitz Highway to the bascule bridge is 1.08 miles, and the bascule bridge is 0.127 mile, on Sand Island itself, after the bascule bridge, the road is 1.40 miles. The proposed improvements will cover the entire 2.6-mile length of the road. (The estimated costs for the proposed alternatives are shown in Table 4.)

The Sand Island Access Road principally serves the industrial areas located adjacent to the road from the Nimitz Highway intersection to the bascule bridge, and the industrial and State Sand Island Park located on Sand Island itself. Rapid industrial and recreational uses on Sand Island have resulted in a significant increase in vehicular traffic using this route. Furthermore, the planned land uses for Sand Island (consisting of 520 acres) will create additional traffic volume in the form of industrial traffic (container handling facilities for Honolulu Harbor will be relocated to Sand Island) and the completion of the Sand Island State Park (181± acres) will generate vehicular trips to and from Sand Island.

The need for improvement and the proposed improvement alternatives for each area of concern are identified as follows:

a) The recommended alternatives as selected for approval, and

b) the alternatives reviewed but rejected due to constraints of cost, time, and land acquisition problems.

(1) The existing at-grade signalized intersection of Nimitz Highway and Sand Island Access Road will be inadequate in traffic capacity by 1990. The alternatives proposed to increase capacity are: Alternative V(A) which consists of elevating the eastbound and westbound lanes of Nimitz Highway to grade-separate these lanes from the existing intersection and Alternative V(C) which consists of elevating only the east-bound lanes of Nimitz Highway to grade-separate these lanes from the existing intersection.

Alternative V-C (interchange scheme elevating the eastbound lanes of Nimitz Highway) is recommended for the Nimitz Highway/Sand Island Access Road intersection. The primary factors in the selection of this alternative is the lower construction and rights-of-way costs, while allowing for all traffic movements.

(2) An interim at grade improvements for the intersection will be implemented to accommodate the 1990 traffic. Analysis of Nimitz Highway between Sand Island Access Road and Keehi Interchange has determined that auxiliary lanes (one in each direction) are not necessary.

(3) The section of Sand Island Access Road from Nimitz Highway to Kalihi Channel is substandard and of inadequate capacity to meet future traffic needs.

From Nimitz Highway to Auiki Street, the existing substandard highway is proposed for improvement within the existing 120-foot right-of-way. Scheme A consists of increasing the lane widths (from 11 feet to 12 feet) providing a wider median (from 20 to 28 feet) and providing curbs, gutters and sidewalks. Scheme B is similar to Scheme A except that in place of a 28-foot median there will be a continuous left-turn lane. There will be a bike lane on each side of the roadway.

The Auiki Street intersection will require traffic signals due to the anticipated increase in future traffic. Some new right-of-way will be required.

In both alternatives the proposed improvements will be within the existing 100-foot right-of-way except at the southbound bridge approach (northerly side) where additional right-of-way is required to align the proposed roadway with the proposed new bridge.

Alternative B (widening scheme providing a continuous left-turn lane) is recommended for Sand Island Access Road from Nimitz Highway to the bascule bridge at Kalihi Channel.

(4) The existing bascule bridge which spans across the Kalihi Channel will be inadequate in traffic capacity for the projected traffic. To increase capacity, the alternatives consist of: building a new 2-lane bridge on an alignment parallel and westerly of the existing bascule bridge to accommodate the southbound traffic movements and then re-routing the northbound traffic movements onto the existing 2-lane bascule bridge. Alternative designs for the new bridge are a bascule bridge (26 feet high) or a fixed bridge (26, 55 or 80 feet high). The bridge heights (26 ft., 55 ft., 80 ft.) are based on the vertical clearance from the mean lower low water (MLLW) elevation to the bridge deck at mid-span. The navigational clearance (15 ft., 45 ft., 70 ft.) is based on the vertical clearance from the MLLW elevation to the underbody of the bridge at mid-span. (MLLW = elevation 0.00 and mean low water (MLW) = elevation + 0.17 based on data from the U.S. Coast and Geodetic Survey.)

A second bascule bridge structure is the alternative recommended for a second structure across Kalihi Channel.

(5) The segment from Kalihi Channel to the existing entrance of the State Park requires improving the existing highway on Sand Island to be consistent with the Sand Island Parkway master plan which was developed by the Department of Land and Natural Resources (DLNR).

Alternative A (widening scheme providing a median) is recommended for Sand Island Access Road from the bascule bridge at Kalihi Channel to the Container Yard.

This alternative follows the proposed Sand Island Master Plan developed by the Department of Land and Natural Resources.

The existing alignment alternative is recommended for the Sand Island Parkway from the Container Yard to the existing entrance of Sand Island State Park. The DLNR master plan calls for a proposed future realignment of the road away from the Coast Guard Station; however, until the DLNR can turn over the necessary right-of-way to the DOT, it is recommended that improvements adjacent to the Coast Guard Station and the State Fisheries facilities be confined to the existing right-of-way.

C. PROBABLE ENVIRONMENTAL IMPACTS

Because the alternatives reviewed are fairly similar in width and scope, the environmental impacts are comparable. Below is a summary of the probable environmental impacts.

Physical Geography. The current impact on soils, topography, micro-climate, is minimal and will be the same as the present road's impact.

Impact on Air Quality. The proposed project will result in fugitive dust being generated by vehicles traveling over unpaved roadbeds and by dirt moving and hauling operations during construction. In the long-term, carbon monoxide emissions from vehicles are not expected to be a problem because of the implementation of federal controls on carbon monoxide emissions from new vehicles. No matter which option is taken, including the no-construction alternative, carbon monoxide levels along the project corridor are predicted to be within allowable air quality standards by 1990.

Impact on Noise. Basically, all alternatives would mean that the flow of traffic will be nearer to the existing buildings (between the Nimitz Highway intersection and Kalihi Channel). The new distance to the curb will be 10 to 20 feet instead of the present 40 to 50 feet. This shift of traffic closer to the buildings will increase the noise level in offices facing Sand Island Access Road. Some complaints are expected from this source. For most people, the predicted 3 dB increase in noise level by 1990 will go unnoticed because the existing noise level is already high.

Impact on Surface Water Quality. A small amount of additional runoff is expected. However, drainage facilities will be included to direct runoff to nearshore waters which already receive the surface runoff from the Kalihi area.

Impact on Coastal Water Quality and Marine Life. During the construction of the second bridge, short-term impacts such as temporary closing of the Kalihi Channel and turbidity, may result. However, because of the poor quality of the water within Honolulu Harbor, and the already surrounding urbanized runoff received, no adverse long-term impacts are expected.

Impact on Scenic Views. With the exception of the elevated portion of Nimitz Highway, the proposed project will not obstruct any scenic views. The elevated Nimitz Highway or its eastbound lanes, will be partially camouflaged by various industrial and office buildings.

Socioeconomic Impacts. For the Nimitz Highway - Sand Island Access Road intersection, Alternative V(A) requires acquisition of 7 heavy-industrial parcels and 3 roadway parcels (2 whole takings and 8 partial takings) and requires relocation assistance for 4 businsses (includes 3 relocations to new sites). Alternative V(C) (the recommended alternative) requires acquisition of 8 heavy-industrial parcels and 3 roadway parcels (all 11 parcels are partial takings) and requires relocation assistance for 3 businesses (includes 1 relocation to a new site). For the Nimitz Highway to Kalihi Channel section, both Scheme A and Scheme B (the recommended alternative) each require partial taking of 2 parcels (one parcel is State land zoned waterfront-industrial and the other parcel is Federal land zoned light-industrial).

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

The project is consistent with land uses and policies affecting the project area. The 1995 Honolulu Harbor Master Plan specifically identifies the need to improve the road and provide a second bridge. Because the proposed improvements are consistent with the land use plans for the Honolulu Harbor area, the roadway will not directly or indirectly serve as a catalyst for undesired growth.

E. CIRCULATION OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The draft environmental impact statement was circulated on February 16, 1981.

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES
(Continued)

Section 1.

PURPOSE AND NEED FOR THE PROPOSED ACTION

1. PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Overall Purpose of the Proposed Action. The purpose of this project is to increase the traffic carrying capacity of the corridor affecting Sand Island. This corridor begins at the intersection of the Sand Island Access Road (FAP Route 64) and Nimitz Highway (FAP Route 92), proceeds along Sand Island Access Road, crosses Kalihi Channel and continues on the Sand Island Parkway to the east end (Diamond Head direction) of Sand Island at the State Park's entrance. (Refer to Figure 1.)

The need to increase the traffic carrying capacity of this corridor is based on Sand Island's rapid land use growth. Sand Island is becoming a major transportation and recreational destination. Specifically, these are the development of the container building facilities (161± acres), and the implementation of the Sand Island State Park on the south shore of Sand Island (181± acres). These two developments, as well as the existing U.S. Coast Guard Station, Sand Island Sewage Treatment Plant, Maritime Industrial area, Anuenue Fisheries Research Center, and the proposed development of the Foreign Trade Zone on Sand Island, will cause the traffic volumes in the project corridor to increase by as much as 80 percent over existing traffic volumes.

The traffic projections for the Sand Island Access Road are provided in Appendix A.

1.2 Specific Areas of Concern Along the Project Corridor. During the course of the engineering review of the project corridor, five (5) areas of concern were identified; these are listed below, (see Figure 1 for the location of these areas):

(1) The intersection of Nimitz Highway and Sand Island Access Road must be improved to accommodate the increased traffic projected (see Appendix A for traffic projections). There will be an increasing number of left-turn movements going to and from Sand Island Access Road and Nimitz Highway. The present traffic signalization will be inadequate by 1990.

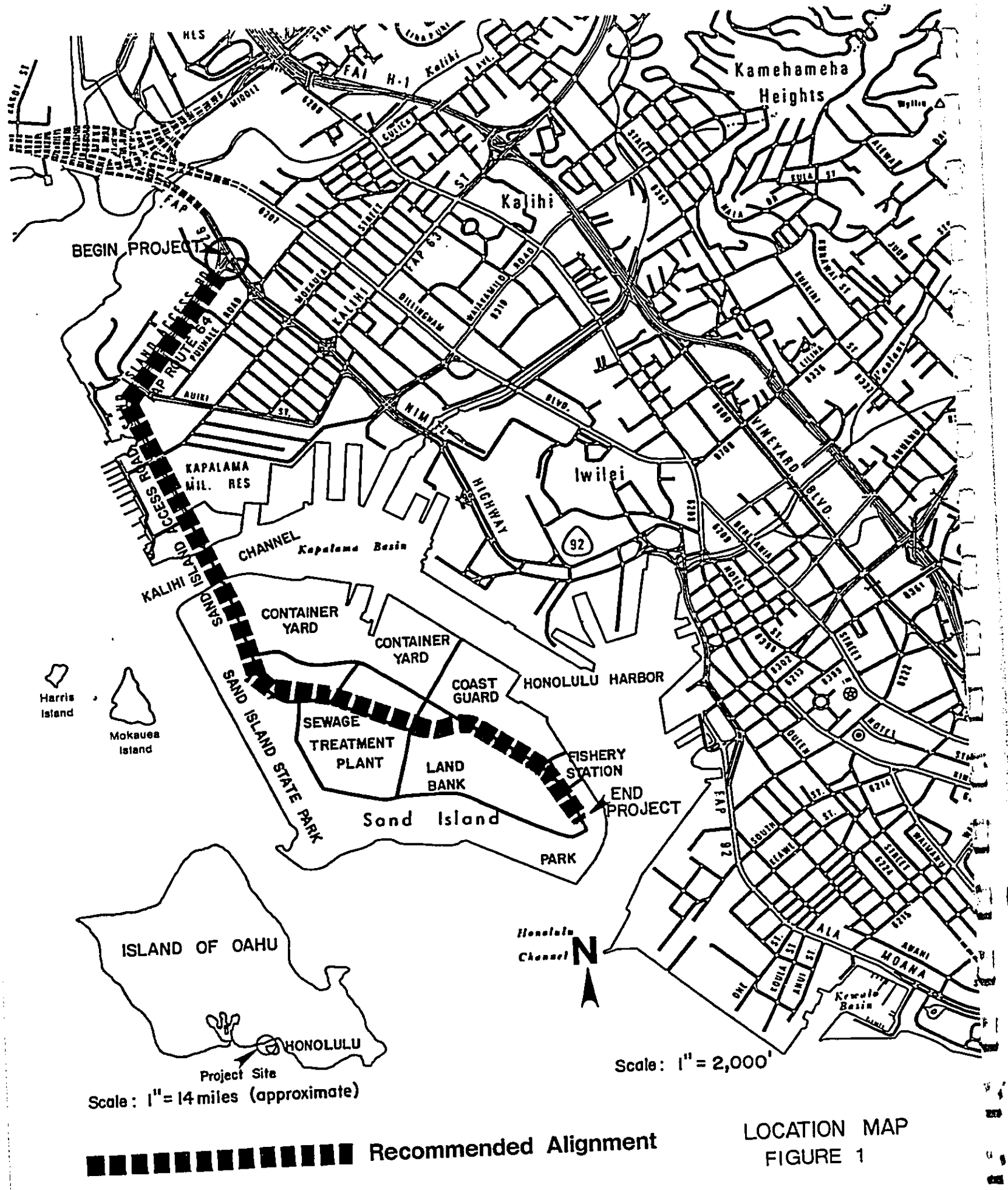
(2) The segment of Sand Island Access Road from Nimitz Highway to Auiki Street has unrestricted vehicle movement and parking; the existing right-of-way is not fully utilized and it is not improved or landscaped.

(3) The segment of Sand Island Access Road from Auiki Street to the bascule bridge will require widening; the traffic volumes along this segment of road are projected to have the greatest percentage increase.

(4) The bascule bridge, presently having two lanes, cannot accommodate the future projected traffic; a second bridge will be necessary.

(5) The Sand Island Parkway on Sand Island requires improvement.

This EIS describes proposed alternative actions, environmental impacts, and mitigation measures. It should be realized that the proposed actions



LOCATION MAP
FIGURE 1

may not solve all anticipated traffic problems related to the project corridor, because the corridor is part of a larger transportation network, which is also experiencing increase in traffic and related problems of congestion. However, the proposed actions should facilitate the movement of people, vehicles, and goods to and from Sand Island.

Section 2.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Description of the Present Corridor.

(1) Intersection of Nimitz Highway and Sand Island Access Road. From Sand Island Access Road (FAP Route 64) onto Nimitz Highway there are two left-turn (westbound) lanes and one right-turn (eastbound) lane. The respective return movements are each one lane wide. Nimitz Highway (FAP Route 92) is a major transportation arterial (having six through traffic lanes) serving the Pearl Harbor to downtown Honolulu area. Nimitz Highway is especially important since it is a primary route linking the Honolulu International Airport and the industrial developments around the Airport to the rest of Oahu.

(2) Sand Island Access Road from Nimitz Highway to Auiki Street. This portion is a four-lane road divided by a narrow median strip within a 120-foot right-of-way. Small commercial industrial enterprises and warehouses front this segment of the road.

(3) Sand Island Access Road between Auiki Street and the Bascule Bridge (John H. Slattery Bascule Bridge). This portion is presently a two-lane road within a 100-foot right-of-way. It is bounded by maritime-related uses on the west side, and the Kapalama Military Reservation on the east side. There is a left-turn lane to the Kapalama Military Reservation for the inbound direction to Sand Island.

(4) The John H. Slattery Bascule Bridge. The two-lane, steel bascule bridge spans Kalihi Channel. It is 28 feet wide and 670 feet long and has concrete approaches.

(5) The Sand Island Parkway. The Parkway was master planned by the State Department of Land and Natural Resources. The ultimate length of the Sand Island Parkway, from the west end to the east end of Sand Island is approximately 1.4 miles. The right-of-way of the parkway varies from 120 feet wide near the bascule bridge, gradually diminishing to 100 feet, then 80 feet, and finally to 60 feet wide at the entrance of Sand Island State Park. A planted medial strip will be included within the 120-foot and 100-foot typical sections. To date, only portions of the Increment I have been constructed (two lanes). This portion of the roadway will be widened to four lanes at a later date. Increment II of Phase I of the Parkway is scheduled to be completed by the end of 1980, to coincide with the movement of Matson's container handling facilities to Sand Island. A schedule for other future increments has not yet been established at this time.

2.2 Traffic. Traffic projections along Sand Island Access Road, bascule bridge, and Sand Island Parkway were prepared for the years 1980, 1990, and 2000 (see Appendix A). Included in these projections were the Kalihi

Street-Auiki Street corridor, and the intersections of Nimitz Highway and Sand Island Access Road, Sand Island Access Road and Auiki Street, and Nimitz Highway and Kalihi Street.

2.3 Adequacy of the Project Corridor. All three intersections were analyzed to determine the level of service for the at-grade condition without implementing improvements at the year 2000. All intersections were below service level E.

Various improvements to increase the service level for the Nimitz Highway and Sand Island Access Road intersection were considered. Single ramps accommodating the left-turn traffic movements from Nimitz Highway onto Sand Island Access Road and from Sand Island Access Road onto Nimitz Highway were considered separately but the intersection would still operate below service level E. However, the minimum design standard of service level D was attained using a double ramp alternative for the Nimitz Highway and Sand Island Access Road intersection.

For the Sand Island Access Road and Auiki Street intersection, the minimum design standard of service level D could be achieved if 90 percent of the left-turn movements from Auiki Street to the Sand Island Access Road were shifted to the Nimitz Highway and Sand Island Access Road intersection. (This would coincide with the implementation of two-lane ramps for the Nimitz Highway and Sand Island Access Road intersection.)

It should be noted that the right-turn movement from Sand Island Access Road to Auiki Street will be below service level E if no improvements are made, due to the large number of vehicles headed in the eastbound and westbound directions.

The opening and closing of the bascule bridge will interrupt free traffic flow conditions along Sand Island Access Road. Based upon the current average of nine minutes for each cycle of the opening and closing of the bascule bridge, projections for the year 2000 indicate a maximum queuing of 140 vehicles (assuming two approach lanes on a four-lane road) or 70 vehicles per lane. This condition, if not improved, will result in a traffic backup of about one-half mile on either side of the bridge.

2.4 Description of the Alternatives and the Recommended Action.

The proposed improvements were divided into five segments of the roadway. Each segment had various alternatives available to meet the objectives of the proposed action. In order to review the alternatives and indicate which alternative was selected (and the reasons for its selection), the text contains italicized paragraphs which represents the alternative action which was selected for this segment of the roadway. Refer to Figure 1 on page 1-2. Subsequently, the reviewer can find the selected alternative by reviewing the italicized portions of the narrative.

TABLE 1

SAND ISLAND ACCESS ROAD WIDENING DESIGN FEATURES

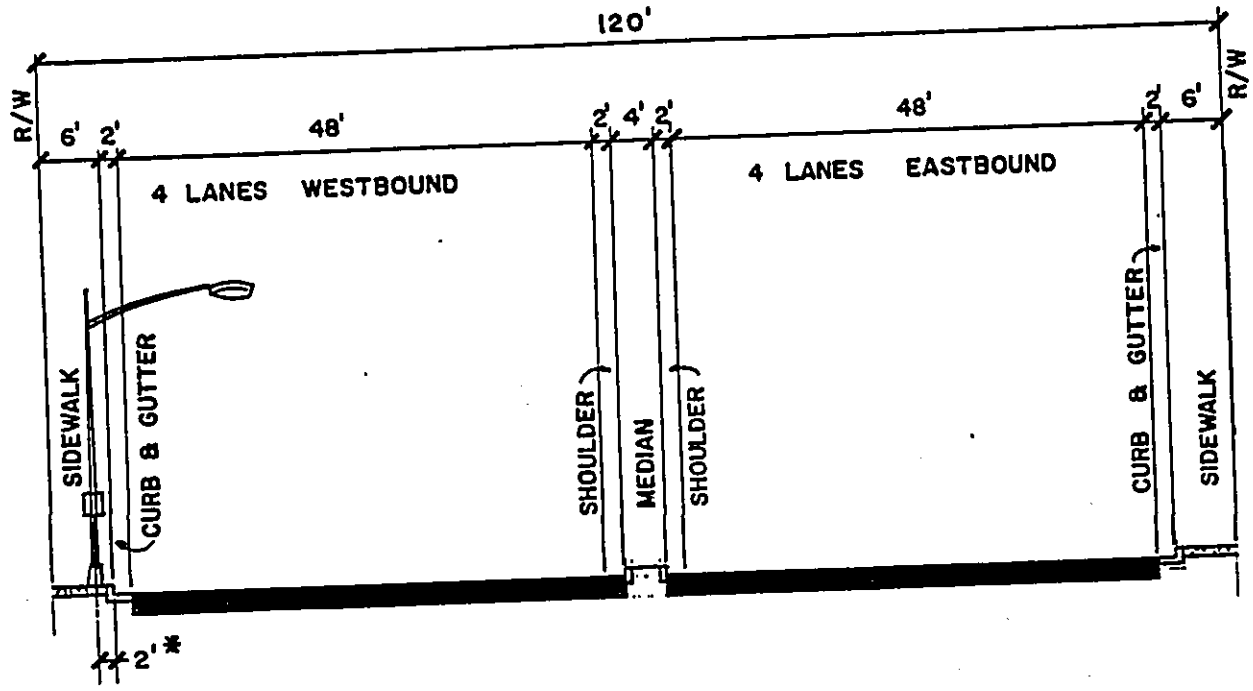
Highway Classification: Federal Aid Primary

Designation: No Control on Access

Features	Nimitz Highway to Auiki Street		Auiki Street to Land Container Yard Entrance		Container Yard Entrance to State Park Entrance
	Scheme A	Scheme B	Scheme A	Scheme B	
1. Type of Highway	Divided	Divided	Divided	Divided	Undivided
2. Pavement Width (each direction)	36 feet	36 feet	24 feet	24 feet	12 to 24 feet
3a. Curbs and Gutters	2 feet	2 feet	2 feet	2 feet	2 feet
3b. Sidewalk – east side	8 feet	6 feet	6 feet	6 feet	0 to 5 feet
west side	8 feet	6 feet	6 feet	6 feet	0 to 5 feet
3c. Buffer Strip – east side	None	4 feet	4–12 feet	4–12 feet	0 to 3 feet
west side	None	4 feet	0–4 feet	0–4 feet	0 to 4 feet
4. Shoulder	None	None	None	None	8 feet
5. Bike Lane – east side	None	5 feet	5 feet	5 feet	Within Shoulder
– west side	None	5 feet	5 feet	5 feet	Within Shoulder
6. Median Strip	28 feet	14 feet	14 feet	14 feet	None
7. Minimum Right-of-Way	120 feet	120 feet	100 feet	100 feet	50* or 60 feet
8. Design Speed	30–40 mph	30–40 mph	30–40 mph	30–40 mph	30–40 mph
9. Minimum Radius	500 feet	500 feet	500 feet	500 feet	500 feet
10. Maximum Superelevation Rate	6 percent	6 percent	6 percent	6 percent	6 percent
11. Minimum Cross Slope	2 percent	2 percent	2 percent	2 percent	2 percent
12. Maximum Grade	4 percent	4 percent	4 percent	4 percent	4 percent
13. Minimum Grade	0.5 percent	0.5 percent	0.5 percent	0.5 percent	0.5 percent

Source: "Preliminary Engineering Report for Sand Island Access Road Widening and Other Improvements 80% Submittal, Sand Island, Honolulu District, Oahu, State of Hawaii," dated January, 1980, prepared by Wilson Okamoto & Associates, Honolulu, Hawaii.

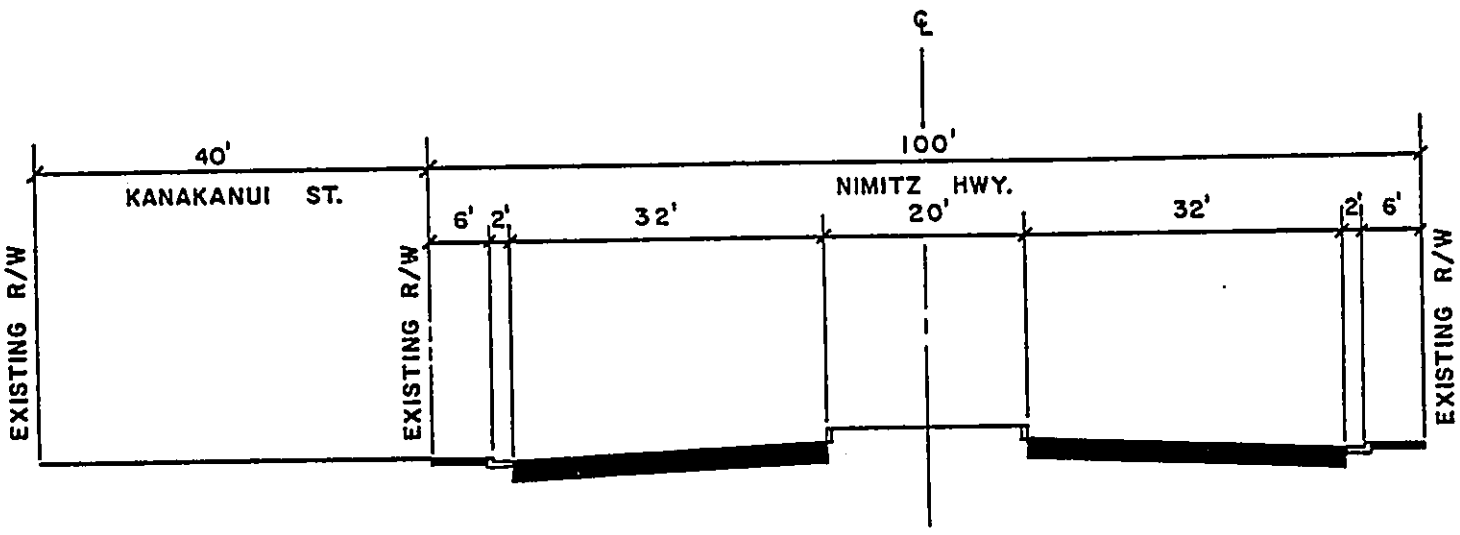
* Alternative using existing highway alignment from the Coast Guard Station to the Park.



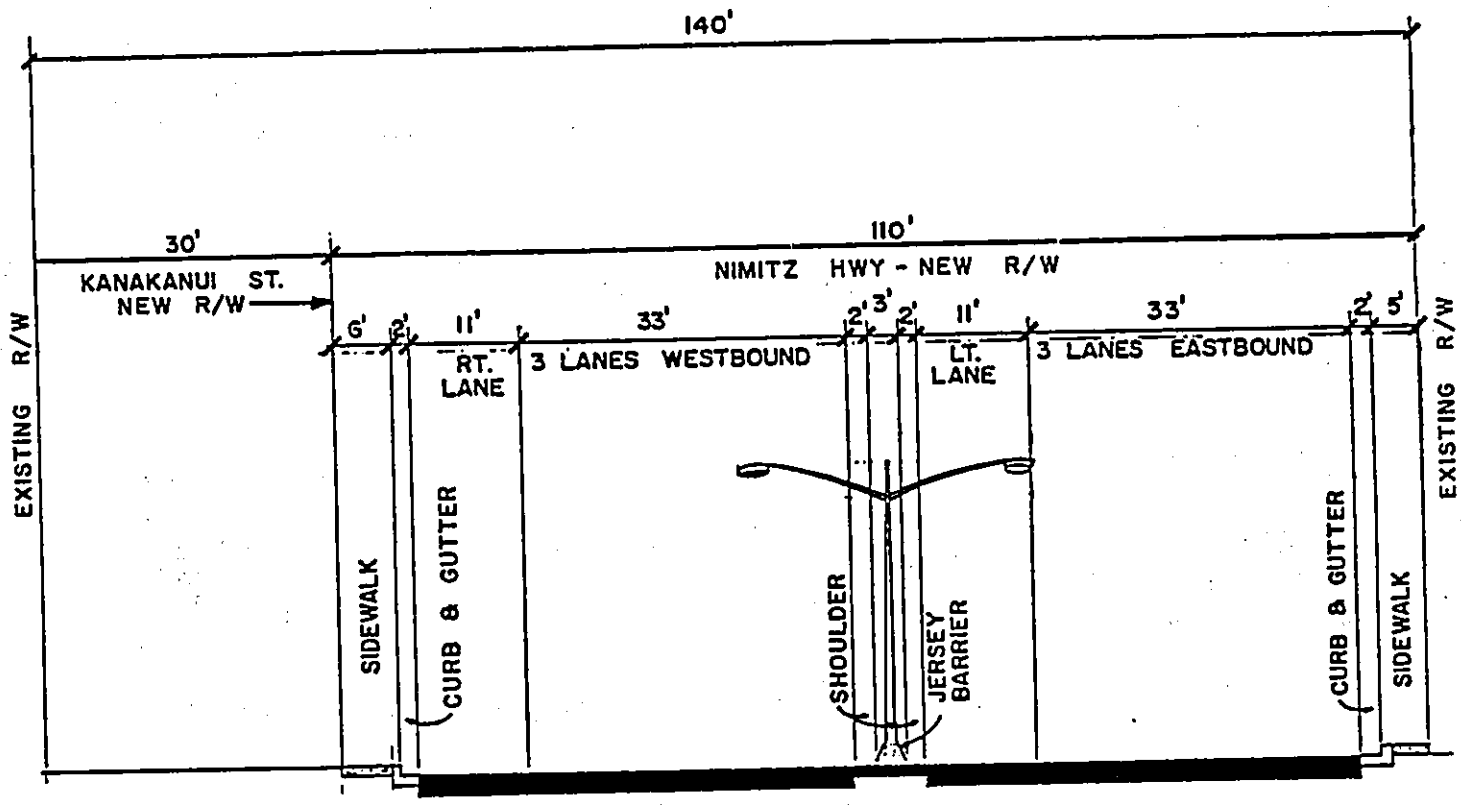
TYPICAL SECTION ON NIMITZ HIGHWAY
BETWEEN KEEHI INTERCHANGE AND
SAND ISLAND ACCESS ROAD
FIGURE 2

*2' CLEAR FROM FACE OF CURB TO ℄ LIGHT STANDARD. LIGHTING & SIGNS BOTH SIDES TYPICAL

NOTE: SECTION A-A REPRESENTS AREA WHERE IMPROVED ROADWAY MATCHES EXISTING ROADWAY.

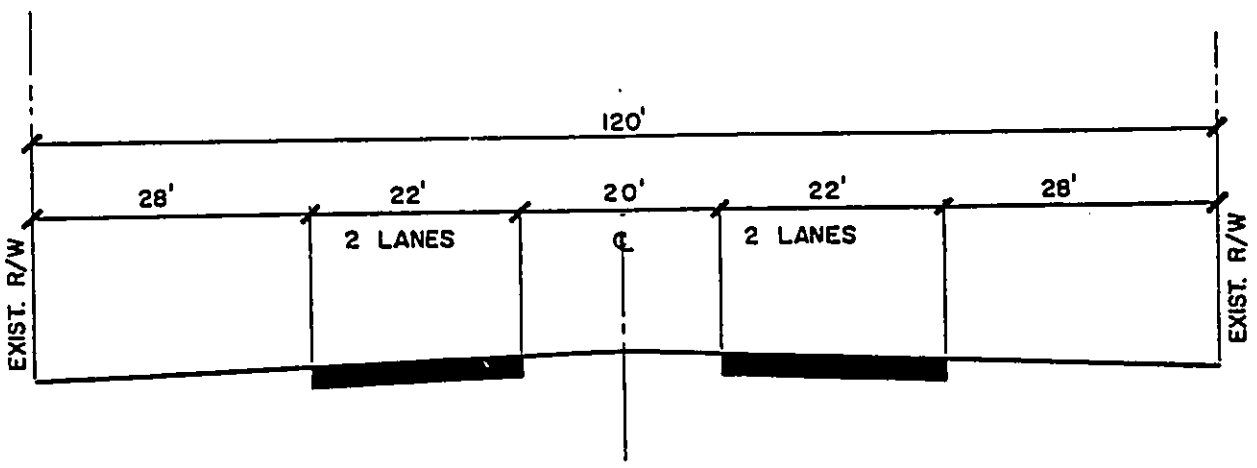


EXISTING ROADWAY



TYPICAL SECTION ON NIMITZ HIGHWAY
BETWEEN PUUHALE ROAD AND MOKAUEA STREET

FIGURE 3



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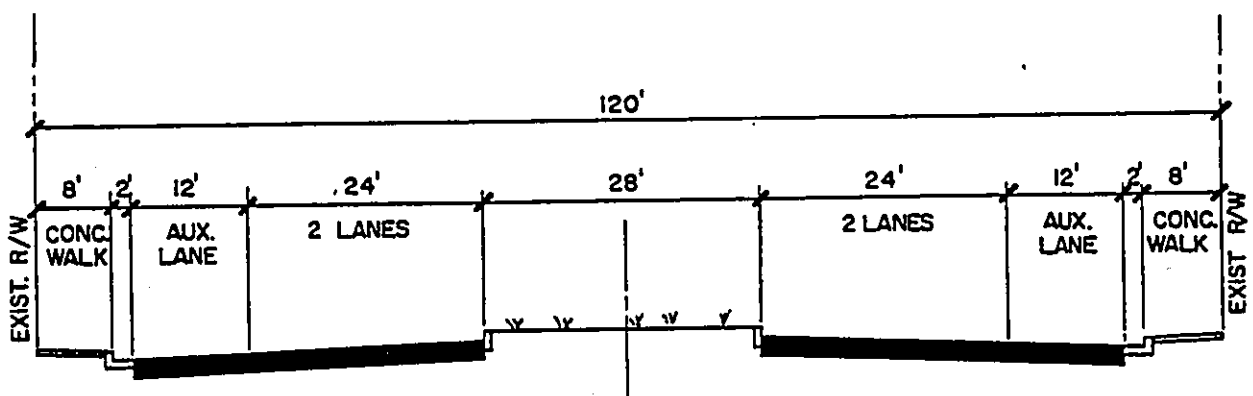
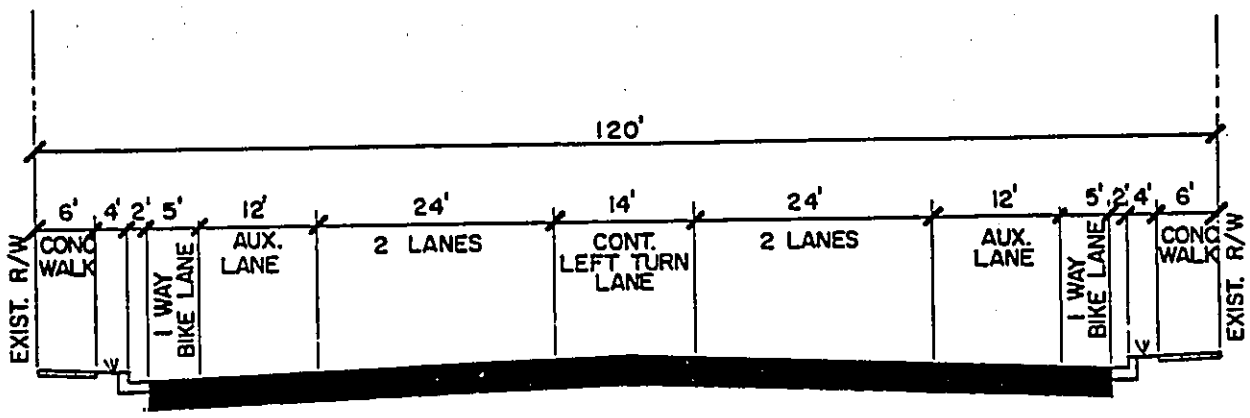


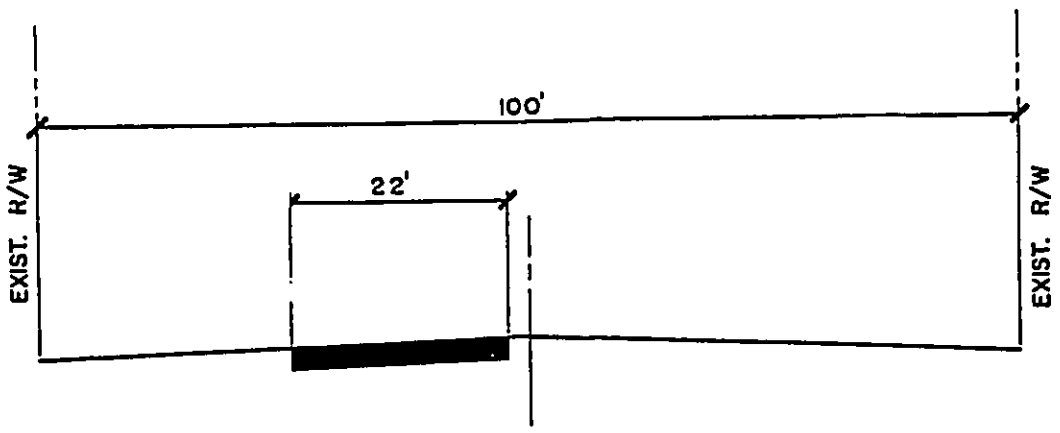
SCHEME A



PROPOSED
SCHEME B

TYPICAL SECTION ON SAND ISLAND ACCESS ROAD BETWEEN NIMITZ HWY. & AUIKI ST.

FIGURE 4



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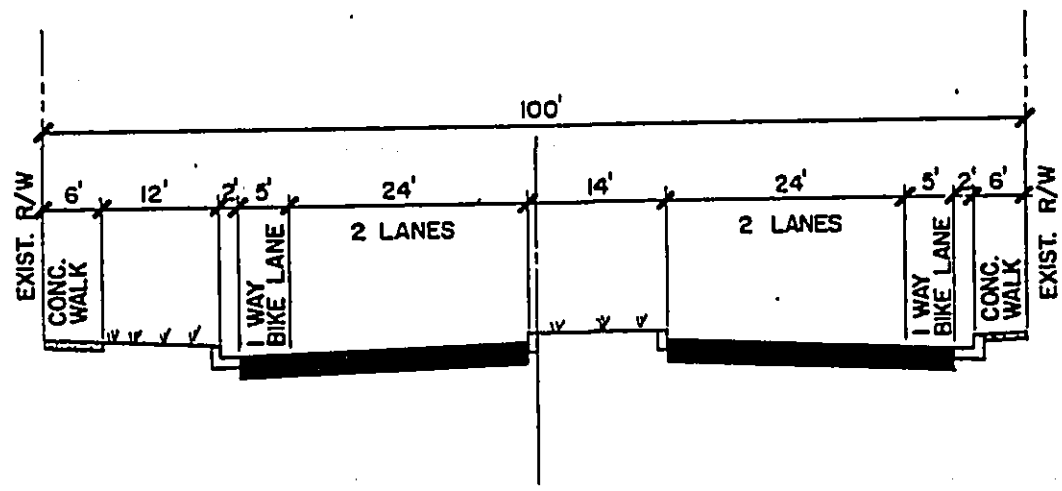
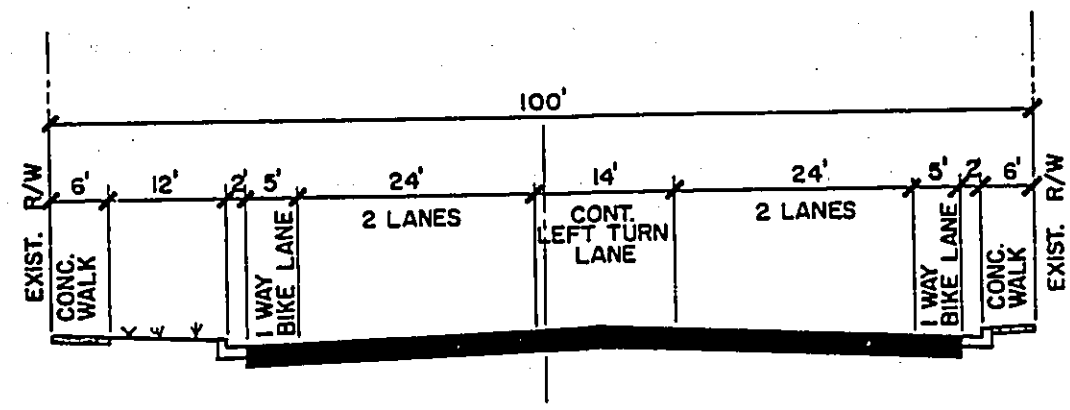


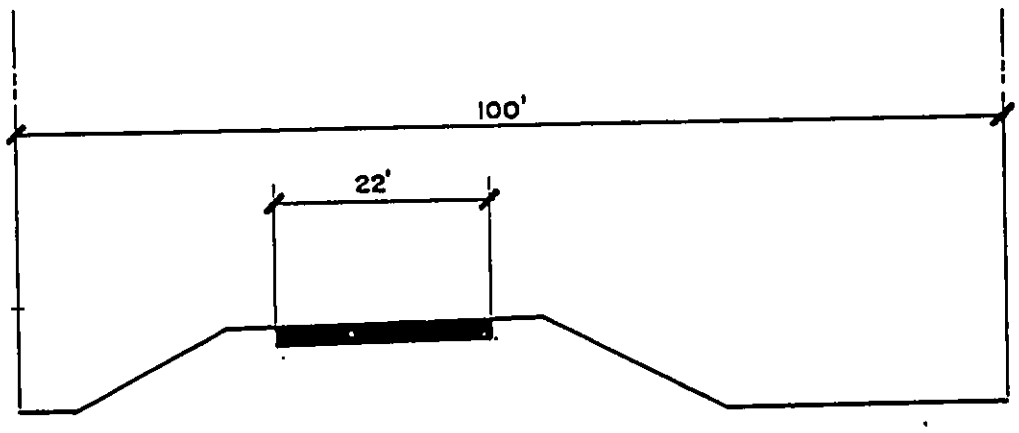
SCHEME A



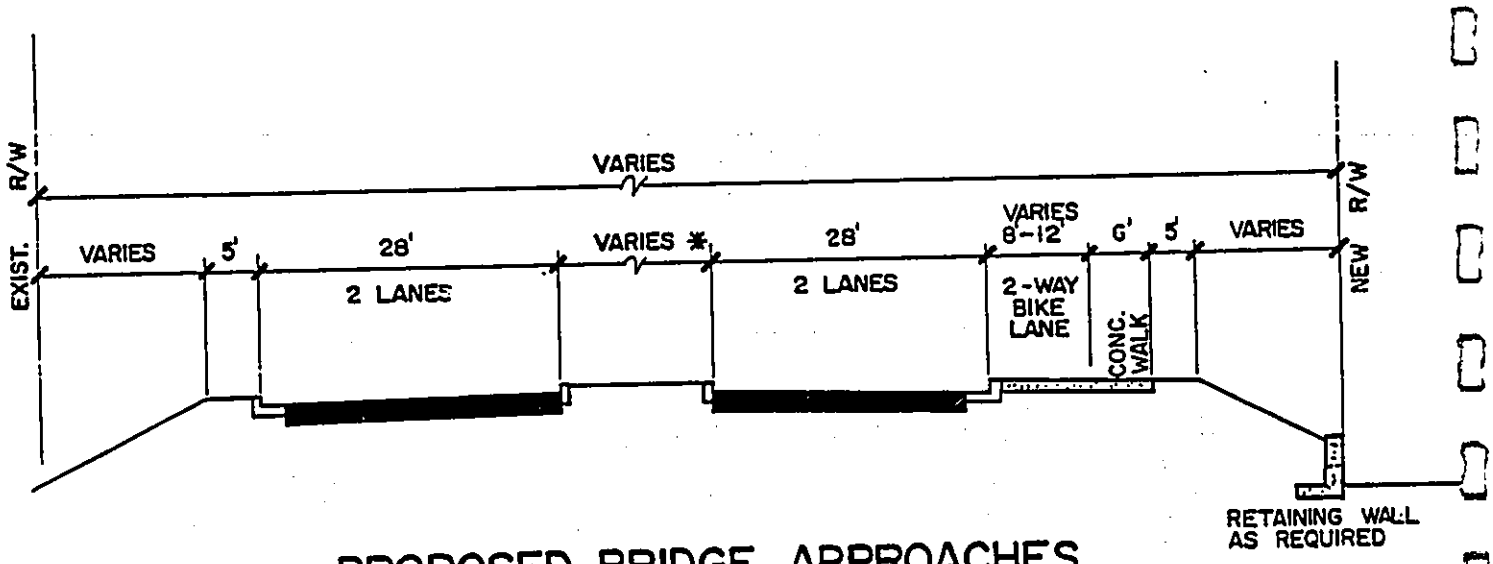
PROPOSED
SCHEME B

TYPICAL SECTION ON SAND ISLAND ACCESS ROAD BETWEEN AUIKI ST. & U.H. MARINE CENTER

FIGURE 5



EXISTING BRIDGE APPROACHES

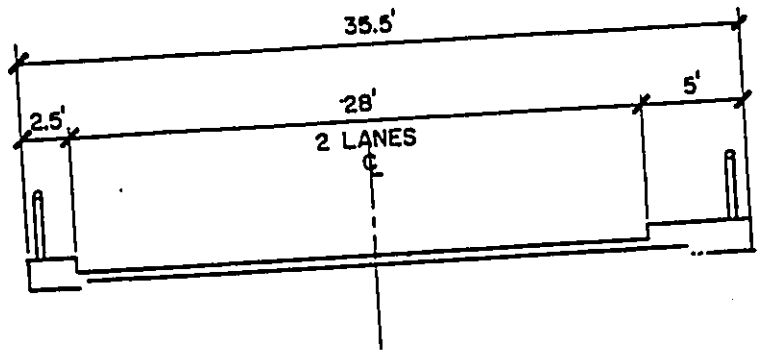


PROPOSED BRIDGE APPROACHES

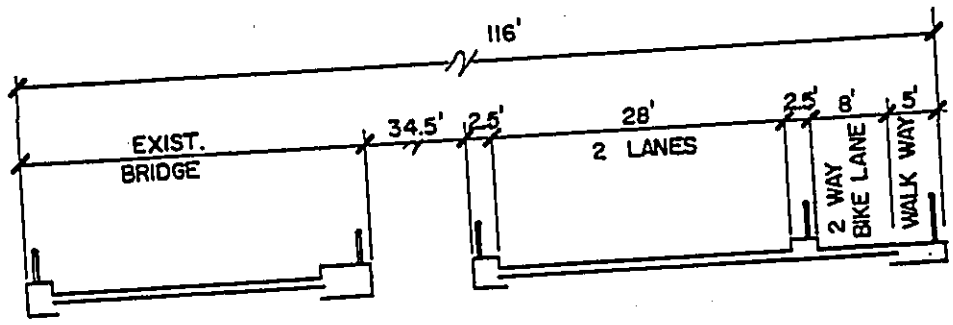
* CONTINOUS LEFT TURN LANE ON WEST APPROACH
RAISED MEDIAN ON EAST APPROACH

TYPICAL SECTION AT BRIDGE APPROACH

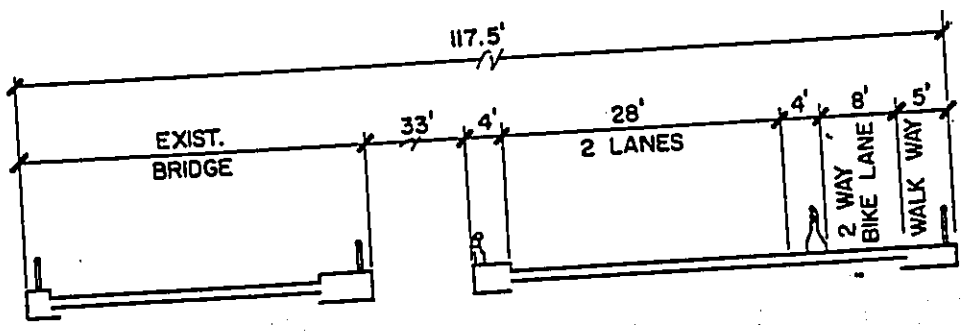
FIGURE 6



EXISTING BASCULE BRIDGE



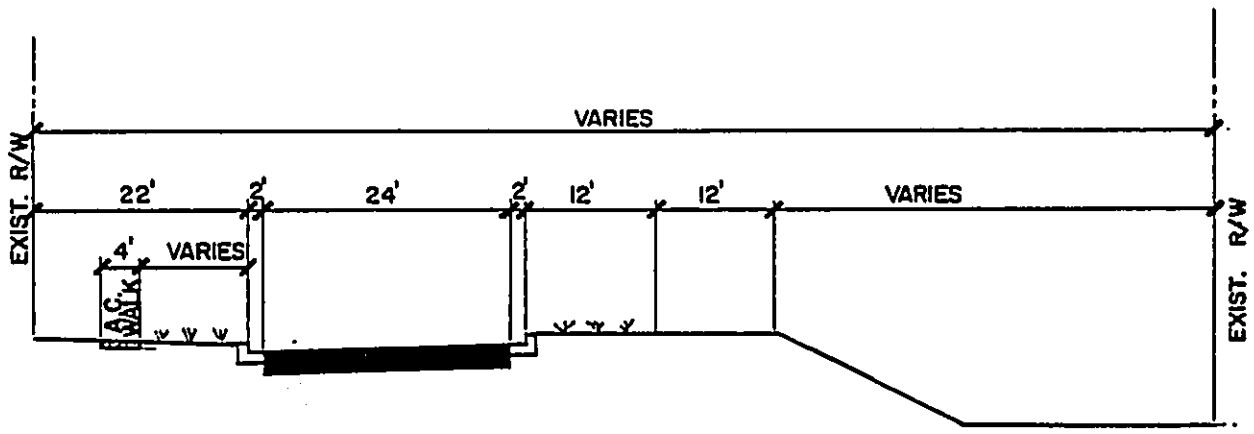
EXISTING & PROPOSED BASCULE BRIDGE



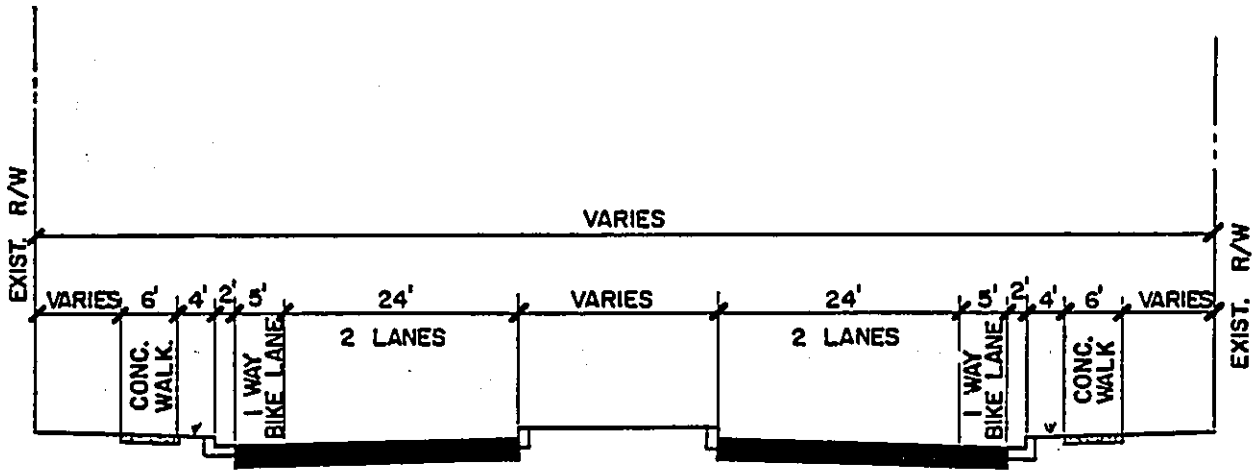
EXISTING BASCULE BRIDGE &
ALTERNATIVE FIXED BRIDGE

TYPICAL SECTION AT BRIDGE CROSSING

FIGURE 7



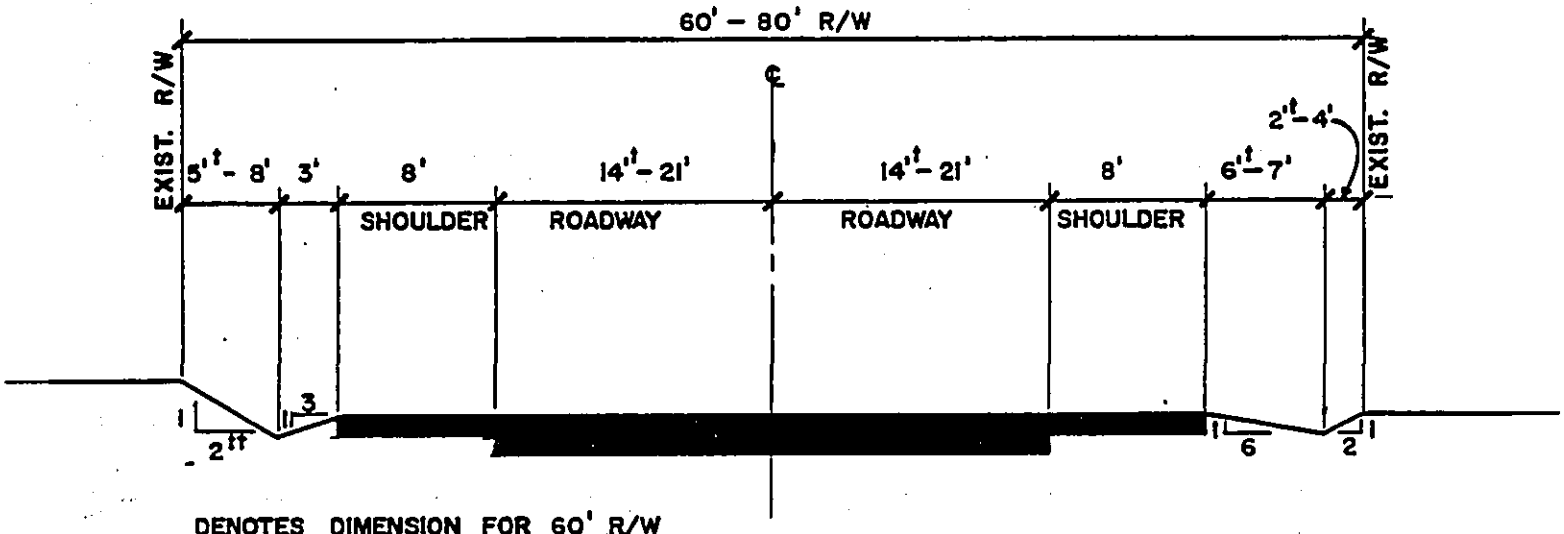
EXISTING ROADWAY



PROPOSED ROADWAY

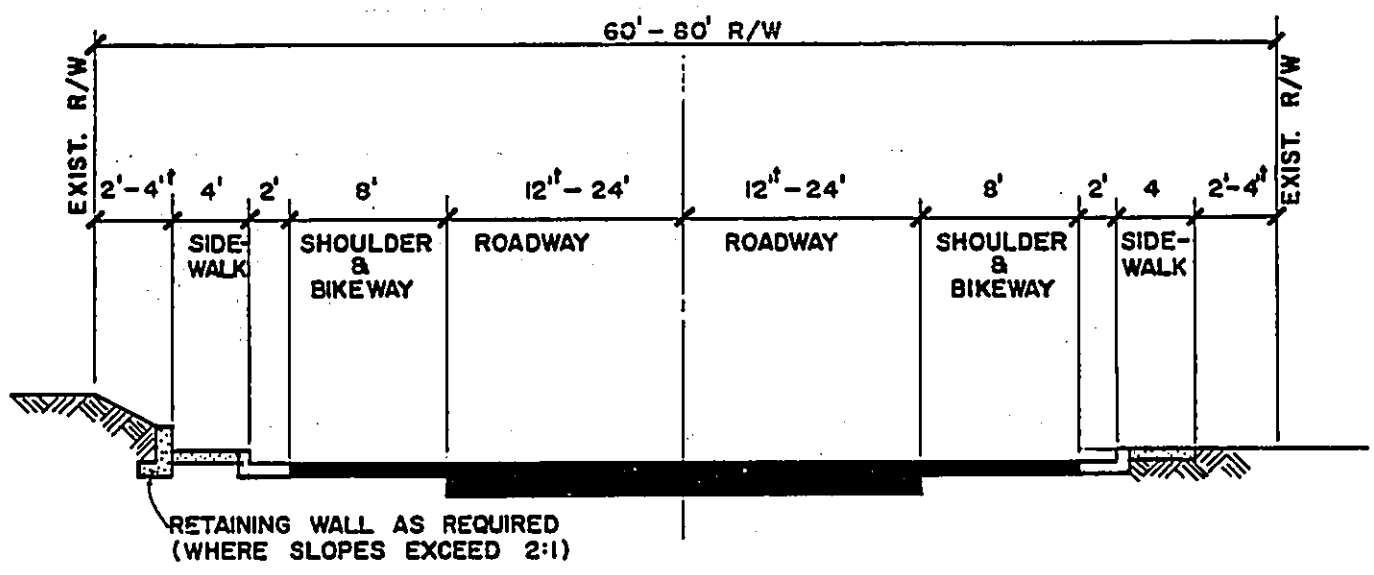
TYPICAL SECTION ON SAND ISLAND PARKWAY BETWEEN PROPOSED 1st PARK ENTRANCE & CONTAINER YARD

FIGURE 8



† DENOTES DIMENSION FOR 60' R/W
ft MAXIMUM SLOPE 2:1 (EXCEPT AT DRAIN INLETS)
NOTE: TRANSITION FROM STA. 50+62.07(80' R/W)
STA. 55+20(60' R/W)

EXISTING ROADWAY

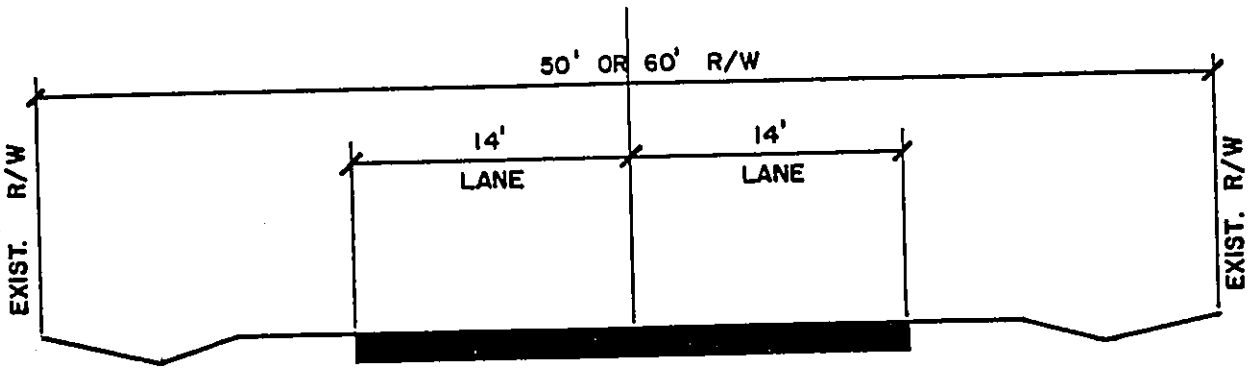


† DENOTES DIMENSION FOR 60' R/W

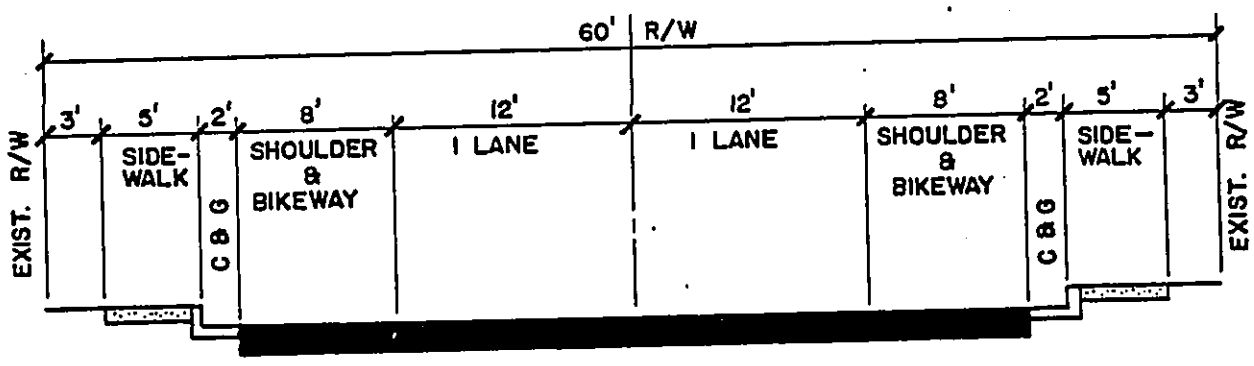
PROPOSED ROADWAY

TYPICAL SECTION ALONG CONTAINER YARD

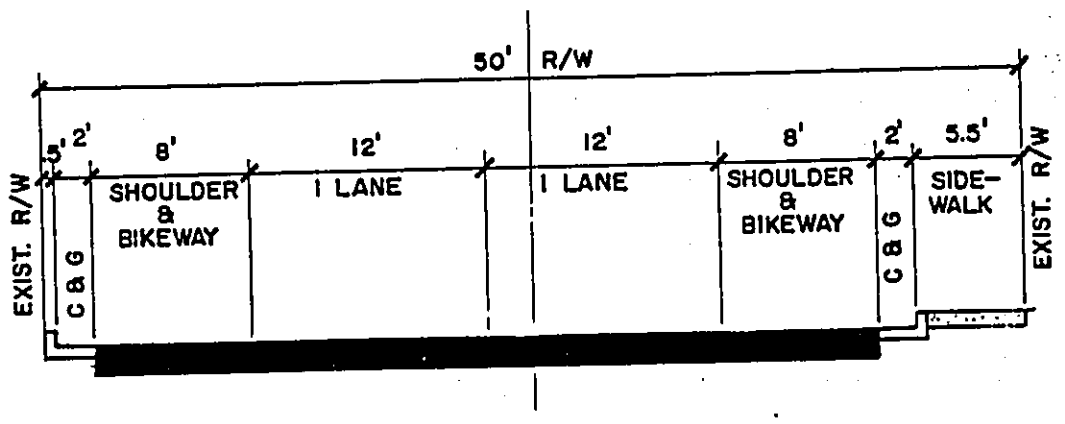
FIGURE 9



EXISTING ROADWAY



PROPOSED 60' ROADWAY



PROPOSED 50' ROADWAY

TYPICAL SECTION AFTER CONTAINER YARD

FIGURE 10

2.4.1 Design Features. The design features for the proposed highway were based on accommodating the projected year 2000 traffic volumes at a minimum of the level of service D at the intersections as shown on Table 1. The typical sections are in Figures 2 through 10 showing Nimitz Highway two alternative schemes developed for the roadway corridor between Nimitz Highway and the bascule bridge and sections on Sand Island.

2.4.2 Basic Conditions and Assumptions. The basic conditions and assumptions used in developing the intersection and roadway improvements for the Sand Island project corridor are listed as follows:

(1) Projected traffic volumes were obtained from the traffic projection report (see Appendix A).

(2) Due to the development of Sand Island, large projected traffic volumes are anticipated for the left-turn movements at the Nimitz Highway and Sand Island Access Road intersection, i.e., the movements from (1) Nimitz Highway from the westbound direction onto Sand Island Access Road and (2) Sand Island Access Road westbound onto Nimitz Highway.

(3) Improvements will be restricted to the interchange proposed at the Nimitz Highway intersection, Sand Island Access Road, and the proposed bridge crossing Kalihi Channel. This EIS does not address the need for access to northbound traffic (without the implementation of the H-3 Freeway) nor does it address the access need of the Sand Island to eastbound traffic.

(4) The minimum service level for the intersections under evaluation is Level D.

(5) Although acquisition of land along Nimitz Highway is not a constraint, minimizing right-of-way acquisition is a major consideration.

(6) Future H.O.V. (high occupancy vehicles) traffic lanes will be at-grade.

2.4.3 Alignment Description. The alignment was divided into several geographical areas of concern.

(1) The intersection of Nimitz Highway and Sand Island Access Road.

(2) The portion of Sand Island Access Road from Nimitz Highway to the bascule bridge.

(3) The intersection of Sand Island Access Road and Auiki Street.

(4) The Kalihi Channel crossing at the bascule bridge.

(5) The Sand Island Parkway on Sand Island.

These areas are discussed below.

2.4.4 Nimitz Highway and Sand Island Access Road Intersection.
For this area of concern two basic interchange alternatives were developed and are discussed in the following sections (1) and (2). Other interchange alternatives were considered but not developed further and these are described and discussed in section 2.7.2.

(1) Nimitz Highway Both Directions Elevated, Alternative V(A).
(See Figure 11.) This interchange alternative proposes elevating the three eastbound and the three westbound lanes of Nimitz Highway to grade-separate these through lanes from the left-turn at-grade intersection movements at Sand Island Access Road. The interchange would begin approximately 1100 feet Ewa of the existing intersection and end at Mokauea Street. Ramp "B" will be a single-lane entrance ramp from Sand Island Access Road extending through Puuhale Road and Mokauea Street. This configuration will require 10 feet of additional right-of-way. This 10 feet of additional right-of-way will be taken from north of the existing highway; this minimizes impact to existing businesses. The ramp configuration will require closing the Puuhale Road-Nimitz Highway-intersection for safety. Right-turns on the mauka (northerly) side will be permitted.

Two alternative schemes were developed for Ramp A, which connects eastbound Nimitz Highway to Sand Island Access Road. In the first scheme, Ramp A slopes down from Nimitz Highway as a one lane ramp, widens to two lanes, then intersects with Sand Island Access Road at a signalized intersection. Where the ramp widens to two lanes, the lane on the right side will be a continuous right-turn lane with caution and the lane on the left side will permit right turns only during its signalized green phase.

An alternate plan for Ramp A would have the ramp follow the approximate alignment of the existing turning lane from eastbound Nimitz Highway to Sand Island Access Road. Vehicles on this ramp would then merge with traffic on Sand Island Access Road. This concept would allow for smoother traffic flow from Nimitz to Sand Island Access Road; but, the traffic conflicts due to the merging condition in this area would impose significant restrictions on access to the businesses fronting this portion of Sand Island Access Road. To relieve some of these restrictions a frontage road would be constructed that would intersect Sand Island Access Road about 1,100 feet from the existing Sand Island Access Road and Nimitz Highway intersection. The road would then double back along the west side of Sand Island Access Road and head toward Nimitz Highway, intersecting Hoonee Place and terminating at an intersection with Alahao Place. The right-of-way requirements would be approximately 110,200 square feet along Nimitz Highway. The frontage road would require an additional 40,700 square feet of acquisition along the westside of the Sand Island Access Road.

(2) Nimitz Highway Eastbound Only Elevated, Alternative V(C).
(See Figure 12.) The second alternative proposes elevating the three eastbound lanes of Nimitz Highway to grade-separate these through lanes similar to the first interchange scheme, described above in subsection (1). The other features such as the termini location, the Puuhale Road

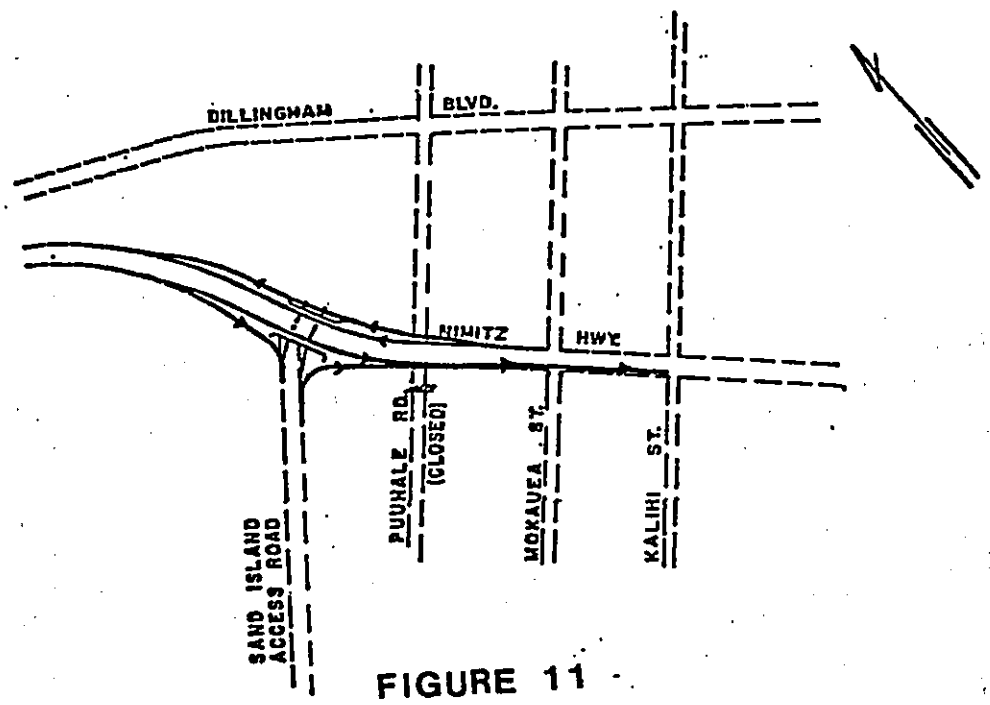


FIGURE 11

ALTERNATIVE V-A

NOT TO SCALE

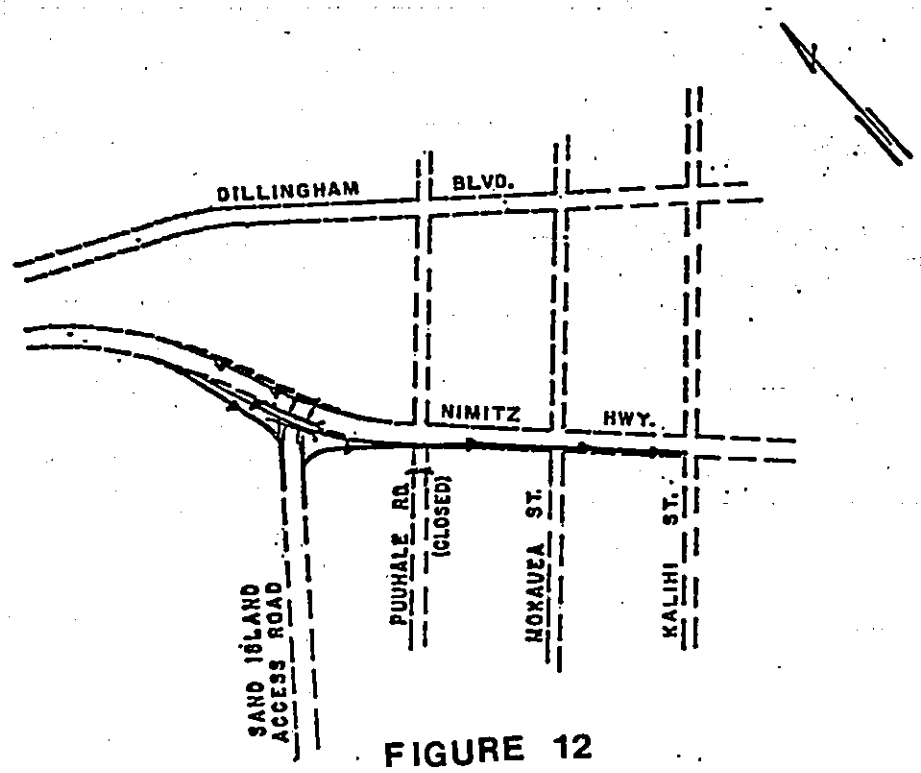


FIGURE 12

ALTERNATIVE V-C

NOT TO SCALE

intersection closure, a new signalized interchange, and frontage road options would also be similar to the first interchange alternative scheme. The Puuhale Road intersection will be signalized to allow right-turn movements from Puuhale Road to enter the left-turn lanes from Nimitz Highway west-bound into Sand Island Access Road. The right-of-way requirements will be approximately 38,100 square feet along Nimitz Highway.

(3) The Closing of Puuhale Road, (North of) the Nimitz Highway Intersection. The proposed improvement alternatives (subsections (1) and (2) above) of the intersection of Nimitz Highway and Sand Island Access Road necessitate the closing of Puuhale Road to through traffic across (north of) Nimitz Highway. The pedestrian crosswalk at Puuhale Road will also be eliminated. The closing of Puuhale Road to through traffic is necessary because both interchange alternatives V(A) and V(C) require retaining walls extending through the Puuhale Road intersection to accommodate the grade differential created by the elevated structure.

Puuhale Road on both sides of Nimitz Highway serves mostly local traffic for the industrial areas and an elementary school fronting this road. Much of the local traffic will be accommodated by the other nearby streets such as Mokauea, Kalihi, and Auiki so adverse effects will be minimal.

The recommended alternative for the Nimitz Highway and Sand Island Access Road Intersection is Alternative V(C). Alternative V(C) proposes that only the east bound lanes of Nimitz Highway be elevated. Alternative V(C) was selected because:

1) *it has less right-of-way impact and costs ($1,883,000);*

2) *it has a lower construction cost ($10,793,000);*

3) *requires less energy consumption in terms of construction materials (6.9×10^{10} BTU).*

2.4.5 Sand Island Access Road from Nimitz Highway to the Bascule Bridge. Two alternative schemes have been developed for this roadway corridor. Scheme A provides for a raised medial strip; Scheme B provides for a continuous left-turn lane.

Scheme A: Raised Medial Strip. (Refer to Figures 4 and 5.) The typical roadway section of Sand Island Access Road between Nimitz Highway and Auiki Street (Figure 4) will consist of a divided roadway with a raised landscaped median within the existing 120-foot right-of-way. The 28-foot wide medial strip would have provisions to accommodate the turning movements required at major intersections. Three lanes of traffic will be provided in each direction, two lanes to accommodate the through traffic movement with the third lane (auxiliary) providing ingress and egress for the businesses fronting the roadway.

From Auiki Street to the Kalihi Channel bridge approach, the proposed improvements are generally within the existing 100-foot right-of-way of Sand Island Access Road, the two through traffic lanes would be continued while the raised medial strip would be reduced to 14 feet in width. (See Figure 5.) The auxiliary right-turn lanes would not be provided past the Auiki Street intersection. Two bike lanes will be provided on each side of the roadway next to the sidewalk from Auiki Street to the University of Hawaii Marine Expeditionary Center.

Scheme B: Continuous Left-Turn Lane. (Refer to Figures 4 and 5.) The typical roadway section for this scheme is essentially the same as the raised medial scheme except a continuous left-turn lane replaces the raised median. The continuous left-turn lane down the middle of the roadway will provide access to businesses along Sand Island Access Road. This continuous left-turn lane is a single lane from which vehicles coming from either direction can make left turns. This concept will offer the greatest freedom of safe vehicular access movement while maintaining increased through traffic volumes via two through traffic lanes. Landscaping will be provided adjacent to the sidewalk. As in the raised median scheme, there will be an auxiliary right-turn lane providing ingress/egress to businesses fronting the roadway corridor between Nimitz Highway and Auiki Street. The two through lanes on this section of the roadway will continue down to the bridge. Two bike lanes will be provided from Nimitz Highway to the U.H. Marine Center as opposed to the median scheme having bike lanes only between Auiki Street and the U.H. Marine Center.

Scheme C: This is a combination of Schemes A and B. From Nimitz Highway to Auiki Street Scheme A will be used, and from Auiki Street to Kalihi Channel, Scheme B will be used. The section of the roadway between Auiki Street and the bridge has few businesses fronting the roadway corridor and therefore would not require the same left-turn movements as the section from Nimitz Highway to Auiki Street.

The Sand Island Access Road profiles will follow the existing road profiles as constructed in Federal Aid No. DA-WR5(1) in 1944.

The recommended scheme for the section of Sand Island Road from Nimitz Highway to the Bascule Bridge is Scheme B with the continuous left turn lane. The left turn lane will be provided up to the bridge. This scheme was selected because:

1) *it provides a continuous left turn lane for flexibility of access to the numerous commercial/industrial properties along the road;*

2) *provides a bike lane in each direction.*

2.4.6 Sand Island Access Road - Auiki Street Intersection. This presently unsignalized intersection will become an at-grade signalized intersection due to the high traffic volumes anticipated by the year 2000.

As stated, the Sand Island Access Road and Auiki Street intersection will be signalized.

2.4.7 Kalihi Channel Crossing (at the Bascule Bridge). The existing bascule bridge will not be able to accommodate the anticipated future traffic volumes due to the intensifying land uses on Sand Island. Thus, a second bridge will be needed. Two types of bridges were reviewed and evaluated: a second bascule bridge and a fixed bridge (with different height variations). All bridge alternatives follow the same alignment along the west side of the present bridge location.

A Second Bascule Bridge Alternative. The bascule bridge alternative would be a double-leaf trunnion bascule bridge with approach spans on each side of the movable span. The bascule bridge would be designed with two 14-foot traffic lanes (roadway width of 28 feet), an 8-foot wide bikeway, 5-foot wide walkway, and three rows of railings. The bikeway and sidewalk would be situated on the west side of the bascule bridge. (For a typical section of the second bascule bridge, see Figure 7.) The bascule bridge would have an overall length (abutment to abutment) of 670.5 feet, with an overall width of approximately 46 feet.

The basic structure would be composed of a bascule span with two movable leaves, two main piers, approach spans on each end of the bascule span, two approach span piers, and two abutments. A new control tower may not be required because the second bascule bridge could be operated from the existing control tower.

The main piers of the existing bascule bridge are supported without piles by a huge mat foundation because of satisfactory soil conditions. Presumably, satisfactory soil conditions would also be found at the proposed bridge site and the main piers of the second bascule bridge would also be supported by a foundation without piles.

The approach span piers and abutments of the bascule bridge would be supported by precast concrete piles. A soil investigation will be required to ascertain the soil conditions at the proposed bridge site.

Both the existing and proposed bascule bridges would be controlled from the existing control tower. This would save hiring additional bridge operators. The existing bridge controls require that the bridge operator stand continuously at the operating console while the bridge is opening or closing. The new controls would be such that both bridges may be opened at the same time or individually. The installation of an entirely new console would be required to operate both bridges. Because of the space requirements, the existing control tower may need to be enlarged.

The bascule bridge will be designed to keep vehicular and pedestrian traffic from entering the bridge while the bridge is being opened. This would be accomplished with the installation of traffic lights, traffic gates, bikeway and pedestrian gates, and traffic barriers. The gates would serve mainly as visual obstructions. The traffic barriers would be structurally solid and would present a physical obstruction to vehicles.

Based on current State costs for operating and maintaining the existing bascule bridge, it is projected that 0 & M costs will be approximately $65,000 per year for the new bascule bridge. The estimated total cost for this alternative is approximately $11.9 million.

The Fixed Bridge Alternative. Three fixed bridge heights (26 feet, 55 feet, and 80 feet high) were considered based on the navigational clearances provided by each. All three heights have certain common features and the same typical section (Figure 7). These similar details will be discussed first then each alternative with its differences will be described.

The bridge heights (26 ft., 55 ft., 80 ft.) are based on the vertical clearance from the mean lower low water (MLLW) elevation to the bridge deck at mid-span. The navigational clearance (15 ft., 45 ft., 70 ft.) is based on the vertical clearance from the MLLW elevation to the underbody of the bridge at mid-span. (MLLW = elevation 0.00 and MLW = elevation + 0.17 based on data from the U.S. Coast and Geodetic Survey.)

The typical section for the fixed bridge will have two 14-foot traffic lanes with off-sets of 2 feet. An 8-foot wide bikeway and a 5-foot pedestrian walkway will be on the west (makai) side, separated from the traffic lanes by a Jersey guardrail. Guardrails will also be placed along the outside edge of the bridge for safety. The overall width of the typical section will be 49 feet.

The bridge structure would be composed of a main center span at the channel crossing, adjacent transition spans, and several end approach spans between abutments. Concrete box girder design is anticipated for all spans with the girders being supported on concrete piers and square footings. The segmental cantilever method of construction would probably be used for this bridge and would require piles to be used under the footings. The bridge deck will be of concrete with longitudinal grooves cut in the surface for water runoff and adequate vehicle traction. The bridge approaches will require retaining walls which will minimize the impact on the roadway right-of-ways. These approaches would then be earth filled and the basic roadway template consisting of subbase, base course, and asphalt concrete pavement would be placed above the fill.

Annual maintenance costs for the concrete fixed bridges are assumed to be nominal.

(1) 26-Foot Fixed Bridge. This bridge will be designed to match the vertical alignment of the existing bascule bridge as closely as possible including a maximum approach grade of 4 percent. The vertical navigational clearance under the bridge will be about 15 feet at the middle of the main span, which is the same as the existing bascule bridge in the closed position. A horizontal navigational width of 160 feet has been assumed for this bridge since only smaller vessels would be able to pass under the 15-foot bridge height. The overall bridge length from abutment to abutment will be about 700 feet. The determination of the exact length will be made after subsurface conditions have been studied further. The estimated total cost for this height is $5.9 million.

(2) 55-Foot Fixed Bridge. The main purpose of this bridge height is to increase the vertical navigational clearance over Kalihi Channel. The 55-foot bridge height will provide a vertical navigational clearance of about 45 feet at mid-span and decrease to a minimum of 40 feet at the main bridge piers.

The 55-foot high bridge will require the use of multiple approach spans of 100 feet between the transition span and the abutments, along with the appurtenant piers. This bridge height will require seven (7) approach spans and a transition span on each side of the channel, bringing the overall length from abutment to abutment to 2,030 feet.

The increased height of the bridge and the additional number of approach spans will affect access to surrounding properties. Traffic bound for the University of Hawaii Marine Expeditionary Center could be rerouted along an existing roadway through the Keehi Marina to a new roadway that would run along the Kalihi Channel, under the two bridges and into the University of Hawaii property. Access to the PRI tank yard could be provided on the makai side of the property via the Keehi Marina access road.

The construction of the 55-foot high bridge would impact the view of the bridge operator from the control tower. Raising the bridge a few feet above the tower and moving the piers outward widening the main span would mitigate this impact. The estimated total cost for this bridge height is over $18.0 million.

(3) 80-Foot Fixed Bridge. The 80-foot fixed bridge alternative was discarded. The 80-foot fixed bridge would have a vertical navigational clearance of approximately 70 feet at mid-span and 65 feet at the main piers. The 80-foot high bridge alternative cannot be designed to meet Federal Highway criteria for road grades. Consequently, this alternative was discarded. For more discussion on this alternative see subsection 2.7.3.

Table 2 provides a comparison of the bridge alternatives.

TABLE 2

COMPARISON OF BRIDGE ALTERNATIVES

Feature	Bridge Alternatives			
	(Recommended) Bascule Bridge 26' High*	26' High*	Fixed Bridge 55' High*	80' High*
1. Overall Width	46'	49'	49'	49'
2. Maximum Approach Grades	4%	4%	4%	6%
3. Number of Approach Spans @100'	0	0	14	16
4. Overall Length (abutment to abutment)	670.5'	830'	2,030'	2,430'
5. Vertical Navigational clearance*	Unlimited	15'	45'	70'
6. Estimated Cost (in million dollars)				
Construction	$10.0	$4.5	$15.6	$17.7
Preliminary Engineering	0.9	0.4	1.4	1.6
Right-of-Way	1.0	1.0	1.0	1.0
TOTAL	$11.9	$5.9	$18.0+	$20.3+

Source of Table: "Interim Recommendation for Second Bridge for Sand Island Access Road Widening and Other Improvements, Sand Island, Honolulu District, Oahu, State of Hawaii," dated April, 1980, prepared by Wilson Okamoto & Associates.

* The bridge heights (26 ft., 55 ft., 80 ft.) are based on the vertical clearance from the mean lower low water (MLLW) elevation to the bridge deck at mid-span. The navigational clearance (15 ft., 45 ft., 70 ft.) is based on the vertical clearance from the MLLW elevation to the underbody of the bridge at mid-span. (MLLW = elevation 0.00 and MLW = elevation + 0.17 based on data from the U.S. Coast and Geodetic Survey.)

Summary Evaluation of the Bridge Alternatives.

An evaluation of the bridge alternatives was undertaken to determine the impact each would have on the vehicular (land) passage, boat (water) passage, and engineering concerns. Based on this evaluation, the findings were:

(1) A 26-foot fixed bridge would not provide sufficient clearance for most of the boats that use the Kalihi Channel. It would also result in a "closing" of the passageway through Kalihi Channel for emergencies. Most of the boats presently using Kalihi Channel and subsequently resulting in the opening of the bridge, are pleasure crafts, as shown in Appendix B (Types of Waterway Traffic at the John H. Slattery Bridge, 1972 - 79).

(2) An approximate bridge height of 55 feet can accommodate a significant portion of the vessels that now use the channel and require bridge openings. It will not provide the emergency exit for large ships leaving Honolulu Harbor via Kalihi Channel.

The second bascule bridge alternative (recommended alternative) has the following advantages.

(1) Public land traffic will still be affected but it will be a continuation of the existing condition. (That is, the periodic back-up of vehicular traffic while the bascule bridge is being opened.)

(2) The engineering and construction cost for the bascule bridge is estimated to be $11.9 million; this is less than the estimated cost of $18 million for the 55-foot high fixed bridge.

(3) Funds for maintenance of the bascule bridge will be needed.

(4) The bascule bridge can be implemented without any delay, which will benefit the cargo movement to and from Sand Island.

(5) Inflation on construction cost for both 26-foot and 55-foot high fixed bridges cannot be precisely estimated but it will be a major cost penalty under present rates if there are any delays to implement construction of a fixed bridge.

(6) Other than the bascule bridge opening, its lower profile compared to the 55-foot high fixed bridge will minimize the impact to land traffic.

(7) The emergency navigational entrance provision of Kalihi Channel is maintained.

The recommended alternative for the second bridge over the Kalihi Channel is a second bascule bridge. This recommendation is based on time constraints imposed by implementation of the fixed bridge alternatives, and overall impacts to highway and waterway users.

The advantages of a second bascule bridge are:

1) it maintains the emergency navigational entrance provisions of Kalihi Channel and unlimited vertical navigational clearance;

2) it was considered the most favorable by several reviewing agencies;

3) it results in only nominal reduction in truck speed.

While the construction and annual maintenance costs were higher than the 26-foot fixed bridge alternative, the above factors were found to be more important than the economic consideration.

2.4.8 Sand Island Parkway. The State Department of Land and Natural Resources (DLNR) developed the master plan for the Sand Island Parkway which will provide circulation on Sand Island itself. (See Figure 10 for the typical section.) The width of the right-of-way varies from 120 feet, near the bridge, to 60 feet (or 50 feet if the existing highway alignment is used) at the east end of Sand Island. The portions within the 120-foot and 100-foot right-of-way will have raised medial strips (Scheme A) as shown in the typical sections (Figure 5). The design of the Parkway has already been done by the DLNR and portions of that project have been completed.

Alternative Scheme A, the raised landscaped median scheme, is the recommended alternative for the portion of the roadway from the bridge (east approach) to the entrance of the container yard on Sand Island. This alternative follows the proposed Sand Island Master Plan developed by the Department of Land and Natural Resources. Alternative A provides a median for better channelization and safety and provides a better approach to the Kalihi Channel crossing.

The State Department of Transportation (DOT) proposes to implement the Sand Island Parkway alignment that was master-planned by the Department of Land and Natural Resources (DLNR). For that section of the alignment from the Coast Guard Station to the State Park's existing entrance, the intent is to continue along the existing road, or to proceed along the master-planned alignment. This master-planned alignment will only be considered if the required rights-of-way are conveyed from the DLNR to the DOT, free and clear of all encumberances. The existing Sand Island Access Road from the Coast Guard Station to the State park is an alignment alternative that would not impact the existing businesses on Sand Island.

The selected alternative for the roadway from the container yard to the existing Sand Island State Park entrance is to utilize the existing right-of-way in the area of the Coast Guard Station. The DLNR master plan calls for a proposed future realignment of the road away from the Coast Guard Station; however, until the DLNR can turn over the necessary right-of-way to the DOT, the improvements adjacent to the Coast Guard Station and the State Fisheries facilities will be confined to the existing right-of-way.

The advantages of this alternative are:

1) *it does not impact the business tenants occupying DLNR's lands opposite the Coast Guard Station;*

2) *it provides the U.S. Coast Guard with highway frontage to their property (the Coast Guard is in favor of this alternative).*

2.4.9 Drainage Facilities. The drainage facilities in the proposed project were based on the State of Hawaii "Interim Design Criteria for Highway Drainage" and the City and County of Honolulu "Storm Drainage Standards". The rational method for estimating storm runoff was used in all cases with a design flood frequency of 50 years.

Improvements to the Nimitz Highway-Sand Island Access Road intersection will require replacement of all existing drainline facilities within the area for both interchange alteratives V(A) and V(C). Re-grading of Ramp "C" in alterative V(A) and for the Nimitz Highway westbound lanes in alternative V(C) will also be required to obtain positive drainage throughout the new drainline system. The existing 8' x 5' box culvert near Kalihi Stream and existing drainline along Mokauea Street will accommodate most of the storm runoff along Nimitz Highway and adjacent areas mauka of Nimitz Highway.

Sand Island Access Road being relatively flat will require an extensive system of inlet structures to meet the gutter flow requirement of less than 8 feet. The existing 36-inch and 42-inch drainlines along Pahounui Drive having outlet into Keehi Lagoon will be replaced with larger conduits to convey the runoff of a 50-year storm.

2.4.10 Utilities. The proposed project will not require any new utility lines. However, some of the existing lines may have to be adjusted or relocated. Overhead electrical and telephone lines and poles may have to be relocated as a result of the typical section choice. Street lighting will also be affected by the selection of the typical section. Street lighting will be provided from the Sand Island Access Road and Nimitz Highway intersection to the bascule bridge. Street lighting for the Sand Island Parkway Road is under consideration.

Airway Highway clearance has been received (see Appendix G for Clearance Document).

Underground utilities along Sand Island Access Road will not be affected by the improvements except at the Nimitz Highway intersection and the approach to the bascule bridge. The Nimitz Highway intersection improvements will involve excavation and embankment. Affected lines will be relocated. The bridge approach will involve embankment which may impose significant consolidation of soils and result in uneven settling of utility lines. Soil consolidation can be expected on both sides of the bridge and corresponding utility adjustments must be made.

2.4.11 Landscaping. As indicated by Schemes A and B, landscaping will be implemented along the side and/or medial strip. The type of plants and trees to be planted have not been determined at this time.

2.4.12 Right-of-Way Acquisition. The project is essentially located within an existing roadway corridor. The anticipated rights-of-way required has been tabulated by tax map key on Table 3 and shown on Figure 13.

Shoulders are being provided on Sand Island Access Road only between the container yard and the State Park. This is due to urban design criteria and also because many areas along the highway require right-of-way acquisition costs which are undesirable. Finally, shoulders were not required in the DLNR Master Plan between the bridge and the container yard and as a result, were not included in the studies.

The estimated right-of-way costs and relocation costs are tabulated in Table 4. Estimated severance damages are recognized where applicable.

2.4.13 The estimated tax revenue lost per annum as a result of the taking is: Alternative V(A) = $19,066, and Alternative V(C) = $6,900. The estimated tax revenue lost on the frontage road option is an additional $1,428 per annum.

2.5 Estimated Cost to Implement the Proposed Action. The estimated cost of the various alternatives is presented on Table 4.

Subject to the alternative selected for Ramp "A", the cost of the frontage road adjacent to Sand Island Access Road will have to be added to the estimated cost. The estimated total cost of the frontage road land is $1,868,000. A cost breakdown is provided in Table 4.

A benefit/cost ratio was derived[1] for these improvements and is shown in Table 5. A discussion on user costs for the bridge alternatives is in Section 4.9.

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1 American Association of State Highway and Transportation Officials, A Manual On User Benefit Analysis of Highway and Bus-Transit 1977, 1978.

TABLE 3

ESTIMATED RIGHT-OF-WAY ACQUISITION

	Tax Map Key	Area (S.F.)	Approximate Location
ALTERNATIVE V(A)	1-2-19:3	3,800	Northeast of Nimitz
	1-2-21:3	2,600	Northeast of Nimitz
	*1-2-21:22	1,000	Northeast of Nimitz
	1-2-21:5	51,800	Northeast of Nimitz
	1-2-13:12	7,300	Northeast of Nimitz
	1-2-13:13	11,700	Northeast of Nimitz
	1-2-08	15,000	Kanakanui Street
TOTAL ALTERNATIVE V(A)		93,200	
ALTERNATIVE V(C)	1-2-08	8,000	Kanakanui Street
	1-2-21:25	9,000	West of Nimitz
	1-2-21:09	4,500	West of Nimitz
	1-2-22:30	10,500	Between Sand Island Access Road and Puuhale Road
	1-2-22:31	3,500	Same as above
	1-2-22:32	2,600	Same as above
TOTAL ALTERNATIVE V(C)		38,100	
FRONTAGE ROAD	1-2-21:34	10,500	Northwest of Sand Island Access Road near Nimitz
	1-2-21:14	2,600	Same as above
	1-2-21:26	10,700	Same as above
	1-2-21:13	16,600	Same as above
	1-2-21:17	300	Same as above
TOTAL FRONTAGE ROAD		40,700	
NIMITZ HIGHWAY TO AUIKI STREET	1-2-24:3	800	
BRIDGE	**1-2-25:20	1,300	West side of bridge
	*1-2-25:27	1,000	West side of bridge
	**1-2-25:19	17,300	West side of bridge
	*1-2-25:18	12,400	West side of bridge
TOTAL BRIDGE		32,800	

* Parcel owned by State of Hawaii
**Parcel owned by State of Hawaii but leased to Private Company

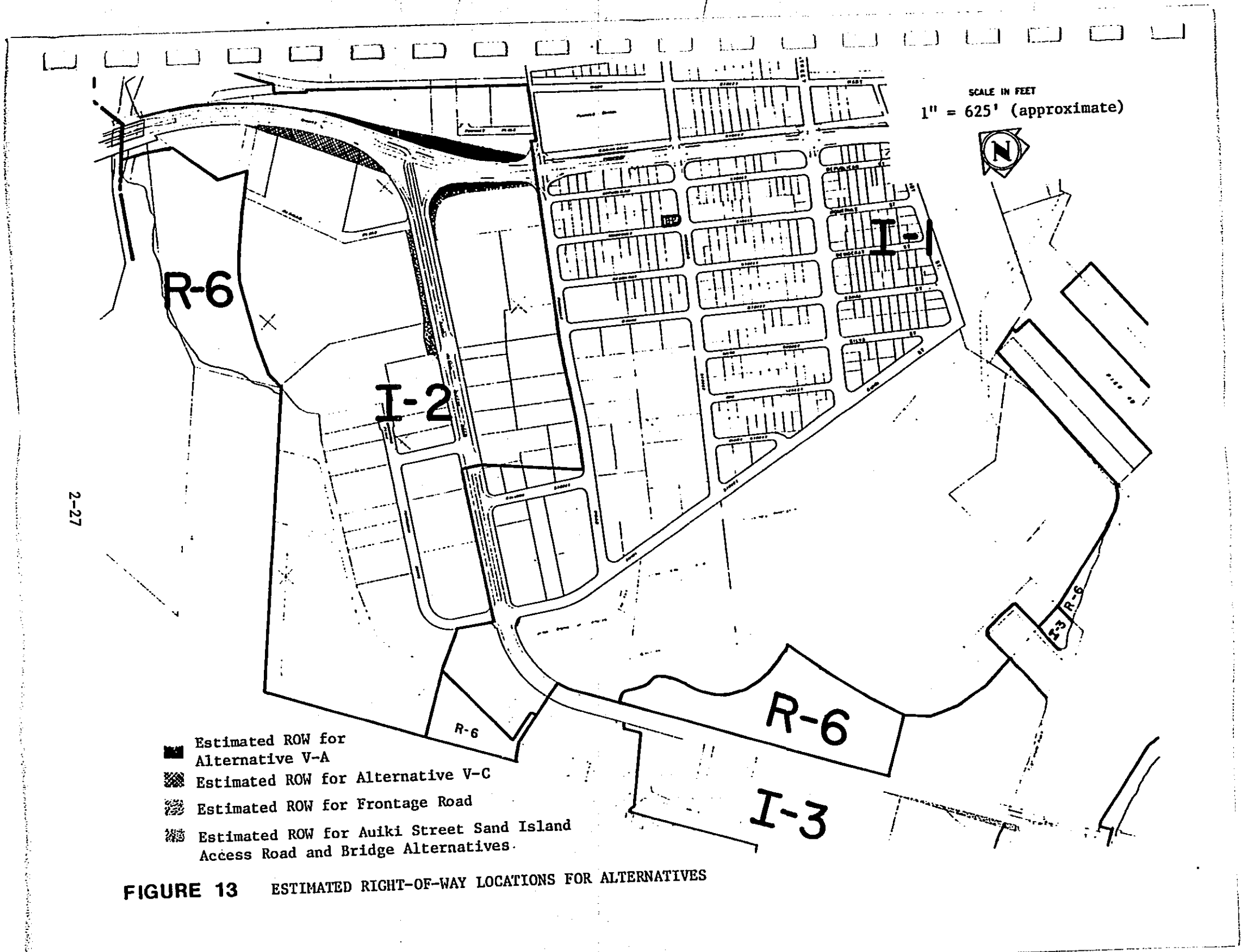


FIGURE 13 ESTIMATED RIGHT-OF-WAY LOCATIONS FOR ALTERNATIVES

TABLE 4

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS

ESTIMATED COSTS ($1,000)

Item	Nimitz Highway/ Sand Island Road Interchange Alternatives		Nimitz Highway To Kalihi Channel Bridge Alternatives					2nd Kalihi Channel Bridge Alternatives		Sand Island Parkway
	V (A)	V (C)	A	B	C	Frontage Road	Bascule	26-Foot	55-Foot	
Section Length Miles	—	—	1.03	1.03	1.03	0.113	0.127	0.127	0.384*	1.40
Preliminary Engineering	1,111	971	444	458	447	31	903	405	1,401	119
Right-of-Way Costs	8,901	1,883	30	30	30	1,494	965	965	965	0
Construction	12,348	10,793	4,938	5,093	4,967	343	10,032	4,494	15,571	1,327
TOTAL	22,360	13,647	5,412	5,581	5,444	1,868	11,900	5,864	17,937+	1,446

*For the 55-foot alternative, subtract 0.128 miles from Alternative A,B, & C, and 0.128 miles from Sand Island Parkway.
+For the 55-foot alternative, subtract $567,000 from Alt. A, $582,000 from Alt. B, $565,000 from Alt. C, and $132,000 from Sand Island Parkway total costs.

TABLE 5

BENEFIT COST RATIO

Nimitz-Sand Island Access Road Intersection Alternative	Kalihi-Channel Bridge Alternative	Sand Island Access Road Corridor Scheme	Estimated Total Cost*	B/C Ratio
Alternative V(A)	Bascule	"A"	$41,118,000	1.23
		"B"	$41,287,000	1.22
		"C"	$41,150,000	1.23
	26-Foot Fixed Bridge	"A"	$35,082,000	1.41
		"B"	$35,251,000	1.40
		"C"	$35,114,000	1.41
	55-Foot Fixed Bridge	"A"	$46,456,000	1.08
		"B"	$46,610,000	1.08
		"C"	$46,490,000	1.08
Alternative V(C)	Bascule	"A"	$32,405,000	1.56
		"B"	$32,574,000	1.55
		"C"	$32,437,000	1.56
	26-Foot Fixed Bridge	"A"	$26,369,000	1.88
		"B"	$26,538,000	1.87
		"C"	$26,401,000	1.88
	55-Foot Fixed Bridge	"A"	$37,743,000	1.33
		"B"	$37,897,000	1.33
		"C"	$37,777,000	1.33

*Includes Cost of Sand Island Parkway.

The equivalent annual user costs for the various bridges are as follows:

Bridge	Equivalent Annual User Costs (Thousand Dollars)
Bascule Bridge	831.25
26' Fixed Bridge	758.56
55' Fixed Bridge	811.46
80' Fixed Bridge	842.95

Construction time for the total improvements has not been determined. Construction time will depend on the alternative selected and the phasing of construction with other related road improvements. The total widening and bridge construction may take several years to complete.

2.6 Previous Alignment Alternatives. Prior to the schemes and alternatives presented thus far, a number of preliminary design alternatives were considered. Traffic operational and safety characteristics, impact on land use and cost were the primary factors considered in the evaluation of the various alternatives.

2.6.1 Nimitz Highway/Sand Island Access Road Interface. The following are the alternative design concepts for the interface of Nimitz Highway and Sand Island Access Road. A comparative summary of each alternative is listed on Table 6. Figures 14 through 19, provide schematic drawings of each alternative.

(1) Widening Concept

Alternative I: (Figure 14) Ramp structure with a quarter clover leaf configuration, to accommodate the movement from Sand Island Access Road onto Nimitz Highway in the westbound direction.

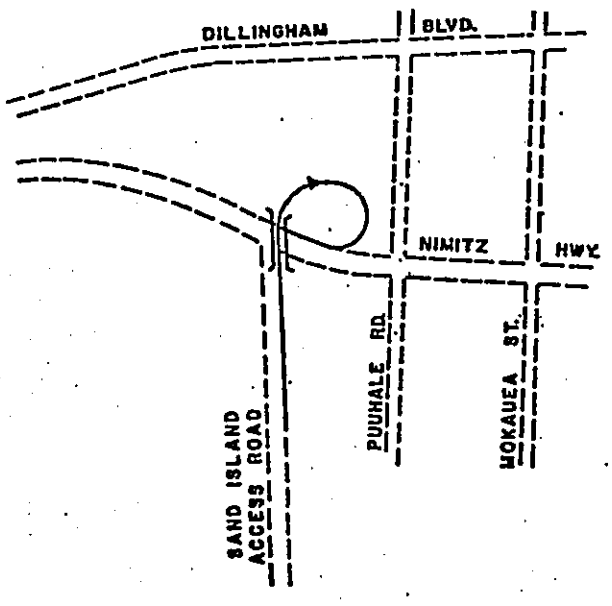
Alternative II (configuration similar to that delineated for Alternative VI): (Figure 15) Ramp structure to accommodate movement from Nimitz Highway (westbound) direction onto Sand Island Access Road.

Alternative V (A): (Figure 11) Elevate Nimitz Highway above Sand Island Access Road.

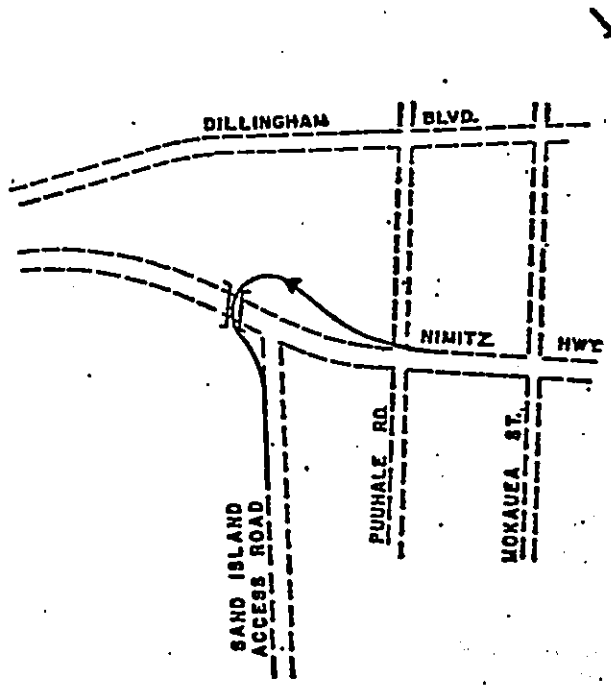
TABLE 6

INTERSECTION OR INTERCHANGE ALTERNATIVES

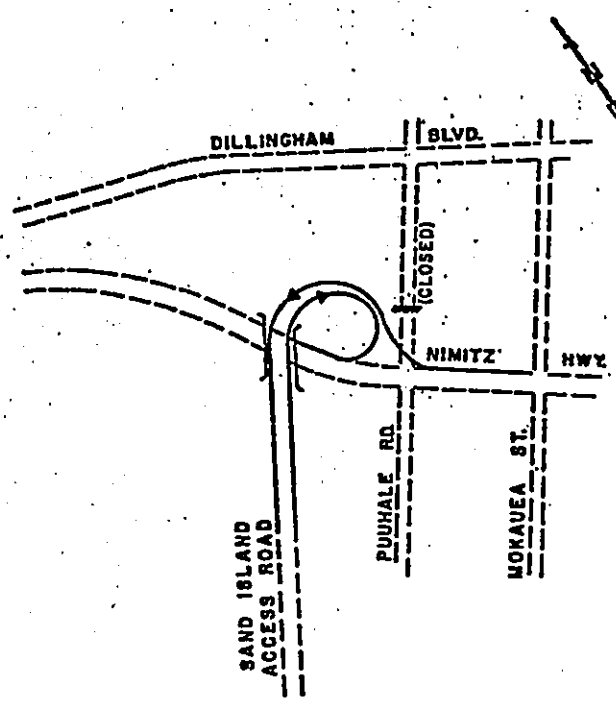
ALTERNATIVE	TRAFFIC OPERATIONAL CHARACTERISTICS	LAND USE	SAFETY	SUMMARY
Alternative I (See Figure 14)	At-grade intersection below service level E.	ROW acquisition required.	Eliminates majority of traffic from one phase of the at-grade intersection; therefore, conflicts at intersection lessen.	No significant improvement, at-grade intersection below service level E. Dropped from further consideration.
Alternative II (See Figure 15)	At-grade intersection below service level E.	ROW acquisition required.	Eliminates majority of traffic from one phase at the at-grade intersection; therefore, conflicts at intersection lessen.	No significant improvement, at-grade intersection below service level E. Dropped from further consideration.
Alternative III (See Figure 16)	At-grade intersection still requires left turn movements from local traffic. Closing of Puuhale Road.	Significant ROW acquisition required.	Minimizes the at-grade intersection conflicts, resulting in a significant reduction in intersection conflicts.	Large ROW required. Two level interchange. Dropped from further consideration.
Alternative IV (See Figure 17)	At-grade intersection still requires left turn movements for local traffic. Closing of Puuhale Road.	Significant ROW acquisition required.	Minimizes the at-grade intersection conflicts, resulting in a significant reduction in intersection conflicts.	Large ROW required. Nimitz grade crossing still required. Free-flow conditions. Dropped from further conditions.
Alternative V (A) (See Figure 11)	Nimitz has free-flow condition. Signalized T-intersection for Sand Island Access Road. Modification of Puuhale Road T-intersection, with ramp (north side). T-intersection with Nimitz Highway (south side).	ROW acquisition required.	Elimination of grade crossing of Nimitz Highway, resulting in no intersection conflicts.	Minimum ROW required. Nimitz grade crossing still required. Signalized T-intersection.
Alternative V (B) (See Figure 18)	At-grade intersection still requires left turn movements for local traffic. Signalized T-intersection. Closing of Puuhale Road.	ROW acquisition required.	Minimizes the at-grade intersection conflicts, resulting in a significant reduction in intersection conflicts.	Minimum ROW required. Nimitz grade crossing still required. Signalized T-intersection. Dropped from further consideration.
Alternative V (C) (See Figure 12)	Nimitz has free-flow condition. Signalized T-intersection for Sand Island Access Road. Modification of Puuhale Road T-intersection, with ramp. T-intersection with Nimitz Highway.	ROW acquisition required.	Elimination of grade crossing of Nimitz Highway, resulting in no intersection conflicts.	Minimum ROW required. Nimitz grade crossing still required. Signalized T-intersection.
Alternative VI (See Figure 19)	At-grade intersection still requires left turn movements for local traffic. Closing of Puuhale Road. Free-flow conditions.	ROW acquisition required.	Minimizes the at-grade intersection conflicts resulting in a significant reduction in intersection conflicts.	Minimum ROW required. Nimitz grade crossing still required. Free-flow conditions. Three levels of traffic. Dropped from further consideration.



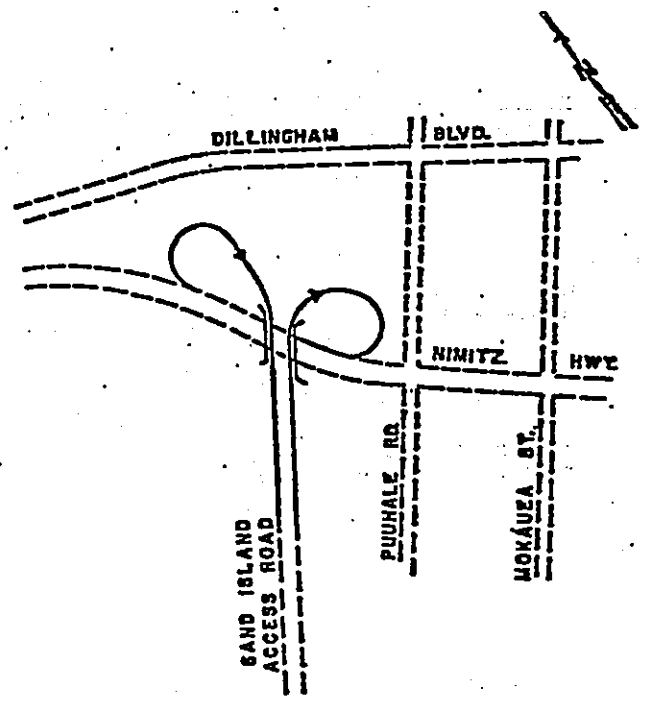
ALTERNATIVE I
NOT TO SCALE
FIGURE 14



ALTERNATIVE II
NOT TO SCALE
FIGURE 15



ALTERNATIVE III
NOT TO SCALE
FIGURE 16



ALTERNATIVE IV
NOT TO SCALE
FIGURE 17

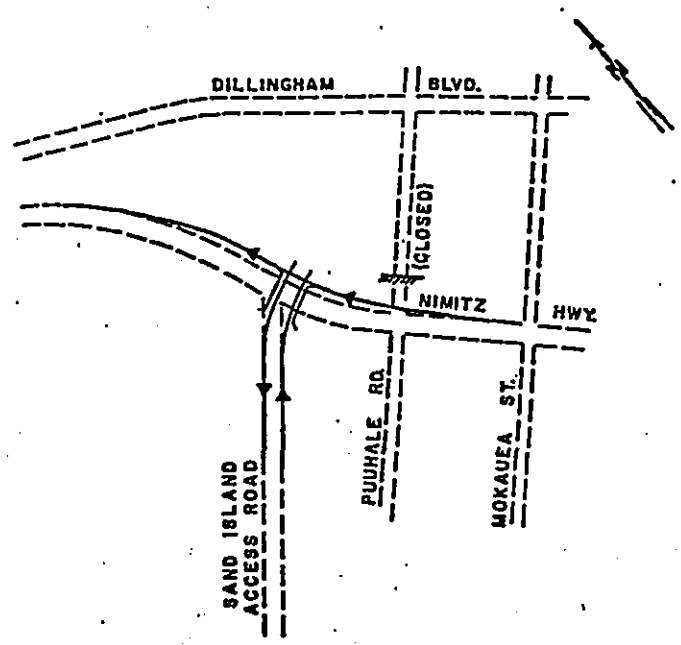


FIGURE 18
ALTERNATIVE V (B)
NOT TO SCALE

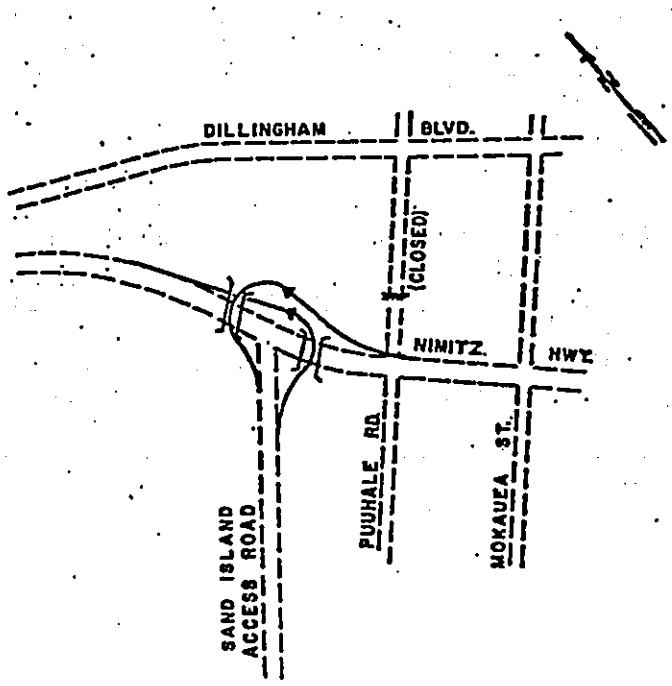


FIGURE 19
ALTERNATIVE VI
NOT TO SCALE

(2) Viaduct Concept

Alternative III: (Figure 16) Two levels, trumpet-type interchange.

Alternative IV: (Figure 17) Modified half-clover leaf interchange.

Alternative V (B): (Figure 18) Ramps to a T-intersection above Nimitz Highway.

Alternative VI: (Figure 19) Braided ramps over Nimitz Highway.

2.6.2 Design Alternatives for Typical Roadway Sections. Alternative designs were developed because of conflicts between landscaping and traffic requirements.

(1) Widening Concept

Scheme A originated from the Ke'ehi Lagoon Recreation Plan which recommended the implementation of a landscaped medial strip. Traffic circulation for land uses adjoining the Sand Island Access Road is poor. Presently, there is no access control along the Sand Island Access Road, and land uses have developed accordingly. However, a landscaped medial strip could create a circulation hardship for some businesses along the Sand Island Access Road. Scheme B, with landscaping on the sides of the corridor, was developed as an alternative.

(2) Viaduct Concept

One design alternative that was given serious consideration was the viaduct concept. This viaduct would be constructed above the existing Sand Island Access Road and would bypass the businesses along the road. Local business traffic would utilize the existing Sand Island Road beneath the viaduct. The viaduct would ramp back down to grade just south of Auiki Street to match into Sand Island Access Road again.

After an evaluation of all aspects of each design concept, those typical sections that merited further consideration were then expanded, refined, and incorporated in the proposed alternatives presented in subsection 2.4.

2.6.3 Discarded Bridge Alternatives. During the review of the bridge alternatives, the 80-foot fixed bridge alternative was discarded. The 80-foot fixed bridge would have a vertical navigational clearance of approximately 70 feet at mid-span and 65 feet at the main piers. However, the approach grades would have required an increase to 6 percent to meet existing grades at the extrance to the container yards.

There would be an estimated total of 16 approach and departure spans, making the overall bridge length 2,430 feet from abutment to abutment. This bridge follows the same alignment as that of the 55-foot high bridge and has similar bridge elevations.

The estimated total cost for this bridge height is $20.3 million.

The 80-foot high bridge alternative cannot be designed to meet Federal Highway criteria on road grades without unduly impacting the land uses and traffic conditions at both ends of the bridge.

2.7 Do Nothing Alternative. A do nothing alternative was considered. However, a do nothing alternative would result in allowing the traffic congestion to worsen until it would prove uneconomical and inconvenient to travel to and from, and along Sand Island Access Road. At such a time, the major users served by the Road will likely seek to relocate to other locations. Additionally, improvements to certain portions of the Road were also considered; partial improvements would be ineffective because it would relieve the traffic congestion only within the local area and not achieve the total objective of the proposed action as described in subsection 1.1.

2.8 Rejected Alternatives. This section provides the reviewer with the various alternatives which were studied and evaluated in detail, but then rejected in comparing them with the recommended alternatives for the reasons summarized as follows:

Nimitz Highway/Sand Island Access Road Intersection

Alternative V-A (Interchange scheme elevating the eastbound and westbound lanes of Nimitz Highway) was rejected because this alternative:

1. Has greater right-of-way impact and costs ($8,901,000)

2. Has a higher construction cost ($11,923,000)

3. Requires higher energy consumption in terms of construction materials (1.3×10^{11} Btu).

Sand Island Access Road from Nimitz Highway to Kalihi Channel Bridge

Alternative A (Widening scheme providing a median) was rejected because this alternative:

1. Does not provide flexibility for access to the numerous commercial/industrial properties along the road.

2. Does not provide a bikeway.

Kalihi Channel Crossing

Fixed Bridge Alternative, 26-Foot Height was rejected because this alternative:

1. Limits vertical navigational clearance for marine traffic to about 15 feet.

2. Would probably be "strongly opposed" by the U.S. Coast Guard and some of the water-way users.

3. Requires closing Kalihi Channel to most marine traffic.

Fixed Bridge Alternative, 55-Foot Height was rejected because this alternative:

1. Has a construction cost of $16 million.

2. Limits vertical navigational clearance for marine traffic to about 45 feet.

3. Requires limiting marine traffic on Kalihi Channel.

4. Results in a 16 mph reduction in truck speed.

5. Impacts entrances to properties along the approaches.

Sand Island Access Road from the Bridge at Kalihi Channel to the Container Yard

Alternative B (Widening scheme providing a continuous left-turn lane) was rejected because this alternative:

1. Does not provide a median for better channelization and safety.

2. Does not provide a better approach to the Kalihi Channel crossing.

3. Does not require the access flexibility of the continuous left-turn lane since there are no access driveways in this section.

Sand Island Access Road (Sand Island Parkway) from the Entrance to the Container Yard to the Existing Entrance of the Sand Island State Park

DLNR Master Plan Alignment was rejected because this alternative:

1. Requires relocating businesses presently occupying the master plan alignment right-of-way as tenants of DLNR.

2. Requires right-of-way from DLNR but it does not appear that DLNR will be able to convey the required right-of-way to DOT free and clear of encumberances on a timely basis.

3. Requires an access connection for the U.S. Coast Guard and does not provide them with highway frontage to their property.

Section 3.

DESCRIPTION OF THE EXISTING AFFECTED ENVIRONMENT

3. DESCRIPTION OF THE EXISTING AFFECTED ENVIRONMENT

3.1 Description of the Present Sand Island Access Road. As mentioned, the present Sand Island Access Road is 2.6 miles in length. The length of the travelway from Nimitz Highway to the bascule bridge is 1.08 miles, the length of the bascule bridge is 0.127 miles, and its length on Sand Island itself is 1.40 miles. The speed limit is 25 mph.

As shown in Figure 20, portions of the road are in various states of improvement. From Nimitz Highway to approximately 0.5 mile, the road is four-lane divided (12-to-18-foot medial strip) highway. From beyond that point to the bascule bridge, the roadway becomes a wide, two-lane unimproved roadway. On the Sand Island side of the bascule bridge to the entrance of Matson container handling yard, the road has a 28-to-40-foot wide asphalt concrete pavement with concrete curb and gutters. From the Matson facilities' entrance, the road narrows to a two-lane roadway 20-to-22 feet wide with 2-to-8-foot shoulders.

The bascule bridge, built in 1959, spans the Kalihi Channel and is operated from a control tower next to the bridge. It is the only roadway corridor connecting Sand Island to Oahu. The bridge is a steel bascule bridge with concrete approaches; it is 28 feet wide and 670 feet long.[1] Because the Kalihi Channel serves as an auxiliary waterway to Honolulu Harbor, about 11 percent of the harbor's waterway traffic passes through the Kalihi Channel; (the remaining 89 percent would utilize the Fort Armstrong Channel). On the average, the bridge is drawn three times a day; the duration of the bridge operation cycle varies between 7 and 15 minutes, the average cycle time estimated at 9 minutes.[2]

3.2 Description and Overview of Sand Island. Sand Island, also known as Anuenue or Rainbow Island, lies adjacent to Honolulu Harbor on the south coast of Oahu. Sand Island is a man-made island and consists of approximately 520 acres. The Island shelters Honolulu Harbor from the open sea and is connected to the Kapalama Peninsula by a bridge (John H. Slattery Bridge) at the northwestern end of the island. This is Sand Island's only land connection to the main island of Oahu. As described in the Final Environmental Statement (for) Sand Island Shore Protection, Honolulu, Hawaii[3] prepared by the U.S. Army Engineer District, Honolulu:

> Sand Island is "man-made", composed of dredged material from Honolulu Harbor and the seaplane runways in Keehi Lagoon. In the late 1800's Sand Island consisted of an irregular patch of ground about 2 feet above sea level with several buildings erected on it. This island provided quarantine facilities to

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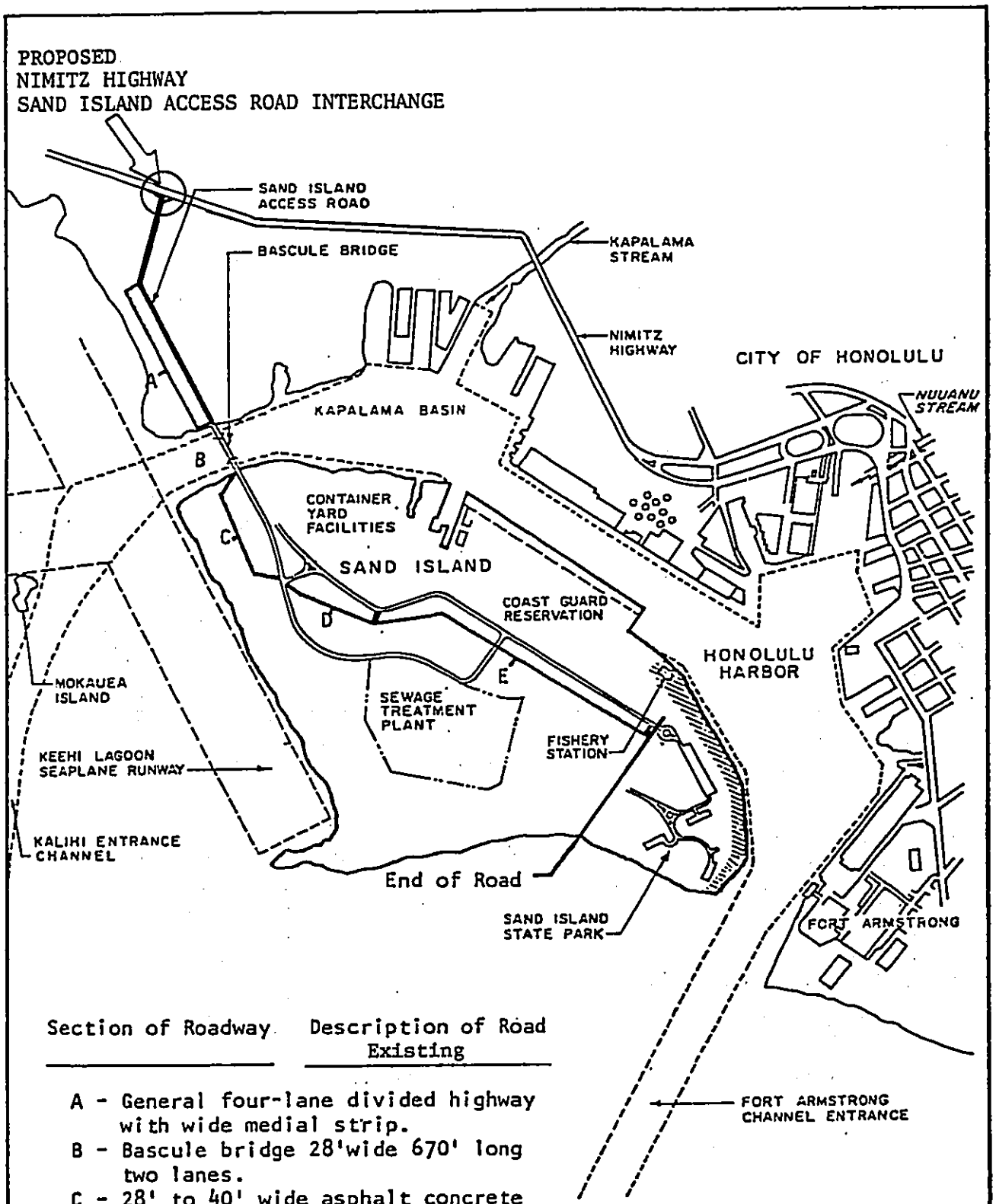
1 The portion which is raised for ship passage is 250 feet long.

2 Information on the bascule bridge (John H. Slattery Bridge) was obtained from: Environmental Impact Statement Sand Island Development of Container Handling Facilities prepared by Wilson Okamoto & Associates, February, 1978.

3 Dated September, 1978.

PROPOSED
NIMITZ HIGHWAY
SAND ISLAND ACCESS ROAD INTERCHANGE



Section of Roadway	Description of Road Existing
A	General four-lane divided highway with wide medial strip.
B	Bascule bridge 28'wide 670' long two lanes.
C	28' to 40' wide asphalt concrete pavement, unimproved two-lane road.
D	28' to 40' wide asphalt concrete pavement with concrete curb and gutters.
E	narrow two-lane road (20' - 22') with 2 to 8 foot shoulders; much pot holes.

N

500 0 500 1000
SCALE IN FEET

SAND ISLAND OAHU, HAWAII

FIGURE 20

EXISTING ROAD CONDITION

SAND ISLAND ACCESS ROAD
WIDENING AND IMPROVEMENTS

> house immigrants disembarking from ocean-going vessels, the only form of transportation across the waters at that time. From 1935 through World War II, Sand Island was included in the area designated by the Army for use in the coastal defense of Pearl Harbor and Honolulu Harbor. Numerous military installations and facilities were constructed on Sand Island during that period. After the outbreak of World War II, the old quarantine facilities on Sand Island were used as an internment camp to house Japanese aliens inhabiting the islands. Subsequent land use has primarily been related to maritime activity.

The same report describes the present land uses on Sand Island:

> Existing land uses on Sand Island consist of harbor and maritime industries, various light industrial activities, and various recreational pursuits based on natural resources such as fishing, surfing, boating, swimming, diving, and picnicking... The downtown Honolulu waterfront across the harbor from Sand Island is zoned for a mixture of activities including heavy industrial, light industrial, waterfront industrial, business and residential.

In February, 1976, the Multi-Modal Task Force under the auspices of the State Department of Transportation, formulated the "1995 Master Plan for Honolulu Harbor." This Plan was developed as a policy statement for the growth, improvement, and the efficient consolidation of the land usage at Honolulu Harbor. This memorandum document was approved as the long-range plan for Honolulu Harbor by Governor George R. Ariyoshi on April 23, 1976. Figure 17 shows the future land uses for Sand Island and the Honolulu Harbor area as indicated in the 1995 Master Plan. Briefly, the Master Plan continues to place emphasis on the industrial uses of Sand Island, consolidating certain activities in specific areas. Additionally, the Plan recognizes the recreational value of Sand Island State Park in utilizing the recreational activities and scenic views of the island facing the ocean. Three other major uses include the U.S. Coast Guard Station (consisting of 46 acres with a resident population of about 450 persons); the Sand Island Sewage Treatment Plant in the middle of the island; and the bulk fuel storage area (11 acres) on the northwest end of the island near the bascule bridge.

3.3 Physical Geography.

3.3.1 Topography.[1] Sand Island was created on a shallow reef by incremental deposition of material from adjacent dredging in Honolulu Harbor and Keehi Lagoon. Except for intermittent small land forms and depressions in the undeveloped areas, the site is relatively flat with an average gradient of less than minus 1 percent towards the shoreline.

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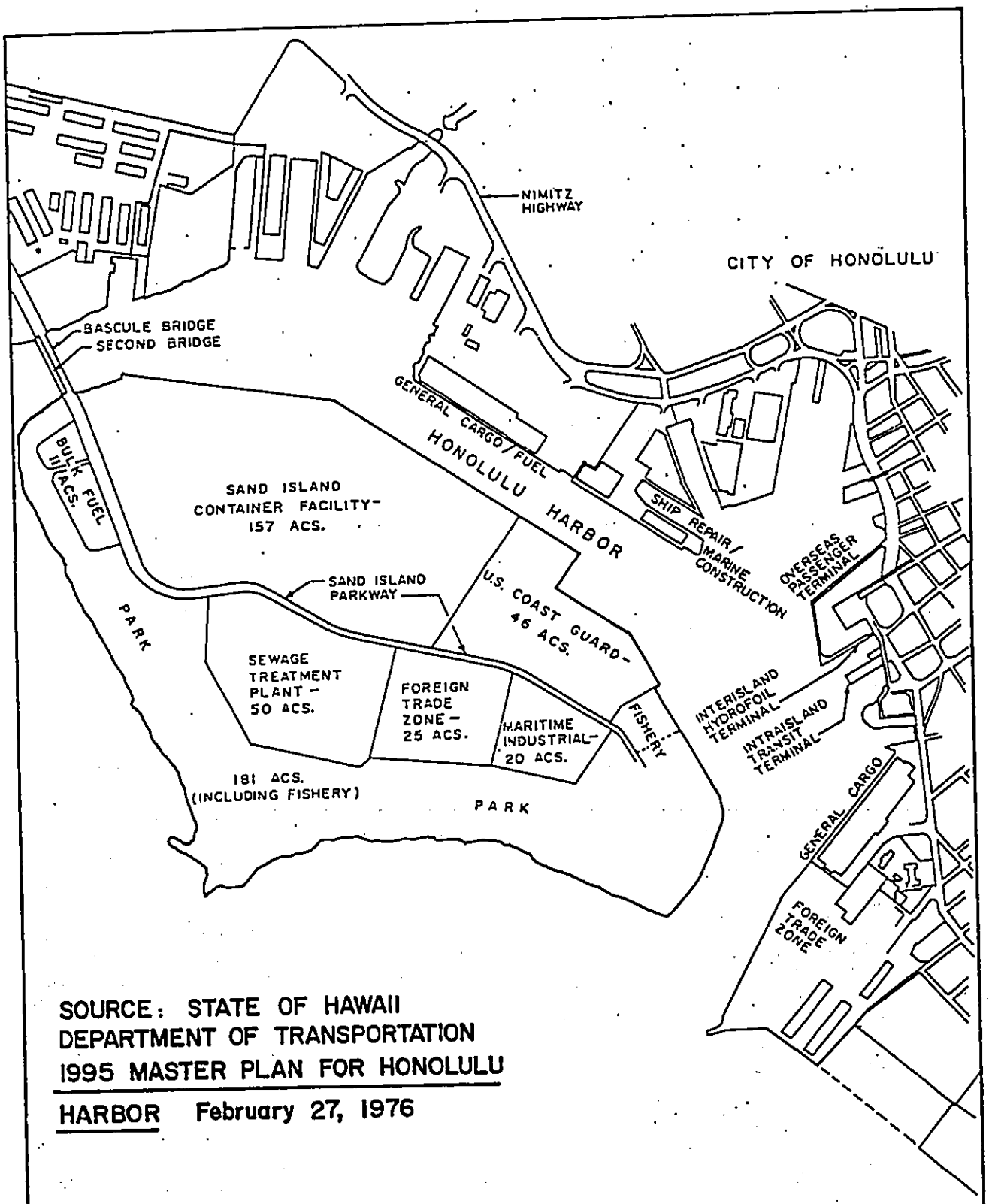
1 Environmental Impact Statement Sand Island Development of Container Handling Facilities, op. cit.



SOURCE: STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
1995 MASTER PLAN FOR HONOLULU
HARBOR February 27, 1976

SAND ISLAND OAHU, HAWAII

FIGURE 21
1995 HARBOR
MASTER PLAN

The project site rises from a 7-foot embankment along the harbor shoreline to generally 8 feet above mean sea level along the existing Sand Island Access Road. The small hills and berms that occur are about ten feet above mean lower low water levels at their highest elevation, and are probably the result of the dumping of fill or other man-made action.

3.3.2 Geology.[1] The area surrounding Sand Island Access Road, from Nimitz Highway to the bascule bridge at Kalihi Channel, overlies caprock, which is typical of the southeastern shore of Oahu. Caprock is comprised of weathered lavas, ash, cinders, and tuffs of the Honolulu Volcanic Series, which form a thick layer of alluvium. In its upper layers, the caprock formation is permeable; however at its interface with underlying basalts, it is impermeable. The near surface groundwater is not suitable for domestic use due to its high salinity.

3.3.3 Soils.[2] There are three soil types in the area of the project. The locations of these soil types are shown in Figure 22. The Sand Island Access Road traverses primarily through soil classified as fill material (FL). Fill material consists mainly of silty sand and coral gravel dredged from Honolulu Harbor. It is highly unconsolidated with characteristics of high porosity and permeability. The second soil type in the area is classified as Ewa Silty Clay Loam (EmA). This soil is moderately shallow, with a 20-to-50 inch depth to the underlying coral limestone. Runoff is very slow and permeability is moderate; there is only slight erosion-potential. The topsoil is approximately 18 inches thick, consisting of a dark reddish-brown, silty-clay loam, with a 40-inch thick subsoil.

A five-acre portion of the project area located near the center of Sand Island includes part of the original landform not created by the fill. This area is classified as Jaucus sand (JaC). The profile of the soil is described as single grain, pale brown, sandy and more than 60 inches deep. The hazard of water erosion is slight, but wind erosion is a severe hazard where vegetation has been removed. This type of soil is neutral to moderately alkaline. Permeability is rapid and runoff slow. The available water capacity is 0.5-to-1.0 inch per foot of soil. Workability is slightly difficult because the soil is loose and lacks stability needed for the use of equipment. These soil conditions, as they presently exist, impose severe limitations for landscaping because of the lack of nutrients and low water holding capacities.

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1 Oahu Water Plan, Board of Water Supply, City and County of Honolulu, March, 1963, p. 12-17.

2 Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii; United States Department of Agriculture, Soil Conservation Service. August, 1972, p. 30-31.

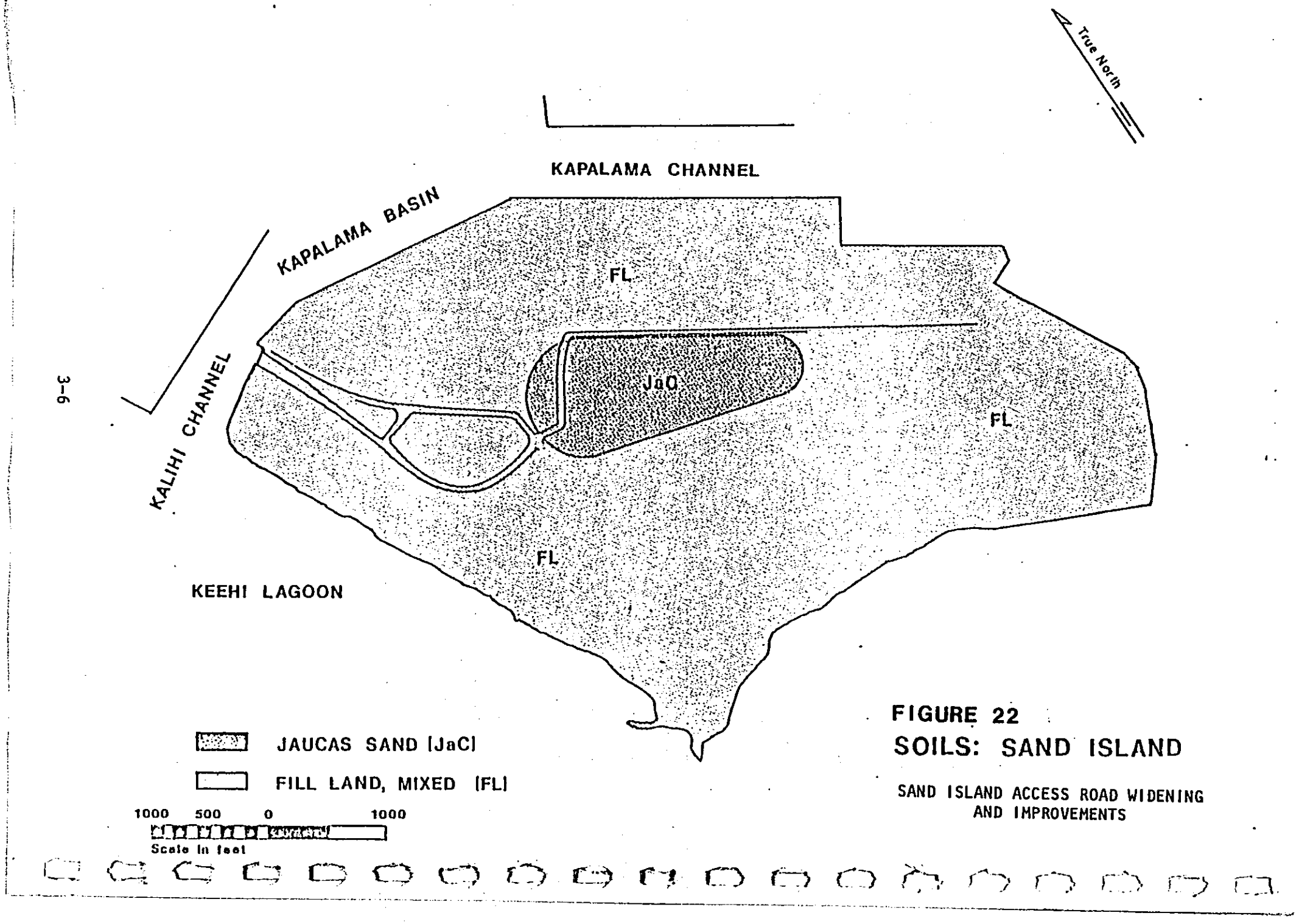

FIGURE 22
SOILS: SAND ISLAND

SAND ISLAND ACCESS ROAD WIDENING
AND IMPROVEMENTS

3.3.4 Microclimate.[1] The climate of the Sand Island area is typical of the leeward coastal lowlands of Oahu. The area is characterized by abundant sunshine, persistent trade winds, relatively constant temperatures, moderate humidities and the infrequency of severe storms. The prevailing wind throughout the year (averaging about 70-to-80 percent) is the northeasterly trade wind. The monthly mean velocity of the wind varies between 10 to 15 miles per hour. Rainfall is relatively low, averaging 20 to 25 inches a year. Daily maximum temperatures range from the high 70's (Farenheit) in the winter to the mid-80's in the summer. The daily minimum temperatures run from the mid-60's in the winter to the low-70's during the summer.

3.3.5 Flora. Because of the dry climate, soil conditions, man-made origins and urbanization, the natural vegetation found on Sand Island is sparse and consists of exotic (introduced) plant species. And indicated in the Final Environmental Statement (for) Sand Island Shore Protection, Honolulu, Hawaii:

> Common trees occurring on Sand Island include keawe (Prosopis pallida), opiuma (Pithecellobium dulce), ironwood (Casuarina equisetifolia), and haole koa (Leucocephala leucaena). A common herb growing along the existing revetment bordering Sand Island State Park is the highly salt tolerant akulikuli (Sesuvium portulacastrum).

Other plants identified[2] on the Island include: brown desmanthus (Desmanthus virgatas), sourbrush (Pluchea odorata), and Indian pluchea (Pluchea indica), manila grass (Zoysia Metralla), star grass (Chloris divarcata), and (Chloris inflata). In those areas which are landscaped (improved portions of the road, the State park, and in the Coast Guard Station), ornamental plantings include hibiscus, coconut trees and lawn grasses. There are no known endangered or rare species of plants on Sand Island or adjacent to the roadway corridor on the Kapalama Peninsula.

3.3.6 Fauna. Table 7 provides a list of birds sighted in the vicinity of Sand Island (i.e., Keehi Lagoon) in 1976. Additionally, a list of mammals as identified in the Final Environmental Impact Statement, Honolulu Harbor, is provided. Two birds, the Hawaiian stilt (Himantopus himantopus knudseni) and the Hawaiian owl (Asio flammeus sandwichensis) are endemic (native), endangered species. The other birds and mammals found on the project site are common species. Coordination with the Endangered Species Coordinator, U.S. Fish and Wildlife Service, U.S. Department of the Interior and the State Department of Land and Natural Resources (DLNR) has been initiated. Comments from the DLNR (see Appendix H) indicate that these endangered bird species will not likely be affected. The project area is disturbed and it is unlikely that these species occur in this specific area. No mitigation measures are necessary to protect these species.

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1 Environmental Impact Statement Sand Island Development of Container Handling Facilities, op. cit.

2 Source of Information: Environmental Impact Statement for the Development of Container Handling Facilities at Sand Island, op. cit.

TABLE 7

BIRDS RECORDED AT KEEHI LAGOON, OAHU
1970-1976

I. NATIVE (RESIDENT) BIRDS

	English Name	Hawaiian Name	Scientific Name
1.	Hawaiian stilt*	aeo	*Himantopus himantopus knudseni*
2.	Black-crowned night heron	aukuu	*Nycticorax nycticorax hoactli*
3.	Brown booby	a	*Sula leucogaster*
4.	Hawaiian owl* (Oahu only)	pueo	*Asio flammeus sandwichensis*
5.	Common noddy	noio koha	*Anous stolidus*
6.	Great frigatebird	iwa	*Fregata minor palmerstoni*
7.	Fairy tern	mano o ku	*Gygis alba*

*Endemic, endangered species

II. MIGRATORY BIRDS

1.	Pacific golden plover	kolea	*Pluvialis dominica fulva*
2.	Black-bellied plover		*Squatarola squatarola*
3.	Ruddy turnstone	akekeke	*Arenaria interpres*
4.	Wandering tattler	ulili	*Heteroscelus incanum*
5.	Sanderling	hunakai	*Crocethia alba*
6.	Glaucous gull	'opa'ipa'i	*Larus hyberboreus*
7.	Osprey	'okepela	*Pandion haliaetus*
8.	Dunlin		*Erolia alpina*
9.	Herring gull	'opa'ipa'i	*Larus argentatus*
10.	Franklin's gull	'opa'ipa'i	*Larus pipixcan*
11.	Hawk (unidentified)		
12.	Willet		*Catoptrophorus semipalmatus*
13.	Bonaparte's gull	'opa'ipa'i	*Larus philadelphia*
14.	Black brant		*Branta nigricans*
15.	Least tern		*Sterna hirundo*
16.	Semi-palmated plover		*Charadrius semipalmatus*
17.	Bufflehead		*Bucephala albeola*
18.	Western sandpiper	upupa	*Ereunetes mauri*
19.	Whimbrel		*Numenius phaeopus*
20.	Least sandpiper	upupa	*Erolia minutilla*
21.	Ring-billed gull	'opa'ipa'i	*Larus delawarensis*

Table 7 continued on page 3-9

TABLE 7

Continuation

	MIGRATORY BIRDS English Name	Hawaiian Name	Scientific Name
22.	Western gull	'opa'ipa'i	*Larus occidentalis*
23.	California gull	'opa'ipa'i	*Larus californicus*
III.	INTRODUCED (EXOTIC BIRDS)		
1.	Rock dove	manuku	*Columba livia*
2.	Lace-necked dove	manuku	*Streptopelia chinensis*
3.	Barred dove	manuku	*Geopelia striata*
4.	Mockingbird		*Mimus polyglottos*
5.	Common mynah	manu-'ai-pilau	*Acridotheres tristis*
6.	House sparrow	manu-li'ili'i	*Passer domesticus*
7.	Cardinal	manu-'ula'ula	*Richmondena cardinalis*
8.	House finch		*Carpodacus mexicanus*
9.	Brazilian cardinal		*Paroaria cristatus*
10.	Ricebird	manu-'ai-laiki	*Lonchura punctulata*
11.	Cattle egret		*Bulbulcus ibis*
12.	Yellow-headed amazon	manu-aloha	*Amazona ochrocephala*
13.	Red-vented bulbul		*Pycnonotus cafer*
14.	Conure (unidentified)	manu-aloha	

IV. MAMMALS (Source: Final Environmental Impact Statement, Honolulu Harbor)

1.	Black rat	iole nui	*Rattus rattus*
2.	Brown rat	iole, Poo-wai	*Rattus norvegicus*
3.	Hawaiian rat	iole	*Rattus exulans hawaiiensis*
4.	House mouse	iole-liilii	*Mus musculus domesticus*
5.	Mongoose	iole-manakuke	*Herpestes auropunctatus*
6.	Feral cat	popoki	*Felis catus*
7.	Feral dog	ilio	*Canis familiaris*

Source of Information: Final Environmental Statement (for) Sand Island Shore Protection, U.S. Army Engineer District, Honolulu, September, 1978.

3.4. Environmental Considerations.

3.4.1 Air Quality. An air quality impact analysis was prepared for the proposed action. (This report is included in this Draft EIS as Appendix C.) Because the reader can refer to the entire study for details, the information provided in this section summarizes the report's discussion on existing ambient air quality.

The nearest long-term air quality monitoring station is at Kalihi-Kai Fire Station, less than one mile from the project area. A summary of the recent pollutant readings at this site is presented in Table 2 of the Air Quality Report. In general, there are no compliance problems with any of the pollutants listed. Unfortunately, the pollutant of greatest concern with regard to this project, carbon monoxide, is not measured at Kalihi-Kai. The only long term carbon monoxide monitoring site in the State of Hawaii is located in Honolulu at the Department of Health building about 2.5 miles east southeast of the project area. Measurements of carbon monoxide concentrations at the Department of Health sampling site, indicate 20 violations of State ambient air quality standards per year.

3.4.2 Noise. The Final Environmental Impact Statement for Sand Island Development of Container Handling Facilities provides the following information on noise readings taken in December, 1977:

> A noise survey conducted in December, 1977[2] revealed that the existing interior neighborhood ambient noise levels are between 59 and 63 dBA. Closer towards Kalihi Street (50 feet), these levels increased to between 68 and 74 dBA. The noise levels jumped to as high as 85 dBA with the passage of a tractor-trailer vehicle hauling a container. Consequently, because of other noise sources contributing to the interior neighborhood noise levels, it is doubtful that the '1000 feet' noise projections on Table 52[3] are attainable during daytime periods. Non-peak hour noise levels should be substantially less than those projected at the peak hour.

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1 Information abstracted from the Final Environmental Impact Statement for the proposed Sand Island Development of Container Handling Facilities, op. cit.

2 Noise measurements made by a General Radio Company, Permissible Sound Level Meter, Type 1565-B.

3 Table 52, which is mentioned above, is reproduced as Table 8.

TABLE 8

TRAFFIC NOISE ALONG AFFECTED CORRIDORS AT PEAK HOUR - 1985[1]

Corridor Data	Nimitz Highway	Sand Island Access Road	Kalihi Street
Traffic Speed Limit (mph)	35	25	25
Autos at Peak Hour	4,631	1,517	1,337
Truck at Peak Hour[2]	632	207	182
Effective Highway Width (feet)	85	62	28
Perpendicular Distances from Corridors (feet)			
50	88	83	87
100	77	78	75
500	64	61	60
1,000	55	55	51

Note to the Reader: The traffic volumes provided in this Table do not necessarily coincide with the traffic volumes shown in Appendix A. The traffic volumes shown in Appendix A were specifically provided for the EIS and takes into consideration the existing and proposed uses of Sand Island and the Sand Island Access Road corridor.

1 Table 52, Final Environmental Impact Statement Sand Island Development of Container Handling Facilities, prepared by Wilson Okamoto & Associates, February, 1978.

2 Assumes 12% trucks on all corridors.

In comparison, the State Department of Health Noise Level Standards for allowable noise levels at the property line (measured in dBA) for an industrial zone is 70 (daytime and nighttime).

More recently, Iwao Miyake, acoustical consultant, prepared a noise study for the proposed action. Miyake's report is included in its entirety in Appendix D; his discussion on existing noise levels is summarized below.

Miyake found that the major contributors of noise in this area are heavy trucks, aircrafts, and a scrap metal yard. Truck noise 50' from the center line of the nearest lane, varied between 80 and 96 dBA. The average truck noise was 85 dBA. Aircraft noise varied between 83 and 96 dBA at ground level. Most of the flights took place between 6 a.m. and 9 a.m., and 4 p.m. and 9 p.m.

The scrap metal yard is located approximately 300 feet southwest of Paohunui Drive. It is an open scrap metal yard using a crane with a magnetic pick-up system. The noise generated by its operation ranged between 80 and 95 dBA at locations (2) (see the noise study for the locations), approximately 150 feet away.

Most of the buildings on both sides of Sand Island Access Road, between the Nimitz Highway and Auiki Street, are 40 to 50 feet from the center-line of the nearest existing lane.

Noise measurements were taken at two locations along this segment of Sand Island Access Road. The results showed little difference. See Table 1 and 2, Appendix D. The peak hour L_{10} noise level, as far out as 100' from the center-line of the nearest lane on each side of the road, are already above the 75 dBA criterium of the U.S. Department of Transportation. Actually the L_{10} noise level is above the criterium as far out as 140' on both sides of Sand Island Access Road from Nimitz Highway to the bascule bridge.

Further consideration of the traffic noise impact on Puuhale Elementary School (located at the northeast corner of the Puuhale Street-Nimitz Highway intersection) indicated that the elementary school buildings are air-conditioned. Interior noise levels would not be increased. Although traffic noise will slightly increase ambient noise levels within the playground area adjacent to the highway, the noise from playground activities would equal, if not exceed the noise from the additional traffic.

3.4.3 Surface Water Quality.[1] Because of the low rainfall, the flat terrain and the highly permeable soils, surface runoff is negligible. There are no surface water features on the Island. Opposite Sand Island, there are two streams which discharge into Honolulu Harbor. Kapalama Stream discharges into Kapalama Basin, and Nuuanu Stream discharges into the main harbor basin.

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1 Source of Information: Detailed Project Report Sand Island Shore Protection, Honolulu, Hawaii, U.S. Army Engineer District, Honolulu, September, 1978.

3.4.4 Coastal Water Quality. Honolulu Harbor is the receiving body for a number of pollution sources. These include thermal water from the Hawaiian Electrical Power Plant, surface water runoff, stream discharges, industrial and urban discharges. The nearshore waters on the ocean side of Sand Island are also relatively poor in quality. The flushing and transport characteristics of Honolulu Harbor, the offshore sewage outfall (from Sand Island Sewage Treatment Plant) and the deposition of rubble along the shore are the major factors contributing to this poor water quality. Although these conditions exist, it should be noted that the waters are still utilized by fishermen, swimming and surfing enthusiasts. Additionally, Honolulu Harbor remains important as a baiting area for the Hawaiian skipjack (tuna) industry. The Honolulu Harbor waters also have a variety of reef fishes. The State Department of Health has designated the waters immediately adjacent to Honolulu Harbor, Class B. The allowable uses in Class B waters are small boat harbors, commercial and industrial shipping, bait fishing, compatible recreation, the support and propagation of aquatic life, and aesthetic enjoyment. The remaining waters along Sand Island and the Honolulu Harbor are designated Class A; protected uses are recreational, aesthetic enjoyment, and the support and propagation of aquatic life. Data from the State Department of Health indicates that the coastal water sampling stations located around Sand Island have, in the last three years, exceeded the State's water quality standards for total coliform, fecal coliform and nitrogen.

3.4.5 Tsunami Hazard.[1] According to the Oahu Civil Defense Agency, the tsunami inundation zone extends 1,500 feet inland from Sand Island's southeast coast. Approximately 600 feet of the extreme eastern end of the Sand Island Access Road is within this tsunami inundation zone. However, historically, the area has not been subject to severe damage from tsunami waves. The most recent tsunamis have caused little or no damage to the island.

3.4.6 Flood Hazard.[2] The flood hazard maps for Oahu place the entire shoreline of Sand Island in a Coastal High Hazard District. Proposed projects utilizing federal funds will be required to conform with special use restrictions and construction standards. The project would be subject to the review and approval of the Director of the City's Department of Land Utilization after consultation with the Chief Engineer of the Department of Public Works, City & County of Honolulu.

3.4.7 Earthquake Hazard.[3] In the City's Uniform Building Code and in the HUD's Minimum Property Standards, the entire island of Oahu is Zone 1.

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1 Hawaiian Telephone Directory, Oahu Telephone Directory, Honolulu, Hawaii Revised to September 1, 1978.

2 Source: Final Environmental Impact Statement Sand Island Development of Container Handling Facilities, op. cit.

3 Source: Draft Environmental Impact Statement (for) Village Park, prepared by HUD Honolulu Area Office, Honolulu, Hawaii September, 1978.

Dr. Furumoto[1] et al, have recommended that Oahu be reclassified to seismic risk Zone 2, as risks have been underestimated for the island. (The general meaning of these seismic zones is provided in Table 9.)

3.4.8 Scenic Views. There are no scenic or panoramic views from Sand Island Access Road.[2] Most of the road traverses through flat terrain; on Sand Island, the road is located in the approximate middle of the Island where scenic views are not afforded.

3.5 Socioeconomic Considerations. The predominant industrial and park uses of Sand Island have virtually eliminated any permanent residents on the Island. The exception is the Coast Guard Station which presently has a resident population of 450.

As stated in the article, "Rush of development at Sand Island," appraisers have rated the value of fee simple land (no buildings) adjacent to Sand Island Access Road between $25 to 30 per square foot. The industrial developments along the road have increased significantly due to: (1) the displacement of industries in Kakaako; (2) the industrial zoning of the area and its proximity to Honolulu Harbor and downtown Honolulu; and (3) the availability of land.

3.6 Land Use Considerations.[3] The existing uses along the Sand Island Access Road corridor are primarily of heavy and light industrial businesses. Other uses on Sand Island include: the U.S. Coast Guard Station, vacant lands, the Sand Island Sewage Treatment Plant, the State's Anuenue Fisheries, and the Sand Island State Park.

The State land use designation is Urban along the entire corridor. The present and proposed (1995 Master Plan for Honolulu Harbor) land uses are considered consistent with the City and County of Honolulu General Plan policies and goals. The zoning (see Figure 23) is as follows: 138± acres in I-3 (waterfront industrial); 99± acres in I-2 (heavy industrial); 277± in R-6 (urban residential). The proposed zoning of Sand Island includes the expansion of the I-3 zone to 230± acres, reduction of the R-6 and I-2 zoning to provide 178± acres for P-1 (preservation) for Sand Island State Park.

The City and County of Honolulu has designated the shoreline and certain inland lands around Oahu as being within the Special Management Area (SMA) (City and County of Honolulu, Ordinance No. 4529). The SMA includes areas which are felt to have a sensitive environment and should be protected in accordance with the State's coastal zone management policies. Based

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1 Furumoto, Augustine S., et al, A Study of Past Earthquakes, Isoseismic Zones of Intensity and Recommended Zones for Structural Design for Hawaii, Engineering Bulletin, PACE 72033, University of Hawaii, June 15, 1972.

2 Scenic views are found along the shoreline of Sand Island.

3 Source: Final Environmental Impact Statement Sand Island Development of Container Handling Facilities, op. cit.

TABLE 9

PRESENT SEISMIC ZONING FOR HAWAII

Zone 0	No damage - corresponding to an intensity on the Modified Mercalli (MM) of less than 4.
Zone 1	Minor damage - corresponding to an intensity on the MM scale of less than 6.
Zone 2	Moderate damage - corresponding to an intensity on the MM scale of less than 7.
Zone 3	Major damage - corresponding to an intensity on the MM scale of 7 and above.

Source: Village Park Draft Environmental Impact Statement, prepared by HUD Honolulu Area Office, Honolulu, Hawaii, September, 1978.

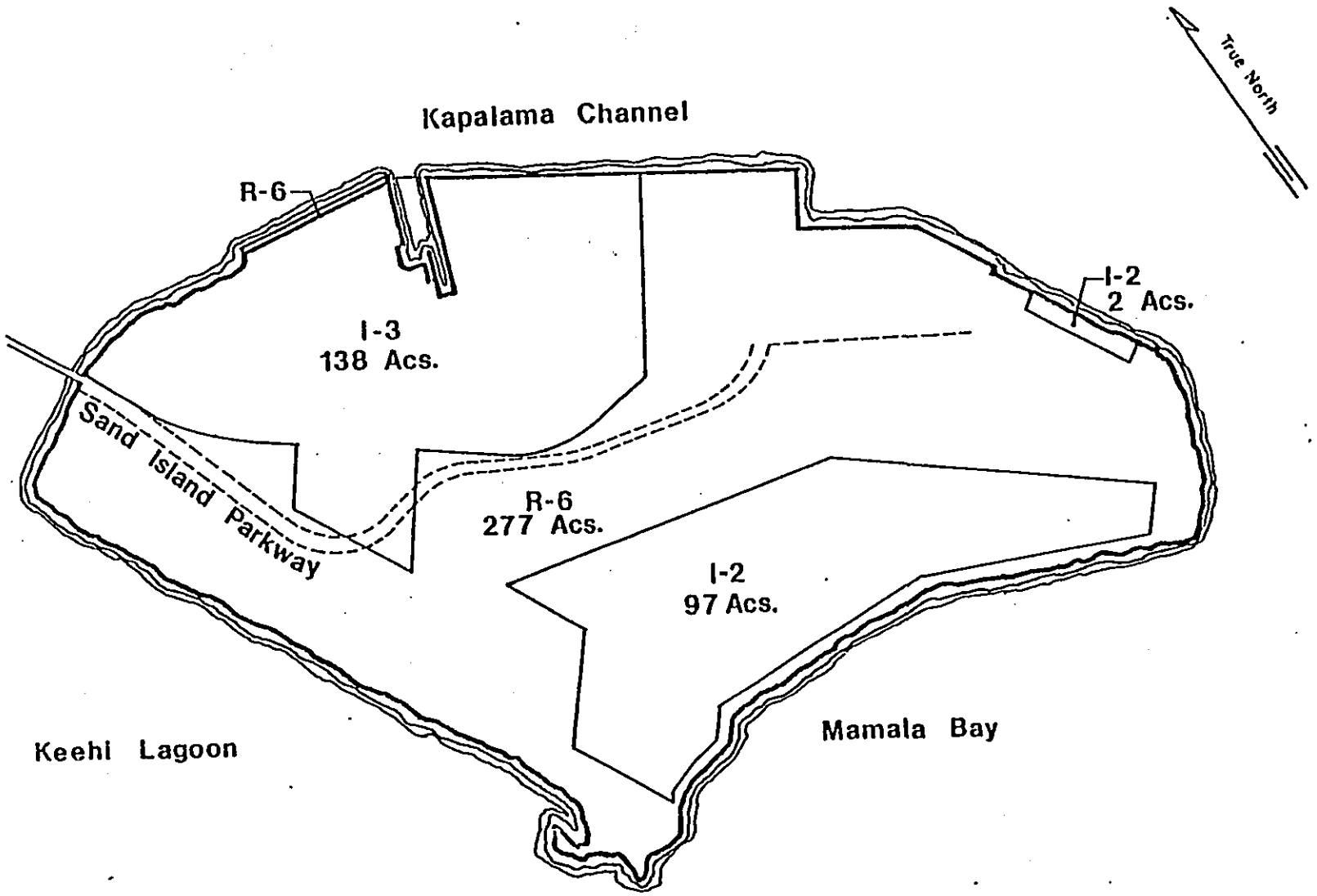

FIGURE 23
EXISTING ZONING

SAND ISLAND ACCESS ROAD
WIDENING AND IMPROVEMENTS

on the maps from the Department of Land Utilization, City and County of Honolulu, portions of the Sand Island Access Road lie within the SMA. The coordination for the review of this project under SMA criteria will be conducted during the processing of the SMA permit with Department of Land Utilization, City and County of Honolulu. Previous coordination of this project with DLU and DPED did not indicate any concern of this nature.

3.7 Historical and Archaeological Sites of Significance. We acknowledge the corrected statements as provided and indicate the following: "A large central area on the existing island was originally called Kaholaloa Island and is documented as early as 1817 by the Russian Kotzebue Expedition". World War II structures (gunnery posts, bunkers, observation tower and other unidentified structures) are located around the southern coast of Sand Island. These defense structures are in various states of disrepair and have been incorporated into the Sand Island State Park Master Plan. The roadway improvements and bridge will not directly impact any historically significant structures.

3.8 Utilities and Public Facilities.

3.8.1 Water System.

(1) Along Sand Island Access Road

The Honolulu Board of Water Supply is responsible for the water lines along Sand Island Access Road. Water is distributed to Sand Island Access Road from the 42-inch transmission main on Kam Highway through a network of water lines. This network consists essentially of a 16-inch main along Kalihi Street and a 12-inch main along Puuhale Road. From the Sand Island Access Road and Auiki Street intersection to the bascule bridge there is presently a 16-inch water main. There are no plans for expansion at this time.

(2) On Sand Island

The Sand Island water distribution system will consist of a future 16-inch main transmission line. Water is presently conveyed to Sand Island via a 12-inch water main and a recently completed 16-inch parallel water main which crosses the Kalihi Channel; a 16-inch water main follows the alignment of the old Sand Island Road and terminates at the end of the existing portion of the Sand Island Parkway at the northwest corner of the Sand Island Sewage Treatment Plan. No changes have been made from the 1973 Master Plan.

3.8.2 Sewer System.

(1) Along Sand Island Access Road

The local sewer lines are the responsibility of the City and County Department of Public Works. All of the sewage generated in this area flows along Nimitz Highway to the Sand Island Sewage Treatment Plant via the Hart Street force

main under Honolulu Harbor. At the time the sewer lines were laid in this area, the Sand Island Sewage Treatment Plant was not yet in existence. There is a 24-inch Army pressure line which carries sewage to the Sand Island Sewage Treatment Plant from Fort Shafter, down Sand Island Access Road.

(2) On Sand Island

The design peak sewage flow for the ultimate development of Sand Island is about 2.9 mgd (million gallons per day). (Reference: consultation with the Wastewater Management Division, City and County of Honolulu Department of Public Works, June 28, 1979.) When Sand Island is fully developed, all sewage generated on Sand Island will flow into the Sand Island Sewage Treatment Plant for primary treatment; the effluent will flow to the ocean via the existing 84-inch ocean outfall. Currently, the sewage treatment plant takes effluent from the Fort Shafter, Hart Street, and Ala Moana force mains.

At this time sewage generated locally on Sand Island flows into an old gravity sewer system which is under the jurisdiction of the State. The sewage flows directly into Mamala Bay, makai of Sand Island, via a 36-inch sewer outfall. This old gravity sewer system will be phased out when the Sand Island Parkway sewage system becomes operational.

3.8.3 Electrical System.

(1) Along Sand Island Access Road

The electrical system is the responsibility of the Hawaiian Electric Company. Sand Island Access Road and the surrounding area contain many overhead and underground electrical lines. Along the length of Sand Island Access Road is an 11.50 KV and the 46 KV overhead lines.

(2) On Sand Island

Presently, the overhead electrical and telephone lines follow the alignment of the existing Sand Island Road. However, these lines will be relocated mauka and adjacent to Sand Island Parkway right-of-way prior to Matson's relocation to Sand Island in 1981.

3.8.4 Gas. The Gas Company has a major gas line (16-inch) which runs from west to east along Nimitz Highway. The main gas feeder to the project area flows along Puuhale Road to a T-intersection at Kaliawa Street to Sand Island Access Road.

3.8.5 Oil and Energy Corridor. Shell Oil, Hawaii Independent Refineries (HIRI), Texaco, and Chevron own oil lines which are located in the project area. Chevron has two 8-inch lines, which carry crude oil from Barbers Point to refining facilities at Pier 30, and four 4-inch lines, which carry jet fuel from Pier 30 to Honolulu International Airport. Shell Oil and HIRI each run 10-inch lines along Sand Island Access Road towards the bascule bridge. Across the channel, there are one 10-inch line and two 12-inch lines.

The Energy Corridor, as delineated, is under the jurisdiction of the Harbors Division of the State Department of Transportation. Presently, there are no tenants in the corridor; however, it is readily available for future use.

3.8.6 Public Facilities. Aside from the Sand Island State Park (181± acres) and the Sand Island Sewage Treatment Plant, there are no other public facilities on the Island. Figure 24 shows the locations of the nearest fire stations, police station, emergency medical services, et cetera.

Puuhale Elementary School is located at the northeast corner of the Puuhale Street-Nimitz Highway intersection.

3.9 Emergency Vehicle Movement. Sand Island Access Road provides the only land-based thoroughfare from the main island to Sand Island. Emergency vehicles must utilize the Road to respond to an emergency. The only alternative means to respond to an emergency on the island is by using water or air transportation.

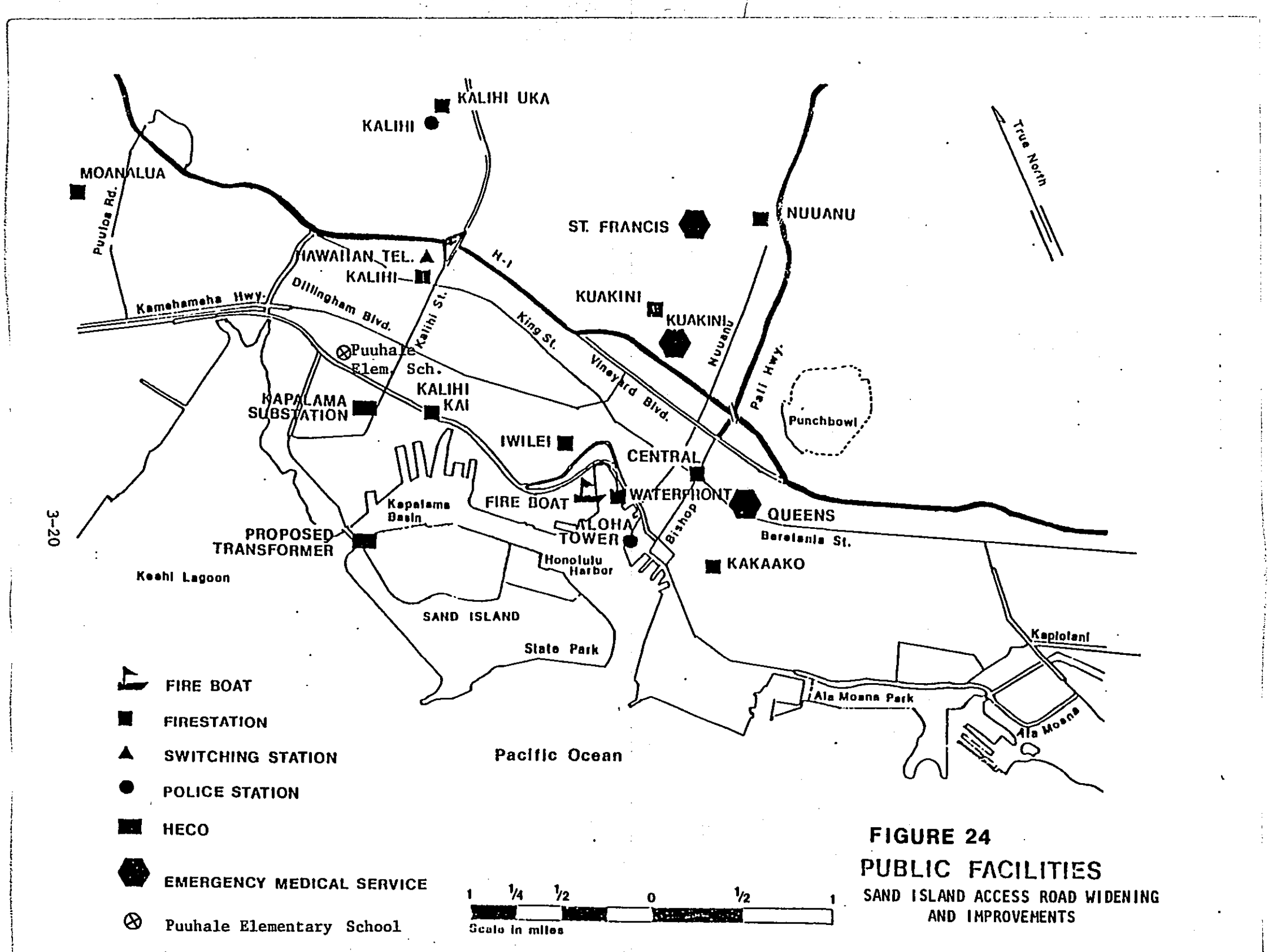

FIGURE 24

PUBLIC FACILITIES

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS

Section 4.

PROBABLE ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

4. PROBABLE ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

4.1 Impact on Physical Geography. The anticipated impact on the existing topography, geology, soils, and microclimate is minimal. For the most part, the roadway will have approximately the same effect on these features as it does now. Flora will be cleared for the widening of the road; however, as noted earlier, the roadside vegetation consists of weeds and shrubs commonly found on the drier areas of Oahu. The proposed action will include landscaping which will enhance the appearance of the roadway corridor. The fauna is not expected to be affected on a long-term basis. During construction, avifauna may be displaced or frightened away; after the completion of the roadway, it is anticipated that avifauna will return. The roadway affected is felt to be far enough away so that the endangered species found near Keehi Lagoon will not be affected by construction and/or use of the roadway. These impacts relate to both Scheme A and B and the combination of both.

4.2 Environmental Considerations.

4.2.1 Impact on Air Quality. The air quality study is incorporated into the EIS as Appendix C; therefore, no attempt is made in this section to detail the estimated air quality impact. Briefly, the proposed project will result in fugitive dust being generated by vehicles traveling over unpaved roadbeds and by dirt moving and hauling operations.

In the long-term, carbon monoxide emissions from vehicles are not expected to be a problem. Because of the implementation of federal controls on carbon monoxide emissions from new vehicles, significant decreases in carbon monoxide concentrations in the project area would be expected whether the project is undertaken or not, but each of the widening schemes considered has the potential to produce additional peak hour carbon monoxide concentration reductions on the order of 1 milligram per cubic meter. The construction of a semi-cloverleaf interchange or any type of an interchange like V(A) and V(C) interchange at Nimitz Highway could reduce expected concentrations in that area by almost 50 percent. No matter which option is taken (including the no-construction option) carbon monoxide levels along the project corridor are predicted to be within allowable air quality standards by 1990 and this condition is expected to persist at least through the year 2000.

4.2.2 Impact on Noise. The noise study is provided in Appendix D; below is a summary discussion of the study's conclusions on the impact of Schemes A, B, or a combination of both.

Basically, all alternatives would mean that the flow of traffic will be nearer to the existing buildings. The new distance to the curb will be 10 feet to 20 feet instead of the present 40 feet to 50 feet. This shift of traffic closer to the buildings will increase the noise level in offices facing Sand Island Access Road. Some complaints may be expected from this source. No complaints are expected from other occupants of buildings.

For most people, the predicted 3 dB increase in noise level by 1990 will go unnoticed because the existing noise level is already high.

The noise study shows the improvement of Sand Island Access Road using the proposed scheme A or B, will not increase the noise impact significantly over the existing noise impact.

No corrective actions are recommended for buildings exposed to future noise level higher than Leq 72 dBA because the exterior wall construction of these buildings provide sufficient transmission loss to keep the interior noise level below the recommended Leq 52 dBA for office use.

4.2.3 Surface Water Quality. The construction of ramps, widening of the roadway, and construction of a second bridge will result in an increase in surface water runoff. Because the climate is relatively dry and the proposed action includes drainage facilities, it is not anticipated that surface water runoff will be a significant or adverse problem. The runoff will be directed to nearshore waters which already receive surface runoff from the Kalihi area. The expected increase is miniscule in comparison to the existing runoff. The chemical characteristics of the storm water runoff is expected to be similar to the surrounding urban area.

4.2.4 Impact on Coastal Water Quality and Marine Life. The construction of a second bridge creates concern as to the impact on the water quality and aquatic life which may be affected. In this specific case, it was found that construction within this area will likely have no adverse or significant long-term impact on water quality or marine life. This conclusion is based on the following:

(1) Kalihi Channel is frequently used by recreational and pleasure boating crafts; the noise and activity (near by swimming, water skiing) have already had an impact of reducing fish in the vicinity.

(2) The waters within the channel are degraded and past monitoring of the water indicates that it exceeds the State water quality standards frequently.

(3) In the past, there have been continuous disturbances to the channel such as construction of the bascule bridge, maintenance dredging, construction of pipelines and utilities, et cetera. The proposed action will be similar to these past disturbances.

The State Department of Health (DOH) concurs that the construction and operation of a second bascule bridge across the Kalihi Channel will not have any significant adverse impacts to the water quality of the Kalihi Channel. (See Appendix I for DOH's letter.)

During the construction phase of the second bridge (regardless of the alternative of a fixed or bascule bridge), the following short-term impacts will occur:

(1) Entrance to and from the Kalihi Channel will be obstructed.

(2) Turbidity will result; some solid waste and construction debris will enter the water.

(3) Marine life existing (which is sparse in this area) will be frightened away for a short-term period.

4.2.5 Impact of Tsunami, Flood, and Earthquake Hazards. These hazards are typical of the Honolulu shoreline area. The standard construction designs and codes will be followed so that these natural disasters will be mitigated should they occur. The State Civil Defense warning system also provides the early warning system that allows evacuation of low lying areas in the event of a major known oncoming disaster.

The proposed Sand Island Access Road and Nimitz Highway interchange encroaches slightly on a flood plain. However, the impact of the proposed interchange on the 500-year flood will be insignificant. Based on the above flood, the volume of floodwater storage removed by constructing the project will not have any effect on the peak discharge. The time required to fill the lost storage is 18 seconds as compared to 1.2 hours required for the stream to peak. Similarly, the removal of floodwater storage will not have any significant effect on the peak discharge of the 100-year flood.

Floodwaters flowing in the northeast-southwest (mauka-makai) sluice will pass through a culvert under the highway. The culvert will be designed to convey runoff from the 50-year storm event. Waters from storms of greater intensity will not only flow through the culvert, but will also flow parallel to the highway in a westerly (Ewa) direction. However, since flooding produced by storms greater than the 50-year flood will inundate much of the surrounding area, no significant increase in backwater will occur. The conveyance or carrying capacity of the flooded roadway will be large enough to accommodate the flow generated.

4.2.6 Impact on Scenic Views. The proposed action will not have a significant impact on scenic views. The bridge alternatives (fixed 26 feet high and bascule bridge) will be in the "shadow" of the existing bascule bridge; the 55 feet high fixed bridge will be slightly higher and more visible than the other viable bridge alternatives. The elevation of Nimitz Highway is not expected to block or obstruct any scenic views. The view from ground level is that of warehouses, buildings, and roadways. The view of this area from the north (mauka) is camouflaged by various industrial and office buildings.

4.3 Socioeconomic Impacts.

4.3.1 Benefits to the Existing Uses. The proposed action will benefit the existing uses because traffic will flow smoother and with less congestion. On the other hand, depending upon the alternative selected, a few businesses fronting Sand Island Access Road between Nimitz Highway and Auiki Street may be subject to limited access during and possibly after the project is constructed. Finally, certain alternatives require that land be acquired for a frontage road and additional right-of-way for the proposed project. In certain cases the taking of land will necessitate relocation of the entire business. These factors must be taken into consideration in the selection of the alternative.

4.3.2 Relocation of Businesses. Parcels of land (earlier indicated) will be required for the right-of-way and/or the frontage road alternative. Appendix F provides the conceptual relocation program plan. Relocation assistance in Alternative V(A) is anticipated to be required for four (4) businesses at an estimated cost of $3,572,500. Relocation

assistance in Alternative V(C) is anticipated to be required for three (3) businesses at an estimated cost of $145,000.

4.4 Impact on Historical and Archaeological Sites of Significance. There is no known historical and archaeological sites of significance on the project site.

4.5 Impact on Utilities. All alternatives (except the do-nothing alternative) will affect utility lines and pipelines. Several utility lines and pipelines will need to be relocated because of the construction of a second bridge. Along the Sand Island Access Road corridor, utility lines will need to be relocated along the alignment. At the Nimitz Highway/Sand Island Access Road Intersection, overhead and underground utilities will be relocated due to the elevation of Nimitz Highway and the construction of the proposed ramps.

The relocation of these utilities will not pose serious problems. Prior to construction, the engineering consultants will coordinate their plans for relocating various utilities and pipelines with the respective regulatory agency or utility company.

4.6 Impact on Public Facilities. The impact on public facilities will, for the most part, be beneficial due to smoother traffic flow. Puuhale Elementary School is located in the vicinity of the proposed interchange with Nimitz Highway. The primary concern would be the noise from the vehicles. However, Puuhale Elementary School is air-conditioned and has acoustical treatment already because of the prior problems experienced with aircraft noise from Honolulu International Airport. Therefore, there will be no impact on Puuhale Elementary School.

4.7 Effect on Tax Base. No significant impact on the tax base is anticipated. Tax revenue loss due to acquisition of properties are listed in section 2.4.12.

4.8 Effect on Water-Borne Traffic. This impact relates to the bridge alternatives. Honolulu Harbor is the State's principal deepwater port and serves as a distribution point for cargo destined to or originating from the Islands. Two dredged channels, the Ft. Armstrong Channel and Kalihi Channel, serve as entrances to the Harbor. The major purpose of the Harbor is the berthing of ocean-going, deep-draft vessels and barges which presently use the Ft. Armstrong Channel to enter and exit. The major shipping companies indicate that these vessels will continue to use the main channel and that they do not foresee using the Kalihi Channel in the future. Other major users of the Harbor are the tugboats, a majority of which use the main channel. These tug operators have indicated that they will continue to use the main channel. The few that use Kalihi Channel use it as a matter of convenience and not as a necessity. In keeping with the main purpose, it is not anticipated that the Harbor functions would vary drastically from the present use and trends. The existing main channel (Ft. Armstrong) is adequate for present and future shipping traffic. The original crossing at the existing bascule bridge was a land-filled causeway and the traffic crossing the bridge at the time of construction was primarily military.

An increase in recreational boating activities in Keehi Lagoon at the mouth of Kalihi Channel is anticipated due to the development of Sand

Island State Park and future development of the Keehi Lagoon Small Boat Harbor. The boating activities of canoeing and sailing, along with water skiing and other water activities, will add congestion at the mouth of Kalihi Channel. This congestion will deter operators of large vessels from using Kalihi Channel.

The Department of Transportation, Harbors Division, operates the harbors under the adopted Rules and Regulations and Tariff No. 4, Revised November 1, 1977. Under these Regulations the Harbor Master is responsible for coordinating the safe and orderly movement of waterborne vessels in and out of Honolulu Harbor, as well as ship movements between berths within the Harbor. The Harbors Division Marine Traffic Controller located at the Aloha Tower Control Office operates under this day to day control requirement.

Chapter 1 Coast Guard CFR Title 33 (Navigation and Navigable Waters, Section 117.900 Honolulu Harbor, Hawaii, Kalihi Channel Bridge) states that the agencies controlling the bridge shall provide the necessary bridge tenders and the proper mechanical appliances for the safe, prompt and efficient opening of the draw for the passage of vessels during the scheduled hours of operation.

The Harbors Division is the agency controlling the bridge. Because of the lesser use of the Channel, the Harbors Division (Department of Transportation), the Coast Guard, and the maritime community are jointly considering alternatives, including the opening of the bridge at predesignated hours only, rather than on request.

The construction of a second bascule bridge will have no significant impact on the waterborne traffic presently using the Kalihi Channel. The conditions and operations will remain the same as the existing bridge.

The 26-foot high fixed bridge alternative, with an approximate vertical clearance height of 15 feet, would allow only those vessels which presently pass under the existing Bascule Bridge. These vessels include only the pilot boats and the U.S. Coast Guard launches. The State Highways Division has estimated that the total economic impact on the present maritime users of Kalihi Channel would be approximately $10,500 annually.

A vertical clearance of 45 feet would allow additional vessels through the Kalihi Channel. This clearance is provided by the 55-foot high bridge and allows passage of the fireboat, Abner T. Longley, some cruise boats, sailing vessels under 30 feet in length, and some tugs through the channel. No maritime user costs were available for this bridge height.

In August 1977, the U.S. Coast Guard (USCG) issued a public notice stating that the Harbors Division had requested the John H. Slattery Bascule Bridge be closed except for emergencies. The Coast Guard received a number of responses to the public notice. Most responses opposed the closing of the Bridge. Those opposing the closing included small group tour cruise operators, individual recreational boaters, and some commercial harbor users. Among the supporters of the closing were Matson Navigation Company, the Hawaii Port Pilots Association, and Davies Marine Agencies, Inc.

Although the number of respondents opposing the closure outnumbered the proponents, the effect upon the latter will be greater and will be transferred to the general public in higher costs for imported goods.

4.9 Effect on Land Transportation. This section relates to the bridge alternatives.

User cost comparisons between the 26-foot fixed bridge and the bascule bridge, in the closed or down position, are nearly identical. The bascule bridge, however, poses additional costs when the bridge is raised for marine traffic.

The opening and closing of the bascule bridge is estimated to cause a 9-minute delay with an 11-minute total recovery time. The average delay time per vehicle is approximately 4.5 minutes. In 1980, it is anticipated that this delay will cause an average queuing of 120 vehicles during off-peak hours. In terms of user costs, this represents approximately $98.00 per opening. Based on past records which show an average of 640 openings per year, the annual user delay cost would be $63,000 in 1980. As traffic volumes are expected to increase over the years, it is estimated that user delay costs will be approximately $131,000 per year by 1990 and $148,000 per year by the year 2000. These costs do not account for delays incurred at other intersections because of temporary traffic loads created when traffic flow is resumed after bridge openings.

Matson Terminals, Inc. has anticipated an estimated increase of their container yard expenses of approximately $200,000 per year due to the present operation of the bascule bridge. No economic impact was obtained from U.S. Lines.

Factors considered in determining user costs were the degree of saturation, travel time, longest running costs on grades, added speed change units, section transitions costs, and the percentage of various types of trucks that make up the total traffic stream. These user costs were obtained from the report "A Manual or User Benefit Analysis of Highway and Bus-Transit Improvements," 1977, prepared by the American Association of State Highway Officials (AASHTO). The inclusion of the truck volume percentages is inherent in determining user costs to other types of land vehicles.

The 26-foot high bridge or the bascule bridge would represent the least user cost in all categories. The low bridge profile and its relatively short transition section both contribute to the least energy cost and user time since there is almost no slowdown according to the truck speed reduction factor.[1] The present worth costs for this bridge height are $10.17 million dollars.

A bridge at the 55-foot elevation would represent the intermediate choice as far as user costs are concerned. The main difference is those costs associated with the slowdown in traffic due to going from the faster section (at existing roadway grade) to the slower section (+4% grade). This slowdown can be mainly attributed to the truck speed

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1 AASHTO, A Policy of Geometric Design of Rural Highways, 1965.

reduction factor estimated for this bridge at 16 mph.[1] Although the grade (+4%) is the same as the 26-foot high bridge, the elevation and resulting longer critical length (1,150 feet) are the major reasons for the high truck speed reduction. This speed reduction would create an assumed slowdown of approximately 10 mph to the overall traffic flow. The present worth costs are 10.35 million dollars.

From the safety standpoint, this bridge is less desirable than the 26-foot high bridge. Assuming that the bridge approaches are properly designed, the main safety concern would be the height itself. The downhill grade and length are not of sufficient severity to warrant special considerations as far as land traffic is concerned. The height is of special interest because of the pedestrian and bike traffic that is anticipated due to the development of recreational areas on Sand Island. Adequate design considerations will be given to safety railings to protect pedestrians and bikers from accidentally falling off the bridge. Another safety concern that should be looked at is the physical separation of the roadway and bikeway. Preliminary studies indicate that Jersey-type guardrails would be the most logical form of physical separation. Anything else would not adequately satisfy the physical requirements to protect bikers.

The construction of this bridge will impact the entrances to the U.H. Marine Expeditionary Center and the U.S. Lines. Adjustments to the present circulation patterns for ingress and egress to both these facilities will have to be made. The economic impact to the users of these facilities due to the change in circulation patterns cannot be determined.

During construction, Sand Island Road will be kept open for vehicular travel to and from Sand Island. As required, temporary construction detours/access will be provided to the land users in the area. The construction activities will be scheduled/planned to minimize inconvenience and delays to the public, including emergency vehicles.

Section 5.

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

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

As indicated in subsections 3.2 and 3.6, the proposed project will serve an urbanized, light industrial area (with the exception of Sand Island State Park on the southern shore of Sand Island). The uses along Sand Island Access Road on Sand Island have been planned for principally maritime industries (1995 Honolulu Harbor Master Plan). The implementation of the proposed action is consistent with this planned growth.

Additionally, the proposed action is consistent with the broad transportation objectives and policies of the Hawaii State Plan and the County's General Plan. The proposed action will provide an adequate land transportation system to serve the destination nodes along Sand Island Access Road and on Sand Island. Because land in this area is committed to industrial, public facility, and Park uses, the roadway will not directly or indirectly serve as a catalyst for undesired growth.

Section 6.

ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND MITIGATION MEASURES PROPOSED TO MINIMIZE IMPACT

6. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND MITIGATION MEASURES PROPOSED TO MINIMIZE IMPACT

In Section 4, several adverse impacts, both short-term and long-term, were identified. Below, these adverse impacts are discussed along with the possible mitigation measures.

(1) Noise - Construction (Short-term). Short-term noise from construction can be mitigated by limiting noise generated to regular work hours. This is normally the case. Other noise reduction measures include installing mufflers on all construction equipment and trucks and discouraging the "gunning" of trucks and construction equipment. There are several State, local, and OSHA standards and/or codes which must be complied with; compliance with these standards will effectively reduce noise levels during construction.

(2) Noise - Vehicular (Long-Term). Several mitigative measures can be taken to reduce ambient noise levels along Sand Island Access Road.

(a) During the noise monitoring, it was noted that many trucks exceeded the permitable noise levels. Stricter enforcement of Chapter 44A, "Vehicular Noise Control for Oahu," regulating vehicular noise, would require violating truck owners to install proper equipment on the trucks to meet standards.

(b) Noise from the scrap metal operation may be in violation of Chapter 44B, "Community Noise Control for Oahu." If this is the case, enforcement of Chapter 44B will require the operator of the business to control noise.

(c) Heavy landscaping along the medial strip and along the right-of-way will have little effect on noise reduction, per se, however, it will have a strong phychological effect in reducing the number of complaints (if any) from businesses along the road.

(d) As a final measure, if noise complaints are significant, acoustical treatment (e.g. air-conditioning, insulation) of structures along the road can be considered on a case by case basis.

(3) Fugitive Dust - Construction (Short-Term). There are several methods of reducing fugitive dust during construction. The most popular method is to frequently "water down" the disturbed area with water or oil. Other methods include good housekeeping and only working a small area at any one time.

(4) Water Quality - Construction (Short-Term). Wetting down the area too frequently or heavy rainfall may result in storm water runoff or ponding within the project site. In order to avoid this problem, the contractor normally constructs temporary swales.

During bridge construction, all applicable standards, rules, and codes relating to work in nearshore waters will be adhered to.

(5) Acquisition of Land and/or Relocation of Businesses. The Federal Highway Administration has standard rules and procedures through which an individual may obtain a "fair" value for the piece of land to be acquired by the government. In addition to property acquisition, procedures are set forth for the relocation of the displaced individuals and businesses.

Section 7.

AN INDICATION OF WHAT OTHER INTERESTS AND CONSIDERATION OF GOVERNMENTAL POLICIES ARE THOUGHT TO OFFSET THE ADVERSE ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

7. AN INDICATION OF WHAT OTHER INTERESTS AND CONSIDERATION OF GOVERNMENTAL POLICIES ARE THOUGHT TO OFFSET THE ADVERSE ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

As indicated in Section 5, the State has endorsed the 1995 Honolulu Harbor Master Plan in which the improvement of this roadway is a critical factor. Without the roadway, the traffic congestion will seriously impair the land transportation network along this corridor. Furthermore, continual congestion and the lack of action will eventually curtail industrial development of this area. Although the consequence of this proposed action may result in noise increases and displacement of businesses, it is felt that the overall total benefits to the other businesses justifies these adverse impacts.

Section 8.

THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

8. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed action will result in short-term impacts such as loss of some industrial lands for the right-of-way. Additionally, noise will increase because the roadway will be closer to businesses. Construction, too, will cause adverse impacts in the form of fugitive dust, diversion of traffic, roadway construction, noise, and disruption of normal access routes to businesses along Sand Island Road.

The long-term productivity of this project is considered to offset these adverse impacts. The long-term productivity of this project includes:

(1) Benefits will accrue to the users of Sand Island State Park. The proposed action will improve access to and from the Park; bikeways and sidewalks will be provided for those wishing to use other means of transportation.

(2) The major industrial users on Sand Island and along the Sand Island Access Road will benefit from the proposed action. The road will allow for smoother traffic flow and less congestion which will decrease transportation time.

(3) The appearance of the Sand Island Access Road will be aesthetically improved by the landscaping, street lighting, and other improvements.

The major benefit will be the reduction of present and future traffic congestion. The roadway improvement and second bridge construction are consistent with the directed growth policies of the Sand Island/Honolulu Harbor area. The alternative of no action would effectively limit the planned industrial and possibly the recreational uses of Sand Island.

Based on these considerations, and the fact that many of the adverse impacts can be mitigated (refer to Section 6), it is considered that the long-term productivity of this proposed action is beneficial for the community as well as the present and future land uses in the surrounding area.

Section 9.

ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

9. ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

As in any proposed action involving construction, this proposed action will result in the commitment of various resources which include:

(1) Construction materials such as concrete, steel, asphalt, rock, et cetera. Fill material for the bridge work will also be necessary. Once used, these materials will be utilized for the roadway for an indefinite time period.

(2) Labor will be used. Labor for this project will be required for construction, planning, architectural design, landscaping, purchasing, and services, et cetera. Once utilized, this labor is irretrievable; however, labor will be compensated thus generating monies into the island's economy.

(3) View planes will be affected with the elevation of Nimitz Highway. This view plane is not considered scenic or valuable; however, because the view plane will be that of an elevated Nimitz Highway with ramps going to and from Sand Island Access Road, some individuals may find this view aesthetically more undesirable than the present condition. The view of the bascule bridge will remain approximately the same since the second bridge will be in the "shadow" of the first bridge.

(4) Finally, additional land will be committed for roadway use. The exact amount of land will depend upon the alternative selected; once acquired for this proposed action, the land will be, for all practical purposes, irretrievably committed.

Section 10.

LIST OF PREPARERS

10. LIST OF PREPARERS

The following individuals (listed in alphabetical order) were primarily responsible for preparing this Draft EIS.

(1) Iwao Miyake Ph.D. Engineering
Experience: Professor (Retired) University of Hawaii at Manoa
Principal, Design Engineering, Inc., consultants in noise and acoustical concerns
Prepared: "Noise Study of Sand Island Access Road, Honolulu, Hawaii," January 14, 1980. Appendix D.

(2) F. J. Rodriguez B.A. Sociology/Business Administration
Experience: 10 years work relating to environmental concerns and impact statements in Hawaii
Serves as President of Environmental Communications, Inc. (ECI). ECI coordinated technical environmental support studies and prepared the overall document.

(3) Barry D. Root M.A. Geography/Public Health
Experience: 4 years duty with U.S. Air Force, air weather service; 5 years university geography assistant/instructor; 4 years air pollution consultant in Hawaii
Prepared: "Air Quality Impact Analysis for Sand Island Access Road Widening and Other Improvements, Sand Island, Honolulu District, Oahu, State of Hawaii," October 29, 1979.

(4) Caroleen K. Toyama B.A. Geography/Sociology
Experience: 2 years Environmental Analyst, Office of Environmental Quality Control, State of Hawaii; 6 years environmental impact statement consultant with ECI. Responsible for coordinative efforts with subconsultants and compilation of Draft EIS document.

The engineering consultants for this project, Wilson Okamoto & Associates, provided most of the project description, engineering, and technical data and maps that are included in this Draft EIS. Principals involved on this project from Wilson Okamoto & Associates are Ken Nagai, P.E., Wayne Nakamoto, P.E., and Henry Hoshide, P.E. The project manager from Highways Division, State DOT, is Albert Ng, P.E.

The individuals and companies identified in this section provided the major input and data necessary for the compilation and preparation of this document. Other individuals involved in the preparation of this document were under the direction of and/or were employed by these individuals and/or companies.

Section II.

DISCUSSION OF ENERGY CONSUMPTION AND FEDERAL POLICY RELATING TO THE NATIONAL TRANSPORTATION SYSTEM

11. DISCUSSION ON ENERGY CONSUMPTION AND FEDERAL POLICY RELATING TO THE NATIONAL TRANSPORTATION SYSTEM

11.1 Energy Consumption. Generally, the alternatives for the various sections of the roadway improvement (including the bridge) will result in less energy consumption when compared against the alternative of no action (the existing condition). Based on preliminary plans, the energy savings (mostly in form of less gasoline fuel consumed by vehicles) and energy consumption (in form of construction materials and maintenance costs if the road were not improved) were roughly estimated. The reference source used in the calculations was the Final Report Energy and Transportation Systems prepared by J.A. Apostolos, W.R. Shoemaker, E.C. Shirley, Office of Transportation Laboratory, Division of Construction, California Department of Transportation, December 1978. This provides a general indication of the energy consumed if the road were improved versus the continuation of the existing condition. This information is provided below.

Alternative	Construction Btu	Annual Maintenance Btu
Nimitz Highway Both Directions Elevated	1.3×10^{11}	5.6×10^{8}
Nimitz Highway Eastbound Only Elevated	6.9×10^{10}	5.6×10^{8}
Raised Median (Alternative A)	1.3×10^{11}	7.1×10^{8}
Continuous Left Turn Lane	1.5×10^{11}	4.7×10^{8}
Bascule Bridge	1.2×10^{11}	N.A.
26-Foot Fixed Bridge	3.9×10^{10}	N.A.
55-Foot Fixed Bridge	1.6×10^{11}	N.A.
80-Foot Fixed Bridge	1.7×10^{11}	N.A.
Sand Island Parkway	1.2×10^{11}	4.8×10^{8}

The estimated average annual fuel savings in not idling at Nimitz Highway and Sand Island Road is 1.8×10^{9} Btu. The estimated average annual fuel savings at the bridge is 1.9×10^{9} Btu.

Subsequently, the cost of the improvements generally result in an overall savings over the continued maintenance of the road (existing condition) and in the saving in fuel consumption (due to idling time) if considered over a twenty year period.

11.2 National Transportation System - A Policy Statement by the U.S. Department of Transportation. The Secretary of the U.S. Department of Transportation (DOT) has issued a statement calling for the integration of transportation systems so that the movement of goods and people can be reviewed and related to each other.

The Secretary has directed that regional transportation planning include a component which addresses goods movement, particularly the link between rail and highways in port communities. In a recent speech to the Washington Press Club, the Secretary stated:

> "An efficient transportation system can reduce our reliance on foreign oil, guarantee our workers mobility; move goods to market in a cost-effective fashion; reduce the cost of goods to consumers and help farmers and manufacturers compete for their share of world markets."

Transportation planning which places greater emphasis on freight movements and on major freight activity centers potentially can increase productivity and strengthen the economic base of a community.

Following this policy, the U.S. Department of Transportation can effectively identify objectives in transportation rather than having separate policies for highways, railways, mass transits, and ports. This project, because it deals with harbor facilities (i.e., cargo from Honolulu Harbor) and improvement to the only roadway system serving those cargo facilities, has direct relationship to that policy of intergration of the transportation network. The proposed project is considered consistent with Federal policy relating to this integration of transportation networks.

Section 12.

A DISCUSSION OF PROBLEMS AND OBJECTIONS RAISED BY OTHER FEDERAL AGENCIES, STATE AND LOCAL ENTITIES, AND CITIZENS IN THE REVIEW PROCESS

12. A DISCUSSION OF PROBLEMS AND OBJECTIONS RAISED BY OTHER FEDERAL AGENCIES, STATE AND LOCAL ENTITIES, AND CITIZENS IN THE REVIEW PROCESS

In accordance with the Federal Highway Administration and NEPA procedures and the State's statute (Chapter 343, Hawaii Revised Statutes), preliminary review of the Pre-Draft (in the case of the Federal requirements) or the EIS Preparation Notice (in the case of the State requirements) occurred. In accordance with the Environmental Impact Statement Regulations issued by the State's Environmental Quality Commission, an Environmental Assessment was first prepared for the proposed action. The Assessment was prepared in April, 1979. Based on the findings and recommendations of the Assessment, it was determined that the proposed action may have a significant impact on the environment; therefore, an Environmental Impact Statement was deemed necessary.

The State's regulation relating to EISs provides for an EIS Preparation Notice to be prepared by the proposing agency. This EIS Preparation Notice is submitted to the Environmental Quality Commission (EQC) for publication in its EQC Bulletin. The regulation also provides for a Consultation Period (from 30 to 60 days) after the EIS Preparation Notice is officially filed (the date of the Bulletin on which the EIS Preparation Notice is first published). This Consultation Period allows for interested agencies and organizations to request review of the Preparation Notice, make early comment, and become consulting parties in the preparation of the EIS.

In following the State regulation, the Highways Division distributed the EIS Preparation Notice (see Appendix E) to a total of 55 governmental, civic, and private organizations for review and comments. During April, May, and June of 1979, comments from these agencies were received. As required by the State EIS regulation, a response was sent to each of the agencies providing substantive comments.

Reduced, half-sized copies of the letters recieved and the State Department of Transportation's responses to comments are provided in this Section, Pages 12-2 to 12-27.

GEORGE R. ARIYOSHI
GOVERNOR

CHARLES G. CLARK
SUPERINTENDENT

STATE OF HAWAII

DEPARTMENT OF EDUCATION

P. O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

March 27, 1979

Wilson Okamoto and Associates, Inc.
1150 South King Street
Honolulu, Hawaii 96814

Attn: Mr. Sampson S. Mar

Dear Sir:

SUBJECT: Second Bridge Across Kalihi Channel

We do not have any comments to offer at this time on the subject project.

Thank you for the opportunity to react.

Sincerely,

CHARLES G. CLARK
Superintendent

CGC:HL:jl

12-2

UNIVERSITY OF HAWAII

Water Resources Research Center

27 March 1979

Mr. Sampson S. Mar, Planner
Wilson, Okamoto & Associates, Inc.
1150 S. King Street
Honolulu, Hawaii 96814

Your File: C2322-01

SUBJECT: Second Bridge Across Kalihi Channel Studies

Dear Mr. Mar:

Thank you for your request via Dr. Young for our response to the subject studies. We found that your letter offered very limited information for our assessment, therefore, we cannot make any response at this time.

Sincerely,

Yu-Si Fok, Professor
WRRC Faculty EIS Review Coordinator

YSF:jm

The Chamber of Commerce of Hawaii
Established 1850

March 28, 1979

Mr. Sampson S. Mar
Wilson Okamoto & Associates, Inc.
1150 South King Street
Honolulu, Hawaii 96814

Dear Mr. Mar:

This is to acknowledge your letter of March 20, 1979 concerning studies, planning and design analyses in conjunction with the proposed implementation of the second bridge across Kalihi Channel and improvements to the Sand Island Access Road.

We have referred this matter to our Maritime Affairs Committee and you will be hearing from them at an early date.

Sincerely,

Robert B. Robinson
President

RBR:mm

735 Bishop Street Honolulu, Hawaii 96813 (808) 531-4111

OAHU DEVELOPMENT CONFERENCE

119 MERCHANT STREET · HONOLULU, HAWAII 96813 · TELEPHONE 537-6271

March 28, 1979

Mr. Sampson S. Mar
Planner
Wilson Okamoto & Associates
1150 South King Street
Honolulu, Hawaii 96814

Dear Mr. Mar:

Thank you for your letter of March 20, 1979 relating to design work that your firm is undertaking for the Sand Island access road and a possible second bridge across Kalihi channel.

As an organization ODC has had no particular problems with these facilities nor have we any specific concerns regarding them at this time.

Very truly yours,

William A. Grant
Associate Director

245 North Kukui Street, Honolulu, Hawaii 96817, Telephone (808) 537-5966

AMERICAN LUNG ASSOCIATION *of Hawaii*

April 5, 1979

Mr. Sampson S. Mar
Wilson Okamoto & Associates
1150 South King Street
Honolulu, Hawaii 96814

Dear Mr. Mar:

Subject: Second Bridge and Improvements to Sand Island Access Road

This is to acknowledge receipt of your March 20th letter seeking our comments on the subject project.

At this time we have no comments to offer but do request that we be kept informed of the project's progress. As details and/or documents become available we would also appreciate an early opportunity to review and comment.

Thank you for bringing this project to our attention.

Sincerely yours,

J. W. Morrow

James W. Morrow, Director
Environmental Health

JWM:ct

12-4

Christmas Seals Fight TB, Asthma, Emphysema, Air Pollution

July 16, 1979

HWY-PA
2.52212

Mr. James W. Morrow
Director of Environmental Health
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817

Dear Mr. Morrow:

Subject: EIS Preparation Notice,
Sand Island Access Road,
Widening and Improvements,
Project No. 64A-01-79

Thank you for your letter dated April 5, 1979. Please be assured that your organization will be kept on our mailing list for the project.

Very truly yours,

T. HARANO
Chief
Highways Division

DOWNTOWN IMPROVEMENT ASSOCIATION 1000 BISHOP STREET/SUITE 602 HONOLULU, HAWAII 96813 PHONE 531-3011

April 6, 1979

Mr. Sampson S. Mar, Planner
Wilson Okamoto and Associates
P.O. Box 3530
Honolulu, Hawaii 96811

Dear Mr. Mar:

Re: File No. C2322-01, March 20, 1979

The concern of the Downtown Improvement Association with Sand Island and transportation to and from it does not directly involve the second bridge across the Kalihi Channel and the Sand Island access road. We are more immediately concerned with that portion of Sand Island adjacent to downtown and the installation of a pedestrian ferry between the Aloha Tower area and Sand Island State Park.

This is not a new proposal, and I believe that the Department of Transportation of the State has plans stemming from the Harbor Master Plan to institute this service.

It would appear that your terms of reference do not include this ferry service. If they do, then we would have more positive input for you. DIA visualizes that sometime this might in fact be a vehicular ferry.

Yours truly,

Clarence E. Beck
Executive Director

mj

12-5

HWY-PA
2.52446

July 30, 1979

Mr. Clarence E. Beck
Executive Director
Downtown Improvement Association
1000 Bishop Street, Suite 602
Honolulu, Hawaii 96813

Dear Mr. Beck:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Your letter dated April 6, 1979 to Wilson, Okamoto and Associates indicated your concern about a ferry service from Sand Island to the Aloha Tower area.

The proposed project does not include the shuttle service between the Sand Island State Park and the Aloha Tower area. However, the shuttle service is one of the improvements being considered by the Harbors Division in the Harbor Master Plan.

Very truly yours,

A. T. HARANO
Chief
Highways Division

YELLOW FREIGHT INTERNATIONAL
FMC No. 500-R
P.O. Box 266
Waipahu, Hawaii 96797

April 10, 1979

Mr. Sampson S. Mar, Planner
WILSON OKAMOTO & ASSOCIATES, INC.
1150 South King Street
Honolulu, Hawaii 96814

Dear Sir:

With reference to your letter of March 20, 1979, regarding the proposed second bridge across the Kalihi Channel and the required improvements to the Sand Island Access Road.

As the container handling facilities move from its present location at Fort Armstrong to Sand Island, the entire nature of the land transportation system will change. The present one-bridge arrangement cannot be retained because a single vehicle accident on the bridge can cause long delays which will be costly to all parties concerned. It is also within the relm of reason that the single bridge structure itself could become damaged to such an extent that the local shipping/trucking industry could be badly crippled.

Occasionally, over the years, delays have occurred because of accidents on or near the existing bridge. Therefore, the "backup" of a second bridge is a necessity.

Of greater concern to us as well as the shipping public is the need to improve container facilities. The improvements have been delayed for years with Matson taking the brunt of the criticism; while the true culprit was procrastination and a lack of dynamic thinking on the part of planners within the State Department of Transportation. For example, the retention of old storage sheds when the yard lacked adequate storage space for containers.

Already you are behind the "power curve" in that the second bridge should presently be constructed not in the planning stage.

It is hoped that these comments will be of use to you in the preparation of your study.

Very truly yours,

YELLOW FREIGHT INTERNATIONAL

Charles W. Strang
Operations Manager

CWS/pb

(A DIVISION OF YELLOW FORWARDING CO.)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

IN REPLY REFER TO
HWY-PA
2.52447

July 30, 1979

Mr. Charles W. Strang
Operations Manager
Yellow Freight International
P.O. Box 266
Waipahu, Hawaii 96797

Dear Mr. Strang:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Your letter dated April 10, 1979 to Wilson, Okamoto and Associates commented on the need to improve the present one-bridge arrangement (across Kalihi Channel) and the need to improve the container facilities.

We are presently developing our plans for the roadway improvements, including a second bridge across Kalihi Channel. These improvements, in conjunction with the development of the container handling facilities at Sand Island, should improve your handling operations.

Very truly yours,

T. HARANO
Chief
Highways Division

LIFE OF THE LAND
A GROUP FOR ENVIRONMENTAL RESEARCH AND ACTION

April 23, 1979

Sampson Mar, Planner
Wilson, Okamoto & Associates, Inc.
1150 South King Street
Honolulu, Hawaii 96814

Dear Mr. Mar,

Regarding your letter of March 20, 1979, Life of the Land would like to be kept informed of the studies, planning, and design analyses in conjunction with the proposed implementation of the second bridge across Kalihi Channel.

Individually, the only problem we have encountered with the existing facilities is the occasional wait caused by the activation of the draw bridge.

As an organization, we participated in the review process of the EIS for development of Sand Island as a park, and as such would like to be kept informed of any further developments.

Thank you for your letter.

Yours truly,

Frank Miller
Staff Attorney

FM:cc

404 PIIKOI STREET HONOLULU HAWAII 96814 TELEPHONE 521-1300

GEORGE R. ARIYOSHI
GOVERNOR

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

HYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
CHARLES O. SWANSON
WALLACE AOKI
JAMES R. CARRAS
DOUGLAS S. SAKAMOTO

IN REPLY REFER TO
HWY-PA
2.52448

July 30, 1979

Mr. Frank L. Miller
Staff Attorney
Life of the Land
404 Piikoi Street
Honolulu, Hawaii 96814

Dear Mr. Miller:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter dated May 31, 1979 commenting on the proposed improvements.

The addition of a second bridge will increase the roadway capacity which will alleviate the congestion across the Kalihi Channel. The project will not change the bridge operation cycle.

Your comments will be addressed in the draft EIS.

Very truly yours,

T. HARANO
Chief
Highways Division

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

BOARD MEMBERS

SIDNEY Q. LU GOO
MEMBER-AT-LARGE

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MEMBER-AT-LARGE

FEDERICO GALDONES
HAWAII MEMBER

JAMES E. ISHIDA
KAUAI MEMBER

FRED M. OGASAWARA
MAUI MEMBER

WILLIAM Y. THOMPSON
EX OFFICIO MEMBER

April 26, 1979

MEMORANDUM

To: Dr. Ryokichi Higashionna, Director
Department of Transportation

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements
Project No. 64A-01-79

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

We appreciate the opportunity to comment.

JOHN FARIAS, JR.
Chairman, Board of Agriculture

12-8

Matson
Navigation Company

Sand Island Access Road
Honolulu, Hawaii 96819
(808) 848-1211

Direct Correspondence to:
P.O. Box 899, Honolulu, Hawaii 96808

April 26, 1979

Dr. Ryokichi Higashionna
Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Dr. Higashionna:

Reference: LT-PA 2.50566

Thank you for your letter of April 24, 1979, enclosing the Environmental Impact Statement Notice of Preparation for Project No. 64A-01-79.

Matson Navigation Company will respond to your invitation for comment following an updated study of our anticipated cargo traffic flow.

Very truly yours,

A. Bolton
Area Manager-Hawaii

A subsidiary of Alexander & Baldwin, Inc

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE ADAI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY, REFER TO:
LT-PA
2.51774

June 19, 1979

Mr. A. Bolton
Area Manager-Hawaii
Matson Navigation Company
P.O. Box 899
Honolulu, Hawaii 96808

Dear Mr. Bolton:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter of April 26, 1979 in response to the EIS Preparation Notice.

Please furnish us your comments after your cargo traffic flow studies have been completed.

Very truly yours,

James R Carras

for Ryokichi Higashionna

12-9

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 S. BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

FRANK F. FASI
MAYOR

B. K. AIU
CHIEF

April 30, 1979

Dr. Ryokichi Higashionna, Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

SUBJECT: Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79
EIS Preparation Notice (LT-PA 2.50566)

We have no comments to offer on the proposed project.

Very truly yours,

Boniface K. Aiu

BONIFACE K. AIU
Fire Chief

BKA:JF:lhc

THE OUTDOOR CIRCLE 200 No. Vineyard, Honolulu, Hawaii 96817

April 30, 1979

Ryokichi Higashionna, Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

SUBJECT: Sand Island Access Road Widening and Improvements

REFEPENCE: LT-PA 2.50566

Dear Dr. Higashionna,

The Outdoor Circle thanks you for including us in the Environmental Impact process of this project and have reviewed the statements. All points of interest to The Circle have been addressed most adequately.

We have only one suggestion re the impact on noise: Would it be possible to plant a hedge each side of the road? Hedges have proven to be very effective in cutting down road noise and, from the Outdoor Circle's opinion, no road is truly an asset to every user until it is landscaped.

Sincerely,

Susan Fristoe

Mrs. Ashby J. Fristoe
President

KANEOHE OUTDOOR CIRCLE · KONA OUTDOOR CIRCLE · LAHAINA OUTDOOR CIRCLE · LANI-KAILUA OUTDOOR CIRCLE
MAUI OUTDOOR CIRCLE · WAHIAWA OUTDOOR CIRCLE · WAI MOMI OUTDOOR CIRCLE

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
2.51773

June 19, 1979

Mrs. Ashby J. Fristoe
President
Outdoor Circle
200 North Vineyard Street
Honolulu, Hawaii 96817

Dear Mrs. Fristoe:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you for your letter dated April 30, 1979 commenting on the EIS Preparation Notice.

Please be assured that landscaping will be included in our preliminary plans. It should be noted that roadside hedges are not generally effective in mitigating traffic noise impacts.

Very truly yours,

James R Carras
for Ryokichi Higashionna

GEORGE R. ARIYOSHI
Governor

HIDETO KONO
Director

FRANK SKRIVANEK
Deputy Director

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

April 30, 1979

Ref. No. 8851

The Honorable Ryokichi Higashionna
Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Subject: Sand Island Access Road Widening and Improvements,
Project No. 64A-01-79, EIS Preparation Notice

We have reviewed the subject EIS Preparation Notice and concur with the determination that an Environmental Impact Statement is required.

We have no other comments to offer at this time, but would appreciate the opportunity to review the EIS document when prepared.

Sincerely,

HIDETO KONO

12-11

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4414

FRANK F. FASI
MAYOR

TYRONE T. KUSAO
DIRECTOR

79/EC-1(SE)
LU4/79-1561

May 1, 1979

Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Environmental Impact Statement
Preparation Notice
Sand Island Access Road Widening
Project No. 64A-01-79

We have reviewed the above Preparation Notice and feel the document adequately covers potential impacts for the proposed project, with one exception - visual impacts.

The proposed widening of Sand Island Access Road will not degrade present view planes. However, in an effort to improve views along Sand Island Access Road to Sand Island State Park, the implementation of a landscaping plan must be considered. Your "Ke'ehi Lagoon Recreation Plan" recommends landscaping along this corridor. In the past, the Department of Land Utilization has required landscaping as part of all shoreline management permits issued for developments along Sand Island Access Road.

A majority of the proposed improvements to Sand Island Access Road lie within the Special Management Area under Ordinance No. 4529, and will require a Shoreline Management Permit. It is safe to assume that we will require landscaping for any improvement to Sand Island Access Road.

Should you have any questions on this matter, please contact Mr. Scott Ezer of our staff at 523-4077.

Very truly yours,

TYRONE T. KUSAO
Director of Land Utilization

TTK:sl

12

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE ADRI
DOUGLAS B. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
.2.51764

June 19, 1979

Mr. Tyrone T. Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter of May 1, 1979, commenting on the visual impacts of the proposed project.

Please be assured that landscaping will be included in our preliminary plans.

Very truly yours,

James R. Carras

for Ryokichi Higashionna

12-12

United States Department of the Interior
FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P.O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO:
ES
Room 6307

May 2, 1979

Mr. Ryokichi Higashionna
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Sand Island Road
Widening &
Improvements

Dear Sir:

In response to your letter of April 24, 1979, this is to inform you that the U.S. Fish and Wildlife Service has no comments beyond those contained in our letter of March 22, 1979 (Attached).

Thank you for the continued coordination.

Sincerely yours,

Maurice H. Taylor

Maurice H. Taylor
Field Supervisor
Division of Ecological
Services

cc: HA

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

ES
Room 6307

March 22, 1979

Mr. Ryokichi Higashionna
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Sand Island Road
Widening & Improvements

Dear Mr. Higashionna:

Thank you for your letter of March 5, 1979 regarding the Sand Island Road Widening and Improvements Project. We appreciate the opportunity to provide early input to the planning process, particularly when projects will require Department of the Army and/or Coast Guard permits prior to construction. As it relates to the project in question, the U.S. Fish and Wildlife Service recommends that plans be devised which would both fulfill your needs and result in minimal destruction of fish and wildlife habitat. In particular, we are concerned that the bridge across Kalihi Channel be constructed to avoid filling in the marine environment and reduction in existing current flows therein.

We would be pleased to discuss the matter further with your consultants, or to answer any further questions you may have.

Sincerely yours,

Maurice H. Taylor
Field Supervisor
Division of Ecological
Services

cc: HA
IRFB
HDPAG
Wilson, Okamoto & Associates, Inc.

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE ADRI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
2.51772

June 19, 1979

Mr. Maurice Taylor
Field Supervisor
Division of Ecological Services
Fish and Wildlife Service
U.S. Department of the Interior
300 Ala Moana Boulevard, Box 50167
Honolulu, Hawaii 96850

Dear Mr. Taylor:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letters of March 22 and May 2, 1979 commenting on the EIS Preparation Notice. We will be considering ways to minimize impacts to the fish and wildlife habitat.

Your concerns on the bridge across the Kalihi Channel will be considered in the design of the new bridge.

Very truly yours,

James R Carras

for Ryokichi Higashionna

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

PODED-PV

May 1979

Dr. R. Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

We have reviewed the Environmental Impact Statement Preparation Notice for the Sand Island Access Road improvements that you forwarded to us on 24 April 1979. The plans and specifications for the Sand Island Shore Protection Project are being prepared by our office. The project area extends along the Honolulu Harbor shoreline of Sand Island from the Fort Armstrong Entrance Channel to the State Anuenue Fisheries Station. A construction contract will be awarded late this summer. Construction of the shore protection improvements is expected to take approximately one year to complete. The road improvementsdo not appear to conflict with the shore protection project.

If a second bascule bridge is built and fill is placed in the water, a Department of the Army permit will be required. The detailed plans for construction of the bridge should be coordinated with the Operations Branch (phone 438-9258) for a final determination on the need for a Department of the Army permit. The effects of the discharge of fill on water quality will need to be addressed in the EIS if a Department of the Army permit is required.

We thank you for the opportunity of reviewing the environmental statement preparation notice and participating in the environmental review process.

Sincerely yours,

KISUK CHEUNG
Chief, Engineering Division

12-14

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE ADAI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
2.51771

June 19, 1979

Mr. Kisuk Cheung, Chief
Engineering Division
U.S. Army Engineer District,
Honolulu
Department of the Army
Building 230
Fort Shafter, Hawaii 96858

Dear Mr. Cheung:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter of May 2, 1979 commenting on the EIS Preparation Notice. The following is in response to your comments:

1. COE's Sand Island Protection Project. We do not anticipate that your present project will be affected by our proposed plans for the road. The status of your shore protection will be noted in the EIS.

2. DOA Permit for the Construction of a Second Bascule Bridge. At the appropriate time, we will be coordinating the detailed plans for a second bascule bridge with your staff. The EIS will also address the potential impact on water quality.

Very truly yours,

James R. Carras
for Ryokichi Higashionna

OFFICE OF THE MAYOR
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII 96813 • AREA CODE 808 • 523-4141

FRANK F. FASI
MAYOR

P-7275

May 2, 1979

Dr. Ryokichi Higashionna
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Thank you very much for sending me a copy of the subject Environmental Impact Statement Preparation Notice, Sand Island Access Road Widening and Improvements. I note that eight city agencies are being asked to review the EIS for this project. I am sure that my administration's viewpoint will be amply set forth in their reviews of the document.

12-15

Sincerely,

Frank Fasi

for FRANK F. FASI, Mayor
City and County of Honolulu

FFF:sl

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

PACIFIC-ASIA REGION
P. O. BOX 50109
HONOLULU, HAWAII 96850

MAY 3 1979

Dr. Ryokichi Higashionna
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

In response to your letter LT-PA 2.50566 dated April 24, 1979, concerning the Environmental Impact Statement Preparation Notice for the proposed Sand Island Access Road Widening and Improvement project, this is to advise that we have no substantive comments to offer.

Thank you for the opportunity to comment on this proposal.

Sincerely,

Franklin D. Benson

FRANKLIN D. BENSON
Supervisory Airports Engineer, APC-620

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

FRANK F. FASI
MAYOR

HOWARD M. SHIMA
BUILDING AND HOUSING SUPERINTENDENT

PB 79-315

May 9, 1979

Mr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

Subject: Sand Island Access Road Widening and Improvements, Project No. 64A-01-79
Environmental Impact Statement Preparation Notice (LT-PA 2.50566)

We have reviewed the above-mentioned preparation notice and have no comments to offer.

Thank you for the opportunity to review this document.

Very truly yours,

HOWARD M. SHIMA
Director and Building Superintendent

AF:jo
cc: J. Harada

12-16

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST
ROOM 301
HONOLULU, HAWAII 96813

RICHARD L. O'CONNELL
DIRECTOR

TELEPHONE NO.
548-6915

May 9, 1979

MEMORANDUM

TO: Ryokichi Higashionna, Director
Department of Transportation

FROM: Richard L. O'Connell, Director
Office of Environmental Quality Control

SUBJECT: SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS
ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

We have reviewed the subject EIS Preparation Notice and on March 30, 1979 submitted the attached comments to Wilson Okamoto & Associates. Please regard these comments as our response to the preparation notice.

Thank you for inviting us to participate in this review.

Attachment

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

RICHARD L. O'CONNELL
DIRECTOR
TELEPHONE NO.
548-6915

March 30, 1979

Sampson S. Mar, Planner
Wilson Okamoto & Associates
P.O. Box 3530
Honolulu, Hawaii 96811

Dear Mr. Mar,

SUBJECT: Second Bridge Across Kalihi Channel and Sand Island Access Road

You have requested our early input on this project as it relates to our problems with the existing facilities or other areas of concern regarding the project.

Sand Island Access Road is used as the route to the Recycling Center, which would be located near the project area. In this regard, you may wish to contact the Recycling Center manager for his concerns, if any, regarding the project.

As you may know, there have been several EIS's prepared for projects in and around Sand Island. These include the Reef Runway project, Sand Island State Park, Expansion of the Container Facilities, Sand Island Shore Protection and the Dredging of Honolulu Harbor. These EIS's are available in our files and the information they contain might prove useful to you.

We wish to make one suggestion regarding the traffic analyses for the project. The traffic pattern both before and after the opening of the Keehi interchange of H-1 should be studied. We believe that there might be a substantial change in the local traffic pattern once the interchange is opened. Noise and air quality conditions could be significantly altered.

Thank you for allowing us to provide early input on this project.

Sincerely,

Richard L. O'Connell
Director

cc: DOT

12-17

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
2.51769

June 19, 1979

The Honorable Richard O'Connell
Director, Office of Environmental
Quality Control
Office of the Governor
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. O'Connell:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Reference is made to your memorandum of May 9, 1979, furnishing your comments on the EIS Preparation Notice. We are aware of the other EIS's prepared for projects in and around Sand Island.

Our traffic analysis is being based on traffic before (year 1980) and after (years 1990 and 2000) the opening of Keehi Interchange. Noise and air quality conditions will be appropriately addressed in the EIS.

Thank you for your comments.

Very truly yours,

James R. Carras
for Ryokichi Higashionna

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA
HONOLULU, HAWAII 96843

May 10 1979

Dr. Ryokichi Higashionna
Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

YOUR LETTER OF APRIL 24, 1979, ON THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS, PROJECT NO. 64A-01-79

We have no objections to the proposed project. However, we request that the construction plans be coordinated with us for approval. We also request that your water requirement for any landscaping work that you propose to undertake with the project be coordinated with us.

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

Kazu Hayashida

KAZU HAYASHIDA
Manager and Chief Engineer

12-18

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

June 19, 1979

IN REPLY REFER TO:
LT-PA
2.51767

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter of May 10, 1979, commenting on the EIS Preparation Notice. Water requirements for landscaping and the detailed construction plans will be coordinated with your office at the appropriate time.

Very truly yours,

James R. Carras

for Ryokichi Higashionna

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4181

FRANK F. FASI
MAYOR

EDWARD Y. HIRATA
MANAGING DIRECTOR

BARRY CHUNG
DIRECTOR

MYRA M. TAKABAKI
DEPUTY DIRECTOR

May 10, 1979

Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Subject: Sand Island Access Road Widening and Improvements, Project No. 64A-01-79 Environmental Impact Statement Preparation Notice

We have reviewed the Environmental Impact Statement Preparation Notice for the Sand Island Access Road Widening and Improvements and have no comments.

Thank you for forwarding the preparation notice for our review.

Very truly yours,

for Barry Chung

12-19

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS
P. O. BOX 621
HONOLULU, HAWAII 96809

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

May 10, 1979

Department of Transportation
Land Transportation Facilities
Division
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Sirs:

SUBJECT: Sand Island Access Road Widening and Improvements, Project No. 64A-01-79 Environmental Impact Statement Preparation Notice

There are no other structures listed in our current inventory of the island other than what you have indicated in your assesment. The underlying assumption is that no archaeology could exist because of the "man made" nature of the island. Sand Island today is combination of man made dredging and land fill as well as original island. The earliest map showing Sand Island dates back to 1817 and was recorded by the Von Koetzebue expedition. Although maybe only the central core of the present day island is not man made certain sections in this area could yield archaeological data. If this should happen our office should be notified.

Sincerely yours,

Nathan E. Napoka
Historian
Historic Preservation Program

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
2.51768

June 19, 1979

Mr. Nathan E. Napoka, Historian
Historic Preservation Program
Division of State Parks
Department of Land and Natural
Resources
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Napoka:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter of May 10, 1979, commenting on the EIS Preparation Notice. We will notify your office if any archaeological sites are found.

Very truly yours,

James R. Carras

for Ryokichi Higashionna

12-20

UNIVERSITY OF HAWAII
Water Resources Research Center

May 14, 1979

Dr. Ryokichi Higashionna
Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Subject: Review of EIS Preparation Notice: Sand
Island Access Road Widening and Improvements

Thank you for sending the subject notice for our review. We have no comment on this notice.

Sincerely,

Yu-Si Fok, Ph.D.
WRRC EIS Review Coordinator

YSF:jmn

cc: Mr. Edwin Murabayashi
Dr. Frank Peterson
Dr. Narendra Saxena

2540 Dole Street · Honolulu, Hawaii 96822

HAWAIIAN ELECTRIC COMPANY, INC.
Box 2750 / Honolulu, Hawaii / 96840

May 16, 1979

JOHN C. McCAIN, Ph.D.
MANAGER, ENVIRONMENTAL DEPARTMENT

ENV 2-1
General
NV/G/NV

Mr. Ryokichi Higashionna
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

Subject: EIS Preparation Notice for Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you very much for the opportunity to comment on the EIS Preparation Notice for the Sand Island Access Road Widening and Improvement project. I offer the following comments for your consideration:

Paragraph G "Utilities and Public Facilities" states that "Utilities serving Sand Island will not be affected by the proposed action." Electrical service to customers along Sand Island Access Road from Nimitz Highway to Kalihi Channel and to the community on Sand Island is now provided by an overhead pole line on the existing Sand Island Access Road. Relocation of some of these facilities will probably be necessary depending upon the State's final approved widening and improvement plans. Therefore, the sentence quoted above should be changed to reflect that relocation of utilities will probably be necessary.

If I can be of any further assistance, please call me at 548-6880.

Yours truly,

J. C. McCain

JCMc:cm

12-21

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, Ph.D.
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
2.51775

June 19, 1979

Mr. John C. McCain, Manager
Environmental Department
Hawaiian Electric Company
P.O. Box 2750
Honolulu, Hawaii 96840

Dear Mr. McCain:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you for your letter (ENV 2-1, General, NV/G/NV) of May 16, 1979, commenting on the EIS Preparation Notice.

The EIS will reflect the need to relocate some of the utilities that will be affected.

Very truly yours,

James R Carras

for Ryokichi Higashionna

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

FRANK F. FASI
MAYOR

RAMON DURAN
DIRECTOR

May 18, 1979

Dr. Ryokichi Higashionna, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

SUBJECT: SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS, PROJECT NO. 64A-01-79 ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Thank you for the opportunity to comment on the Sand Island Access Road Widening and Improvements Project.

From the point of view of recreation, this project should have the positive impact of facilitating the use of Sand Island State Recreation Area, which is currently under development and will meet existing and future recreational needs.

Warm regards.

Sincerely,

RAMON DURAN, Director

RD:ls

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH D
DIRECTOR

DEPUTY DIRECTORS
WALLACE ADKI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

IN REPLY REFER TO:
LT-PA
2.51766

June 19, 1979

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

Dear Mr. Duran:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you for your letter of May 18, 1979 on the EIS Preparation Notice. We will include your comment in our EIS document.

Very truly yours,

for Ryokichi Higashionna

12-22

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

GEORGE H. AKAHANE
COMMISSION

ROBERT R. WAY
DIRECTOR

TS4/79-1244

May 21, 1979

Dr. Ryokichi Higashionna, Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Subject: Your Letter of April 24, 1979 Regarding Sand Island Access Road Widening and Improvements, Project No. 64A-01-79
Environmental Impact Statement Preparation Notice

Your submittal indicates that a 50 percent increase in vehicular traffic along Sand Island Road is anticipated between the years 1980 to 2000. Your traffic impact study should provide an analysis of the impact of this increase along Nimitz Highway which is the primary arterial servicing the project. This analysis should also include a.m. and p.m. peak-hour capacity studies for the Sand Island Road-Nimitz Highway intersection.

Thank you for providing us with this opportunity to review and comment on the project.

Very truly yours,

ROBERT R. WAY
Director

12-23

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

RYOKICHI HIGASHIONNA, (111)
DIRECTOR

DEPUTY DIRECTORS
CHARLES O. SWANSON
WALLACE AOKI
JAMES R. CAHILAS
DOUGLAS S. SAKAMOTO

IN REPLY REFER TO

HWY-PA
2.52449

July 30, 1979

Mr. Robert R. Way, Director
Department of Transportation Services
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Way:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you for your letter dated May 21, 1979 commenting on the need to study the vehicular traffic increase along Nimitz Highway.

The EIS will include information on the a.m. and p.m. peak-hour capacity for the Sand Island Road-Nimitz Highway intersection. The impact of the project on Nimitz Highway will also be discussed.

Very truly yours,

T. HARANO
Chief
Highways Division

GEORGE R ARIYOSHI
GOVERNOR

CHARLES G. CLARK
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

May 22, 1979

MEMO TO: Honorable Ryokichi Higashionna, Director
Department of Transportation

F R O M: Charles G. Clark, Superintendent
Department of Education

SUBJECT: Sand Island Access Road Widening and Improvements
Environmental Impact Statement
Preparation Notice

12-24

We have reviewed the subject EIS and have no comments to offer at this time. Thank you for the opportunity to review and comment.

CGC:HL:jl

cc: Mr. James E. Edington

HAWAIIAN TELEPHONE COMPANY

P.O. BOX 2200 • HONOLULU, HAWAII 96841 • TELEPHONE (808) 537-7111 • CABLE: TELHAWAII

May 22, 1979

Mr. Ryokichi Higashionna, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

Sand Island Access Road Widening and Improvements
Project No. 64A-01-79 Environmental Impact Statement
Preparation Notice

We have reviewed the subject EIS Preparation Notice and find that the proposed project may have some effect on our existing facilities.

At present, the existing overhead telephone lines and the Military Joint Trunking underground facilities are within the general area of the Sand Island Access Road Widening and Improvements. If for some reason overhead services are undesirable, then cost should be included in your budget for undergrounding of our lines. This cost will be determined later after notification of your plans.

Whatever construction is to be performed by the Hawaiian Telephone Company will have no significant adverse impact upon the environment as like construction presently exists within the immediate surrounding area.

We appreciate the opportunity to comment on your proposed project. If there are any further questions, please call W. Char at 836-6124.

Sincerely,

G. Kaneko
Oahu Engineering & Construction
Manager

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, P.E.
DIRECTOR

DEPUTY DIRECTORS
CHARLES G. SWANSON
WALLACE AOKI
JAMES R. CARVAS
DOUGLAS S. SAKAMOTO

IN REPLY REFER TO:
HWY-PA
2.52444

July 30, 1979

Mr. G. Kaneko
Oahu Engineering & Construction
Hawaiian Telephone Company
P.O. Box 2200
Honolulu, Hawaii 96841

Dear Mr. Kaneko:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter of May 22, 1979, commenting on the Hawaiian Telephone Company's facilities which may be affected by the proposed project.

The EIS will indicate the impacts to these facilities.

Very truly yours,

R. HARANO
Chief
Highways Division

12-25

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING
HAWAII HOUSING AUTHORITY
P. O. BOX 17907
HONOLULU, HAWAII 96817

FRANKLIN Y. K. SUNN
EXECUTIVE DIRECTOR

WILLIAM A. HALL
ASSISTANT EXEC. DIRECTOR

IN REPLY REFER TO:

May 22, 1979

MEMORANDUM

TO: The Honorable Ryokichi Higashionna
Department of Transportation

FROM: Franklin Y. K. Sunn, Executive Director

SUBJECT: Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79
Environmental Impact Statement
Preparation Notice

Although the Hawaii Housing Authority has no comments to offer on the subject Environmental Impact Statement Notice of Preparation, we thank you for the opportunity to review the document.

The Authority has no housing projects within the designated area of the project, nor does it have any planned for the near future. We, therefore, are not aware of any impact as it affects housing requirements.

Once again, thank you for allowing us to review the subject document and should you require further information, please call Robert Imose at 848-3211.

Executive Director

cc: DSSH (Pers., Attn: Ben Fong)

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

VERNE C. WAITE, M.D.
DEPUTY DIRECTOR OF HEALTH

HENRY N. THOMPSON, M.A.
DEPUTY DIRECTOR OF HEALTH

JAMES S. KUMAGAI, PH.D., P.E.
DEPUTY DIRECTOR OF HEALTH

TADAO BEPPU
DEPUTY DIRECTOR OF HEALTH

In reply, please refer to:
File: EPHS-SS

May 25, 1979

Mr. Ryokichi Higashionna
Department of Transportation
869 Punchbowl St.
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

Subject: Request for Comments on Proposed Environmental Impact Statement (EIS) for Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you for allowing us to review and comment on the subject proposed EIS.

We submit the following comments for your information and consideration:

1. Construction activities must comply with the provisions of Public Health Regulations, Chapter 44B, Community Noise Control for Oahu:

   a. The contractor must obtain a noise permit if the noise level from the construction activities are expected to exceed the allowable levels of the regulations.

   b. Construction equipment and on-site vehicle or devices requiring an exhaust of gas or air must have a muffler.

   c. The contractor must comply with the conditional use of permit as specified in the regulations and the conditions issued with the permit.

2. All heavy vehicles traveling on trafficway to and from construction project must comply to the limits stated in Public Health Regulations, Chapter 44A, Vehicular Noise Control for Oahu.

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.

Sincerely,

for JAMES S. KUMAGAI, Ph.D.
Deputy Director for
Environmental Health

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
CHARLES O. SWANSON
WALLACE AOKI
JAMES H. CATIAS
DOUGLAS S. SAKAMOTO

IN REPLY REFER TO:
HWY-PA
2.52443

July 30, 1979

Mr. James S. Kumagai
Deputy Director
Environmental Health
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Kumagai:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you for your letter of May 25, 1979 addressing the public health regulations which must be complied with during construction of the proposed project.

Please be assured that we will be coordinating with your department to comply with the environmental regulations cited in your letter.

Very truly yours,

for E. HARANO
Chief
Highways Division

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMAMU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

RECEIVED

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

May 29, 1979

REP. NO.: APO-467
YOUR REP. NO.: LT-PA 2.50566

Honorable Ryokichi Higashionna
Director
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Sir:

Thank you for notifying us of the preparation of an EIS for widening Sand Island Road between Nimitz and the present entrance to Sand Island Park and for making other improvements with a view toward increasing traffic capacity.

We suggest that bikeways be incorporated into the forthcoming plans for roadway improvements. We also suggest that landscaping be included since the existing roadway is extremely ugly. Finally, we ask that you keep in mind that the Sand Island Park will eventually total 184 acres -- larger than the 76 acres of Ala Moana Park and 33 acres of Magic Island.

Very truly yours,

SUSUMU ONO, Chairman
Board of Land and Natural Resources

12-27

LEND A HAND TO CLEAN UP HAWAII • STATE OF HAWAII

GEORGE R. ARIYOSHI
GOVERNOR

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

RYOKICHI HIGASHIONNA (HI)
DIRECTOR

DEPUTY DIRECTORS
CHARLES O. SWANSON
WALLACE AOKI
JAMES H. CAMERAS
DOUGLAS S. SAKAMOTO

IN REPLY REFER TO
HWY-PA
2.52445

July 30, 1979

The Honorable Susumu Ono
Chairman, Board of Land and
Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Ono:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and
Improvements, Project No. 64A-01-79

Thank you for your letter of May 29, 1979, commenting on the bikeway and landscaping needs of the proposed project.

Please be assured that our project plans will provide a bikeway where feasible. Landscaping will also be included in the project plans. Also, we will note the ultimate 184 acre size of the Sand Island Park in the EIS document.

Very truly yours,

James K. Camara
for Ryokichi Higashionna

Section 13.

REPRODUCTION OF COMMENTS AND RESPONSES MADE DURING THE DRAFT EIS REVIEW

13. REPRODUCTION OF COMMENTS AND RESPONSES MADE DURING THE DRAFT EIS REVIEW

Pages 13-2 to 13-47 contain reduced sized copies of the comments and responses to the comments during the Draft EIS Review Period. Where a substantial comment was received, the written responses immediately follows the letter.

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

COMMANDER (dpl)
Fourteenth Coast Guard District
Prince Kalanianaole Federal Bldg.
300 Ala Moana Blvd.
Honolulu, Hawaii 96850

11000
2 SEP 1980

Ralph T. Segawa
U.S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

The Fourteenth Coast Guard District has reviewed the Pre Draft Environmental Impact Statement on Sand Island access road widening. Our particular interest is in the impacts of the road and bridge as they effect the mariner. Additionally, the effect on the Coast Guard personnel at Base Honolulu is important.

13-2

The addition of a new bridge over navigable waters is considered a major Federal action. Thus the EIS will have to adequately address the primary and secondary effects of the bridge and bridge approaches. The Pre-Draft EIS does not do so. The economic analysis, particularly, does not consider marine interests. For example, would users of Kalihi Channel benefit if movement through the channel was unrestricted?

In many areas the EIS refers to possible Congressional action, possible changes in law, possible changes in position, etc. Naturally any alternatives based upon possible future actions are very tenuous until the future action occurs. Future monitoring will be required along with supplemental EIS updates.

In addition to the above general statements, the following specific comments are given indicating a need for clarification or correction:

Page 5, para 2.3(5). This paragraph does not clearly state that the condition cited is based on a do nothing alternative.

2 SEP 1980

Pages 15 and 16. All alternatives appear to consider only a new two lane bridge; leaving the old Bascule bridge in place. The alternatives of new, fixed four lane bridges with complete economic analysis should be included.

Page 16. Bridge heights over water are normally expressed in terms of vertical clearance from mean low water to the underbody of the bridge at the centerline of the channel. (Navigational clearance). It is unclear from what point the measurements are taken to come up with 26, 55, and 80 ft. bridge heights. Any figures other than navigational clearances would be confusing and misleading to the public.

Pages 17 and 18. The operation and maintenance costs were not included for the alternatives. For a true economic analysis, all costs should be considered over the life expectancy of the bridge, or at least for 10, 20, and 30 year periods.

Page 17. The statement, "Their present position is simply not to consider any bridge application which in effect is similar to their 1977 notice for bridge closure" is incorrect. The Coast Guard will consider and process any request.

Page 19, paragraph 3 is not substantiated.

Page 32. Coast Guard resident population at Sand Island, when including the ships homeported there, is closer to 450.

Page 52. Benefits or impact to the users of the waterway has not been addressed.

Appendix A. The data points out that approximately 18% of the traffic is trucks (commercial vehicles). In Appendix B, the user cost or delay costs are based on 100% trucks/commercial vehicles.

Appendix B, Page 14. Matson Terminals, Inc., letter detailing increase in cost was not included in Appendix as indicated.

The delays and user costs cited appear to be based on all vehicles being commercial and all vehicles being delayed the maximum time. Since neither of the above are correct assumptions, the data presented is very suspect.

13-3

2 SEP 1980

Appendix B, page 15. "Increase the annual user costs to 10.35 million dollars." No previous base mentioned, therefore, the impact of the increase cannot be determined.

I appreciate this opportunity to communicate with your agency on the Pre-Draft EIS. Because of the obvious Coast Guard interest in this project, I am looking forward to future communication between our agencies.

S. L. WILSON
Acting

Hawaii Division
Box 50206
Honolulu, Hawaii 96850

January 13, 1981

HEC-HI

PARI Bernie E. Thompson
U.S. Coast Guard
300 Ala Moana Blvd., Room 9153
Honolulu, Hawaii 96850

Dear PARI Thompson:

Subject: Pre-Draft EIS F-064-1( ), Sand Island Access Road

Attached for your advance review is the responses to be made to the comments received by your letter dated September 2, 1980.

A copy of the pre-draft is also attached. Your letter and our responses will be included in section 12 of the Draft EIS.

The State has been authorized to proceed with the printing of the draft EIS, when that is completed the document will be submitted to you for official review and comment.

Sincerely yours,

Ralph T. Segawa
Division Administrator

By:
H. Yasumoto
Assistant Division Administrator

Enclosures

ATTACHMENT – RESPONSE TO U.S. COAST GUARD'S COMMENTS
ON THE PRE-DRAFT EIS

Project No. 64A-01-79, Sand Island Access Road Widening and Improvements

The responses below corresponds to the comments (identified as numbers 1 through 13) as indicated on the Coast Guard's letter of September 2, 1980.

Response to Comment No. 1:

Subsection 4.8 on pages 4-4, 4-5, and 4-6 addresses these concerns.

Response to Comment No. 2:

This has been clarified in subsection 2.3 on page 2-2 of the Draft EIS.

Response to Comment No. 3:

A fixed 4-lane bridge was not considered because of its higher costs compared to the 2-lane bridge alternatives. The existing bascule bridge adequately provides two of the required four corridor lanes without requiring additional construction.

Response to Comment No. 4:

Navigational clearances are identified in the Summary, page iii, item (3), and on subsection 2.4.7 on page 2-14 (paragraph 5).

Response to Comment No. 5:

Refer to subsection 2.4.7, bottom of page 2-14.

Response to Comment No. 6:

The statement has been deleted from the Draft EIS.

Response to Comment No. 7:

This paragraph has been deleted in the Draft EIS.

Response to Comment No. 8:

The Draft EIS corrects this data in subsection 3.2, page 3-3.

Response to Comment No. 9:

See subsection 4.8, page 4-4 through 4-6.

Response to Comment No. 10:

User costs or delay costs are based on the total estimated trucks and passenger cars forecasted for Sand Island Access Road as reflected in the traffic figures of Appendix A.

13-4

ATTACHMENT – RESPONSE TO U.S. COAST GUARD'S COMMENTS
ON THE PRE-DRAFT EIS

Response to Comment No. 11:

Refer to subsection 4.9, page 4-6.

Response to Comment No. 13:

Refer to subsection 4.9, pages 4-6 and 4-7.

GOVERNOR

CHAIRMAN, BOARD OF AGRICULTURE

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

February 2, 1981

MEMORANDUM

To: U.S. Department of Transportation
Federal Highway Administration

Subject: Hawaii FAP Route 64, Draft EIS, FHWA-HI-EIS-80-02D, Sand Island Access Road Widening and Improvements

The environmental impact statement has been reviewed by the Department of Agriculture, and we have no comments to offer.

The EIS is herewith returned.

We appreciate the opportunity to comment.

JOHN FARIAS, JR.
Chairman, Board of Agriculture

Encl.

NO RESPONSE REQUIRED

13-5

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

PROJECT OFFICES
KAUAI OFFICE
P. O. BOX 1375
LIHUE, HAWAII 96766

HILO OFFICE
P. O. BOX 936
HILO, HAWAII 96720

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

February 4, 1981

PROJECT OFFICES
MAUI OFFICE
P. O. BOX 97
WAILUKU, MAUI 96793

MOLOKAI OFFICE
P. O. BOX 198
HOOLEHUA, MOLOKAI 96729

KAUAI OFFICE
P. O. BOX 332
LIHUE, HAWAII 96766

Mr. Ralph T. Saqawa
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
Box 50206
Honolulu, Hawaii 96805

Dear Sir:

RE: Sand Island Access Road Widening and Improvements Draft EIS

The Department of Hawaiian Home Lands has reviewed the draft EIS relative to the above subject project and has no comments since the subject project does not affect Hawaiian Home Lands.

Sincerely yours,

Stanley H.D. Hong
for Georgiana K. Padeken
Chairperson

GKP:GW:rn

NO RESPONSE REQUIRED

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
PACIFIC-ASIA REGION
P O BOX 50109
HONOLULU, HAWAII 96850

FEB 5 1981

Mr. Ralph T. Segawa
Division Administrator
DOT, Federal Highway Administration
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa

This is to acknowledge receipt of the Draft EIS for the Sand Island Access Road Widening and Improvements project forwarded by your letter HEC-HI dated January 22, 1981. We have no comments on this proposal with regard to potential impact on aeronautical activities.

Thank you for the opportunity to review and comment on this document.

Sincerely,

FRANKLIN D. BENSON
Airport Development Programs
Manager

NO RESPONSE REQUIRED

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL

HIENG

5 FEB 1981

Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Gentlemen:

Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

We have received a copy of your Draft Environmental Impact Statement on the above subject and have no comments to offer at this time.

Yours truly,

JERRY M. MATSUDA
Captain, HANG
Constr & Engr Officer

NO RESPONSE REQUIRED

GEORGE R. ARIYOSHI
GOVERNOR

CHARLES G. CLARK
SUPERINTENDENT

OFFICE OF THE SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2360
HONOLULU, HAWAII 96804

February 9, 1981

U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

13-7

Gentlemen:

Subject: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

We have reviewed the subject material and have no comments to offer at this time.

Thank you for the opportunity to review the matter.

Sincerely,

CHARLES G. CLARK
Superintendent

CGC:HL:jl

cc: Mr. James E. Edington

NO RESPONSE REQUIRED

AN EQUAL OPPORTUNITY EMPLOYER

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

Eileen R. Anderson
MAYOR

Roy H. Tanji
DIRECTOR AND BUILDING SUPERINTENDENT

PB 81-108

February 9, 1981

Mr. Ralph Segawa
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Subject: Hawaii FAP Route 64, Draft Enviromental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

We have reviewed the Draft Environmental Impact Statement and have no comments to offer.

Thank you for the opportunity to review and comment.

Very truly yours,

ROY H. TANJI
Director and Building Superintendant

AF:vk
cc: J. Harada

NO RESPONSE REQUIRED

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

EILEEN R. ANDERSON
MAYOR

ROBERT K. MASUDA
DIRECTOR

February 10, 1981

Mr. Ralph Segawa, Division Administrator
Federal Highway Administration
U. S. Department of Transportation
P. O. Box 50206
Honolulu, Hawaii 96850

13-8

Dear Mr. Segawa:

SUBJECT: HAWAII FAP ROUTE 64, DRAFT ENVIRONMENTAL IMPACT STATEMENT, FHWA-HI-EIS-80-02-D, SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS

We have reviewed the draft EIS and have no comments.

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

Sincerely yours,

ROBERT K. MASUDA, Director

RKM:vc

NO RESPONSE REQUIRED

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
HONOLULU AREA OFFICE
300 ALA MOANA BLVD., RM 3318, P.O. BOX 50007
HONOLULU, HAWAII 96850

REGION IX

February 11, 1981

IN REPLY REFER TO:
9.ISS (Johnson/
546-5554)

Mr. H. Kusumoto
Assistant Division Administrator
U.S. Department of Transportation
Federal Highway Administration, Region IX
Hawaii Division
Box 50206
Honolulu, HI 96850

Dear Mr. Kusumoto:

Subject: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

The subject draft EIS was reviewed by this office for its impact on HUD programs and concerns in the area of Sand Island Access Road.

We find that the proposed widening of the access road through an industrial and commercial area does not impact on any current HUD project or activity.

We appreciate the opportunity to comment on the EIS but do not find a need for a copy of the final EIS.

Sincerely,

Calvin Lew
Acting Area Manager

NO RESPONSE REQUIRED

HAWAIIAN ELECTRIC COMPANY, INC.
Box 2750 Honolulu, Hawaii 96840

RICHARD L. O'CONNELL P.E.
MANAGER ENVIRONMENTAL DEPARTMENT

February 19, 1981

ENVIRON 2-1
NV/G

Mr. Ralph T. Segawa
Division Administrator
U.S. Department of Transportation
Federal Highway Administration,
Region Nine, Hawaii Division
P. O. Box 50206
Honolulu, Hawaii 96850

13-9

Dear Mr. Segawa:

Subject: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

We have reviewed the subject Draft EIS and find it adequately presents the impacts of the Sand Island Access Road Widening and Improvement project on the Hawaiian Electric Company. We would appreciate receiving a copy of the Final EIS, when it is available.

Sincerely,

Richard L. O'Connell
Manager, Environmental Department

JFB:cal

NO RESPONSE REQUIRED

GEORGE R. ARIYOSHI
GOVERNOR

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

HIDEO MURAKAMI
COMPTROLLER

MIKE M. TOKUNAGA
DEPUTY COMPTROLLER

LETTER NO. (P)1118.1

FEB 20 1981

Mr. Ralph Segawa
Division Administrator
Federal Highway Administration
U. S. Department of Transportation
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Subject: Draft EIS for the Proposed Sand Island Access Road Widening and Improvements, FAP Route 64
Project No. 64A-01-79

The State Department of Accounting and General Services has reviewed the subject draft EIS and has no comments to offer at this time, but would appreciate a copy of the final EIS. Meanwhile, the draft EIS has been forwarded to the University of Hawaii and they will respond directly to you in regards to the future developments at the U.H. Marine Expeditionary Center adjacent to the Sand Island Access Road.

Very truly yours,

RIKIO NISHIOKA
State Public Works Engineer

ET:jnt 4-6

NO RESPONSE REQUIRED

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA
HONOLULU, HAWAII 96843

EILEEN ANDERSON, Mayor

YOSHIE H. FUJINAKA, Chairman
DAT DUON PANG, Vice Chairman
RYOKICHI HIGASHIONNA
Donna M. Howard
Michael J. Chun
ROBERT A. SOUZA
CLAUDE T. YAMAMOTO

KAZU HAYASHIDA
Manager and Chief Engineer

February 24, 1981

Mr. Ralph T. Segawa
Division Administrator
Federal Highway Administration
U. S. Department of Transportation
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Subject: Your letter of January 22, 1981 on the Draft Environmental Impact Statement for the Sand Island Access Road Widening and Improvements, FHWA-HI-EIS-80-02-D

We anticipate no adverse impacts to potable groundwater resources from the proposed project. However, we request the project's construction plans be submitted for our review and approval to protect our existing water facilities in the area.

If you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

NO RESPONSE REQUIRED

13-10

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 S. BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

EILEEN R. ANDERSON
MAYOR

M. M. NONAKA
CHIEF

February 24, 1981

U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Gentlemen:

SUBJECT: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

We have no objections or comments at this time. We also request a copy of the Final Environmental Impact Statement.

Sincerely,

MELVIN M. NONAKA,
Fire Chief

MMN:MM:clt

NO RESPONSE REQUIRED

13-11

University of Hawaii at Manoa

Water Resources Research Center
Holmes Hall 283 • 2540 Dole Street
Honolulu, Hawaii 96822

2 March 1981

Mr. Ralph T. Segawa
U.S. Dept. of Transportation
Federal Highway Administration
Hawaii Division
Box 50206
Honolulu, HI 96850

Dear Mr. Segawa:

Subject: Draft EIS for the Proposed Sand Island Access Road Widening and Improvements, January 1981

We have reviewed the subject Draft EIS and have no comments to offer at this time. This material was reviewed by WRRC and affiliate personnel.

Sincerely,

Edwin T. Murabayashi
EIS Coordinator

ETM:jm

cc: C. Liu
H. Gee
Y.S. Fok

NO RESPONSE REQUIRED

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

COMMANDER (ORB)
Fourteenth Coast Guard District
Prince Kalanianaole Federal Bl
300 Ala Moana Blvd
Honolulu, Hawaii 96850
(808) 546 7130

16475
Serial 32050
5 MAR 1981

Mr. Ralph T. Segawa
Division Administrator
Federal Highway Administration
Region Nine, Hawaii Division
Box 50260
Honolulu, Hawaii 96850

Dear Mr. Segawa:

The Fourteenth Coast Guard District has reviewed the Draft Environmental Impact Statement on the Sand Island Access Road Widening and Improvements. We have no comments to add to those expressed in our letter of 2 September 1980 on the Pre-Draft EIS.

We do desire a copy of the Final Environmental Impact Statement. The opportunity to comment on the Draft EIS is appreciated.

Sincerely yours,

F. R. HOBILLARD
Captain, U. S. Coast Guard
Chief, Aids to Navigation Branch
Fourteenth Coast Guard District
By direction of the District Commander

NO RESPONSE REQUIRED

HEADQUARTERS
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860

IN REPLY REFER TO:
002A:mm
Ser 372

6 MAR 1981

Mr. Ralph T. Segawa
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P. O. Box 50206
Honolulu, HI 96850

Dear Mr. Segawa:

Hawaii FAP Route 64, Draft Environmental Impact Statement
FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

The draft Environmental Impact Statement for the Sand Island Access Road Widening and Improvements forwarded by your letter of 22 January 1981 has been reviewed, and the Navy has no comments to offer.

The opportunity to review the subject EIS is appreciated.

Sincerely,

R. D. EFER
CAPTAIN, CEC, U.S. NAVY
FACILITIES ENGINEER
BY DIRECTION OF THE COMMANDER

13-12

NO RESPONSE REOUIRED

United States Department of Agriculture
Soil Conservation Service
P.O. Box 50004
Honolulu, HI
96850

March 6, 1981

Ryokichi Higashionna, Director
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Higashionna:

Subject: Sand Island Access Road Widening and Improvements, Project No. 64A-01-79, Island of Oahu

In reply to your letter dated February 27, 1981, regarding subject project, we have no comment.

Sincerely,

JACK P. KANALZ
State Conservationist

RECEIVED
Mar 10 1 59 PM '81
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

NO RESPONSE REQUIRED

The Soil Conservation Service is an agency of the Department of Agriculture

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

EILEEN R. ANDERSON
Mayor

MICHAEL J. CHUN
Director and Chief Engineer

101-13-0091

March 6, 1981

Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

13-113

Dear Dr. Higashionna:

Subject: Your Letter HWY-PA, 2.62250, dated February 27, 1981, concerning Sand Island Access Road Widening and Improvements, Project No. 64A-01-79, Island of Oahu

Thank you for informing us of the scheduled highway corridor and design public hearing on the project.

Our comments, at this time, on the project are that the project serves the needs of the people in the area and that the existing environment will not be adversely affected.

As the project progresses and as the plans are developed, we would appreciate that you keep us informed whenever City roads or lands are involved.

He ke aloha pumehana,

MICHAEL J. CHUN
Director and Chief Engineer

RECEIVED
MAR 17 11 09 AM '81
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

NO RESPONSE REQUIRED

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 S. BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

EILEEN R. ANDERSON
Mayor

March 10, 1981

TO: RYOKICHI HIGASHIONNA, DIRECTOR OF TRANSPORTATION
FROM: MELVIN M. NONAKA, FIRE CHIEF
SUBJECT: SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS, PROJECT NO. 64-A-01-79, ISLAND OF OAHU

We have no comments or recommendations concerning the subject project.

MELVIN M. NONAKA,
Fire Chief

MMN:clt/MZ

RECEIVED
MAR 13 2 23 PM '81
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

NO RESPONSE REQUIRED

United States Department of Agriculture

Soil Conservation Service

P.O. Box 50004
Honolulu, HI
96850

March 11, 1981

U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, HI 96850

Dear Sirs:

Subject: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

In reply to your letter HEC-HI dated January 22, 1981, we have no comments.

Sincerely,

JACK P. KANALZ
State Conservationist

NO RESPONSE REQUIRED

The Soil Conservation Service is an agency of the Department of Agriculture

SCS-AD-1
10-79

13-14

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

EILEEN R. ANDERSON
MAYOR

WILLARD T. CHOW
DIRECTOR AND CHIEF PLANNING OFFICER

DGP2/81-275(RK

March 16, 1981

Federal Highway Administration
U.S. Department of Transportation
Box 50206
Honolulu, Hawaii 96850

Gentlemen:

Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

We have reviewed the above Environmental Impact Statement and have no comments.

Thank you for affording us the opportunity of reviewing the impact statement.

Sincerely,

WILLARD T. CHOW

NO RESPONSE REQUIRED

Mar. 18, 1981

Mr. Ralph T. Segawa
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Subject: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS- 80- 02- D
Sand Island Access Road Widening and Improvements

Thank you very much for the opportunity to comment on the EIS for reconstruction of the Sand Island Access Road.

At this time we have no comments to offer but do request that we be kept informed of the project's progress.

Sincerely,

Vincent Lee, President
Kalihi-Palama Community Council

By: TAKESHI UYESUGI

1711 Day Place
Honolulu, Hawaii 96819

13-15

NO RESPONSE REQUIRED

KALIHI PALAMA NEIGHBORHOOD NO. 15
c/o KALIHI-PALAMA MULTI-SERVICE CENTER
333 NORTH KING STREET
HONOLULU, HAWAII 96817

Mar 20 3 50 PM '81
DEPT OF TRANSPORTATION

March 19, 1981

Mr. Ryokichi Higashionna
Director of Transportation
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

SUBJECT: Project No. 64A-01-79 Sand Island Access Road Widening and Improvements

Thank you very much for the opportunity to comment on the EIS for reconstruction of Sand Island Access Road.

A representative from the Kalihi-Palama Neighborhood Board No. 15 will be at the public hearing scheduled for March 24, 1981 at Puuhale School. We feel that this is a very important issue in which community should participate in and make recommendations.

At this time we have no comments to offer but request that we be kept informed of the progress of this project.

Sincerely yours,
Revocato Medina
Revocato Medina
Chairman

NO RESPONSE REQUIRED

RECEIVED
Mar 23 9 08 AM '81
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

13-16

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA
HONOLULU, HAWAII 96843

Mar 31 12 45 PM '81
March 20, 1981
TRANSPORTATION

Eileen Anderson,
YOSHIE H. FUNNAKA, Chair
DAT QUON FANG, Vice Chair
RYOKICHI HIGASHIONNA
Michael J. Chun
Donna M. Howard
ROBERT A. SOUZA
CLAUDE T. YAMAMOTO

KAZU HAYASHIDA
Manager and Chief Engineer

RECEIVED
Mar 31 1 23 PM '81
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION

Dr. Ryokichi Higashionna
Director of Transportation
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Subject: Your Letter HWY-PA 2.62250 of February 27, 1981 on Sand Island Access Road Widening and Improvements

We have no comment regarding the project.

Please submit the construction drawings for our review and approval.

Very truly yours,

Kazu Hayashida
KAZU HAYASHIDA
Manager and Chief Engineer

NO RESPONSE REQUIRED

13-17

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
630 Sansome Street
San Francisco, California 94111

1950
April 1, 1981

Mr. Ralph T. Segawa
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Thank you for the opportunity to review the Sand Island Access Road Widening Draft Environmental Impact Statement. We have no comments, and it will not be necessary to send us a copy of the final EIS.

Sincerely,

ZANE G. SMITH, JR.
Regional Forester

NO RESPONSE REQUIRED

HAWAIIAN TELEPHONE
(13)

April 10, 1981

U.S. Department of Transportation,
Federal Highway Administration
P.O. Box 50206
Honolulu, Hawaii 96850

Attention: Mr. Ralph T. Segawa

Gentlemen:

Subject: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements.

We have reviewed your Draft Environmental Impact Statement for reconstruction of the Sand Island Access Road and the additional bridge across the Kalihi Channel. We agree with the statements contained in the draft "EIS" relative to telephone facilities and do not have additional comments to make.

Thank you for allowing us to review the subject document and should you have further questions, please call G. Kaneko at 546-3464. We will appreciate receiving a copy of the final copy of this EIS when available.

R. Ho
Network Planning & Engineering
Director

NO RESPONSE REQUIRED

...i. CANE TELEHAWAII

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15TH AIR BASE WING (PACAF)
HICKAM AIR FORCE BASE

15 APR 1981

APR 20 6 58 AM '81
DEPT OF
TRANSPORTATION

Dr Ryokichi Higashionna
Director, Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813

Dear Dr Higashionna

We have no comment relative to the proposed Sand Island Access Road Widening and Improvement Project. Thank you for the opportunity to review this proposed project.

Sincerely

JOHN A. PARRISH Jr., Colonel, USAF
Commander

NO RESPONSE REQUIRED

APR 23 11 43 AM '81
DEPT. OF TRANSPORTATION

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

1455 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96814 • AREA CODE (808) 955-8111

EILEEN R. ANDERSON
MAYOR

FRANCIS KEALA
CHIEF

OUR REFERENCE EC-ES

February 9, 1981

U. S. Department of Transportation
Federal Highway Administration
Box 50206
Honolulu, Hawaii 96850

13-19

Reference: Hawaii FAP Route 64, Draft Environmental Impact Statement, FHWA-HI-EIS-80-02-D, Sand Island Access Road Widening and Improvements

Gentlemen:

The concerns of the Honolulu Police Department related to the Sand Island Access Road are primarily in the areas of Safety and Traffic. The environment served by the Sand Island Access Road is both industrial and recreational. Each of these uses present unique safety, traffic and unlawful activity problems. The following comments are directed to some of these problems:

1. LIGHTING: Sufficient street lighting can be a deterrent to unlawful activities. Paragraph 2.4.10, Utilities, mentions inclusion of street lighting from the Sand Island Access Road and Nimitz Highway intersection to the bascule bridge. It is stated that street lighting for
1A the Sand Island Parkway is under consideration. The Honolulu Police Department strongly encourages the provision of street lighting along the Parkway for vehicle safety and to deter criminal activity.

2. BIKE WAY: According to Table 1, Page 2-3, the road from the Container Yard Entrance to the State Park Entrance does not include a bike way. This stretch of road, which is only two lanes, could create serious safety hazards and conflicts between motorized vehicles
1B and bicycles. For safety reasons, this stretch should provide for separation of automobiles and trucks from bicycles.

3. EMERGENCY VEHICLES: Access to Sand Island by emergency vehicles (Police, Fire, Ambulance) can be seriously hindered by the expected back-up of vehicles when the bascule
1C bridge is open (Paragraph 2-3 (5)). Based on safety reasons alone, the Honolulu Police Department favors construction of a fixed bridge (one of the alternatives) rather than a bascule bridge.

The Honolulu Police Department would like to be provided with a copy of the Final Environmental Impact Statement.

Sincerely,

FRANCIS KEALA
Chief of Police

By
EARL THOMPSON
Assistant Chief
Administrative Bureau

LETTER #1

EVALUATION - POLICE DEPARTMENT (February 9, 1981)

1A Street lighting for the Sand Island Parkway will be considered during the final design stage.

1B A bikeway will be provided on the shoulder of the highway for the section from the Container Yard to the existing entrance of the Sand Island State Park.

1C The fixed bridge alternative provides for continuous flow of land traffic to Sand Island but has offsetting disadvantages depending on the bridge design height. Aside from aesthetic considerations, these disadvantages range from the obstruction of Kalihi Channel in the case of the 15-foot high bridge (same height as the existing bascule bridge) to high construction cost and right-of-way impacts in the case of the higher fixed bridge.

The existing bascule bridge is expected to remain in service and carry the land traffic exiting from Sand Island. To minimize land traffic backups, the State DOT has requested the U.S. Coast Guard to reduce the hours of operation for the existing bascule bridge.

Since the U.S. Coast Guard opposes the implementation of the 15-foot high fixed bridge, the construction of a new bascule bridge (to operate in tandem with the existing bascule bridge) is the best solution to providing more capacity for land traffic across the Kalihi Channel. We note that the second bascule bridge construction alternative has been selected.

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

EILEEN R. ANDERSON
MAYOR

MICHAEL J. CHUN
DIRECTOR AND CHIEF ENGINEER

ENV 81-61

February 12, 1981

Mr. Ralph T. Segawa
Division Administrator
Federal Highway Administration
U. S. Department of Transportation
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Subject: Draft EIS for Hawaii FAP Route 64,
FHWA-HI-EIS-80-02-0, Sand Island
Access Road Widening and Improvements,
Honolulu, Oahu, Hawaii

We have reviewed the subject draft EIS and do not have any additional comments to make. We find, however, that our initial
2A comments on the project to the State Department of Transportation have been omitted under Section 12 of the EIS. Our letter (ENV 79-125) and the State's response (LT-PA 2.51765) are attached for your information.

We would like to receive a copy of the Final EIS.

Very truly yours,

Michael J. Chun

MICHAEL J. CHUN
Director and Chief Engineer

Attach.

13-21

GEORGE R. ARIYOSHI
GOVERNOR

ENV 79-125

May 4, 1979

Mr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

Subject: EIS Preparation Notice for the Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

We are responding to your letter LT-PA 2.50566, dated April 24, 1979, concerning the subject project. Our comments are as follow:

1. Figure 1 appears to be incorrect with reference to Figure 2.

2. If and when the unimproved portion of Sand Island Parkway is constructed, the drainage system serving the sewage treatment plant will have to be relocated. Local sewer lines in the vicinity will probably be affected.

3. Construction plans should be coordinated with the Drainage Section of the Division of Engineering and the Design Branch of the Division of Wastewater Management.

4. According to our monitoring data, the new Sand Island outfall sewer is not causing any water quality problems in Mamala Bay, especially around Sand Island. Your statement on coastal water quality should be revised accordingly.

5. We concur on the need of the proposed project.

Very truly yours,

WALLACE MIYAHIRA
Director and Chief Engineer

RYOKICHI HIGASHIONNA PH D
DIRECTOR

DEPUTY DIRECTORS
WALLACE ADAI
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON
JAMES R. CARRAS

RECEIVED
DEPT OF PUBLIC WORKS
JUN 27 8 30 AM '79

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

IN REPLY REFER TO
LT-PA
2.51765

June 19, 1979

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

Dear Mr. Miyahira:

Subject: EIS Preparation Notice
Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Thank you for your letter, ENV 79-125, of May 4, 1979, commenting on the EIS Preparation Notice. The following is in response to your comments:

1. Figure 1 identifies the location of the project, and Figure 2 shows the 1990 Honolulu Harbor Plan (proposed land uses).

2. We will coordinate the drainage and sewer concerns with the appropriate parties as our plans are developed.

3. We will note this information in the EIS document.

Very truly yours,

James R. Carras
for Ryokichi Higashionna

LETTER #2

EVALUATION - DEPARTMENT OF PUBLIC WORKS (February 12, 1981)

2A The data requested in your letter dated May 4, 1979 is provided on page 3-19 of the Final EIS.

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

February 18, 1981

In reply, please refer to:
File: EPHS-SS

MEMORANDUM

To: Mr. H. Kusumoto, Assistant Division Administrator
Federal Highway Administration, U.S. Department of Transportation

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for Sand Island Access Road Widening and Improvements, FHWA-HI-EIS-80-02-D

Thank you for allowing us to review and comment on the subject EIS.

We submit the following comments for your information and consideration:

3A 1. The study for the proposed project indicates that the widening of Sand Island Access Road will increase traffic flow along this road and bring traffic lanes nearer to existing buildings on both sides of the roadway which will result in increased noise levels within the offices.

3B 2. If sites for the stockpiling of material, equipment maintenance, or storage should be located within the project area, special precautions must be taken to minimize noise impacts on adjacent property.

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.

For MELVIN K. KOIZUMI

cc: OEQC

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P O BOX 621
HONOLULU HAWAII 96809

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HABARIN
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

February 27, 1981

Mr. Ralph T. Segawa
U. S. Department of Transportation
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

We have reviewed the draft EIS for Project No. 64A-01-79, Sand Island Access Road, and have the following comments to offer:

4A Landscaping along the Sand Island Access Road will complement the park-like setting of the completed portion of Sand Island Parkway.

4B Attention should be given to installing necessary water, sewer, electrical and drainage facilities to serve future development on Sand Island simultaneously with the road project to avoid breaking up the roadway pavement at a later date. If this is not possible, the project should be designed to accommodate these utilities in the future.

4C Because of the park-like setting of the proposed road, we recommend that overhead electrical and telephone lines be placed underground through the Sand Island Parkway section.

Sincerely yours,

SUSUMU ONO
Chairman of the Board

LETTER #3

EVALUATION - DEPARTMENT OF HEALTH (February 18, 1981)

3A - This information is correct and is included in the Final EIS (pages 4-1 and 4-2).

3B - This comment is acknowledged. The contractor is responsible for adhering to the noise standards and requirements of the City and State.

GEORGE R. ARIYOSHI
Governor of Hawaii

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES
EDGAR A. HAGADONE
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONSERVATION AND ENFORCEMENT
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

February 28, 1981

Re: HEC-HI

Mr. Ralph T. Segawa, Division Administrator
Region Nine, Hawaii Division
Federal Highway Administration
U.S. Department of Transportation
Box 50206
Honolulu, Hawaii 96850

13-24

Dear Mr. Segawa:

Thank you for your letter of January 22, 1981 containing a Draft EIS for the Proposed Sand Island Access Road Widening and Improvements, FAP Route 64, Project No. 64A-01-79.

4D The assumption on page 3-17, par. 3.7, that the island is man-made is not entirely true. A large central area on the existing island was originally called Kaholaloa Island and is documented as early as 1817 by the Russian Kotzebue Expedition. Since a major part of your project runs through this core section you may uncover unanticipated sites or remains such as artifacts, shell, bone or charcoal deposits. If these types of remains are encountered please inform the applicant to stop work and contact our office (548-7460) immediately.

4E A minor error exists on the project location map (Figure I) on page 1-2. Kahaka'aulana Island was dredged entirely out of existence for a seaplane runway during World War II. The island labeled as Kahaka'aulana Island is really Harris Island formed during World War II from dredging spoils.

Sincerely yours,

Susumu Ono
Chairman of the Board and
State Historic Preservation
Officer

LETTER #4

EVALUATION - DEPARTMENT OF LAND AND NATURAL RESOURCES (February 27, 1981)

4A - Landscaping will be provided, depending on the availability of land within the right-of-way.

4B - This will be considered in the design stage.

4C - Funding the undergrounding of existing overhead utilities and installation of future utilities will be resolved in the design stage and also guided by DOT/FHWA policies.

In response to DLNR's letter of February 28, 1981:

4D - The information on the formation of Sand Island is corrected in the text on page 3-17.

4E - The error in Figure 1, page 1-2 (Kahaka'aulana Island should be correctly identified as Harris Island) has been corrected.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P. O. BOX 50167
HONOLULU, HAWAII 96850

March 16, 1981

Mr. Ryokichi Higashionna
Director of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: DEIS - (ER #81/343)
Sand Island Access Road
Widening and Improvements
Oahu, Hawaii

Dear Mr. Higashionna:

We have reviewed the subject Draft Environmental Impact Statement (DEIS) dated January 21, 1981, and offer the following comment:

13-25

5A The DEIS does not address the possibility that turbidity caused by construction will have a serious adverse impact on fishing activities at Mokauea Island and the tuna bait fishery (Nehu) in Keehi Lagoon. The impacts could create serious public criticism of the project and should be addressed in detail, including current analysis and measures to be taken to prevent these adverse impacts if appropriate.

We appreciate this opportunity to comment.

Sincerely yours,

William B. Lennan II
Acting Deputy Project Leader
for Environmental Services

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

LETTER #5

EVALUATION - FISH AND WILDLIFE (March 16, 1981)

5A - The Final EIS does discuss the potential Impact on water quality (pages 4-2 and 4-3). It was felt that the impact on water quality (for reasons cited on these pages) would be temporary and insignificant. The Department of Health, State of Hawaii, concurred with these findings (Appendix I, page I-1). Subsequently, further analysis would be unwarranted at this time.

GEORGE R. ARITOSHI
HIDETO KONO
FRANK SKRIVANEK

DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT

Kamamalu Building 250 South King St. Honolulu, Hawaii • Mailing Address P.O. Box 2359 Honolulu, Hawaii 96804

March 18, 1981

Ref. No. 2871

Mr. Ralph T. Segawa
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
Region Nine, Hawaii Division
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

SUBJECT: Hawaii FAP Route 64, Draft Environmental Impact Statement, Sand Island Access Road Widening and Improvements

13-26

We have reviewed the subject document and offer the following comments for your consideration in responding to the Federal Highways Administration (FHA).

1. We note that a determination of consistency with Hawaii's Coastal Zone Management Program (HCZMP) is included in section 14 of the DEIS, "List of Necessary Approvals." To assist in the proper preparation of its federal consistency determination, the attached copy of our "Procedures Guide for Achieving Federal Consistency with the Hawaii Coastal Zone Management Program" can be sent to the FHA for its use and reference. 6A

2. A policy of the HCZMP is to "promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate State Water Quality Standards" (Coastal Ecosystems, Policy 4). Relative to this, we concur with the comments of the Department of Health (Appendix I) that while the construction and operation of a second bascule bridge across Kalihi Channel will not have any significant adverse impacts to the water quality of the Kalihi Channel, mitigation measures should be taken to minimize temporary pollution levels during construction to insure that construction activities will be in compliance with State Water Quality Standards. We also recommend that mitigation measures for potential erosion and runoff during the construction phase of the improvements to the Sand Island Access Road be adopted for the same reason. 6B

3. An objective of the HCZMP is to "provide coastal recreational opportunities accessible to the public." Page 4-2 of the DEIS notes that the Kalihi Channel is frequently used by recreational and pleasure boating craft...." We suggest that the final environmental impact 6C

statement for this project include a discussion of any possible adverse impacts of constructing a second bridge across the Kalihi Channel on the existing and potential recreational uses of this channel. The discussion should take into account the increased use of this channel expected from the development of the Sand Island State Park and Keehi Lagoon Small Boat Harbor (page 4-4, 4-5).

4. Another objective of the HCZMP is to "reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence." 6D Page 3-13 (Discussion of the Existing Affected Environment) of the DEIS represents that approximately 600 feet of the extreme eastern end of the Sand Island Access Road and part of Sand Island is within the tsunami inundation zone as established by the Oahu Civil Defense Agency. It also states that the entire shoreline of Sand Island will be included in a Coastal High Hazard District on the flood hazard maps for Oahu. An examination of the Flood Insurance Rate Maps (FIRMS) confirms that a small portion of the Sand Island Access Road at its intersection with Nimitz Highway is subject to flooding. The FIRMS do not indicate, however, that Sand Island is included within a Coastal High Hazard District. While the mitigation measures that are proposed appear to be adequate, we suggest that the final environmental impact statement clarify the potential impact of flooding and tsunami hazards on the project to allow a better assessment of the adequacy of the mitigation measures which have been proposed.

5. Finally, it is also a policy of the HCZMP to "insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline" (Scenic and Open Space Resources, Policy 2). 6E The discussion of the impact of the various bridge alternatives on scenic views does not offer any visual representations of the various alternatives for comparison nor the present view from land or from the channel which might be affected by the construction of a second bridge across the channel. The height and bulk of such bridge construction are of particular concern in this regard. We suggest that sketches or photos showing the potential scenic impact of the various bridge alternatives on the existing views from land and the Kalihi Channel be included in the final EIS for this project.

Thank you for the opportunity to review and comment on this matter.

Sincerely,

Hideto Kono

Enclosure

cc: Office of Environmental Quality Control

LETTER #6

EVALUATION - DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT (March 18, 1981)

6A - The CZM will be filed at the appropriate time after the determination of the selected alternative.

6B - The standard highway construction procedure relating to erosion control, deals with this problem. This standard is identified in subsection 107.17(B) of the Hawaii Highways Division, Department of Transportation, Honolulu, Standard Specifications for Road and Bridge Construction, 1976.

6C - It should be noted that a second bascule bridge alternative was selected and that the impacts of this alternative on the boat users will remain similar to the present passage through the existing bascule bridge.

6D - Additional information detailing the flooding and tsunami hazards on Sand Island is provided on page 4-3 of the Final EIS. This will be based on the present Flood Insurance Rate Maps.

6E - Sketches exist and where used at the public informational meeting; however, it is impractical to include such large sketches in the Final EIS document.

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

PODED-PV

19 March 1981

Mr. Ralph T. Segawa
Division Administrator
U.S. Department of Transportation
Federal Highway Administration
Region Nine, Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

We have reviewed your Draft Environmental Impact Statement (DEIS), FHWA-HI-80-02-D, for the Sand Island Access Road Widening and Improvements and provide the following comments.

7A a. If a second bascule or permanent bridge is constructed and fill is placed in the water, a Department of the Army permit will be required. The detailed plans for construction of the bridge should be coordinated with the Operations Branch (phone 438-9258) for a final determination on the need for a Department of the Army permit.

7B b. If a permit is required, then the Final EIS should evaluate the effects of discharge of fill into Kapalama Channel based on the U.S. Environmental Protection Agency Section 404(b)(1) Guidelines.

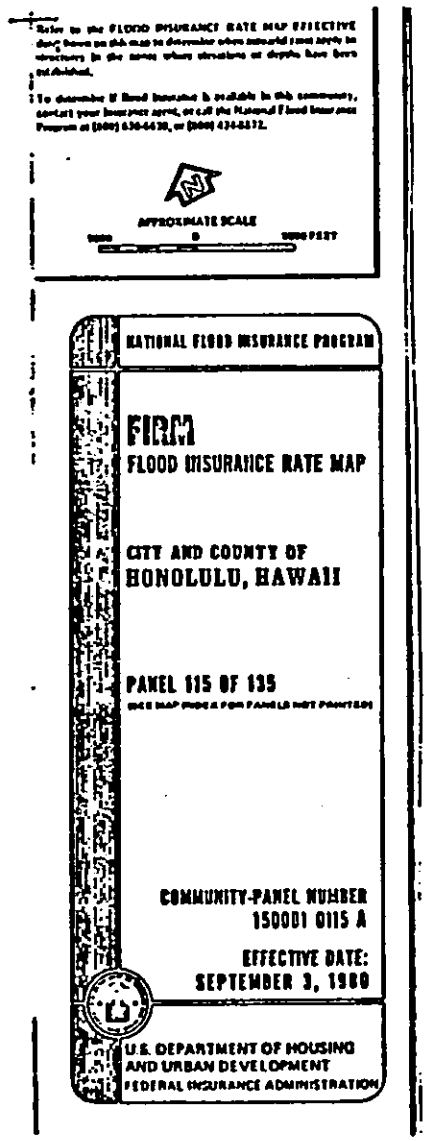
7C c. The alignment for the proposed road improvements is shown on the inclosed (Incl 1) Flood Insurance Rate Map, prepared as a part of the "Flood Insurance Study for the Island of Oahu" (3 Sep 80) by the Federal Insurance Administration for the City and County of Honolulu. A small section of the improvement site may be subject to the tsunami flood hazard (Zone A4) where the approximate 100-year tsunami elevation is 5 feet above mean sea level. The 100-year event has a 1 percent chance of being equalled or exceeded in any given year. Most of the project, however, is not situated within any designated flood plain, but rather in an area of minimal flooding.

Thank you for the opportunity to review your DEIS.

Sincerely,

for KISUK CHEUNG
Chief, Engineering Division

1 Incl
As stated



EXPLANATION OF ZONE DESIGNATIONS

Zone	Explanation
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30*	Areas of 100-year flood, base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30*	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.
*	The numerals indicate the magnitude of difference between the 100-year and 10-year flood elevations. For numerals between 1-20, the difference is one half of the value; for values greater than 20, the difference is 10 less than the numerals shown. This information is used in establishing insurance rates.
---18---	100-year tsunami or riverine elevation line, with elevation in feet above mean sea level.
_____	Zone boundary line.

LETTER #7

EVALUATION - DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS (March 19, 1981)

7A - It is anticipated that a Department of the Army Permit will be required. Coordination with the Operations Branch will be conducted during design.

7B - The discharge of fill into Kapalama Channel will be minimal; it is anticipated that EPA's Section 404(b)(1) Guidelines will not be applicable to the project because the very small amount of fill that may be discharged into the Channel.

7C - The information on flooding is included on page 4-3 of the Final EIS.

Chevron

Chevron U.S.A. Inc.
P. O. Box 29789, Honolulu, HI 96820

March 23, 1981

'81 MAR 27 9 19 AM

TRANSPORTATION

R. L. Rettig
Manager
Hawaiian Refinery
Manufacturing Department

Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Gentlemen:

This letter is in response to the Department of Transportation request for comments on the proposed widening and improvements to the Sand Island Access Road. Chevron representatives have reviewed the preliminary drawings and draft Environmental Impact Statement (EIS) located in Room 301, 600 Kapiolani Blvd. and have discussed the proposal with Mr. Takahashi of Wilson Okamoto & Associates.

The drawings and draft EIS make no reference to Chevron's easements and pipelines located in the vicinity of the proposed work. We are enclosing our drawings with this letter so that our lines can be identified on your drawings. In addition to the lines shown on these drawings (2-8" and 1-4") we believe that additional lines exist in the same area that belong to our Marketing Department. Please contact Mr. A. Y. C. Tom (533-2911) for information regarding these additional lines.

13-30

Based on our experiences with previous projects of this kind, we believe that this project could produce the following unacceptable situations for our pipeline easement:

1. Ground cover less than two or greater than five feet over the pipelines.
2. Coverage of easement by roadway pavement or concrete sidewalks, curbs, or catchbasins.
3. Pipelines located under traffic lanes.

8A We would appreciate the opportunity to discuss our concerns with your organization prior to you formalizing the construction plans so that an acceptable solution to our mutual problems can be agreed upon.

Very truly yours,

R. L. RETTIG

RVS:dnb
Attachments

cc: Mr. Ernie Takahashi
Wilson Okamoto & Associates
1150 South King Street
Suite 800
Honolulu, Hawaii 96814

LETTER #8

EVALUATION - CHEVRON U.S.A., INC. (March 23, 1981)

8A Review and discussion between Chevron U.S.A., Inc. and Department of Transportation have provided a 12-foot wide ground area that would allow installation and maintenance of the Chevron lines. This ground area is noted on page 2-7, "Typical Section on Sand Island Road between Auiki Street and U.H. Marine Center."

HAWAII TRANSPORTATION ASSOCIATION

The Voice of Hawaii's Transportation Industry

P.O. Box 30166
Honolulu, Hawaii 96820
Telephone: 847-5929

March 26, 1981

Dr. Ryokichi Higashionna
Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

SUBJECT: HWY-PA 2.62250 Sand Island Access Road Widening and Improvements, Project No. 6SA-01-79, Island of Oahu

13-31

Dear Dr. Higashionna

Hawaii Transportation Association with a membership of approximately 190 common carriers, private fleets and ground passenger carriers supports the subject project.

Widening and improving Sand Island Access Road, construction of an interchange at Nimitz Highway, and the construction of a second bridge across Kalihi Channel are essential for the increased movement of commercial vehicles and automobiles to and from Sand Island.

9A To avoid traffic congestion on this route, HTA hopes that an agreement may be made with the United States Coast Guard to open the bascule bridge at only certain specified times of the day.

Yours truly

Hawaii Transportation Association

Paul K. Findlesen
Managing Director

PKF/sw

Productive • Prompt • Polite • Progressive

LETTER #9

EVALUATION - HAWAII TRANSPORTATION ASSOCIATION (March 26, 1981)

9A The hours for the opening of the bascule bridge is under the jurisdiction of the Harbors Division of the State Department of Transportation; the hours and regulations relating to the opening/closing of the bridge must be approved by the U.S. Coast Guard.

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
530 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
DIRECTOR

ROY A. PARKER
DIRECTOR

TE2/81-261

March 31, 1981

U. S. Department of Transportation
Federal Highway Administration
Region Nine
Hawaii Division
Box 50206
Honolulu, Hawaii 96850

Attention: Ralph T. Segawa
Division Administrator

Gentlemen:

Subject: Draft Environmental Impact Statement for the Proposed Sand Island Access Road Widening and Improvements, FAP Route 64, Project No. 64A-01-79

We have reviewed the draft EIS and have the following comments:

10A 1. The traffic study should also address the impact of this project on the other major intersections along Nimitz Highway, specifically at the intersections of Mokauea and Kalihi Streets and Waiakamilo Road.

10B 2. The total problem related to the closing of Puuhale Road should be carefully scrutinized. Solutions, such as the possibility of allowing right-turns into Nimitz Highway for the mauka bound Puuhale Road traffic, should be studied.

Thank you for providing us this opportunity to review and comment on the project.

Very truly yours,

Roy A. Parker

ROY A. PARKER

13-3

LETTER #10

EVALUATION - DEPARTMENT OF TRANSPORTATION SERVICES (March 31, 1981)

10A The State currently has a study, separate from the Sand Island Access Road, for increasing the capacity of Nimitz Highway. Your concerns are a part of the considerations considered in the development of both projects.

10B Preliminary findings in closing Puuhale Road (mauka of Nimitz Highway) showed that impacts were minimal.

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 ☎ (808) 523-4011

EILEEN R. ANDERSON
MAYOR

MICHAEL M. MICELROY
DIRECTOR

(MK)

April 6, 1981

Mr. Ralph Segawa, Division
Administrator
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Draft Environmental Impact Statement (EIS)
Sand Island Access Road Widening and Improvements
FAP Route 64, Project No. 64A-01-79

We have reviewed the Draft EIS and have the following comments:

1. Special Management Area Use Permit (SMP)

It will be necessary to obtain a SMP only for the segment of roadway between Nimitz Highway and the beginning of the Sand Island Parkway at the entrance to Sand Island Park, including the bascule bridge. A SMP was previously approved for the Sand Island Parkway on September 5, 1979. 11A

2. Landscaping Requirements

The SMP for the Sand Island Parkway was approved, subject to the condition that landscaping plans for the Parkway be coordinated with the Department of Parks and Recreation in accordance with Subdivision Rules and Regulations. 11B

We have recently received a request from the State Department of Transportation (DOT), Harbors Division, to waive the landscaping requirement for parking areas at the Sand Island Container Freight Station because of the Board of Water Supply's decision to defer water requests for landscape irrigation purposes. We issued a partial waiver with the provision that landscaping plans be implemented in two phases using drought-tolerant trees and shrubs (see attached letter to DOT).

This information may be useful when developing the landscaping plans for other segments of the project.

3. Shoreline Variance

The Draft EIS states that a Shoreline Setback Variance must be obtained for construction of the proposed second bridge. According to the Department of Land and Natural Resources, the bridge construction will take place in and along a dredged inland waterway (Kalihi Channel), which is not identified as the certified shoreline. Construction of the bridge, therefore, is not subject to the Shoreline Setback Rules and Regulations. 11C

If there are any questions, please contact Marge Kimmerer of our staff at 523-4077.

Very truly yours,

MICHAEL M. McELROY
Director of Land Utilization

MMM:sl
attach.

13-33

(LH)

MAR 23 1981

Department of Transportation
Harbors Division
State of Hawaii
79 S. Nimitz Highway
Honolulu, Hawaii

Gentlemen:

Zoning Waiver No. 81/W-5
Landscaping - Section 21-2.5
State Harbors Division
Container Freight Station
Sand Island Parkway - Sand Island
Tax Map Key 1-5-41

This is in response to your request to waive landscaping for parking areas.

In view of the water situation, and the Board of Water Supply wish to defer water requests for landscape irrigation, we find the proposal can be considered under Section 21-2.7 of the Comprehensive Zoning Code. We do not believe, however, that it is either necessary nor desirable to grant a complete waiver of the landscaping.

Landscape and irrigation plans shall be submitted to us for review and approval. We do not expect such plans to be elaborate. The landscaping may be limited to a few drought-tolerant trees and shrubs, such as kiawe and naupaka, to be planted throughout the site. A landscape architect or nursery should be consulted for other drought-tolerant plant material.

Because of the water situation, we further recommend that the landscaping be implemented in two phases, and in accordance with the landscape plan.

The first phase would be limited to the planting of 10-gallon size trees only at the parking areas. Watering shall be by trucking water obtained from streams and to be done twice a week for 12 weeks. At such time, watering can be reduced to twice a month and may be eliminated when plants become fully established. For deep watering, a large basin shall be built around the base of the tree. When water becomes available, the second phase of the landscaping shall be implemented and completed.

Should you have any questions, please contact Larry Morishita of our staff at 523-4135.

Sincerely yours,

MICHAEL M. McELROY
Director of Land Utilization

MMM:nt

cc: Building Department

13-34

LETTER #11

EVALUATION - DEPARTMENT OF LAND UTILIZATION (April 6, 1981)

11A - A Special Management Area Use Permit is needed; this is stated on page 15-1 of the Final EIS.

11B - The design for landscaping for this project will consider the plants that have a minimal water requirement.

11C - Item (2) on page 14-1 has been deleted.

ER-81/343

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
PACIFIC SOUTHWEST REGION
BOX 36098 • 450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102
(415) 556-8200

Mr. Ralph Segawa
Division Administrator
Federal Highway Administration
U. S. Department of Transportation
Post Office Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

April 8, 1981

Dear Mr. Segawa:

The Department of the Interior has reviewed the draft environmental statement for the Sand Island Access Road Widening and Improvements, FAP Route 64, Project Number 64A-01-79, Honolulu, Island of Oahu, Hawaii. We offer the following comments.

RECREATIONAL RESOURCES

12A We support construction of the proposed boat launching ramp now being considered by the State Department of Transportation-Harbors Division (Section 4.6, page 4-4), as part of the Sand Island Access Road Improvement Project. The State Department of Land and Natural Resources, Division of State Parks, master plan for Development of Sand Island State Park includes development of a boat launching facility adjacent to the existing bascule bridge. Construction of this proposed boat launching ramp, as well as the development of the Keehi Lagoon Small Boat Harbor, should significantly improve recreational boating opportunities in the project area.

We also concur with the determination that preparation of a Section 4(f) Statement may be necessary if the proposed boat launching facility is included in the subject road improvement project. Coordination between the Federal Highway Administration, the State Department of Transportation, and the State Department of Land and Natural Resources-Division of State Parks is strongly recommended.

BIOLOGICAL RESOURCES

12B The subject document does not address the possibility that turbidity caused by construction will have a serious adverse impact on fishing activities at Mokauea Island and the tuna bait fishery (Nehu) in Keehi Lagoon. The impacts could create serious public criticism of the project and should be addressed in detail, including current analysis and measures to be taken to prevent these adverse impacts, if appropriate.

On page 3-7, Section 3.3.6, the DEIS correctly states that coordination with the Endangered Species Coordinator of the Fish and Wildlife Service-Pacific Islands Area Office has been initiated. On June 5, 1980, the Federal Highway Administration initiated consultation with the Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act of 1973 regarding project impacts on the Hawaiian stilt. The reply of September 4, 1980, states that upon consideration of the data available, the Fish and Wildlife Service believes that the project is unlikely to jeopardize the continued existence of the stilt. This conclusion, as well as the September 4, 1980 reply, should be included in the final environmental statement. 12C

Thank you for the opportunity to the review this document.

Sincerely yours,

Patricia Sanderson Port
Regional Environmental Officer

cc: Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Honorable Susumu Ono, Director
Department of Land and Natural Resources
State of Hawaii
Attention: Mr. Jacob Pyo, Project Manager
Sand Island State Park Development
Division of State Parks
1151 Punchbowl Street
Honolulu, Hawaii 96813

Director, Office of Environmental Project Review
Director, Heritage Conservation and Recreation Service
Director, Fish and Wildlife Service
Director, Geological Survey
Regional Directors

13-36

LETTER #12

EVALUATION - U.S. DEPARTMENT OF THE INTERIOR (April 8, 1981)

12A - The boat launching facility will not be included in the proposed action. Subsequently, a Section 4(f) Statement will not be required.

12B - We do not anticipate that the turbidity caused by the construction of the bridge will affect the area's fishing activities (Nehu) in Keehi Lagoon. There have been several projects in this area in which cables and pipelines have been constructed under water. Outside of the temporary turbidity, these projects apparently caused no adverse environmental impact.

12C - Coordination with the Endanagered Species Coordinator has taken place. The correspondence indicating such coordination is included in Appendix of the Final EIS on page H-1.

HAWAII BICYCLING LEAGUE
740 SANDERS CIRCLE
HONOLULU, HI. 96818
TEL. (808) 833-5995

-8 APR 1981

Mr. Ralph Segawa
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
Honolulu, Hawaii, 96850

13-37

Dear Mr. Segawa:

Thank you for your letter of 22 January and for the opportunity to review the Draft Environmental Impact Statement for the proposed Sand Island Access Road Widening and Improvements, Report nr. FHWA-HI-EIS-80-02-D. The comments below are offered in the spirit of cooperation with the designers to ensure that the proposed project serves adequately all its potential users. The Hawaii Bicycling League stands ready to assist in the review of design plans to that end. A copy of the Final E.I.S. is also requested.

The principal drawback of the project is the proposal for a two-way bicycle lane or path on one side of the project. There is ample documentation available warning of the dangerous nature of such a design. It requires wrong-way riding and introduces more conflicts at the intersections than is necessary. This is especially true of Scheme B with the continuous left turn lane. The bikeway on one side causes inexperienced cyclists to learn and reenforce illegal behaviour patterns in traffic, forces cyclists to make unusual and unexpected crossings at intersections and increases the incidence of motor vehicle/bicycle encounters for those wrong-way cyclists. Each encounter is a potential accident, so relative speeds and numbers of encounters must be minimized in highway design.

A bicycle facility on each side of the road and bridge must be provided, carrying traffic only in the direction of motorized flow. There appears to be ample room to accomodate such a suggestion.

Careful attention must be given to the design of the intersections, since separate bicycle facilities often exacerbate rather than ameliorate the conflicts between motor traffic and bicycles. The bicycle facility should probably be at grade along those stretches with frequent intersections. Also, guard rails and separation devices must not impair the visibility of approaching cyclists to the motorists.

The bicycle facility should not be intended for joint usage with pedestrians. In this one respect, the bridge design is correct. The D.E.I.S. does not contain any usage data. Such information, including anticipated vehicle counts for motor traffic and bicycles and expected pedestrian counts, should appear in the Final E.I.S.

In addition to the services of H.B.L. members, there are numerous resources available to help designers develop safer alternatives than those proposed in the D.E.I.S. Some of these guidelines include:

-FHWA "Design and Construction Criteria for Bikeway Construction," 23 CFR 625, 652, 663.

- Bicycle Forum magazine, Nos. 3 and 6, The Bicycle Federation.

- Cycle Transportation Engineering, by John Forester, P.E. the Second Edition is in preparation at this time.

- Planning and Design Criteria for Bikeways in California, CALTRANS.

13C Chapter 11 of the D.E.I.S. does not mention the potential contribution of the bicycle to energy conservation efforts. Energy consumption rates for the traffic as well as the facilities themselves should be included in the Final E.I.S. The Report of the Secretary of Transportation to the President and the Congress on "Bicycle Transportation for Energy Conservation," dated 22 April 1980, contains more, relevant information. The residents of Sand Island, commuters from the Kalihi-Palama neighbourhoods and users of the State Park are all worthy objects of a program to convert automobile usage to human power.

13D An editorial comment concerns page 8-1, On the last line of subparagraph (1), "other" should read "human powered." We infer that the word "access" used two lines above means "motorized access," but the alternative of "other" is not stated.

13E The provision of bicycle facilities should in no way exonerate the designers from the requirement to ensure that the remainder of the roadway project is free of cycling hazards. Current Federal standards for highway design provide for the safety of pedestrians and cyclists. Such dangers as parallel gratings, manhole covers not at grade, ceramic markers and uncovered gaps between bridge sections must be avoided. While separate bicycle facilities will appeal to many cyclists, especially inexperienced or recreational cyclists, those with the skills and the need to share the road with motor traffic should not be denied their right to do so safely by unsafe designs in the roadway.

This letter was reviewed by the following H.B.L. members: Mr. Frank Smith, President; Mr. Brian Iwatake, Legislative Chairman; and Mr. D. Charles Cox, Facilities Review.

Please add H.B.L. to the list of organizations on page 15-8:

13F Hawaii Bicycling League
P.O. Box 4403
Honolulu, Hawaii 96813.

Sincerely,

J.T. BINE, Jr.,
Facilities Review

Copy to:
State Department of Transportation (Dr. Higashionna)
League of American Wheelmen (Natl. Leg. Dir./ file)
Hawaii Bicycling League (Pres./Leg.Chmn./Fac.Revw./file)
Bicycle Advisory Committee (Mr. Nekota/ Mr. Krauss)
Highway Safety Office (Mrs. Clauss)

LETTER #13

EVALUATION - HAWAII BICYCLING LEAGUE (April 8, 1981)

13A - Bikeways on each side of the road will be considered from Nimitz Highway to the vicinity of Auiki Street and from the container yard to the park entrance. A two-way bike facility is still proposed from the vicinity of Auiki Street to the container yard. However, bikelanes on each side of the roadway will be considered if modifications are made to the existing bascule bridge.

13B - In the Draft EIS, projections for motor vehicle traffic are included in the Appendix (pages A-1 to A-7). Howver, no projections are available for bicycle traffic because of the general lack of bicycle traffic volumes and historic counts/survey data.

13C - The energy consumption rates of traffic are accounted for in comparing the road-user costs and benefit-cost ratios (see page 2-23 of the Draft EIS). The energy consumption of construction materials are in Section II. Regarding the potential contribution of the bicycle to energy consumption, we can only make recommendations for potential users.

13D - On page 8-1, Section 8(1), the intent is to indicate that access to and from the park will be improved in terms of motor vahicles, bicyclists, pedestrians, mopeds, etc.

13E - The roadway designs will incorporate safety features as required for the safety of the bicyclist.

13F - Your organization is added to the list of organizations on page 16-8. .

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII
FORT SHAFTER, HAWAII 96858

REPLY TO ATTENTION OF:

09 APR 1981

APZV-EHE-E

US Department of Transportation
Federal Highway Administration
Region IX, Hawaii Division
P.O. Box 50206
Honolulu, Hawaii 96850

Gentlemen:

We have reviewed the Draft Environmental Impact Statement (DEIS) for the Proposed Sand Island Access Road Widening and Improvements Project transmitted by letter dated 22 January 1981 (HEC-HI). Although construction may temporarily inconvenience traffic entering and leaving Kapalama Military Reservation, we have no objections to the project. As noted in paragraphs 2.4.10 and 3.8.2, utility lines, including sewer lines, may have to be relocated. Request that Utilities Division, Directorate of Engineering and Housing, USASCH be consulted regarding any plans for relocation or which would otherwise affect the Army's 24-inch force main from Fort Shafter.

14A

Thank you for the opportunity to comment on the DEIS. We would appreciate receiving a copy of the final document.

Sincerely,

Adolph A. Hight

ADOLPH A. HIGHT
COL, EN
Director of Engineering and Housing

LETTER #14

EVALUATION – DEPARTMENT OF THE ARMY (April 9, 1981)

14A The Utilities Division, Directorate of Engineering and Housing, USASCH will be consulted regarding any plans for relocation or other plans which would affect the Army's 24-inch force main from Fort Shafter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

Project # D-FHW-K40087-HI

Ralph T. Segawa, Division Administrator
Hawaii Division, FHWA
U.S. Department of Transportation
Box 50206
Honolulu, HI 96850

APR 14 1981

Dear Mr. Segawa:

The Environmental Protection Agency (EPA) has received and reviewed the Draft Environmental Impact Statement (DEIS) titled PROPOSED SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS, FAP ROUTE 64.

The EPA's comments on the DEIS have been classified as Category LO-2. Definitions of the categories are provided by the enclosure. The classification and the date of the EPA's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal Actions under Section 309 of the Clean Air Act. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and the adequacy of the environmental statement.

The EPA appreciates the opportunity to comment on this DEIS and requests five copies of the Final Environmental Impact Statement when available.

If you have any questions regarding our comments, please contact Susan Sakaki, EIS Review Coordinator, at (415) 556-7858.

Sincerely yours,

Sheila M. Prindiville
Acting Regional Administrator

Enclosure

Water Quality

15A There is no clear commitment to prevent construction site runoff from entering shoreline waters. Proposed mitigation measures to control runoff and sedimentation should be outlined in the Final Environmental Impact Statement.

EIS CATEGORY CODES

Environmental Impact of the Action

LO--Lack of Objections

EPA has no objection to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER--Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to reassess these aspects.

EU--Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1--Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2--Insufficient Information

EPA believes that the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the enviroment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3--Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft impact statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.

LETTER #15

EVALUATION - U.S. ENVIRONMENTAL PROTECTION AGENCY (April 14, 1981)

15A - The standard highway construction procedures relating to erosion control are identified in subsection 107.17(B) of the Hawaii Highways Division, Department of Transportation, Honolulu, Standard Specifications for Road and Bridge Construction, 1976, and FHPM 6-7-3-2 relating to "Engineering and Traffic Operations Bridges, Structures and Hydraulics, Erosion Control and Water Quality, Location and Hydraulic Design of Encroachments on Flood Plains".

GEORGE R ARIYOSHI
GOVERNOR

HARRY Y. AKAGI
Acting Director
TELEPHONE NO.
548-5915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

550 HALEKAUWILA ST
ROOM 301
HONOLULU HAWAII 96813

April 15, 1981

Mr. Ralph Segawa, Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Dear Mr. Segawa:

SUBJECT: Environmental Impact Statement for Sand Island Access Road Widening and Improvements

We have reviewed the subject statement and offer the following comments:

16A 1. Page 2-1. The assumed traffic conditions include the completion of the H-3 freeway and the Honolulu Area Rapid Transit System (HART). Either of these projects or both of them may not be implemented. Therefore, the different traffic impacts resulting from this probability should be considered in this EIS and in planning for this project. Will Kalihi Street need to be widened? Will there be increased air and noise pollution in the affected areas?

16B 2. Page 2-10. The different ramps should be identified in these figures, along with the proposed frontage road.

16C 3. Page 2-12. Do-nothing Alternative. The first sentence should probably read, "...Nimitz Highway or elevated eastbound lanes..."

16D 4. Page 2-22. To what extent were environmental costs considered in deriving the benefit-cost ratios?

16E 5. Page 3-1. A request has been submitted to the U.S. Coast Guard to reduce the hours of operation of the bascule bridge. How will that proposed change affect both shipping and maritime users both with and without the proposed highway project?

16F 6. Page 4-3. The economic impacts to the businesses fronting Sand Island Access Road both during construction and afterwards should be estimated and discussed.

16G 7. Page 5-1. There should be a discussion on how the project relates to the objectives and policies of the Coastal Zone Management Program.

16H 8. The subzones within Conservation Districts were renamed and redefined in the revisions to Regualtion 4 of the Department of Land and Natural Resources.

The EIS regulations allow the accepting authority to consider responses received beyond the fourteen day response period. We intend to consider such responses to comments on this EIS.

We thank you for the opportunity to review the subject EIS and look forward to the revised statement.

Sincerely,

Harry Y. Akagi

LETTER #16

EVALUATION - OFFICE OF ENVIRONMENTAL QUALITY CONTROL (April 15, 1981)

16A The future status of both H-3 and HART do not bear on the traffic assignments for Sand Island Access Road since the projections did not include their viability as fact. All data provided from DOT included their possible implementation, but to date, there are no considerations for widening Kalihi Street.

16B This figure (page 2-10) has been revised and is shown on 2-15.

16C The text for the Final EIS has been revised and is on page 2-21.

16D Environmental costs have been calculated to be approximately 10% of the total project cost, or $3.2 million dollars.

16E The Harbors Division will maintain responsibility for the establishment of operating hours based on demand and safety.

16F The economic impacts to the businesses fronting Sand Island Access Road do not parallel those on Nimitz Highway that experienced economic losses during the construction of the elevated freeway. There is no plan at the present time to conduct any economic cost benefit analysis for this project.

16G The goals and objectives of the Coastal Zone Management program will be observed during the processing for the SMA permit.

16H No response necessary.

University of Hawaii at Manoa

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

Office of the Director

April 15, 1981
RE:0328

Mr. Ralph Segawa
Division Administration
Federal Highway Administration
U.S. Department of Transportation
P.O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

Draft Environmental Impact Statement
Sand Island Access Road Widening and Improvements
Honolulu, Oahu

The Environmental Center review of the above Draft EIS has been conducted by Richard Longfield, Hawaii Institute of Geophysics; Jacquelin Miller and Alexis Cheong Linder, Environmental Center.

We concur with the recommendation that the road be upgraded and widened due to the present projected traffic volumes for the Sand Island area. We would like to suggest
17A that a left-turn lane be incorporated in the traffic design scheme for vehicles approaching the University Marine Center (UMC) from the Nimitz direction as well as incorporating an egress route for vehicles leaving the Marine Center.

A second bascule bridge is highly desirable since it would continue to provide a secondary or emergency entry into or out of Honolulu Harbor. A fixed bridge alternative
17B with the proposed long-ramp approach would limit approaches in and out of the UMC due to the requirements that part of the super-structure would be extended to the entrance of the UMC. To reduce the operating expenses incurred by a second bascule bridge, one alternative would be to discourage the opening of the bridge during peak-flow traffic hours and limit daylight hour operations to appointment only. Emergency situations could be dealt with as necessary and appropriate.

Finally, has consideration been given to changing the name of the road from Sand
17C Island Access Road to either Sand Island Road or Sand Island Boulevard?

Thank you for the opportunity to review this document. We look forward to receiving your response.

Sincerely,

Diane C. Drigot, Ph.D.
Acting Director

LU
cc: OEQC
Richard Longfield
Jacquelin Miller
Alexis Cheong Linder

AN EQUAL OPPORTUNITY EMPLOYER

LETTER #17

EVALUATION - ENVIRONMENTAL CENTER, UNIVERSITY OF HAWAII AT MANOA
(April 15, 1981)

17A The Final EIS has been revised to indicate a left-turn lane will be constructed up to the entrance route of the University's Marine Center on page 2-7.

17B The second bascule bridge alternative has been selected. Operating hours will be determined by the Harbors Division.

17C No name changes for Sand Island Access Road are planned.

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Policy
Washington, D.C. 20230

APR 2 0 1981

Mr. Ralph Segawa
Division Administrator
Federal Highway Administration
U.S. Department of Transportation
P. O. Box 50206
Honolulu, Hawaii 96850

Dear Mr. Segawa:

This is in reference to your draft environmental impact statement entitled "Sand Island Access Road Widening and Improvements, Honolulu, Island of Oahu, Hawaii." The enclosed comment from the National Oceanic and Atmospheric Administration is forwarded for your consideration.

Thank you for giving us an opportunity to provide this comment, which we hope will be of assistance to you. We would appreciate receiving four (4) copies of the final environmental impact statement.

Sincerely,

Robert T. Miki
Deputy Assistant Secretary for
Regulatory Policy (Acting)

Enclosure Memo from: Robert B. Rollins
National Ocean Survey
National Oceanic and Atmospheric Administration

13-44

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

FEB 23 1981

OA/C52x6:JVZ

TO: PP/EC - Thomas K. Bick

FROM: OA/C5 - Robert B. Rollins

SUBJECT: DEIS #8102.05 - Proposed Sand Island Access Road Widening and Improvements, Honolulu, Island of Oahu, Hawaii

The subject statement has been reviewed within the areas of the National Ocean Survey's (NOS) responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

18A Geodetic control survey monuments may be located in the proposed project area. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation required for NOS monuments. For further information about these monuments, please contact Mr. John Spencer, Director, National Geodetic Information Center (OA/C18), or Mr. Charles Novak, Chief, Network Maintenance Branch (OA/C172), at 6001 Executive Boulevard Rockville, Maryland 20852.

Attachment
DEIS #8102.05 (File Copy)

10TH ANNIVERSARY 1970-1980
National Oceanic and Atmospheric Administration
A young agency with a historic tradition of service to the Nation

LETTER #18

EVALUATION - NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL OCEAN SURVEY
(February 23, 1981, with transmittal letter dated April 20, 1981)

18A Should any monuments be disturbed the National Ocean Survey will be notified 90 days prior to the planned activity, so that these monuments can be relocated.

Section 14.

SUMMARY OF UNRESOLVED ISSUES

14. SUMMARY OF UNRESOLVED ISSUES

There are no major unresolved issues; the typical permit approval requirements remain to be processed.

Section 15.

LIST OF NECESSARY APPROVALS

15. LIST OF NECESSARY APPROVALS

The following approvals and permits are required for the proposed action prior to its construction.

(1) Special Management Area Permit. The Special Management Area (SMA) represents the critical interim nearshore land management zone as designated by the City and County under Ordinance No. 4529. The proposed action is located within the SMA from Nimitz Highway to the bascule bridge and includes the shoreline area around Sand Island, for a distance not less than 100 yards. Before a project can be constructed, an SMA Permit is required. The Department of Land Utilization, City and County of Honolulu, makes the initial determination of whether an SMA Permit will be required. If a Permit is required, an application along with a completed Negative Declaration or EIS, is filed. The Department of Land Utilization reviews the application and prepares a staff report with recommendations to the City Council. The City Council holds a public hearing on the SMA Permit and approves or disapproves the application.

(2) Shoreline Setback Variance. A Shoreline Setback Variance must be obtained from the Department of Land Utilization, City and County of Honolulu. This variance request, although normally pertaining to the area 40 feet inland from the upper reaches of the wash of waves, is required for the proposed second bridge.

(3) Department of the Army Permit. This permit is required by the U.S. Army Corps of Engineers for any construction in navigable waters, discharge of dredged or fill material into navigable waters and contiguous or adjacent wetlands, and transport of dredged material for the purpose of dumping into ocean waters. (Pursuant to the Rivers and Harbors Act of 1899.)

(4) Conservation District Use Application. This permit is required by the State Department of Land and Natural Resources, for the establishment of permitted uses with "General Use (GU)" or "Restricted Watershed (RW)" subzones of the Conservation District. Any construction activity in the Kalihi Channel would affect the General Use subzone.

(5) Coast Guard Bridge Permit. This permit is required by the U.S. Coast Guard prior to any modification, construction, relocation, or removal of any bridge structures affecting any navigable waters of the United States.

(6) Community Noise Permit. This permit must be obtained from the Department of Health when anticipated noise levels are expected to exceed the noise standards set forth in Chapter 44B, Public Health Regulations, "Community Noise Control for Oahu".

(7) Coastal Zone Management, Federal Consistency Notice. This permit is processed by the State Department of Planning and Economic Development. The Consistency Notice shows that a project is consistent with the objectives of the Coastal Zone Management program. It is necessary when the action (1) is initiated by a Federal agency; (2) will use Federal funds; (3) requires Federal licenses or permits.

(8) Building Permit, Grubbing and Grading Permit. These are regulatory, routine permits required by the City and County of Honolulu (i.e., Building Department and Department of Public Works).

(9) Airway-Highway Clearance. Coordination with the Airports Division, DOT, and the FAA have been made. An Airway-Highway Clearance has been obtained. (See Appendix G.)

In addition to these permits and approvals, it should be recognized that an accepted EIS document is a pre-requisite for several of these permits and approvals. This EIS document, as mentioned earlier, is prepared to meet both the Federal and State requirements for an EIS.

This list of necessary permits and approvals applies to this project as of the date of this EIS.

Section 16.

LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE DRAFT EIS ARE SENT

16. LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE DRAFT EIS ARE SENT

The following six (6) pages list the governmental and private agencies and individuals who will be receiving a copy or copies of the Draft EIS for review and comments. In all, 83 governmental, private, and civic organiztions will be receiving copies of the EIS. A breakdown based on the type of agencies receiving the Draft EIS is as follows: 19 Federal agencies, 14 State agencies, 13 County agencies, 6 libraries, 2 newspapers, 3 public utility companies, and 26 interested neighborhood, civic, and private organizations.

FEDERAL AGENCIES

Soil Conservation Service
Honolulu Office
U.S. Department of Agriculture
300 Ala Moana Blvd., Box 50004
Honolulu, Hawaii 96850
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Director, Division of NEPA Affairs
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D. C. 20585
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Department of Health, Education
and Welfare
Federal Office Building
50 Fulton Street
San Francisco, CA 94102
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Department of Housing & Urban
Development
Attn: Regional Environmental
Standards Officer
450 Golden Gate Avenue
P.O. Box 36003
San Francisco, CA 94102
1 Copy

District Engineer
U.S. Army Engineer
Honolulu District
Building 230
Fort Shafter, Hawaii 96858
1 Copy

U.S. Department of Agriculture
Office of the Secretary
Washington, D. C. 20250
1 Copy

Department of Commerce
Attn: Dr. Sydney R. Galler, Deputy Assistant
Secretary for Environmental Affairs
Washington, D. C. 20230
1 Copy

Advisory Council on Historic Preservation
Attn: Mr. Robert Garvey, Executive Director
1522 K Street, NW, Suite 430
Washington, D. C. 20005
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Department of Housing & Urban Development
300 Ala Moana Blvd., Box 50007
Honolulu, Hawaii 96850
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Director, Office of Environmental Project Review
U.S. Department of the Interior
18th and "C" Streets, NW
Washington, D. C. 20242
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215 Fremont Street
San Francisco, CA 94105
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Region IX Library
215 Fremont Street
San Francisco, CA 94105
1 Copy

Forest Service
U.S. Department of Agriculture
1151 Punchbowl Street, Room 323
Honolulu, Hawaii 96813

* FHWA will distribute copies of the Draft EIS to these agencies.

FEDERAL AGENCIES

Federal Aviation Administration
Department of Transportation
300 Ala Moana Blvd., Box 40009
Honolulu, Hawaii 96850
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Commanding General
Department of the Army
Attn: Directorate of
Engineering
Headquarters, U.S. Army Hawaii
APO San Francisco 96557
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Commandant
U.S. Coast Guard
Department of Transportation
14th Coast Guard District
PJKK Federal Building
300 Ala Moana Boulevard, Box 50229
Honolulu, Hawaii 96850
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Base Commander
Department of the Air Force
15th Airbase Wing (CC)
Hickam Air Base
Honolulu, Hawaii 96553
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Commandant, 14th Naval District
Department of the Navy
Pearl Harbor Naval Base
Pearl Harbor, Hawaii 96610
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Mr. Charles Custard, Director
Office of Environmental Affairs
Department of Health & Human Services
200 Independence Avenue, SW
Room 537F
Washington, D.C. 20201
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Office of Federal Activities (A-104)*
Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460
5 Copies

EIS Coordinator*
Environmental Protection Agency
215 Fremont Street
San Francisco, CA 94105
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STATE AGENCIES

The Honorable Hideo Murakami,
Comptroller
Department of Accounting & General
Services
1151 Punchbowl Street
Honolulu, Hawaii 96813
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The Honorable Jack K. Suwa,
Director
Department of Agriculture
P. O. Box 22159
Honolulu, Hawaii 96822
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The Honorable Georgiana K. Padeken,
Director
Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813
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The Honorable George Yuen, Director
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801
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* FHWA will distribute copies of the Draft EIS to these agencies.

STATE AGENCIES

Major General Valentine A. Seifermann
Department of Defense
3949 Diamond Head Road
Honolulu, Hawaii 96816
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The Honorable Charles Clark,
Superintendent
Department of Education
1390 Miller Street
Honolulu, Hawaii 96813
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The Honorable Hideto Kono, Director
Department of Planning & Economic
Development
Kamamalu Building
250 South King Street
Honolulu, Hawaii 96813
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Mr. Richard O'Connell, Director
Office of Environmental Quality
Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813
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Chairman
Environmental Quality Commission
550 Halekauwila Street, Room 301
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The Honorable Susumu Ono, Director
Department of Land & Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809
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Historic Sites Division
Attention: Mr. Ralston Nagata
Department of Land & Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809
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The Honorable Franklin Sunn, Director
Department of Social Services & Housing
1390 Miller Street
Honolulu, Hawaii 96813
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Department of Land & Natural Resources
Heritage Conservation & Recreation
Service (HCRS) Office
Attention: Program Coordinator
P. O. Box 621
Honolulu, Hawaii 96809
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UNIVERSITY OF HAWAII

Environmental Center
Attention: Dr. Doak Cox
Maile Way 10
Honolulu, Hawaii 96822
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Water Resources Research Center
Attention: Dr. Stephen Lau
2540 Dole Street
Honolulu, Hawaii 96822
1 Copy

CITY AND COUNTY OF HONOLULU AGENCIES

Mr. Roy A. Parker, Director
Department of Transportation Services
650 South King Street
Honolulu, Hawaii 96813
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Mr. Robert Masuda, Director
Department of Parks and Recreation
650 South King Street
Honolulu, Hawaii 96813
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Mr. Harland Blindauer
Mass Transit Division
650 South King Street
Honolulu, Hawaii 96813
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Mr. Willard Chow, Director
Department of General Planning
650 South King Street
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Mr. Edward Hasegawa, Executive Secretary
Neighborhood Commission
City Hall
Honolulu, Hawaii 96813
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Mr. Melvin M. Nonaka
Honolulu Fire Department
1455 South Beretania Street
Room 305
Honolulu, Hawaii 96814
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Mr. Michael J. Chun, Director
Department of Public Works
650 South King Street
Honolulu, Hawaii 96813
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Mr. Kazu Hayashida, Director
Board of Water Supply
650 South King Street
Honolulu, Hawaii 96813
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Mr. Roy Tanji, Director
Building Department
650 South King Street
Honolulu, Hawaii 96813
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Mr. Michael McElroy, Director
Department of Land Utilization
650 South King Street
Honolulu, Hawaii 96813
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The Honorable Rudy Pacarro, Chairman
City Council
City and County of Honolulu
City Hall
Honolulu, Hawaii 96813
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Mr. Francis Keala, Chief
Honolulu Police Department
1455 South Beretania Street
Honolulu, Hawaii 96814
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478 South King Street
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Kalihi-Palama Library
1325 Kalihi Street
Honolulu, Hawaii 96819
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LIBRARIES

University of Hawaii (Sinclair and Hamilton)
Attention: Mrs. Muraoka
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Municipal Records and Reference
558 South King Street
City Hall Annex
Honolulu, Hawaii 96813
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Department of Planning and Economic Development Library
Attention: Anthony Oliver
1 Copy

State Archives
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Legislative Reference Bureau
1 Copy

NEWS MEDIA

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Honolulu Star-Bulletin
605 Kapiolani Boulevard
Honolulu, Hawaii 96813
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Mr. George Chaplin
Honolulu Advertiser
605 Kapiolani Boulevard
Honolulu, Hawaii 96813
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PUBLIC UTILITIES

Hawaiian Electric Company
Attention: Mr. John C. McCain
P.O. Box 2750
Honolulu, Hawaii 96803
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Hawaiian Telephone Company
Attention: Mr. Herman S. L. Hu
P.O. Box 2200
Honolulu, Hawaii 96805
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Honolulu Gas Company
Attention: Mr. Francis T. Tanaka
P.O. Box 3379
Honolulu, Hawaii 96801
1 Copy

Miss Phyllis Zerbe
Pacific Resources, Inc.
Government Affairs Department
P.O. Box 3379
Honolulu, Hawaii 96801
1 Copy

INTERESTED ORGANIZATIONS AND INDIVIDUALS

Kalihi-Palama Community Council
1350 South King Street, Suite 200
Honolulu, Hawaii 96814
1 Copy

Kalihi-Palama Neighborhood Board
c/o Multi-Service Center
333 North King Street
Honolulu, Hawaii 96817
1 Copy

Sand Island Planning Committee
c/o Multi-Purpose Center
333 North King Street
Honolulu, Hawaii 96817
1 Copy

Aotani & Associates
225 Queen Street, Suite 400
Honolulu, Hawaii 96813
1 Copy

INTERESTED ORGANIZATIONS AND INDIVIDUALS

Downtown Improvement Association
Attention: Mr. Clarence E. Beck,
Executive Director
1000 Bishop Street, Suite 602
Honolulu, Hawaii 96813
1 Copy

Matson Navigation Company
Attention: Mr. A. Bolten,
Area Manager, Hawaii
P.O. Box 899
Honolulu, Hawaii 96808
1 Copy

Hawaii Transportation Association
P.O. Box 30166
Honolulu, Hawaii 96820
1 Copy

Mr. James W. Morrow, Director
Environmental Health
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817
1 Copy

Shoreline Protection Alliance
P.O. Box 4247
Honolulu, Hawaii 96813
1 Copy

Sierra Club, Hawaii Chapter
P.O. Box 22897
Honolulu, Hawaii 96822
1 Copy

Estate of S. M. Damon
First Hawaiian Bank Building
Suite 1210
Honolulu, Hawaii 96813
1 Copy

Bishop Museum
P.O. Box 6037
Honolulu, Hawaii 96818
1 Copy

Hawaii Audubon Society
P.O. Box 22832
Honolulu, Hawaii 96822
1 Copy

Yellow Freight International
Attention: Mr. Charles W. Strang,
Operations Manager
P.O. Box 266
Waipahu, Hawaii 96809
1 Copy

United States Lines, Inc.
841 Bishop Street
Honolulu, Hawaii 96813
1 Copy

Sand Island Businessmen's Association
Attention: Mr. Warren LaFrance
P.O. Box 17603
Honolulu, Hawaii 96817
1 Copy

Mrs. Ashby J. Fristoe,
President
The Outdoor Circle
200 North Vineyard Boulevard
Honolulu, Hawaii 96817
1 Copy

Dr. Rhoda Heckler
Hawaiian Historical Society
560 Kawaihao Street
Honolulu, Hawaii 96813
1 Copy

Sand Island Tenants' Association
P.O. Box 17603
Honolulu, Hawaii 96817
1 Copy

Mr. A. L. Kilgo
180 Sand Island Road
Honolulu, Hawaii 96819
1 Copy

Conservation Council
P.O. Box 2923
Honolulu, Hawaii 96802
1 Copy

INTERESTED ORGANIZATIONS AND INDIVIDUALS

Chamber of Commerce of Hawaii
735 Bishop Street, Suite 220
Honolulu, Hawaii 96813
1 Copy

Oahu Development Conference
141 Merchant Street, Suite 313
Honolulu, Hawaii 96813
1 Copy

Life of the Land
404 Piikoi Street
Honolulu, Hawaii 96814
1 Copy

Mr. Jonathan T. Hine, Jr.
Hawaii Bicycling League
740 Sanders Circle
Honolulu, Hawaii 96818
1 Copy

Section 17.

SUMMARY AND EVALUATION OF TESTIMONIES

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS
PROJECT NO. 64A-01-79
CORRIDOR-DESIGN PUBLIC HEARING
HELD MARCH 24, 1981

SUMMARY AND EVALUATION OF TESTIMONY

SUMMARY

1. Mr. Warren LaFrance, Sand Island Businessmen's Association

   A. The Association is in favor of the project. Any minor adverse impacts that might arise will be offset by the benefits that will accrue when the project is completed.

   B. The Association prefers the Sand Island Parkway alignment that will utilize the existing roadway ROW in the area of the Coast Guard Station. Implementations of this alignment will not adversely affect the present private businesses along that portion of roadway.

   C. Mr. LaFrance suggested that the proposed roadway system for the Sand Island State Park be indicated on the project drawings.

2. Mr. Alexander Bolton, Matson Navigation Company

   A. When Matson completes their relocation to the Sand Island facilities in September, Sand Island Access Road will be the primary link between Honolulu Harbor's principal container and cargo facility and the rest of the Island of Oahu. The operation of the existing bascule bridge causes heavy traffic tie-ups. Traffic is heavy now and will be heavier after September when it is projected there will be an additional 700 round trips a day generated by the completed container facilities.

   B. Mr. Bolton explained that any interruption in the traffic flow will have greater impacts to tractor-trailer trucks than to automobiles. These trucks take time to get back up to speed and this time lag will affect traffic behind them as well.

   C. The Coast Guard must be convinced that use of the Kalihi Channel by waterborne vessels should be limited. These vessels have the option to use the main harbor entrance channel but the land traffic has no other alternative but the bridge.

   D. Mr. Bolton suggests looking into making Auiki Street one-way mauka with parking prohibited to help relieve congestion along Sand Island Access Road. This could be done on a permanent basis or at least as an interim measure until the Nimitz Highway intersection is completed.

3. Mr. Jaymark Kromer, Monroe and Friedlander, Inc.

   A. Mr. Kromer was concerned about access from Nimitz Highway and Puuhale Road. Both of the proposed alternatives propose Puuhale Road on the makai side of Nimitz Highway and restricting traffic movement on the mauka side.

   B. Puuhale Road is a major access road for Kalihi-Kai. Cross-streets like Republican, Homerule, Democrat and Kahai Streets are narrow and make access difficult. Access to the businesses at Puuhale and Republican Street, may require going all the way down to Auiki Street then up Puuhale Road.

EVALUATION

1. As suggested by Mr. LaFrance, we have indicated the proposed roadway system within Sand Island State Park on some of our drawings.

2. Impacts to truck traffic caused by bridge openings have been addressed in the Environmental Impact Statement and have been evaluated against the various bridge alternatives. Similarly, the impacts to marine traffic have been addressed. Also, these are addressed in the Final EIS on pages 4-6 to 4-7.

   Mr. Bolton's suggestion to make Auiki Street one-way with parking prohibited, is beyond the scope of this project. This is a State project and Auiki Street is under the jurisdiction of the City and County. In addition, the implementation of this project will increase the traffic carrying capacity of Sand Island Access Road and negate the need to alter traffic along Auiki Street.

3. Mr. Kromer commented on the closing of Puuhale Road and the possible access problems for properties fronting Nimitz Highway. These properties, however, have their access along Republican Street and this access will not be changed by the project.

   The closing of Puuhale Road is necessary in order to provide safe and adequate design standards at the Nimitz Highway/Sand Island Access Road intersection. The impacts of the closure were examined against alternate intersection or interchange schemes, ROW impacts and safety.

   The entire Nimitz Highway corridor is being studied by the DOT and their consultants, under another project which includes detailed traffic analyses of the Nimitz Highway project corridor.

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS
PUBLIC HEARING

SUMMARY AND EVALUATION OF TESTIMONY

Testimony submitted by the Police Department, City and County of Honolulu

SUMMARY

1. Lighting

The Police Department strongly supports providing street lighting along the Sand Island Parkway for vehicle safety and to deter unlawful activities.

2. Bikeway

The Department would like to see a bikeway provided along the segment of roadway between the container yards and the Sand Island State Park entrance. There should be a separation of cars and trucks from bicycles.

3. Emergency Vehicles

Based on safety reasons alone, the Department favors a fixed bridge rather than a bascule bridge. The opening of the bascule bridge could pose serious delays for emergency (Police, Fire, Ambulance) vehicles.

EVALUATION

1. Lighting

Street lighting will be provided along the Sand Island Parkway pending the availability of funding.

2. Bikeway

Bike lanes have been added to the typical section from the container yard to the Sand Island State Park entrance.

3. Emergency Vehicles

Delays to emergency vehicles have been evaluated together with all other concerns and impacts. The bascule bridge was slected based on time constraints imposed by implementation of the fixed bridge alternatives, and the overall impacts to highway and water users.

Section 18.

REFERENCES

REFERENCES

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4. City and County of Honolulu, Ordinance No. 4529.

5. Furumoto, Augustine S. et al, "A Study of Past Earthquakes, Isoseismic Zones of Intensity and Recommended Zones for Structural Design for Hawaii," Engineering Bulletin, PACE 72033, University of Hawaii, June, 1972.

6. Hawaiian Telephone Company, "Oahu Telephone Directory, Honolulu," revised September 1, 1978.

7. Miyake, Iwao, "Noise Study of Sand Island Access Road, Honolulu, Hawaii," January, 1980.

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10. State of Hawaii, Hawaii State Plan.

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12. State of Hawaii, Department of Transportation, "Environmental Impact Statement Preparation Notice for the Proposed Sand Island Road Widening and Improvements, Project No. 64A-01-79," April, 1979.

13. State of Hawaii, Department of Transportation, "Traffic Assignment Project TA 79-15 Sand Island Access Road Widening and Improvement, Project No. 64A-01-79," 1979.

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18. U.S. Department of Housing and Urban Development, (HUD), Honolulu Area Office, "Draft Environmental Impact Statement (for) Village Park," September, 1978.

19. Wilson Okamoto and Associates, "Engineering Report for Sand Island Access Road Widening," 1980.

20. Wilson Okamoto and Associates, "Environmental Impact Statement Sand Island Development of Container Handling Facilities," February, 1980.

21. Wilson Okamoto and Associates, "Interim Recommendation for Second Bridge for Sand Island Access Road Widening and Other Improvements, Sand Island, Honolulu District, Oahu, State of Hawaii," April, 1980.

22. -------, Ke'ehi Lagoon Recreation Plan.

Section 19.

INDEX

19. INDEX

APPENDICES

APPENDIX A

TRAFFIC ASSIGNMENT DATA

TRAFFIC ASSIGNMENT PROJECT TA 79-15
SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENT
PROJECT NO. 64A-01-79

PURPOSE

Data from this traffic assignment project, as requested by HWY-PA, will be used for air and noise studies.

REQUIREMENTS

- 1980, 1990 and 2000 peak eight-hour volume
- 1980 peak hour and peak eight-hour air classification percentages
- Noise classification percentages of one-half hourly volumes from 6:00 AM to 6:00 PM based on the latest ground counts.

BASIC CONDITIONS

1. This project will reflect desire traffic.
2. The 1980, 1990 and 2000 traffic will reflect an interchange at Nimitz Highway and Sand Island Access Road.
3. The 1990 and 2000 networks will reflect:
   a. a completed Interstate Route H-1,
   b. a completed Interstate Route H-3 and
   c. a fixed-guideway rapid transit system.
4. Nimitz Highway will reflect expressway standards for all years.
5. Through traffic on Nimitz Highway at Sand Island Access Road and at Kalihi Street for 1990 and 2000 will be based on traffic developed for the Study to Implement the Makai Boulevard Concept (TA 78-4).
6. The existing container handling facilities at Fort Armstrong will be relocated to Sand Island by 1980.*
7. The container handling facilities on Sand Island will be completed by 1990.*
8. Sand Island Park will consist of a passive park, a boat park and a beach park. The passive park will be completed by 1980 and will consist of 65 acres (44 acres currently in use).** The boat park and beach park will consist of 116 acres.*
9. The maritime industrial area and foreign trade zone station will be completed by 1990.*
10. The existing small industrial businesses on Sand Island will be relocated by 1990.*
11. The Kakaako Food Distribution Center will remain at its present location and will not expand.
12. The following classifications will be used for air studies:
    a. light duty = auto
    b. light duty gasoline turcks = 0-6000 lbs.
    c. light duty gasoline trucks = 6000-8500 lbs.
    d. heavy duty gasoline trucks = 8500 lbs.
    e. heavy duty diesel power trucks
    f. motorcycles
13. The following classifications will be used for noise studies:
    a. auto (includes 2P and 2S trucks)
    b. heavy duty trucks (2D +)

*Sand Island Development of Container Handling Facilities E.I.S.
** State Parks, Outdoor Recreation and Historic Sites Division

CORRECTION

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

TRAFFIC ASSIGNMENT PROJECT TA 79-15
SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENT
PROJECT NO. 64A-01-79

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9. The maritime industrial area and foreign trade zone station will be completed by 1990.*
10. The existing small industrial businesses on Sand Island will be relocated by 1990.*
11. The Kakaako Food Distribution Center will remain at its present location and will not expand.
12. The following classifications will be used for air studies:
    a. light duty = auto
    b. light duty gasoline turcks = 0-6000 lbs.
    c. light duty gasoline trucks = 6000-8500 lbs.
    d. heavy duty gasoline trucks = 8500 lbs.
    e. heavy duty diesel power trucks
    f. motorcycles
13. The following classifications will be used for noise studies:
    a. auto (includes 2P and 2S trucks)
    b. heavy duty trucks (2D +)

*Sand Island Development of Container Handling Facilities E.I.S.
** State Parks, Outdoor Recreation and Historic Sites Division

BASIC ASSUMPTIONS

1. The 1990 trip generation for Sand Island Park, the maritime industrial area and the foreign trade zone station will be based on trip rates used in the Sand Island Development of Container Handling Facilities E.I.S.
2. The 2000 trip generation for Sand Island Park will be based on a trip rate used in the Sand Island Development of Container Handling Facilities E.I.S.
3. 75% of the boat and beach parks will be completed by 1990 with the remaining 25% to be completed by 2000.
4. Growth factors based on population projections made by DPED for Oahu will be used for those areas on Sand Island that are or will become fully developed in terms of structures to be built. These factors will also be used for areas outside of Sand Island unless stated otherwise.
5. Truck factors will be based on vehicle-type classification counts taken for this study within the study area and at Fort Armstrong.
6. Coast Guard traffic will remain constant.
7. The fish and game station will not expand.

Jerry M. Matsuda

PLANNING SURVEY ENGINEER

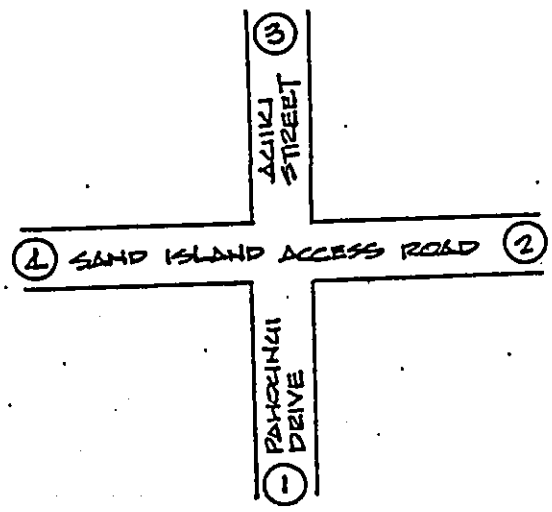
cm

SAND ISLAND ACCESS RD.
WIDENING AND IMPROVEMENT
PROJECT NO. GLA-01-75

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PREPARED BY
HIGHWAYS DIVISION PLANNING BRANCH
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

AUGUST 1977



PEAK EIGHT-HOUR TRAFFIC

	LEG 1	LEG 2	LEG 3	LEG 4
1980	790	9430	4610	7020
1990	910	15,090	6920	10,500
2000	980	16,740	7700	11,600

NOISE CLASSIFICATION PERCENTAGES
(TOTAL TRAFFIC @ INTERSECTION)

TIME / CLASS	AUTO, 2P, 2S		HEAVY DUTY TRUCK (2D+)	
	VOL	%	VOL	%
6AM-6:30	676	2.673	44	0.174
7	926	3.807	92	0.363
7:30	814	3.209	192	0.757
8	782	3.089	250	0.986
8:30	676	2.665	290	1.144
9	752	2.980	232	0.915
9:30	798	3.146	238	0.938
10	924	3.643	204	0.804
10:30	926	3.651	218	0.859
11	1076	4.242	298	1.175
11:30	1022	4.029	256	1.089
NOON	1122	4.423	182	0.717
12:30	912	3.595	202	0.796
1	902	3.556	218	0.859
1:30	880	3.469	228	0.899
2	846	3.335	312	1.230
2:30	890	3.272	250	0.986
3	804	3.170	302	1.191
3:30	796	3.138	226	0.891
4	1176	4.636	172	0.678
4:30	1102	4.344	114	0.449
5	716	2.823	74	0.292
5:30	654	2.578	50	0.197
6	522	2.058	22	0.087
TOTAL	20,700	81.605	4666	18.395

COUNT TAKEN IN JAN 1979

AIR CLASSIFICATION PERCENTAGES

CLASS (WT) / LEG	1		2		3		4	
	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR
AUTO	38	29	54	57	54	54	50	54
LT. DTY GAS (0—6000)	25	25	24	23	26	26	27	23
LT DTY GAS (6000—8500)	2	2	3	3	4	3	3	3
HVY DTY GAS (>8500)	7	7	9	8	9	8	9	8
HVY DTY DSL (>8500)	28	37	10	9	9	9	11	12
TOTAL	100	100	100	100	100	100	100	100

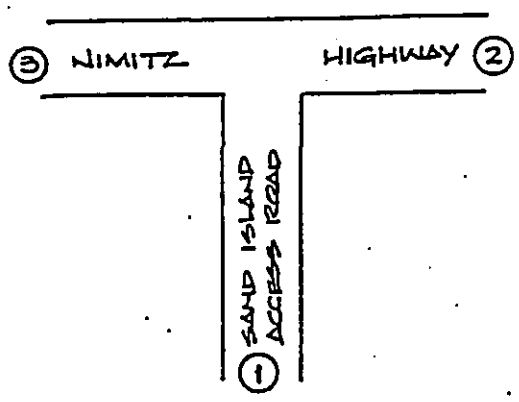
REF. NO TA 77-15

3 OF 5

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PREPARED BY
HIGHWAYS DIVISION PLANNING BRANCH
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PROJECT NO. GAA-01-79
AUGUST 1979



NOISE CLASSIFICATION PERCENTAGES
(TOTAL TRAFFIC @ INTERSECTION)

TIME / CLASS	AUTO, 2P, 2S		HEAVY DUTY TRUCK (2D+)	
	VOL	%	VOL	%
6AM-6:30	3032	2.847	178	0.167
7	4932	4.632	244	0.229
7:30	4620	4.339	386	0.362
8	4472	4.200	420	0.394
8:30	4532	4.256	544	0.511
9	3048	2.862	546	0.513
9:30	3376	3.170	532	0.500
10	3412	3.204	448	0.421
10:30	3772	3.542	432	0.406
11	3840	3.606	450	0.423
11:30	3748	3.520	426	0.423
NOON	4016	3.773	412	0.387
12:30	3480	3.268	476	0.446
1	3268	3.163	488	0.458
1:30	3768	3.539	426	0.400
2	3718	3.492	508	0.477
2:30	3990	3.747	478	0.449
3	4282	4.021	580	0.545
3:30	4704	4.417	466	0.438
4	4802	4.510	320	0.301
4:30	5592	5.251	272	0.255
5	5200	4.977	202	0.190
5:30	4120	3.869	130	0.130
6	2816	2.644	22	0.006
TOTAL	96.942	91.036	9544	8.964

COUNT TAKEN IN JAN 1979

PEAK EIGHT-HOUR TRAFFIC

	LEG 1	LEG 2	LEG 3	
1980	11,340	30,290	31,570	
1990	15,190	31,740	33,600	
2000	16,730	35,780	37,840	

AIR CLASSIFICATION PERCENTAGES

CLASS (WT) / LEG	1		2		3			
	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR		
AUTO	71	50	88	80	87	79		
LT DTY GAS (0 — 6000)	15	22	8	11	8	12		
LT DTY GAS (6000 — 8500)	2	3	1	1	1	1		
HVY DTY GAS (> 8500)	4	7	1	4	2	4		
HVY DTY DSL (> 8500)	5	9	2	4	2	4		
TOTAL	100	100	100	100	100	100		

REF NO TO 79-15

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PREPARED BY
HIGHWAYS DIVISION PLANNING BRANCH
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

PROJECT NO. GAA-01-79
AUGUST 1979

① BASCULE

SAND ISLAND ACCESS ROAD

BRIDGE

PEAK EIGHT-HOUR TRAFFIC

	LEG 1	LEG 2	LEG 3	LEG 4
1980	7050			
1990	12,350			
2000	13040			

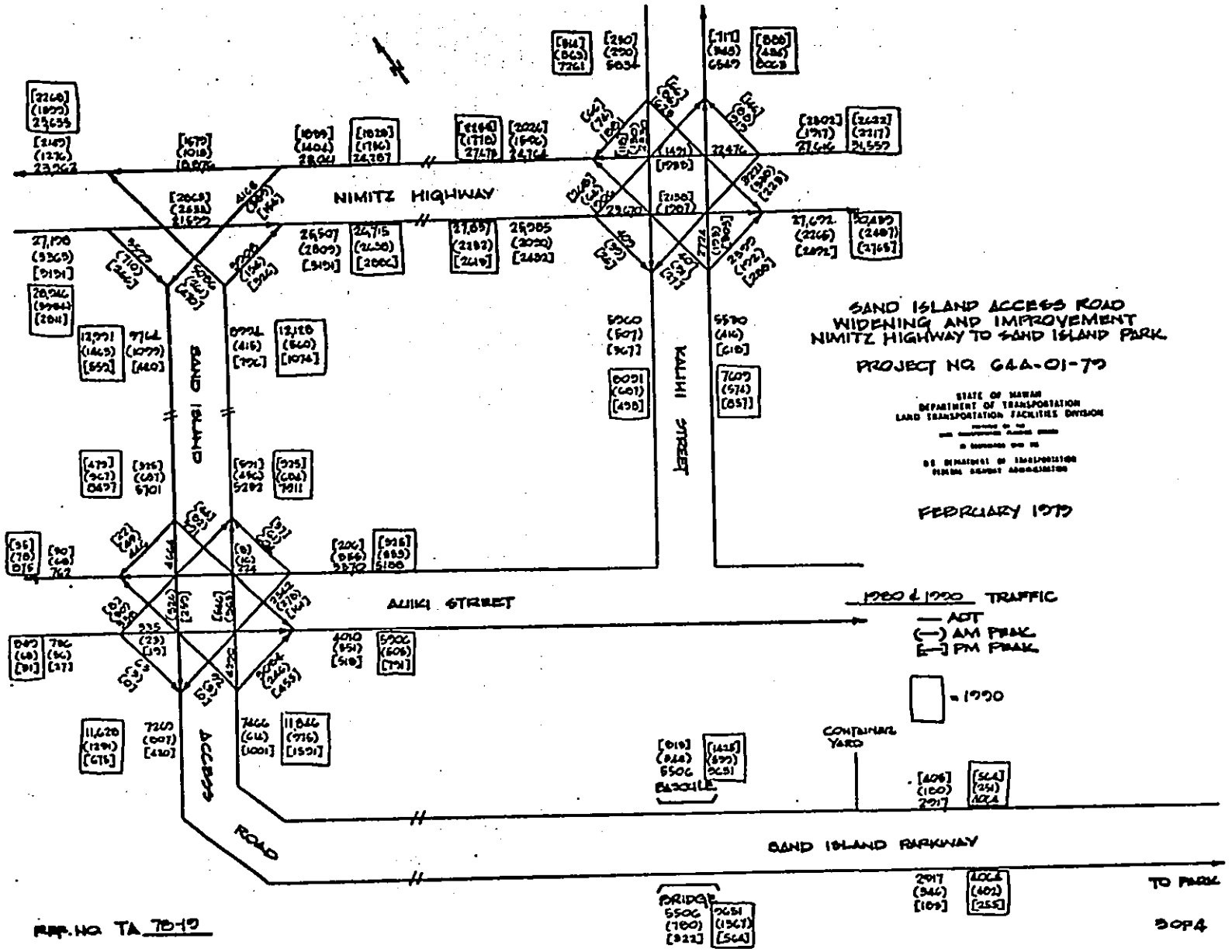
NOISE CLASSIFICATION PERCENTAGES
(TOTAL TRAFFIC @ INTERSECTION)

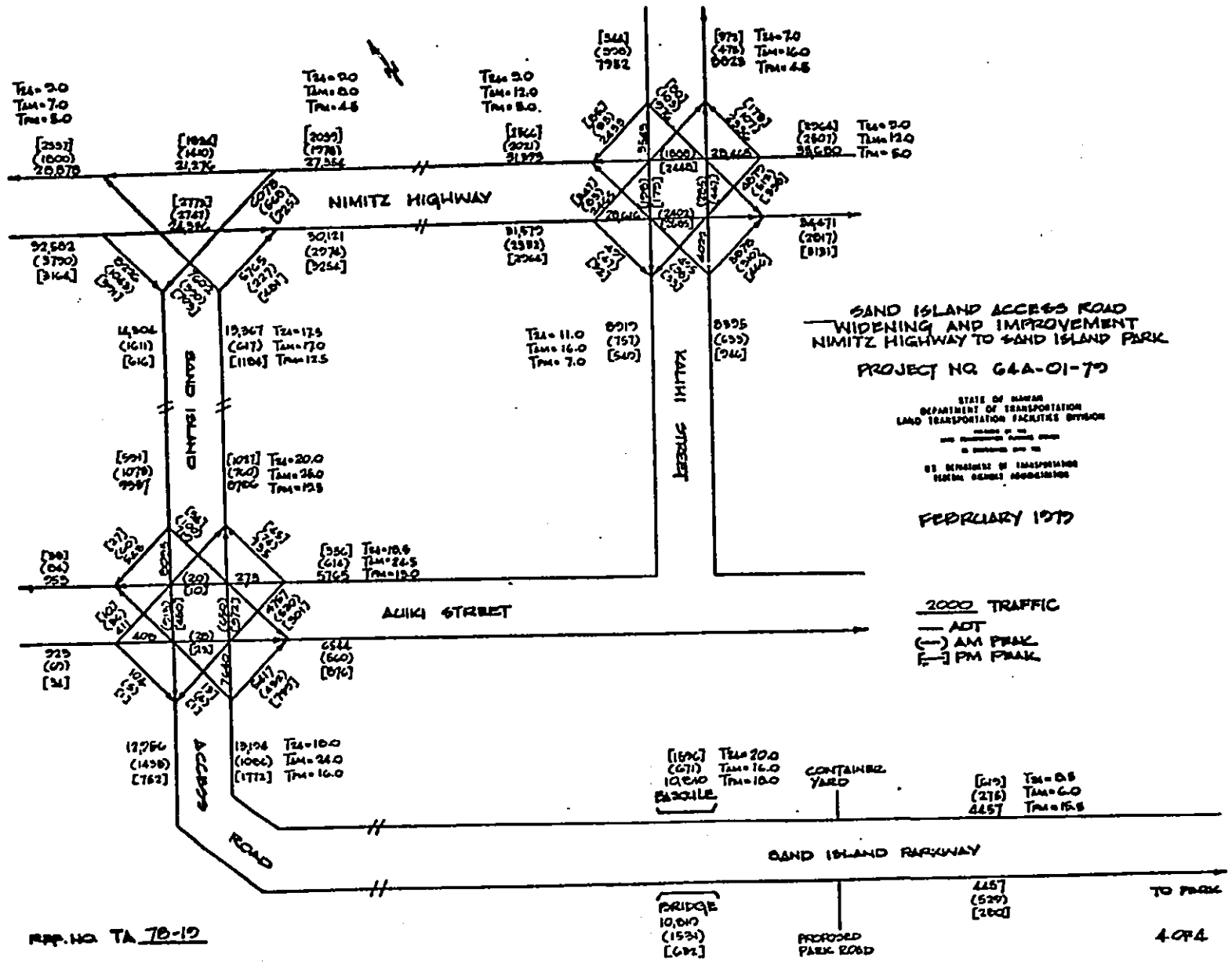
TIME / CLASS	AUTO, 2P, 2S		HEAVY DUTY TRUCK (2D+)	
	VOL	%	VOL	%
6AM-6:30	172	2.304	12	0.161
7	443	5.934	30	0.402
7:30	225	3.014	68	0.911
8	240	3.215	58	0.777
8:30	199	2.666	69	0.924
9	203	2.719	60	0.804
9:30	196	2.626	60	0.804
10	244	3.269	65	0.871
10:30	215	2.880	70	0.938
11	262	3.510	87	1.165
11:30	300	4.017	79	1.058
NOON	315	4.220	56	0.750
12:30	276	3.697	48	0.643
1	294	3.938	60	0.804
1:30	236	3.161	68	0.911
2	276	3.697	79	1.058
2:30	206	2.760	68	0.911
3	281	3.764	98	1.313
3:30	248	3.322	66	0.884
4	396	5.305	74	0.991
4:30	343	4.595	44	0.589
5	203	2.719	23	0.308
5:30	182	2.438	18	0.241
6	131	1.755	19	0.255
TOTAL	6086	81.527	1379	18.473

COUNT TAKEN IN NOV. 1978

A112 CLASSIFICATION PERCENTAGES

CLASS (WT) / LEG	1		2		3		4	
	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR	PEAK HOUR	PEAK 8-HR
AUTO	63	56						
LT. DTY GAS (0→6000)	21	32						
LT DTY GAS (6000→8500)	2	3						
HVY DTY GAS (>8500)	7	9						
HVY DTY DSL (>8500)	7	10						
TOTAL	100	100						


NIMITZ HIGHWAY
SAND ISLAND ACCESS ROAD
KALIHI STREET
ALIIKI STREET
SAND ISLAND PARKWAY
TO PARK
CONTAINER YARD
BASCULE
BRIDGE
1980 & 1990 TRAFFIC
— ADT
(—) AM PEAK
[—] PM PEAK
= 1990
SAND ISLAND ACCESS ROAD
WIDENING AND IMPROVEMENT
NIMITZ HIGHWAY TO SAND ISLAND PARK
PROJECT NO. 64A-01-79
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
US DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEBRUARY 1979
REF. NO. TA-7919
3 OF 4



SAND ISLAND ACCESS ROAD
WIDENING AND IMPROVEMENT
NIMITZ HIGHWAY TO SAND ISLAND PARK

PROJECT NO. G4A-01-79

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

US DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

FEBRUARY 1979

2000 TRAFFIC
— ADT
(—) AM PEAK
[—] PM PEAK

REF. NO. TA 78-12

4 OF 4

APPENDIX B

TYPES OF WATERWAY TRAFFIC AT THE JOHN H. SLATTERY BRIDGE,

1972-1979 ANNUAL BASCULE BRIDGE OPERATION DATA,

JOHN H. SLATTERY BRIDGE

APPENDIX B

TYPES OF WATERWAY TRAFFIC AT THE JOHN H. SLATTERY BRIDGE, 1972 - 79

CLASS	VESSEL TYPES	HGT	1972	1973[1]	1974	1975[2]	1976[3]	1977[4]	1978[5]	1979[6]
1	Tugs with Tow	65'	108	144	297	127	54	107	79	99
2	Tugs without Tow	65'	473	707	767	302	92	343	75	60
3	Ocean Commercial Vessels		290	89	25	181	3	26	0	0
4	Ocean Fishing Vessels		17	8	11	6	0	3	1	3
5	*U.S. Coast Guard Vessels		414	200	158	54	23	1	158	68
6	Harbor Fireboat		14	21	13	14	9	4	22	17
7	*Harbor Pilotboat		23	16	20	14	5	0	88	16
8	Miscellaneous Small Craft - Sailing Vessels		82	145	251	17	33	12	6	24
9	Ocean Research Vessels		1	3	5	1	0	6	0	0
10	U.S. Navy Vessels		7	3	1	0	0	0	1	5
11	U.S. Corps of Engineers Dredge		10	0	0	0	0	0	0	0
12	U.S. Coast & Geodetic Ships		0	2	0	0	0	0	0	0
13	*Tugs without Tow								64	22
14	Cruise Ships								0	0
15	Local Tour - Cruise Ships								45	52
16	Catamarans								7	14
17	Motor Launch (Personel Launch/Work Boat)								218	0
	TOTALS		1,439	1,338	1,548	716	219	502	764	380

* Denotes vessels utilizing Kalihi Channel, but does not require bridge to be raised.

1 Closed during September.

2 Closed during August, September & October.

3 Closed during: 2 days-June, 5 days-February, March, and April, 7 days-May, 17 days-August, 4 days-September & 16 days-November.

4 Closed during: 3 days-February, 8 days-March, and does not include November & December.

5 Closed during: 22 days-March, 19 days-April, 15 days-May.

6 Closed during: July 30 to December.

APPENDIX B (continued)

ANNUAL BASCULE BRIDGE OPERATION DATA

JOHN H. SLATTERY BRIDGE 6Dec79

YEAR	NUMBER OF DRAW OPENINGS	FREQUENCY OF DRAW OPENINGS PER DAY	OPERATIONAL CONSIDERATION
1972	903	3.7	Normal Operation[1]
1973	670	2.9	Closed during September
1974	1,101	4.5	Normal Operation
1975	641	3.7	Closed during: August, September & October
1976	403	2.7	Closed during: 2 days-January, 5 days-February, March, April, 7 days-May, 17 days-August, 4 days-September, & 16 days-November
1977	731	3.4	Closed during: 3 days-February, 8 days-March
1978	382	2.3	Closed during: 22 days-March, 19 days-April, & 15 days-May
1979	352	2.5	Closed during: July 30 to date

[1] Normal Operation: (52 weeks x 5 days/week) - 13 Holidays = 247 Working days.

APPENDIX C

AIR QUALITY IMPACT ANALYSIS

FOR

SAND ISLAND ACCESS ROAD WIDENING
AND OTHER IMPROVEMENTS

SAND ISLAND, HONOLULU, DISTRICT, OAHU
STATE OF HAWAII

APPENDIX C

AIR QUALITY IMPACT ANALYSIS

FOR

SAND ISLAND ACCESS ROAD WIDENING
AND OTHER IMPROVEMENTS

SAND ISLAND, HONOLULU DISTRICT, OAHU
STATE OF HAWAII

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Kaneohe, Hawaii
October 29, 1979

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

I. INTRODUCTION AND PROJECT DESCRIPTION

Increasing development and subsequent use of Sand Island for commercial, governmental, and recreational purposes will cause a substantial increase in traffic traveling to and from the area over the next few years. The major transportation corridor to Sand Island has thus been slated for improvement. This corridor includes the Sand Island Access Road, John H. Slattery Bascule Bridge, and Sand Island Parkway (Figure 1). Specific areas of concern along the corridor include the intersection of Nimitz Highway and Sand Island Access Road, all of Sand Island Access Road, and the bascule bridge to Sand Island.

In its present configuration Sand Island Access Road does not make full use of the available right of way. The portion from Nimitz Highway to just past Auiki Street is four lanes divided with a 12 to 18 foot median, but from there to the two lane bascule bridge the roadway is undivided and narrows from four to two lanes. This two lane portion is expected to have the greatest traffic increases in the corridor during the 20 year study period.

A number of improvement schemes are being considered. The purpose of this study is to describe the likely air pollution impact of the proposed project including a comparative analysis of the carbon monoxide concentrations likely to result from some of the different roadway configurations that have been proposed.

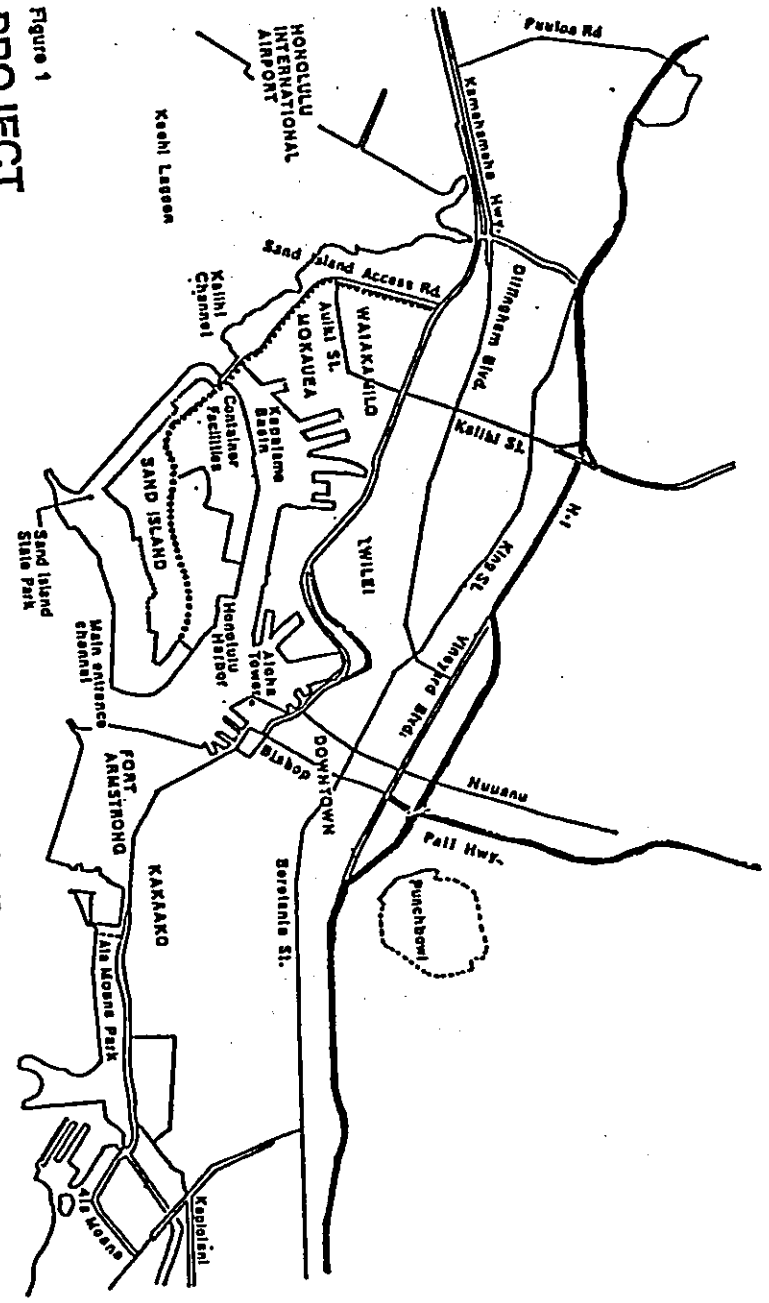
II. AMBIENT AIR QUALITY STANDARDS

State of Hawaii and/or Federal Ambient Air Quality Standards (AQS) have been established for seven classes of pollutants as shown in Table 1. An AQS is a concentration level not to be exceeded over a specified sampling period, which varies from pollutant to pollutant. Each of the regulated pollutants has the potential to cause some form of adverse health effect or to produce environmental degradation when present in sufficiently high concentration. Federal AQS has been set at levels below those known to cause adverse effects, but the State of

Figure 1

PROJECT LOCATION

Sand Island Access Road Improvements



0 200 600 1900 feet

Project Corridor

TABLE 1

SUMMARY OF
STATE OF HAWAII AND FEDERAL AMBIENT AIR QUALITY STANDARDS

POLLUTANT	SAMPLING PERIOD	FEDERAL STANDARDS PRIMARY	FEDERAL STANDARDS SECONDARY	STATE STANDARDS
1. Suspended particulate matter (micrograms per cubic meter)	Annual Geometric Mean	75	60	-
	Annual Arithmetic Mean	-	-	55
	Maximum Average in any 24 hours	260	150	100
2. Sulfur Dioxide (micrograms per cubic meter)	Annual Arithmetic Mean	80	-	20
	Maximum Average in any 24 hours	365	-	80
	Maximum Average in any 3 hours		1300	400
3. Carbon Monoxide (milligrams per cubic meter)	Maximum Average in any 8 hours	10		5
	Maximum Average in any 1 hour	40		10
4. Hydrocarbons Non-methane (micrograms per cubic meter)	Maximum Average in any 3 hours	160		100
5. Ozone (micrograms per cubic meter)	Maximum Average in any 1 hour	240		100
6. Nitrogen Dioxide (micrograms per cubic meter)	Annual Arithmetic Mean	100		70
	Maximum Average in any 24 hours	-		150
7. Airborne Lead (micrograms per cubic meter)	Average Over 3 Months	1.5		1.5

Source: 40 Code of Federal Regulations, Part 50 and State of Hawaii Public Health Rule and Regulations, Chapter 42.

Hawaii Standards are significantly more stringent. Federal AQS has been divided into Primary and Secondary values for some pollutants. Secondary AQS are levels above which welfare impacts such as reduced visibility or property damage could occur, while Primary AQS refer to levels above which adverse health impacts could occur. The State of Hawaii AQS are designed to project against any adverse effects, including those not yet discovered.

III. EXISTING AMBIENT AIR QUALITY

The nearest long term air quality monitoring station is at Kalihi-Kai Fire Station, less than one mile from the project area. A summary of the recent pollutant readings at this site is presented in Table 2. In general, there are no compliance problems with any of the pollutants listed.

Unfortunately the pollutant of greatest concern with regard to this project, carbon monoxide, is not measured at Kalihi-Kai. The only long term carbon monoxide monitoring site in the State of Hawaii is located in Honolulu at the Department of Health building about 2.5 miles east southeast of the project area. Carbon monoxide levels at this site are summarized in Table 3. While the average concentration of carbon monoxide at this site has been decreasing slowly during the last few years, concentrations in excess of allowable State of Hawaii AQS still occur on about 20 days per year. Photochemical oxidant (ozone) readings at the same site indicate that recent levels are well within the allowable AQS. Since hydrocarbon concentrations are not routinely measured anywhere in Hawaii, little is known about existing levels of this pollutant in the vicinity of the project site.

IV. SHORT TERM EMISSIONS FROM ROADWAY CONSTRUCTION

During the construction phase of this project it is inevitable that a certain amount of fugitive dust will be generated by vehicles traveling over unpaved roadbeds and by dirt moving and hauling operations. Based on field measurements of such emissions from apartment and shopping

TABLE 2

SUMMARY OF 24-HOUR AIR POLLUTANT CONCENTRATIONS AT KALIHI-KAI FIRE STATION (1975 - 1978)

	1975	1976	1977	1978
PARTICULATE MATTER				
No. of samples	85	71	47	58
Range of values	24-92	27-113	26-94	27-80
Average value	51	52	60	46
No. of times AQS exceeded	0	1	0	0
SULFUR OXIDES				
No. of samples	81	68	45	57
Range of values	<5-34	<5-32	<5-<5	<5-7
Average value	5	<5	<5	<5
No. of times AQS exceeded	0	0	0	0
NITROGEN DIOXIDE				
No. of samples	81	20		
Range of values	<5-71	16-67		
Average value	31	36		
No. of times AQS exceeded	0	0		

NOTES: All values in micrograms per cubic meter. Nitrogen dioxide samplings discontinued in April 1976. Sampling station located less than one mile northeast of the project location.

Source: State of Hawaii, Department of Health

TABLE 3

SUMMARY OF ONE-HOUR AIR POLLUTANT CONCENTRATIONS AT DEPARTMENT OF HEALTH (PUNCHBOWL AND BERETANIA STREETS)

	1975	1976	1977	1978
CARBON MONOXIDE				
No. of sampling days	169	355	359	365
Range of values[a]	0.9-27.4	.5-24.2	0-19.6	0-20.7
Average	6.6	5.4	3.5	3.1
No. of times State AQS exceeded	35	41	22	19
PHOTOCHEMICAL OXIDANTS				
No. of sampling days	234	322	300	284
Range of values[b]	6-65	2-127	4-61	10-84
Average	25	40	25	33
No. of times State AQS exceeded	0	1	0	0

[a] milligrams per cubic meter
[b] micrograms per cubic meter

NOTE: Sampling station located about 2.5 miles east southeast of project area.

Source: State of Hawaii, Department of Health

center construction projects, an emission rate of 1.2 tons of dust per acre of construction per month of activity has been estimated. This figure assumes: (1) medium-level activity; (2) moderate soil silt content (about 30%); and (3) a semi-arid climate. In fact, however, it is impossible to predict future fugitive dust emissions from this project since work schedules have not yet been set and the magnitude of the construction effort not yet been decided. Because the proposed project area is mostly level, very little cut and fill or blasting work should be required. This should significantly reduce expected fugitive dust emissions from the project area.

Fugitive dust control regulations and suggested mitigative measures are discussed later in this report.

V. VEHICULAR EMISSIONS

The air pollution impact of this proposed project will depend mostly upon any changes in pollutant emissions from vehicles operating on the roadway. Gasoline-powered motor vehicles are prodigious emitters of carbon monoxide. They also produce significant amounts of hydrocarbons and nitrogen oxides, which react together in the atmosphere to form photo-chemical oxidants (ozone being one of the principal components). Vehicles operating on gasoline containing lead as an additive can also produce airborne lead, but the number of such vehicles is decreasing significantly each year because of Federal regulations requiring the use of unleaded fuel in most new automobiles.

The Federal government has also mandated reductions in vehicular emissions of carbon monoxide, hydrocarbons, and nitrogen dioxide. The projected impact of these regulations in the project area is summarized in Table 4. The daily emission totals shown are for a half-mile long section of Sand Island Access Road between Auiki Street and the bascule bridge. Average daily traffic volumes are from Appendix A. The emission factors used are for an average speed of 19.6 miles per hour at an ambient temperature of 75° F with 20.6 percent of the vehicles operating in the "cold start" mode and 27.3 percent in the "hot start" mode.

TABLE 4

VEHICULAR EMISSIONS ANALYSIS
SAND ISLAND ACCESS ROAD BETWEEN AUIKI STREET
AND BASCULE BRIDGE (KILOGRAMS/DAY)

YEAR	AVERAGE DAILY TRAFFIC	CARBON MONOXIDE	HYDROCARBONS	NITROGEN DIOXIDE
1980	14735	443.5	49.4	26.5
1990	23474	300.5	31.7	23.5
2000	26150	272.0	31.4	24.8

The vehicle mix is 63% automobiles, 32% light duty trucks, and 5% heavy duty trucks (half gasoline and half diesel-powered). In spite of substantial increases in traffic volume between 1980 and 2000 carbon monoxide emissions are expected to decrease significantly. A sizeable reduction of hydrocarbon emissions is also predicted, but nitrogen dioxide emissions are likely to show little change. From the monitoring data collected at the Kalihi-Kai Fire Station it appears that existing levels of nitrogen dioxide in the project vicinity are not a problem. There should thus be little concern that emissions of this pollutant are likely to decrease only slightly by the year 2000.

Of greater concern is the degree of decrease that can be achieved in carbon monoxide emissions by altering the roadway configuration. Since the number of vehicles operating along this corridor is not likely to change very much whether the improvements are undertaken or not, any decreases in carbon monoxide emissions are likely to come about mainly through the elimination of "bottlenecks" that cause vehicles to operate at low rates of speed or simply sit and idle. If average automobile speeds in this corridor can be increased from 15 to 30 mph, carbon monoxide emission rates can be decreased by 45% in 1980, 42% in 1990, and 41% in 2000.

In order to compare carbon monoxide levels to allowable AQS, it is necessary to compute concentrations at specific locations rather than overall emission totals. For this reason, a detailed microscale carbon monoxide analysis has been carried out for three selected receptor sites along the project corridor.

VI. MICROSCALE CARBON MONOXIDE ANALYSIS

Methodology and Assumptions: Three critical receptor sites were selected for detailed carbon monoxide concentration analysis. These particular sites were chosen because they were likely to best reflect the changes in carbon monoxide concentration that might result from planned changes in the roadway configuration and because they would be likely to have the highest peak hour carbon monoxide concentrations

within the roadway segment considered. Location of the receptor sites is shown on Figure 2.

Peak hour traffic volumes near each receptor site were determined from traffic assignments shown in Appendix A for the years 1980, 1990, and 1995. Vehicle emission rates for each lane of traffic and each analysis year were determined using a Federal Highway Administration tabulated version of the EPA computer emissions model, MOBILE 1. Vehicle mix for each roadway leg was determined using data shown in Appendix A. Average vehicle speeds of 23 mph were assumed for all traffic lanes not upstream from a traffic signal or stop sign. For lanes upstream from traffic signals an average vehicle speed of 5 mph was assumed for the portion of time that the light was red. For lanes upstream from a stop sign an average vehicle speed of 5 mph was assumed for all traffic. An estimated "cold start" percentage of 20 was used with a mean temperature of 80° F. Actual cold start percentages for this location are very difficult to estimate. Peak hour at sites 1 and 3 is in the afternoon while that at site 2 is in the late morning. Most of the vehicles operating in the area at those times are likely to be on their second or third trip of the day, and the 20 percent cold start estimate could be too high. The average temperature of 80° F should be quite representative, however, and overall the emission values used should be on the conservative overestimate side rather than underestimates.

The EPA computer model HIWAY was used to determine the expected carbon monoxide concentrations for each receptor site. All computations assumed an atmospheric stability Category D (moderately stable) with a wind speed of one meter per second. The least favorable wind direction for each site was selected based on roadway geometry. For site 1 the direction was 95 degrees, for site 2 it was 90 degrees (due east), and for site 3 it was 320 degrees. Background carbon monoxide concentration (from sources more distant than those directly considered) was assumed to be 2 milligrams per cubic meter (mg/m^3) in 1980 and 1 mg/m^3 for both 1990 and 2000.

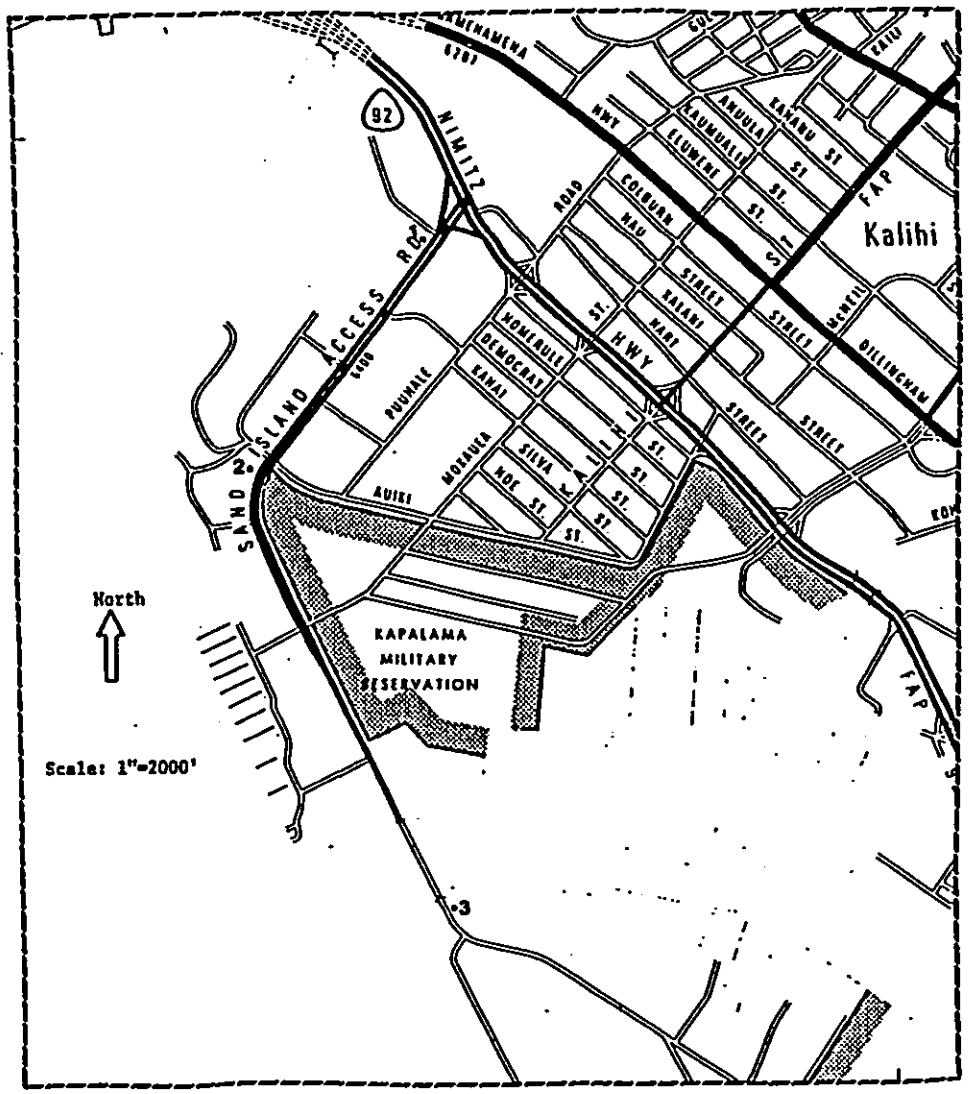


FIGURE 2. CARBON MONOXIDE RECEPTOR SITES, SAND ISLAND ACCESS ROAD IMPROVEMENTS

TABLE 5

RESULTS OF MICROSCALE CARBON MONOXIDE ANALYSIS
PEAK HOUR CONCENTRATIONS (milligrams per cubic meter)[a]

RECEPTOR SITE[b]	CONFIGURATION	1980	1990	2000	AIR QUALITY STANDARDS STATE OF HAWAII	FEDERAL
1	EXISTING	16.0	7.0	6.6	10	40
	SCHEME A	14.6	6.4	6.1	10	40
	SCHEME B	14.7	6.5	6.1	10	40
	SCHEME C (ALTERNATIVE III)	9.1	4.0	3.9	10	40
2	EXISTING	10.1	6.4	6.0	10	40
	SCHEME A	8.2	5.2	4.8	10	40
	SCHEME B	8.3	5.3	4.9	10	40
3	EXISTING	10.0	8.1	7.8	10	40
	PARKWAY	9.0	7.2	7.0	10	40

[a] See text for discussion of methodology and assumptions.
[b] See Figure 2 for location of Receptor Sites.

Results: Results of the peak hour computations are shown in Table 5. The roadway configurations for the various schemes considered are shown in Appendix B. At site 1, Scheme C (with a semiclover leaf interchange at Nimitz Highway and Sand Island Access Road) offers the greatest reduction in expected peak hour carbon monoxide concentrations. Schemes A and B would retain traffic signals at the intersection and thus result in more modest reductions in expected carbon monoxide concentrations. Substantial reductions in carbon monoxide are expected at site 1 by 1990 because a lot of the traffic presently using Nimitz Highway will be shifted to the then-completed section of the H-1 Freeway in this area. This coupled with the expected cut in carbon monoxide emissions brought about by implementation of Federally mandated emission controls on new cars accounts for the significant concentration reductions shown between 1980 and 1990 at site 1.

In fact, as shown in Table 5, there should be no peak hour carbon monoxide concentrations in excess of allowable Air Quality Standards at any of the critical receptor sites after 1990 no matter which roadway configurations are implemented.

At site 2, Scheme A results in slightly lower curbside carbon monoxide concentrations than Scheme B but the differences are barely discernable and the decision concerning which scheme to select should be based on criteria other than air pollution. As a word of caution, the Auiki Street intersection was assumed to remain unsignalized through the year 2000 for purposes of this analysis. If the intersection is signalized, the presently free-flowing traffic on Sand Island Access Road will have to stop for this signal and carbon monoxide levels at this site could increase by as much as 60 percent. Such an increase would still allow post 1990 concentrations to remain within the State and Federal Air Quality Standards, but the values would be significantly higher than those shown in Table 5. On the other hand the values shown in Table 5 could be reduced somewhat by providing a free-flow right-turn lane from Auiki Street to Sand Island Access Road thus requiring only left hand turns or straight-through traffic to stop at the present stop sign.

TABLE 6

RESULTS OF MICROSCALE CARBON MONOXIDE ANALYSIS
MAXIMUM EIGHT-HOUR CONCENTRATIONS (milligrams per cubic meter)[a]

RECEPTOR SITE[b]	CONFIGURATION	1980	1990	2000	AIR QUALITY STANDARDS STATE OF HAWAII	AIR QUALITY STANDARDS FEDERAL
1	EXISTING	9.2	4.3	4.1	5	10
	SCHEME A	8.3	3.9	3.7	5	10
	SCHEME B	8.3	3.9	3.7	5	10
	SCHEME C (ALTERNATIVE III)	4.8	3.3	2.2	5	10
2	EXISTING	4.6	2.8	2.6	5	10
	SCHEME B	3.8	2.3	2.1	5	10
	SCHEME C	3.8	2.3	2.1	5	10
3	EXISTING	5.4	3.9	3.8	5	10
	PARKWAY	5.0	3.5	3.4	5	10

The 8-hour CO estimates are based on peak hour computations to which have been applied two 8-hour adjustment factors. The first factor is the ratio of average hourly volume during the 8-hour peak to peak hour volume for each leg of each roadway. The second factor is a meterological persistence factor of 0.6 which is suggested in EPA Guidelines to account for the fact that wind speed and direction as well as atmosphere stability conditions will vary over a greater range during an 8-hour period than they would during the 1-hour period used in the peak hour analysis.

[a] See text for discussion of methodology and assumptions
[b] See Figure 2 for location of Receptor Sites

Results at site 3 are straightforward. Building the four-lane parkway would reduce expected carbon monoxide concentrations by about 1 milligram per cubic meter from those that would be expected from the same traffic traveling over the existing two lane roadway. The "parkway" figures assume that the present bascule bridge crossing is in some way widened to four lanes so that it does not create a traffic bottleneck. No traffic stoppage for drawbridge operation was considered for either the "existing" or "parkway" computations.

Estimated maximum eight-hour carbon monoxide concentrations at each of the receptor sites are shown in Table 6. The analysis indicates that, under the worst case conditions considered, the allowable State of Hawaii AQS would be exceeded at sites 1 and 3 with 1980 traffic flow over the existing roadways. By 1990, all eight-hour AQS will be met whether the planned improvements are implemented or not, but eight-hour carbon monoxide concentration reductions of about 0.5 mg/m^3 can be expected by widening the roadways at all sites and concentrations at site 1 can be reduced by almost 50 percent by building a semi-clover leaf at the Nimitz Highway intersection.

VII. POSSIBLE MITIGATIVE MEASURES

From an air pollution standpoint, the road-widening project considered here is in itself a mitigative measure since it would result in lower future concentrations of vehicle-generated air pollutants in the project area no matter which of the planned widening schemes is implemented. Further reductions over those shown can be gained by the judicious use of landscaping. Tall plants with dense foliage can remove measurable amounts of particulates and some air-polluting gases from the air.

During construction, however, it might be necessary to consider mitigative controls to prevent or minimize the emissions of fugitive dust. One way to do this is to concentrate work in small areas rather than create large sections of unpaved roadway along the entire corridor. Within work areas, State of Hawaii Department of Health

Rules and Regulations (Chapter 43, Section 10) stipulate that control measures must be employed if nearby residents are being subjected to suspended particulate levels more than 150 micrograms per cubic meter above existing background level (as measured on a 12-hour basis). Primary control consists of frequent watting-down of loose soil areas with water, oil, or suitable chemicals. An effective watering program can reduce particulate emissions from construction sites by as much as 50 percent. Other control measures include good housekeeping on the job-site and, if necessary, the erection of dust-catching barriers.

VIII. SUMMARY AND CONCLUSIONS

The traffic corridor from Nimitz Highway to Sand Island is slated for widening and other improvements. Existing air quality in the project area is reasonably good, but measurements of carbon monoxide concentrations at the Department of Health sampling site, located 2.5 miles away, indicate about 20 violations of state ambient air quality standards per year. Because of the implementations of federal controls on carbon monoxide emissions from new vehicles significant decreases in carbon monoxide concentrations in the project area would be expected whether this project is undertaken or not, but each of the widening schemes considered has the potential to produce additional peak hour carbon monoxide concentration reductions on the order of 1 milligram per cubic meter, and construction of a semiclover leaf interchange at Nimitz Highway could reduce expected concentrations in that area by almost 50 percent. No matter which option is taken (including the no-contruction option) carbon monoxide levels along the project corridor are predicted to be within allowable air quality standards by 1990 and this condition is expected to persist at least through the year 2000.

Any of the construction options considered will produce a certain amount of fugitive dust. These emissions can be minimized by working on small areas at a time, good housekeeping on the job-site, frequent wetting-down of loose soil areas, and the erection of dust-catching barriers if necessary.

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2. State of Hawaii, Department of Transportation, Land Transportation Facilities Branch, "Environmental Assessment for the Proposed Sand Island Access Road Widening and Improvements, Project No. 64A-01-79," April, 1979.

3. Federal Highway Administration, Office of Environmental Quality, Noise and Air Quality Branch, "Tabulation of Selected Low-Altitude Emission Factors Based on EPA's Mobile Source Emission Factors, dated March, 1978," September, 1978.

4. U.S. Environmental Protection Agency, National Environmental Research Center, Office of Research and Development, "User's Guide for HIWAY, A Highway Air Pollution Model," (by John R. Zimmerman and Roger S. Thompson), February, 1975.

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6. U.S. Environmental Protection Agency, Office of Air Planning and Standards, "Compilation of Air Pollutant Emission Factors," August, 1977.

APPENDIX D

NOISE STUDY OF

SAND ISLAND ACCESS ROAD

HONOLULU, HAWAII

APPENDIX D

NOISE STUDY OF
SAND ISLAND ACCESS ROAD
HONOLULU, HAWAII

WIDENING AND IMPROVEMENTS
PROJECT NO. 64A-01-79

OCT. 15, 1981

Submitted To
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TABLE OF CONTENT

NOISE STUDY ALONG SAND ISLAND ACCESS ROAD

OBJECTIVE:

This report is to replace the original report on Sand Island Access Road Noise Study, which was submitted on Jan. 14, 1980. It differs from the original report in the methodology used in calculating the traffic noise. The objectives of this report remain the same as those of the original report. They are repeated here as follows.

1. To determine the existing and future vehicular traffic noise along Sand Island Access Road.
2. To evaluate the impact of the noise on the occupants of the industrial establishment in the area, and
3. To recommend, where necessary, measures to reduce the noise level.

INTRODUCTION:

Sand Island Access Road starts at Nimitz Highway and runs southward approximately 2500 feet to AUIKI Street intersection and continues eastward to Sand Island. The existing road between Nimitz Highway and Auiki Street is approximately 60 feet wide with a 20-foot medial strip. The road between Auiki Street and the Sand Island Container Yard has no medial strip and varies in width between 20 and 30 feet. The posted speed is 25 mph but most of the traffic moves at an average speed of 30 mph. Therefore all noise calculations were based on 30 mph (48.3 KM/HR) and the proposed Road Scheme B.

The proposed improvement increases the width of the road from Nimitz Highway to Auiki Street intersection to 120 feet. Two road section schemes are proposed. In scheme A, a 28 feet wide landscaped medial strip divides the roadway into two equal 3 lanes sections. In scheme B, a continuous 14 feet wide left turn lane separates the roadway into two equal 3 lane sections. Figure 9, location 1 & 2, shows the treatment of the area between the roadway curb and the Right of Way (ROW) line. In scheme A, the curb is 7' closer to the ROW.

The roadway between Auiki Street intersection and the Sand Island Container Yard is 100 feet wide. Two rond sections are also proposed for this stretch of the road. In scheme A, a 26 feet wide lwnscaped medial strip divides the roadway into two equal 2 lane sections. In scheme B, a 14 feet wide continuous left turn lane separates the roadway into two equal 2 lane road sections. Figure 9, location 3, shows the treatment of the area between the roadway curb and the Right of Way Line.

In scheme A, the curb is 6' closer to the ROW.

There are no residences within 1000 feet, on either side of Sand Island Access Road.

The majority of the buildings in this area are single story CMU or steel siding structures. Marine Supply building is the only wood building facing the Access Road. The building occupied by Hapuu Hawaii and American Trucking is the only building with jalousie windows. All other buildings have no windows, or have fixed glass or casement windows.

Aircrafts landing and taking off from the Honolulu International Airport, about 1/2 mile away, fly over this area and contribute considerable amount of noise.

Most establishments open for business between 7:30 and 9 AM and close between 3:30 and 6 PM. However, traffic on Sand Island Access Road starts to increase rapidly from 6 AM and reaches its morning peak around 8 AM (Fig. 2) The afternoon traffic starts to increase around 3 PM and reaches its peak around 4 PM.

NOISE MEASUREMENTS

Noise measurements were taken at location 2 and 4 on Sand Island Access Road (Fig. 1 & 10) from 6 AM to 9:30 PM. Traffic counts were also taken over the same period. (Tables 1 & 2). Measurements were stopped after 9:30 PM for the following reasons:

1. As far as we could determine, no buildings in the area are occupied after 8 PM.
2. The hourly traffic volume dropped to less than 100 by 9:30 PM.
3. After 5 PM, the noise levels at locations 1, 2, and 4 were between 45 and 55 dBA, 90 percent of the time. Previously established noise floor for this area is 45 $\pm$ 3 dBA.

The noise floor is the cumulative noise from ocean waves, wind, and distant traffic. It represents the lowest noise level attainable for the area.

The noise at locations 2 and 4 were recorded on a calibrated tape recorder and later annalyzed.

The data for future traffic condition was up-dated on August 1981, by the State Department of Transportation. (Table 3.)

INSTRUMENTATION:

The following equipment were used for the noise survey and analysis.

1. B & K. Precision Sound Level Meters--2203, 2206, 2209.
2. B & K. Calibrators 4420 and 4230.
3. B & K. Graphic Level Recorder 2305.
4. B & K. Statistical Distribution Analyzer 4420.
5. Sony Professional Tape Recorder 770-2.

The calibration of each equipment was checked before and after each measurement period.

GENERAL DISCUSSION

Much research has been conducted on the reaction of people to noise. It is generally agreed that the reaction of people to noise is not the same for all people. In other words, two persons may react differently to the same noise. Studies on why people complain have shown that the most often cited reasons are:

1. interference with rest and recreation,
2. interference with speech communication,
3. interference with radio and music listening and
4. interference with sleep.

The severity of the complaints is associated with a combination of the follwing factors:

1. The nature of the noise spectrum. (frequency content, amplitude)
2. The loudness and duration of the noise.
3. The time of occurrence. (day, evening, night)
4. The number of occurrences per day.
5. The loudness of the noise above the ambient noise.
6. The activity the person happens to be engaged in when the noise intrusion takes place.
7. The health and noise exposure history of the person.

Because the reaction of the people to noise is subjective, a condition of no complaint to noise should not be expected. A large majority of people did not complain until the indoor noise level exceeded 56 dBA for more than 10 percent of the exposure time. This means, for structures such as those found in this area, the outdoor Leq value should not exceed 72 dBA. Complaints are expected to increase rapidly as the noise level exceeded this limit.

The outdoor equivalent noise level (Leq) recommended in the Federal Aid Highway Program Manual, FHPM-7-7-3, Transmittal 205. July 28, 1976, is 72 dBA for land use category C which includes developed lands, properties or activities not included in categories A and B. (See table 9).

NOISE IMPACT:

In evaluating the impact of traffic noise in a community, it is important to consider the masking effect of the noise generated by the activities inside the structure or home. For example, if the intruding exterior noise level is equal to or less than the self generated interior noise level, the intruding noise is not expected to cause any complaints. Experience has shown that most people will not complain until the exterior intruding noise becomes 5 or more dB higher than the interior self generated noise.

Consideration must also be given to the fact that the noise emitted by vehicles will decrease by 1990 as manufacturers meet the noise reduction regulations set up by the Environmental Protection Agency. The noise level of currently manufactured automobile and trucks are 5 to 10 dB lower than those manufactured 10 to 15 years ago. By 1990 most of the older, noisier vehicles will be retired. Consequently, the traffic noise level is expected to become lower by as much as 9 dB.

CALCULATION OF FUTURE NOISE

The average daily traffic counts and the peak hour Traffic Volume for years 1990 and 2000 were supplied by the Highways Division of the State Department of Transportation. (Table 3)

Previous studies using 4 years of 24 hour traffic counts, have shown that the ratio of the hourly traffic volume to the average daily traffic volume (ADT) remains nearly constant for a well developed community.

The ADT for year 2000 was reduced to hourly traffic volume using the the current ratio of hourly traffic volume to the ADT volume. The hourly and peak hour equivalent noise level (Leq), and the 10 percentile (L_{10}) noise level were calculated using the equations and methodology recommended in the FHWA Highway Traffic Noise Prediction Model Report No. FHWA-RD-77-108.

Tables 4a, 4b, and 4c show the peak hour Leq and L_{10} noise levels at 100' from the centerline of the nearest lane.

Tables 5a. 5b, and 5c show the hourly Leq and L_{10} noise level at the same distance from the centerline of the nearest lane.

EVALUATION:

The impact of future noise on the community may be evaluated in terms of the U.S. Department of Transportation land use criteria Leq = 72 dBA (Table 9) or by comparing it with the existing noise levels.

EXISTING NOISE

The major contributors of noise in this area are heavy trucks, aircrafts, and a scrap metal yard. Truck noise 50' from the center line of the nearest lane, varied between 80 and 96 dBA. The average truck noise was 85 dBA. Aircraft noise varied between 83 and 96 dBA at ground level. Most of the flights took place between 6AM and 9AM, and 4 PM and 9PM.

The scrap metal yard is located approximately 300 feet mauka of Paohunui Drive. It is an open scrap metal yard using a crane with a magnetic pick-up system. The noise generated by its operation ranged between 80 and 95 dBA. at locations (2), approximately 150 feet away.

Most of the buildings on both sides of the proposed Sand Island Access Road, between Nimitz and Auiki intersection, are more than 50 feet from the centerline of the nearest lane.

Tables 1 and 2 show the existing noise levels at locations 2 and 4, 100' from the centerline of the nearest lane. The corresponding average noise levels at 50' are shown below and on table 6. Table 7 shows the hourly traffic count and noise levels on Auiki Street. Table 8 shows the noise level expected on Auiki Street in year 2000.

	AVE. HOURLY		AVE. PEAK	
LOCATION	Leq	L_{10}	Leq	L_{10}
2	71.7	76.5	73.0	76.0
4	70.8	76.0	72.5	76.0
Auiki St.	70.0	73.0	72.6	75.8

There is little difference between the noise levels at locations 2 & 4. This is due to the fact that nearly all of the trucks passing through location 4 also pass through location 2.

A study of table 6 and a glance at the figures above, show that the average equivalent noise level (Leq) 50' or more from the center line of the nearest traffic lane is less than 72 dBA.

According to the design noise level recommended in the Federal Aid Program Manual, Vol. 7 Ch. 7 Sec. 3, for land use category C, an exterior equivalent noise level of 72 dBA is generally acceptable.

This means the proposed improvement of Sand Island Access

Road will have no adverse noise impact on people in areas more than 50' from the centerline of the nearest traffic lane. For people in areas less than 50', the noise impact will increase as the distance from the centerline decreases.

Figure 10 shows the Leq noise contour lines predicted for year 2000. The contour lines beyond the first row of buildings have not been corrected for the barrier effect of the buildings.

Buildings with noise levels more than Leq 72 dBA are shaded for easy identification. Firms occupying the buildings and the exterior noise level expected at each building are listed on figure 10. They are as follows:

			Leq
a.	Hapuu Hawaii & American Trucking	-	72 dBA
b.	Flynn & Learner	-	72.5 dBA
c.	Marine Supply	-	73.5 dBA
d.	Marine Service Center	-	73.5 dBA
e.	Scuba Shop, Boat Rental	-	74.5 dBA

BRIEF DESCRIPTION OF BUILDINGS

A. Hapuu Hawaii & American Trucking: The building containing Hapuu Hawaii and American Trucking is made of 8" CMU. The wall facing the Access Road has glass jalousies windows The doors and offices are located on the opposite side. The offices are double wall and air conditioned.

B. Flynn & Learner: This building is made of 8" CMU with fixed glass and wood siding on the upper half of the building. The ceiling is acoustically treated. The rooms are air conditioned.

C. Marine Supply: This building is a 2 story double wall wood building. The second story wall has large fixed glass windows. The lower floor is used for merchandizing. The upper floor is acoustically treated and used as an office. Both floors are air conditioned.

D. Marine Service Center: This building is a steel structure with metal siding. There are no opening on the wall facing the Access Road. The opposite wall facing the ocean is open. The building is used for storage and repair work. There is no office in the building. It is planned, at an uncertain future, to enclose an area for office use.

E. Scuba Shop, Boat Rental: This building is a steel structure with metal siding. The interior walls and ceiling are wood and gypsum board. There are small fixed windows on the wall facing the road. The office is air conditioned. The building is used for merchandizing and rental.

SUMMARY & EVALUATION

Table 6 shows the Leq noise levels predicted for year 2000 at 5 selected locations along Sand Island Access Road. It also shows the existing noise levels at locations 2 and 4.

The noise levels shown are for 50' from the centerline of the nearest traffic lane of the proposed scheme B improvement.

Most of the buildings facing the Access Road are 50' or more from the centerline of the nearest lane.

Figures 3 to 8 show the hourly noise levels predicted for the 5 locations. They show the noise level at all locations is nearly constant from 8 AM to 4 PM and drops rapidly to a level close to the noise floor by 9:00 PM.

Figure 10 shows the Leq noise contour lines on both sides of the Access Road.

Study of table 6 and figure 10 shows that the noise level at 50' is less than the Leq 72 dBA design criterium recommended in the Federal Aid Program Manual for Category C.

This means the proposed improvements of Sand Island Access Road will have no adverse noise impact on people in areas more than 50' from the centerline of the nearest traffic lane. For people in areas less than 50' from the nearest centerline of the proposed road, the noise impact will increase as the distance decreases. In figure 10, buildings exposed to exterior noise levels greater than Leq 72 dBA are shaded for easy identification. Firms occupying the buildings and the exterior noise level expected at each shaded building are listed on the noise contour map and are also listed below.

		Leq
a)	Hapuu Hawaii and American Trucking	72. dBA
b)	Flynn & Learner	72.5dBA
c)	Marine Supply	73.5dBA
d)	Marine Service Center	73.5dBA
e)	Scuba Shop, Boat Rental	74.5dBA

The noise impact and corrective measures, if any, will be evaluated separately.

a. Hapuu Hawaii & American Trucking-
The future exterior noise level expected at this building is Leq 72 dBA. The existing noise level is approximately 1 dB lower.

Leq 72 dBA is considered acceptable, according to the design criterium for category C. However, it is considered here because the building has glass jalousie windows facing the Access Road.

Glass jalousie windows offer very little noise attenuation even when closed. This means the interior noise level is expected to reach about 62 dBA soon after the road improvement because the existing noise level is already near the Leq 72 dBA.

62 dBA noise level is acceptable for areas used for merchandizing and maintenance. The office areas are double wall construction and air conditioned.

In as much as the existing noise is already near the design level, the road improvement will not significantly add to the existing noise impact. No corrective measures are therefore recommended.

b. Flynn & Learner Building: The building is used as an office for the scrap metal operation. The office is air conditioned. Although the future traffic noise at this location would exceed the design level, no corrective measures are recommended because the noise generated by the scrap metal operation is 10 to 20 dB Higher than the noise generated by the traffic on the Access Road.

The existing noise impact will not be altered by the proposed road improvement.

c. Marine Supply Building: This building is a 2 story double wall wood building. The first floor is used for merchandizing. The second floor is used as an office. Both floors are air conditioned. The noise level at this location is expected to reach Leq 73.5 dBA by year 2000. The existing Leq noise level at this location is 71 dBA.

The noise reduction provided by the wall and acoustical treatment is estimated to be 25 dB. This means the existing interior noise level is Leq 46 dBA. The road improvements is expected to raise the interior noise level to Leq 48 dBA. This level is well below the Federal Aid Program Manual criterium of 52 dBA. No corrective measures are recommended.

d. Marine Service Center: This building is located on the east side of the Marine Supply building. It is a steel structure with metal siding. It is used as a storage and repair shop. An office is planned for sometime in the future. The existing Leq noise level at this location is 71 dBA. The future noise level is expected to be 73.5 dBA. The transmission loss of the walls is estimated to be 12 dB. This means the leq noise level after the road improvement will be 62 dBA. This level is acceptable for this type of

usage. No corrective measures are recommended.

e. Scuba Shop, Boat Rental Building: This building is a steel strucure with double wall and suspended ceiling. It is used for rental, merchandizing and office. The office is air conditioned. On the end toward the Marine Supply Building, there is a large opening above counter height. The existing noise level at this site is approximately 72 dBA. The future noise is expected to be 74.5 dBA. The noise attenuation of the double wall structure is estimated to be 25 dB. This means the existing interior Leq noise level is approximately 47 dBA and the future level would be approximately 50 dBA. No corrective action is recommended.

The noise level inside that part of the building with an open window above counter height, is estimated to be 2 or 3 dB lower than the exterior noise at the location. In other words 70 dBA existing and 73 dBA future.

The only corrective measure is to close the opening. This will hamper their operation. No corrective measure is recommended.

CONCLUSION

The noise study shows the improvement of Sand Island Access Road using the proposed scheme A or B, will not increase the noise impact significantly over the existing noise impact.

No corrective actions are recommended for buildings exposed to future noise level higher than Leq 72 dBA because the exterior wall construction of these buildings provide sufficient transmission loss to keep the interior noise level below the recommended Leq 52 dBA for office use and Leq 65 dBA for repair shop use.

TABLE 1

TRAFFIC DATA & NOISE LEVEL @ 100'
DEC. 18, 1979
LOCATION 2

TIME	AUTO	MED. TRUCK	HEAVY TRUCK	TOTAL		Leq	L_{10}
6- 7	570	33	34	637		63.8	67
7- 8	604	50	52	706		65.4	68
8- 9	404	88	90	582		67.4	70
9-10	541	69	71	681		66.5	70
10-11	612	78	79	769		67.0	70
11-12	630	57	59	746		65.9	70
12- 1	409	46	46	501		64.7	68
1- 2	584	74	75	733		66.8	70
2- 3	559	77	78	714		66.9	70
3- 4	771	74	76	921		67.0	70
4- 5	526	22	22	570		62.2	65
5- 6	263	7	7	277		57.8	61
6- 7	158	4	5	167		54.6	58
7- 8	125	6	7	138		56.9	60
TOTAL	6756	685	701	8142	AVE.	65.1	68.2
					PEAK	67.2	70.0

TABLE 2

TRAFFIC DATA & NOISE LEVEL @ 100'
DEC. 17, 1979
LOCATION 4

TIME	AUTO	MED. TRUCK	HEAVY TRUCK	TOTAL		Leq	L_{10}
6- 7	618	21	21	660		62.2	65
7- 8	465	64	62	591		66.0	69
8- 9	402	66	63	531		66.0	69
9-10	440	64	61	565		65.9	69
10-11	477	80	77	634		66.8	70
11-12	615	69	66	750		66.4	69
12- 1	570	55	53	678		65.5	68
1- 2	512	75	72	659		66.6	70
2- 3	487	85	81	653		67.1	70
3- 4	614	71	69	784		66.5	70
4- 5	546	34	33	613		63.7	67
5- 6	313	19	18	350		61.1	64
6- 7	149	4	4	157		55.3	58
7- 8	118	6	6	130		56.7	59
8- 9	94	3	2	99		52.9	56
TOTAL	6450	716	688	7851	AVE.	64.8	67.8
					PEAK	66.6	70.0

TABLE 3

TRAFFIC DATA FOR YEAR 1990
AND 2000

ADDENDUM TO TA 79-15
SAND ISLAND ACCESS ROAD
AUGUST 1981

YEAR 1990 MAKAI = Toward the ocean, MAUKA = Opposite direction
See Fig. (1)

STATION		2D MEDIUM TRUCK MAUKA	2D MEDIUM TRUCK MAKAI	3x + HEAVY TRUCK MAUKA	3x + HEAVY TRUCK MAKAI	AUTO + 2S MAUKA	AUTO + 2S MAKAI	TOTAL MAUKA	TOTAL MAKAI
1		788	974	788	974	10,552	11,043	12,128	12,991
2		554	633	593	1012	6,764	6,792	7,911	8,347
3	ADT	829	814	829	872	10,188	9,942	11,846	11,628
4		820	724	820	772	8,011	8,155	9,651	9,651
5		345	305	345	325	3,374	3,434	4,064	4,064
1		56	73	109	37	395	1,353	560	1,463
2	AM	75	102	55	131	554	734	684	967
3	PEAK	102	123	88	136	785	1,032	975	1,291
4		57	41	102	34	440	1,292	599*	1,367*
5		24	14	45	12	184	456	251	482
1		16	56	21	59	1,037	444	1,074	559*
2	PM	42	38	32	65	851	376	925	479
3	PEAK	56	61	48	57	1,487	557	1,591	675
4		64	87	43	71	1,318	406	1,425*	564*
5		25	40	17	32	519	183	561	255

* DISCREPANCY WITH VOLUMES RECEIVED WITH WORK ORDER

YEAR 2000

STATION		MEDIUM TRUCK MAUKA	MEDIUM TRUCK MAKAI	HEAVY TRUCK MAUKA	HEAVY TRUCK MAKAI	AUTO + 2s MAUKA	AUTO + 2s MAKAI	TOTAL MAUKA	TOTAL MAKAI
1		869	107	869	107	11,629	14,090	13,367	14,304
2		615	702	659	1123	7,512	7,532	8,786	9,357
3	ADT	921	907	924	972	11,316	11,077	13,191	12,956
4		919	811	919	865	8,972	9,131	10,810	10,810
5		379	331	379	357	3,699	3,766	4,457	4,457
1		62	81	120	40	435	1,490	617	1,611
2	AM	84	113	61	145	615	815	760	1,073
3	PEAK	114	137	98	151	874	1,150	1,086	1,438
4		64	46	114	38	493	1,447	671	1,531
5		26	16	47	13	202	500	275	529
1		18	62	24	65	1,142	489	1,184	616
2	PM	46	42	36	72	945	417	1,027	531
3	PEAK	62	68	53	64	1,657	620	1,772	752
4		72	98	48	79	1,476	455	1,596	632
5		28	43	19	35	571	202	619	280

SUMMARY PEAK HOUR NOISE LEVEL
AT 100' FROM CENTERLINE OF NEAREST LANE
(EAST SIDE RECEPTOR)
SPEED 30 MPH (48.3 KM/HR)

TABLE 4a

	AM PEAK HOUR NOISE (dBA) AUTO Leq	MT Leq	HT Leq	TOTAL Leq	L_{10}	PM PEAK HOUR NOISE (dBA) AUTO Leq	MT Leq	HT Leq	TOTAL Leq	L_{10}	ROAD SCHEME
LOCATION (1)											
1990	59.3	60.2	67.6	68.8	72.1	59.4	57.2	64.1	66.0	68.9	B
2000	59.7	60.6	68.0	69.2	72.5	59.8	57.7	64.7	66.5	69.4	
LOCATION (2)											
1990	58.4	67.5	67.9	69.1	72.4	58.6	58.3	65.2	66.7	69.7	B
2000	58.8	62.0	68.3	69.6	72.8	59.0	58.6	65.6	67.1	70.2	
LOCATION (3)											
1990	60.2	62.9	69.3	70.6	73.9	61.1	60.1	66.0	68.0	71.1	B
2000	60.6	63.4	69.7	71.0	74.3	61.5	60.5	66.5	68.5	71.6	
LOCATION (4)											
1990	60.1	59.7	67.7	68.9	72.1	60.5	61.5	66.6	68.5	71.7	B
2000	60.6	60.2	68.2	69.4	72.6	61.0	62.0	67.1	69.0	72.1	
LOCATION (5)											
1990	55.8	55.6	63.8	65.0	67.6	56.6	57.8	62.9	64.8	67.3	
2000	56.2	56.1	64.1	65.3	68.0	57.0	58.2	63.4	65.2	67.9	

D-8

SUMMARY PEAK HOUR NOISE LEVEL
AT 100' FROM CENTERLINE OF NEAREST LANE
(WEST SIDE RECEPTOR)
SPEED 30 MPH (48.3 KM/HR)

TABLE 4b

	AM PEAK HOUR NOISE (dBA) AUTO Leq	MT Leq	HT Leq	TOTAL Leq	L_{10}	PM PEAK HOUR NOISE (dBA) AUTO Leq	MT Leq	HT Leq	TOTAL Leq	L_{10}	ROAD SCHEME
LOCATION (1)											
1990	60.2	60.4	66.8	68.4	71.5	58.7	58.2	64.9	66.6	69.6	B
2000	60.7	60.8	67.1	68.8	71.9	59.1	58.6	65.5	67.0	70.1	
LOCATION (2)											
1990	58.6	61.8	68.6	69.8	73.1	57.9	58.2	65.7	67.5	70.2	B
2000	59.0	62.3	69.0	70.2	73.5	58.4	58.6	66.2	67.4	70.7	
LOCATION (3)											
1990	60.3	63.1	69.6	70.8	74.2	60.4	60.2	66.2	68.0	71.1	B
2000	60.8	63.6	70.0	71.3	74.6	60.9	60.6	66.7	68.5	71.6	
LOCATION (4)											
1990	60.5	59.6	67.3	68.7	71.8	60.1	61.6	66.8	68.6	71.8	B
2000	61.0	60.1	67.8	69.2	72.3	60.6	62.1	67.3	69.1	72.3	
LOCATION (5)											
1990	56.2	55.4	63.3	64.7	67.2	56.2	57.9	63.2	64.9	67.5	
2000	56.6	55.9	63.7	65.0	67.6	56.6	58.4	63.6	65.4	68.1	

SUMMARY PEAK HOUR NOISE LEVEL
AT 100' FROM CENTERLINE OF NEAREST LANE
(AVERAGE - EAST - WEST)
SPEED 30 MPH (48.3 KM/HR)

TABLE 4c

	AM PEAK HOUR NOISE (dBA) AUTO Leq	MT Leq	HT Leq	TOTAL Leq	TOTAL L_{10}	PM PEAK HOUR NOISE (dBA) AUTO Leq	MT Leq	HT Leq	TOTAL Leq	TOTAL L_{10}	ROAD SCHEME
LOCATION (1)											
1990	59.8	60.5	67.2	68.6	71.8	59.1	57.7	64.5	66.3	69.3	B
2000	60.2	60.7	67.6	69.0	72.2	59.5	58.2	65.1	66.8	69.8	
LOCATION (2)											
1990	58.5	61.7	68.3	69.5	72.8	58.3	58.3	65.3	67.1	70.0	B
2000	58.9	62.1	68.7	69.9	73.2	58.7	58.6	65.9	67.3	70.5	
LOCATION (3)											
1990	60.3	63.0	69.5	70.7	74.1	60.8	60.2	66.1	68.0	71.1	B
2000	60.7	63.5	69.8	71.2	74.5	61.2	60.6	66.6	68.5	71.6	
LOCATION (4)											
1990	60.3	59.7	67.5	68.8	72.4	60.3	61.6	66.7	68.6	71.8	B
2000	60.8	60.2	68.0	69.3	72.5	60.8	62.1	67.2	69.1	72.2	
LOCATION (5)											
1990	56.0	55.5	63.6	64.9	67.4	56.4	57.9	63.1	64.9	67.4	
2000	56.4	56.0	63.9	65.2	67.8	56.8	58.3	63.5	65.3	68.0	

TABLE 5a

SUMMARY HOURLY NOISE LEVEL IN dBA - YEAR 2000
@ 100' FROM CENTERLINE OF NEAR LANE
(EAST SIDE RECEPTOR)
DESIGN SPEED 30 MPH (48.3 KM/HR)

LOCATION	(1)		(2)		(3)		(4)		(5)	
TIME	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}
6 - 7 AM	65.9	68.9	66.9	70.1	68.0	71.2	68.0	71.2	64.1	66.3
7 - 8	65.9	68.8	66.9	70.1	68.0	71.2	68.0	71.2	64.1	66.3
8 - 9	65.3	68.1	66.3	69.4	67.4	70.6	67.4	70.5	63.4	65.5
9 - 10	65.3	68.1	66.3	69.4	67.4	70.6	67.4	70.5	63.4	65.5
10 - 11	65.9	68.8	66.9	70.1	68.0	71.2	68.0	71.2	64.1	66.3
11 - 12	66.9	69.9	67.9	71.1	69.0	72.2	68.9	72.2	65.1	67.7
12 - 1 PM	66.4	69.4	67.4	70.6	68.5	71.8	68.5	71.7	64.6	66.9
1 - 2	65.9	68.8	66.9	70.1	68.0	71.2	68.0	71.2	64.1	66.3
2 - 3	65.9	68.8	66.9	70.1	68.0	71.2	68.0	71.2	64.1	66.3
3 - 4	66.9	69.9	67.9	71.1	69.0	72.2	68.9	72.2	65.1	67.7
4 - 5	65.9	68.8	66.9	70.1	68.0	71.2	68.0	71.2	64.1	66.3
5 - 6	62.9	65.3	63.9	66.5	65.0	67.7	64.9	67.5	61.1	61.6
6 - 7	59.9	60.9	60.8	62.2	62.0	63.4	61.9	63.0	58.3	56.7
7 - 8	59.9	60.9	60.8	62.2	62.0	63.4	61.9	63.0	58.3	56.7
8 - 9	57.1	56.6	60.3	58.8	59.1	58.6	59.0	58.0	54.8	51.1
AVERAGE	64.4	66.8	65.5	68.1	66.5	69.2	66.5	69.1	58.2	54.9

EXISTING NOISE LEVEL IN dBA - Dec. 1979
100' FROM CENTERLINE OF NEAREST LANE

LOCATION	2	4
Leq	65.1	64.8
L_{10}	68.2	67.6

TABLE 5b

SUMMARY HOURLY NOISE LEVEL IN dBA - YEAR 2000
@ 100' FROM CENTERLINE OF NEAR LANE
(WEST SIDE RECEPTOR)
DESIGN SPEED 30 MPH (48.3 KM/HR)

LOCATION	(1)		(2)		(3)		(4)		(5)	
TIME	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}
6 - 7 AM	65.0	67.7	67.3	70.5	68.0	71.3	68.0	71.1	64.1	66.3
7 - 8	65.0	67.7	67.3	70.5	68.0	71.3	68.0	ul.1	64.1	66.3
8 - 9	65.4	68.0	66.7	69.9	67.4	70.6	67.4	70.5	63.4	65.4
9 - 10	65.4	68.0	66.7	69.9	67.4	70.6	67.5	70.5	63.4	65.4
10 - 11	65.0	67.7	67.3	70.5	68.0	71.3	68.0	71.1	64.1	66.3
11 - 12	65.9	68.7	68.2	71.6	69.0	72.3	68.9	72.2	65.0	67.6
12 - 1 PM	65.4	68.2	67.8	71.1	68.5	71.8	68.5	71.7	64.6	67.1
1 - 2	65.0	67.7	67.3	70.5	68.0	71.3	68.0	71.1	64.1	66.3
2 - 3	65.0	67.7	67.3	70.5	68.0	71.3	68.0	71.1	64.1	66.3
3 - 4	65.9	68.7	68.2	71.6	69.0	72.3	68.9	72.2	65.0	67.6
4 - 5	65.0	67.7	67.3	70.5	68.0	71.3	68.0	71.1	64.1	66.3
5 - 6	61.9	64.5	64.3	67.0	65.0	67.7	64.9	67.5	61.1	61.7
6 - 7	59.0	60.7	61.2	62.6	62.0	63.5	61.9	62.9	58.3	56.7
7 - 8	59.0	60.7	61.2	62.6	62.0	63.5	61.9	62.9	58.3	56.7
8 - 9	56.2	56.7	58.3	57.6	59.1	58.6	59.0	58.0	54.8	51.1
AVERAGE	63.6	66.0	65.8	68.5	66.5	69.3	66.5	69.0	62.6	63.8

EXISTING NOISE LEVEL IN dBA - Dec. 1979
100' FROM CENTERLINE OF NEAREST LANE

LOCATION	2	4
Leq	65.1	64.8
L_{10}	68.2	67.8

TABLE 5c

SUMMARY HOURLY NOISE LEVEL IN dBA - YEAR 2000
@ 100' FROM CENTERLINE OF NEAR LANE
(AVERAGE - EAST - WEST)
DESIGN SPEED 30 MPH (48.3 KM/HR)

LOCATION	(1)		(2)		(3)		(4)		(5)	
TIME	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}
6 - 7 AM	65.5	68.3	67.1	70.3	68.0	71.3	68.0	71.2	64.1	66.3
7 - 8	65.5	68.3	67.1	70.3	68.0	71.3	68.0	71.2	64.1	66.3
8 - 9	65.4	68.1	66.5	69.7	67.4	70.6	67.5	70.5	63.4	65.5
9 - 10	65.4	68.1	66.5	69.7	67.4	70.6	67.5	70.5	63.4	65.5
10 - 11	65.5	68.3	67.1	70.3	68.0	71.3	68.0	71.2	64.1	66.3
11 - 12	66.4	69.3	68.1	71.4	69.0	72.3	68.9	72.2	65.1	67.7
12 - 1	65.9	68.8	67.6	70.9	68.5	71.8	68.5	71.7	64.6	67.0
1 - 2 PM	65.5	68.3	67.1	70.3	68.0	71.3	68.0	71.2	64.1	66.3
2 - 3	65.5	68.3	67.1	70.3	68.0	71.3	68.0	71.2	64.1	66.3
3 - 4	66.4	69.3	68.1	71.4	69.0	72.3	68.9	72.2	65.1	67.7
4 - 5	65.5	68.3	67.1	70.3	68.0	71.3	68.0	71.2	64.1	66.3
5 - 6	62.4	64.9	64.1	66.0	65.0	67.7	61.9	67.5	61.1	61.7
6 - 7	59.5	60.8	61.0	62.4	62.0	63.5	61.9	63.0	58.3	56.7
7 - 8	59 5	60.8	61.0	62.4	62.0	63.5	61.9	63.0	58.3	56.7
8 - 9	56.7	56.7	59.3	57.7	59.1	58.6	57.0	58.0	54.8	51.1
AVERAGE	64.0	66.4	65.7	68.2	66.5	69.2	66.3	69.1	62.6	63.8

EXISTING NOISE LEVEL IN dBA - Dec. 1979
100' FROM CENTERLINE OF NEAREST LANE

LOCATION	2	4
Leq	65.1	64.8
L_{10}	68.2	67.8

FIGURE (6)

LOCATION 3 - YEAR 2000

HOURLY AVERAGE NOISE LEVEL @ 100'

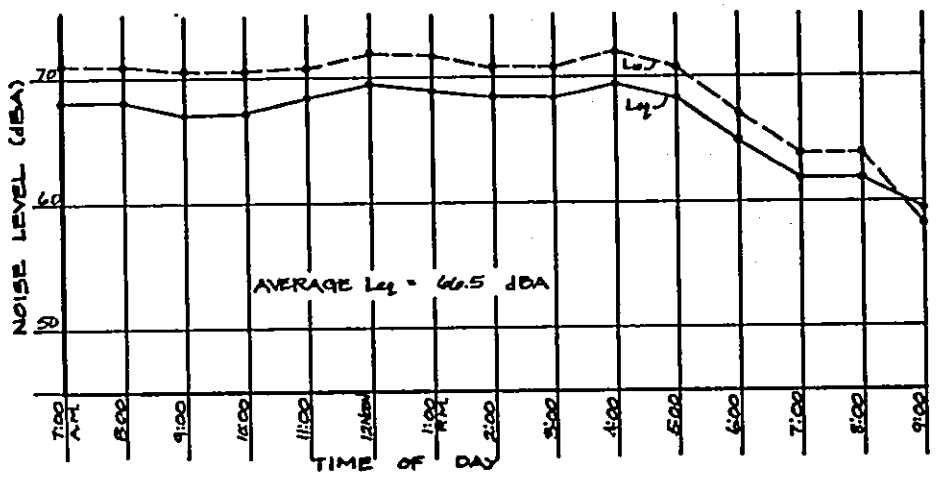


FIGURE (7)

LOCATION 4 - YEAR 2000

BASCULE BRIDGE

HOURLY AVERAGE NOISE LEVEL @ 100'

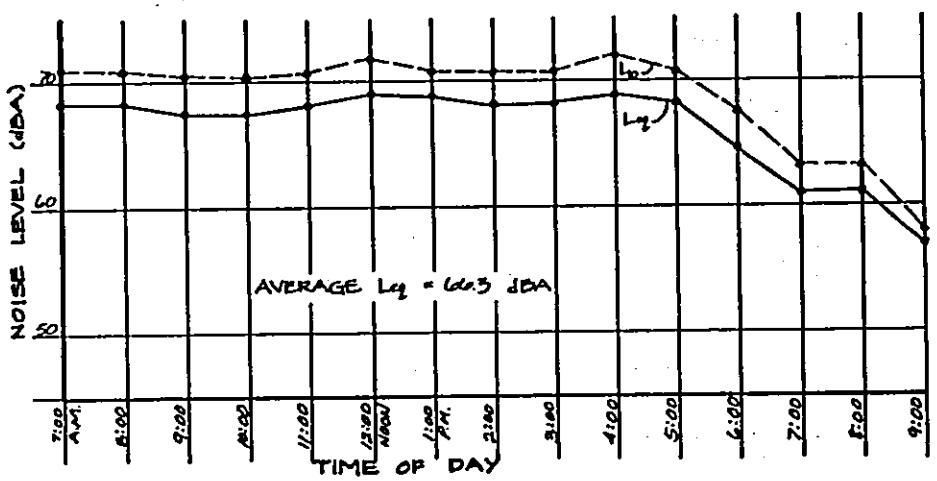


FIGURE (8)

LOCATION 5 - YEAR 2000

BEYOND CONTAINER YARD

HOURLY AVERAGE NOISE LEVEL @ 100'

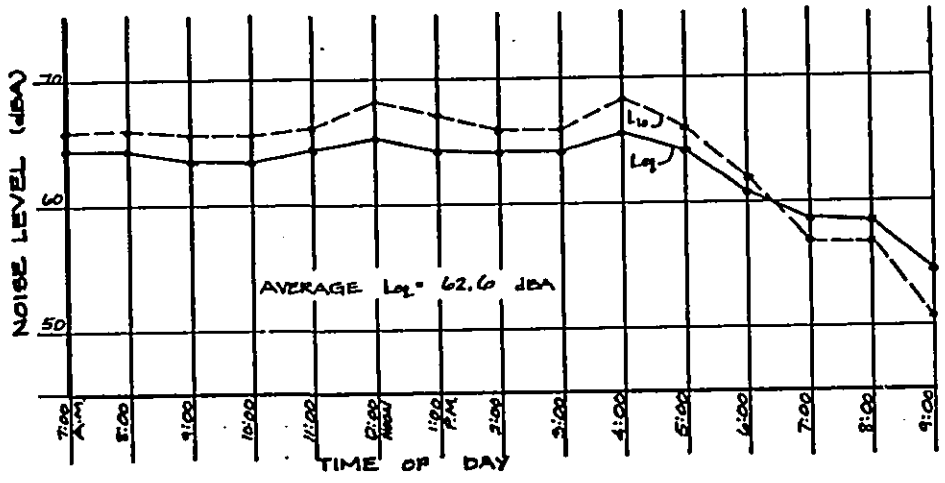
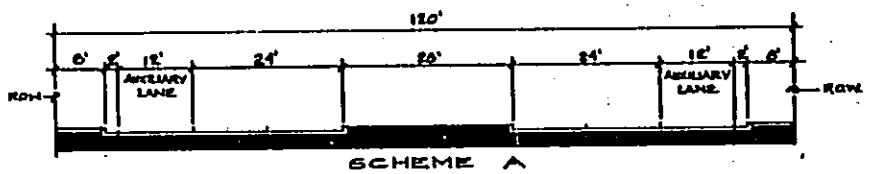


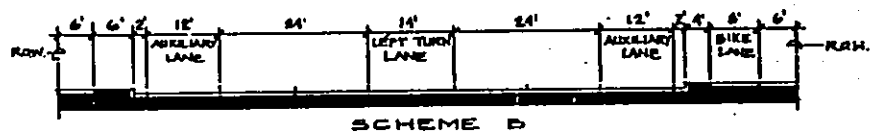
FIGURE (9)

TYPICAL SECTIONS

LOCATIONS 1 & 2
BETWEEN AUIKI ST. & NIMITZ HWY.



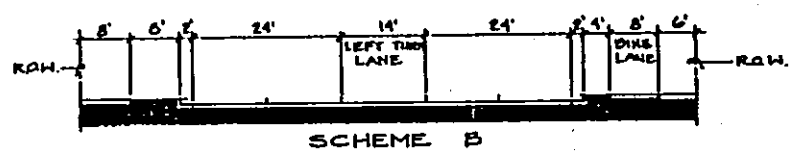
SCHEME A



SCHEME B

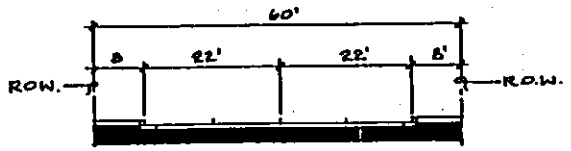
LOCATION 3
BETWEEN AUIKI ST & CONTAINER YARDS

SCHEME A



SCHEME B

LOCATION 4 & 5
BASCULE BRIDGE AND BEYOND YARD



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1. "Noise Assessment Guidelines - Technical Background, "U.S. Department of Housing and Urban Development, Report #2005R, November 1971.
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3. "Literature Survey for the FHA Contract on Urban Noise, "Report #1460, Bolt, Beranek and Newman, January 1967.
4. "Effects of Noise on People, "Dr. James D. Miller, Central Institute for Deaf, December 1971.
5. "Community Noise, "U.S. Department Protection Agency, NTID300.3, 1971.
6. Transportation Noise - Chalupnik, Ann Arbor Science.
7. Noise Control - Lipscomb & Taylor, VAN NORSTRAND.
8. "Noise and Vibration Control," Beranek, McGraw Hill.
9. "Lecture in Transportation Noise," Lyon, Grozier Publishing.
10. "Community Noise Control for Oahu," Chapter 44B, Department of Health, State of Hawaii, April 26, 1976.
11. "Vehicular Noise Control for Oahu," Chapter 44A, Department of Health, State of Hawaii, March 24, 1972.
12. FHWA Highway Traffic Noise Prediction Model, No. FHWA-RD-77-108

FIGURE (3)
HOURLY NOISE LEVEL
LOCATION 2
35' FROM CENTER LINE OF
NEAREST LANE DEC. 1979

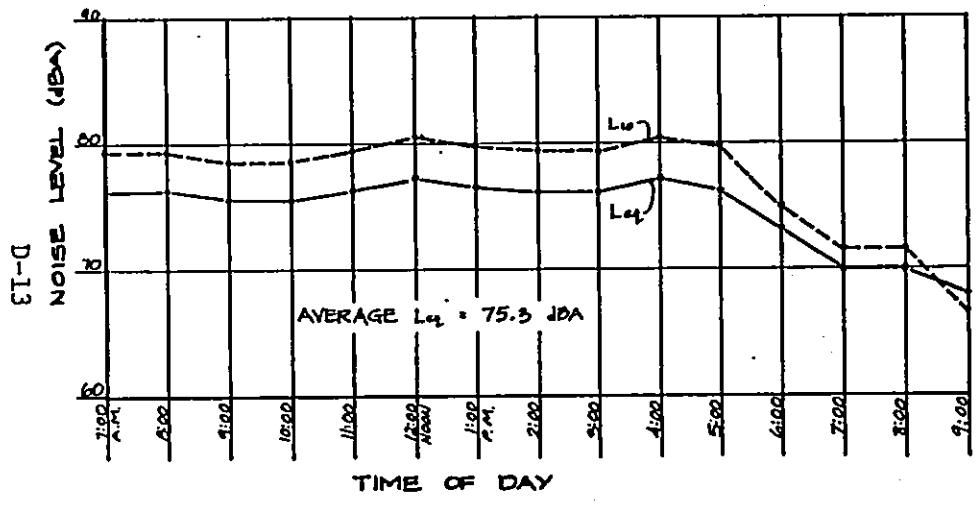


FIGURE (4)
LOCATION 1 - YEAR 2000
HOURLY AVERAGE NOISE LEVEL @ 100'

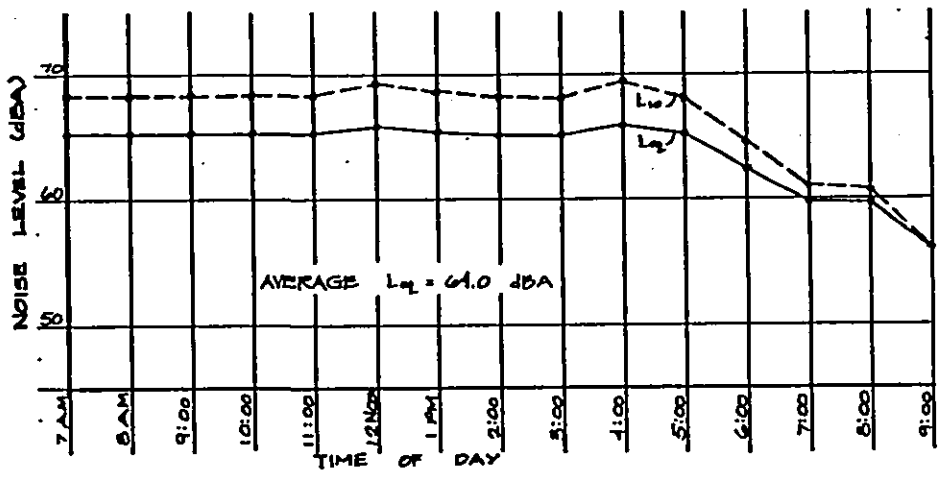


FIGURE (5)
LOCATION 2 - YEAR 2000
HOURLY AVERAGE NOISE LEVEL @ 100'

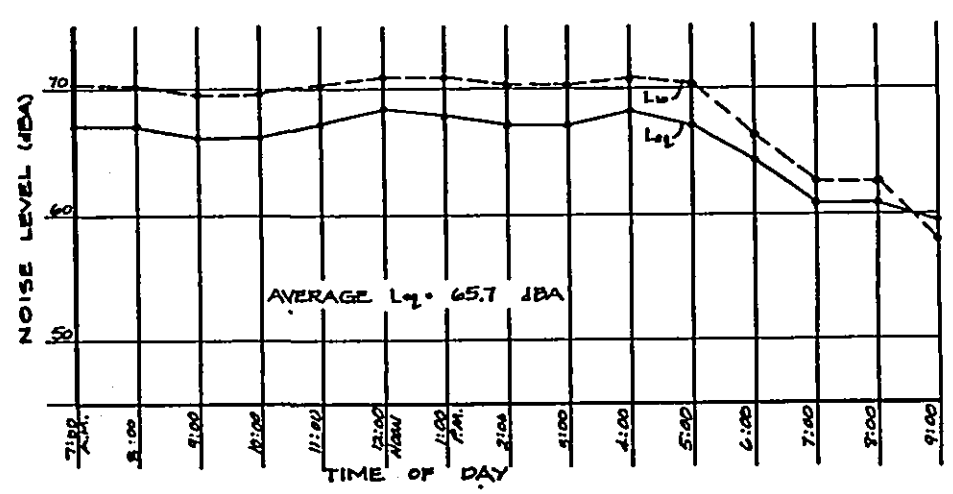
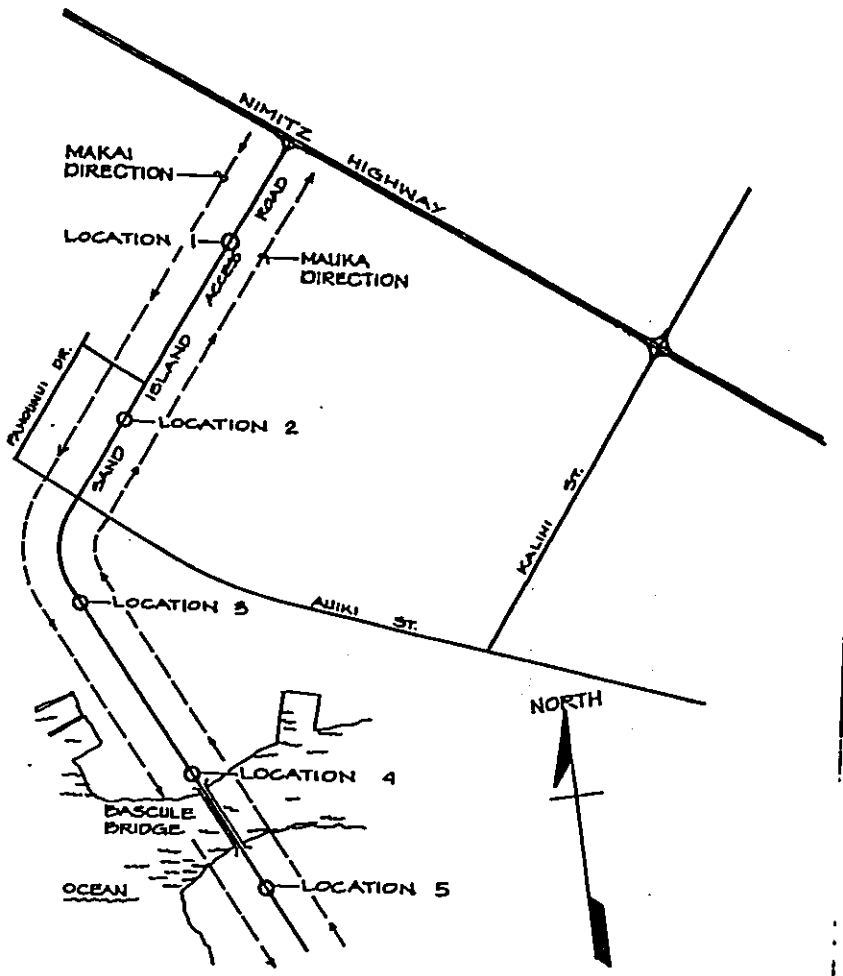


FIGURE (1)

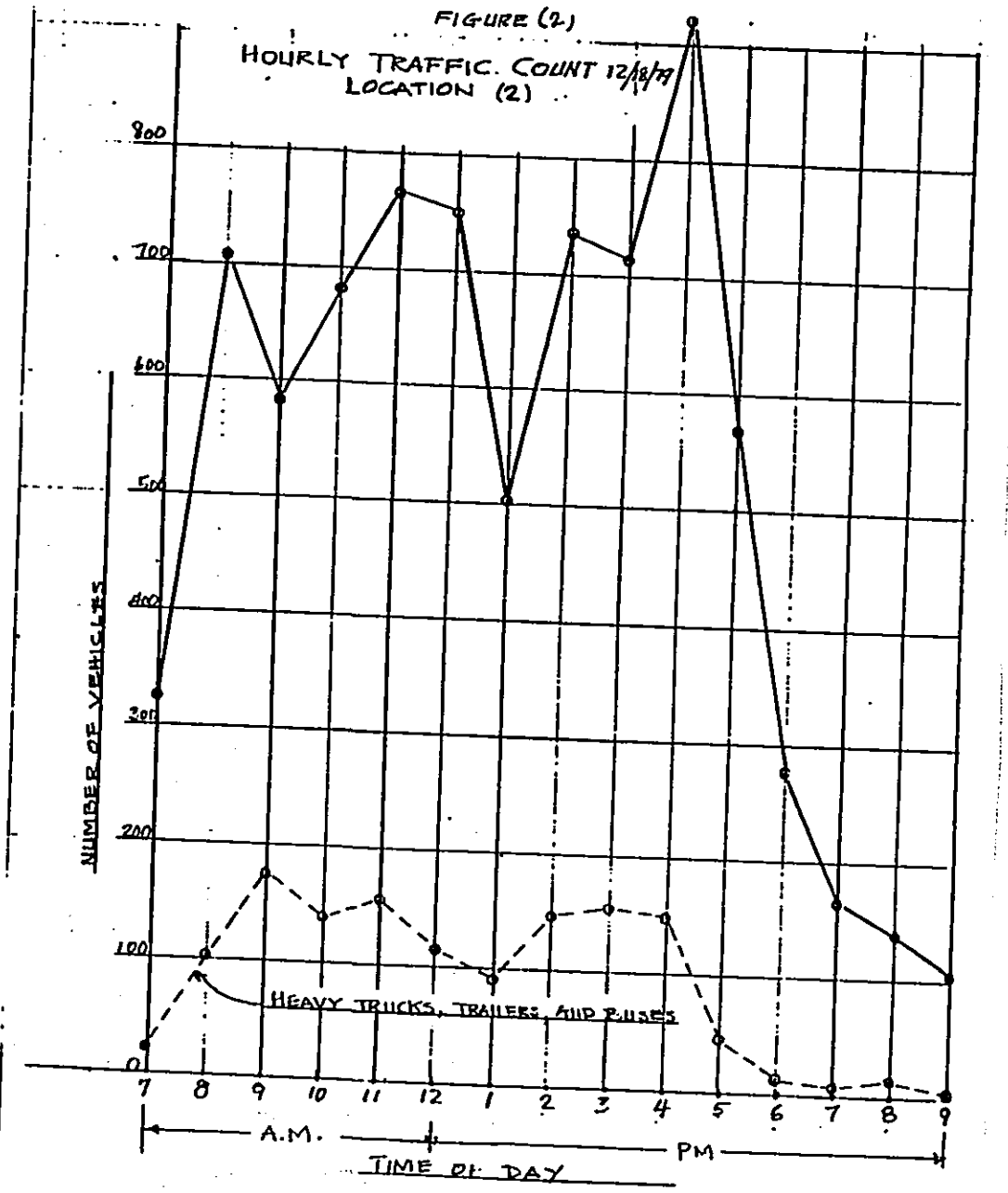
NOISE MEASUREMENT LOCATIONS



(21)

FIGURE (2)

HOURLY TRAFFIC COUNT 12/18/79
LOCATION (2)



(22)

TABL 9

DESIGN NOISE LEVEL/ACTIVITY RELATIONSHIPS
FHPM 7-7-3
TRANSMITTAL 205, 7/28/76

Activity Category	Design Noise Levels - dBA Leq (h)	L10 (h)	Description of Activity Category
A	57 (Exterior)	60 (Exterior)	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiety.
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds active sports areas, and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties or activities not included in Categories A or B above.
D	--	--	For requirements on undeveloped lands see paragraphs 11a and c.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

(20)

TABLE 6

COMPARISION OF EXISTING & FUTURE NOISE LEVELS
@ 50' FROM CENTERLINE OF NEAR LANE
(AVERAGE - EAST - WEST)

LOCATION	1		2		3		4		5	
2000	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}
AVE. PEAK	70.9	74.0	71.6	74.9	72.9	76.1	72.2	75.4	68.3	70.9
AVE. HOURLY	67.0	69.4	68.7	71.2	69.5	72.2	69.3	72.1	65.6	66.8

	LOCATION 2		LOCATION 4		AUIKI ST.	
	Leq	L_{10}	Leq	L_{10}	Leq	L_{10}
1979 AVE. PEAK	73.0	76.0	72.5	76.0	72.6	75.8
1979 HOURLY AVE.	71.7	76.5	70.8	76.0	70.0	73.0

TABLE 7

TRAFFIC DATA & NOISE LEVEL
@ 100' AUIKI STREET, 1979

TIME	AUTO	MED. TRUCK	HEAVY TRUCK	Leq	L_{10}
6 - 7	302	13	12	59.7	62
7 - 8	290	41	39	64.0	67
8 - 9	260	48	47	64.9	68
9 - 10	313	41	39	64.0	67
10 - 11	364	48	46	67.7	71
11 - 12	390	41	39	64.1	67
12 - 1	330	39	37	63.8	67
1 - 2	314	50	48	64.8	67
2 - 3	297	51	49	64.9	68
3 - 4	358	37	35	63.7	67
4 - 5	330	17	17	60.9	64
5 - 6	214	7	6	57.1	60
			AVE.	64.0	67.0
			PEAK	66.5	69.8

TABLE 8

TRAFFIC DATA & NOISE LEVEL
@ 100' AUIKI STREET, 2000

TIME	AUTO	MED. TRUCK	HEAVY TRUCK		Leq	L_{10}
6 - 7	505	21	20		62.0	65
7 - 8	484	68	66		66.3	69
8 - 9	435	81	77		66.9	70
9 - 10	523	68	66		66.3	69
10 - 11	608	80	77		67.0	70
11 - 12	651	68	65		66.3	69
12 - 1	551	65	62		66.1	69
1 - 2	524	84	80		67.1	70
2 - 3	496	86	82		67.1	70
3 - 4	599	62	59		65.9	69
4 - 5	552	29	28		63.1	66
5 - 6	357	11	11		59.5	63
TOTAL	6285	723	693	AVE.	65.7	68.7
				PEAK	67.1	70.0

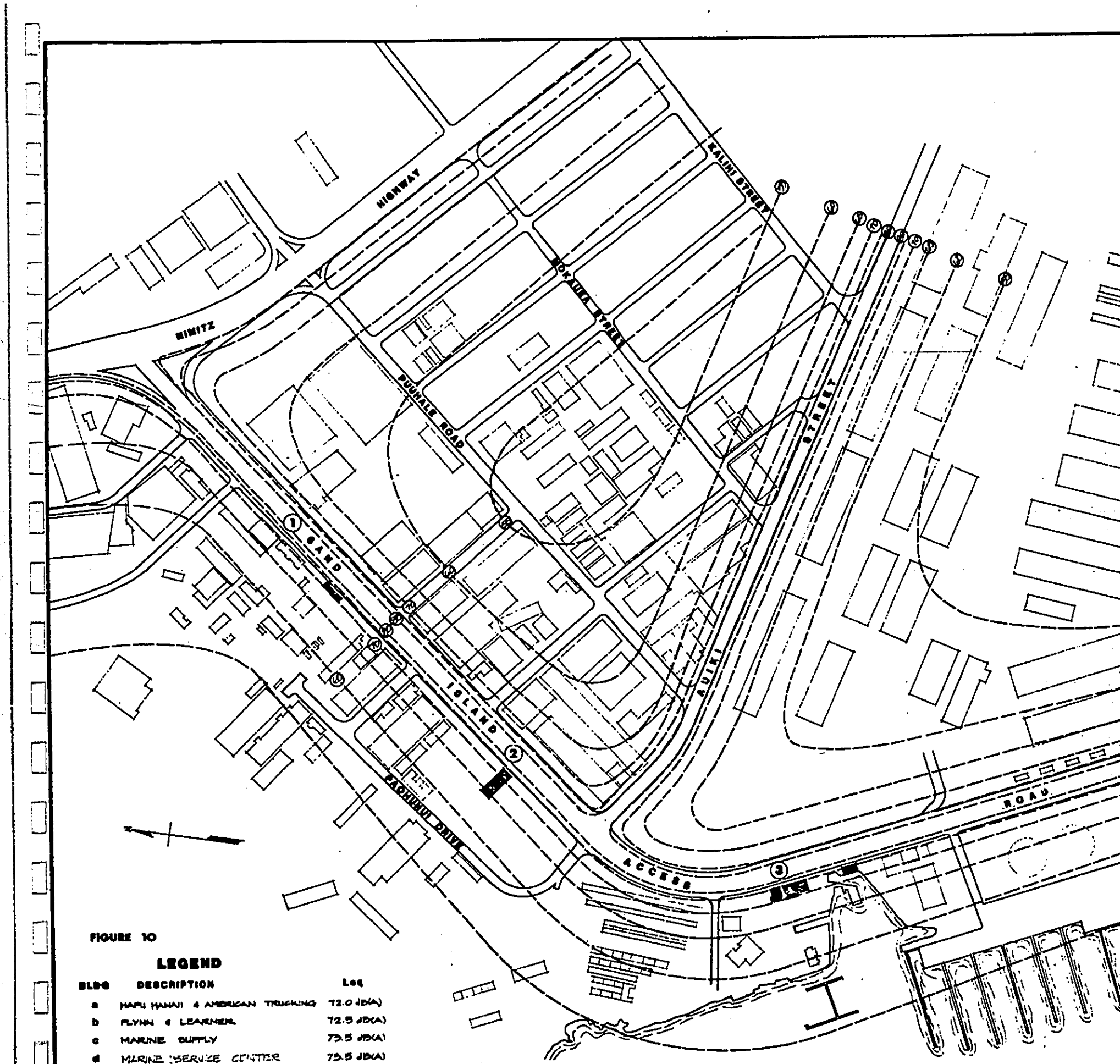
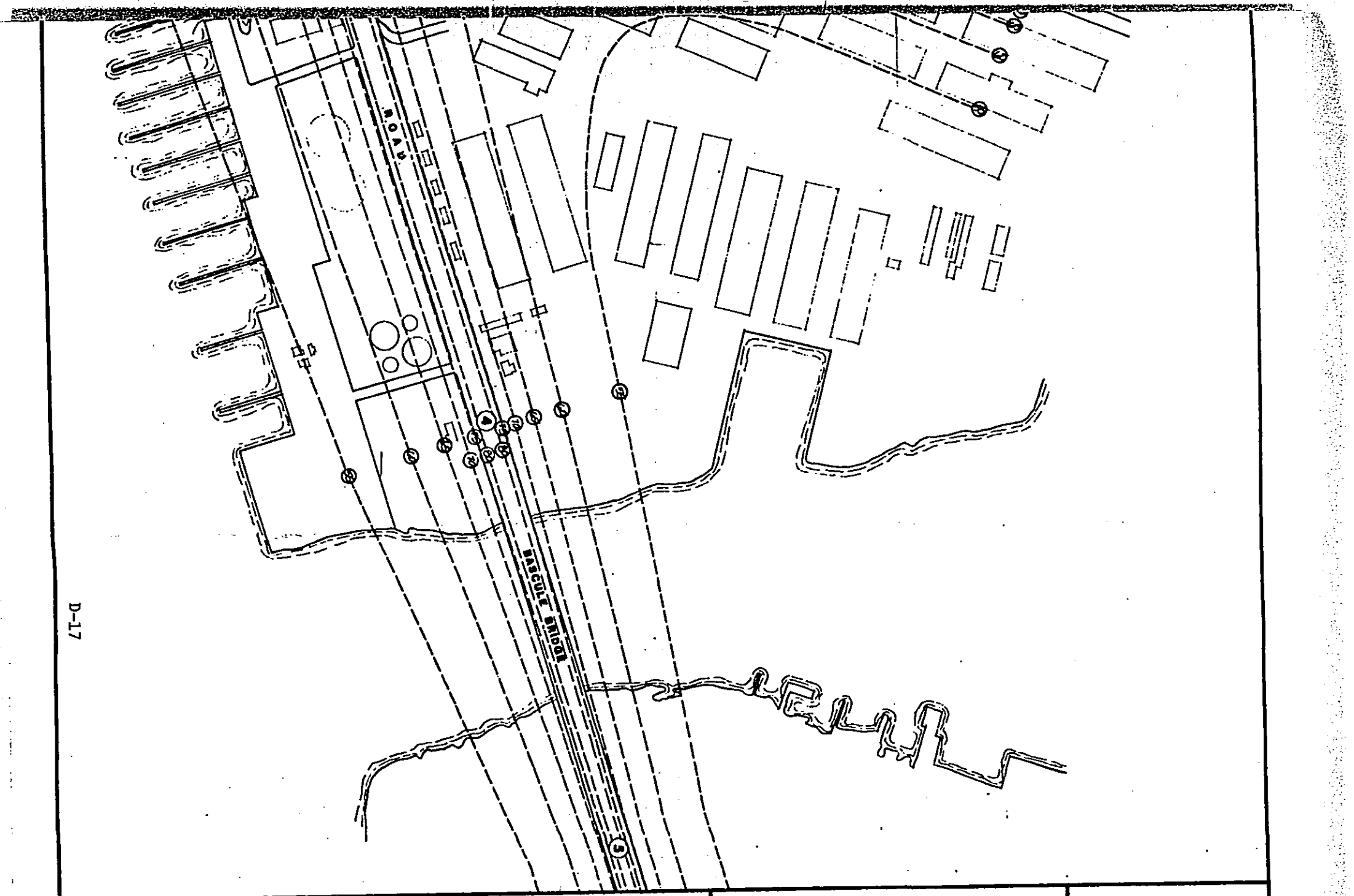


FIGURE 10

LEGEND

BLDG	DESCRIPTION	Leq
a	HAPU HAWAII & AMERICAN TRUCKING	72.0 dB(A)
b	FLYNN & LEARNER	72.5 dB(A)
c	MARINE SUPPLY	73.5 dB(A)
d	MARINE SERVICE CENTER	73.5 dB(A)
e	SCUBA SHOP BOAT RENTAL	74.5 dB(A)



CHECKED BY: I.M.
DRAWN BY: D.A.
DATE: OCT. 14, 1981

FIGURE 10
Leq NOISE CONTOUR MAP for YEAR 2000
SCALE: 1"= 400'

SAND ISLAND ACCESS ROAD NOISE STUDY

Design

APPENDIX E

ENVIRONMENTAL IMPACT STATEMENT

PREPARATION NOTICE

FOR THE PROPOSED

SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS

April, 1979

APPENDIX E

ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE FOR THE PROPOSED SAND ISLAND ACCESS ROAD WIDENING AND IMPROVEMENTS PROJECT NO. 64A-01-79

(a) Type Action

Agency Action: State of Hawaii, Department of Transportation, Land Transportation Facilities Division.

(b) Accepting Authority

Based on the use of State funds, the Governor will be the accepting authority.

(c) Agencies Consulted in Making the Assessment

State of Hawaii:	State Historic Preservation Officer
City and County of Honolulu:	Department of Land Utilization
Federal:	U.S. Army Engineer District, Honolulu U.S. Coast Guard

(d) General Description of the Action's Technical, Economic, Social and Environmental Characteristics

The project is located in the Honolulu District on the island of Oahu. The present 2.7 mile Sand Island Access Road begins at Nimitz Highway and ends at the existing entrance to the Sand Island State Park on Sand Island. (Figure 1 shows the project location.)

The project is at a stage in which data analysis and conceptual planning are now taking place. In subsequent stages, alternate designs will be developed and evaluated to determine the improvements necessary to accommodate the increased vehicular traffic anticipated in the next twenty (20) years.

The ongoing and planned developments on Sand Island coupled with the rapidly developing industrial areas adjoining Sand Island Access Road, have amplified the need for greater traffic carrying capacity within the present corridor. The objective of this proposed action will be to increase the traffic carrying capacity of the existing Sand Island Access Road by widening and/or effectuating other highway improvements.

In order to determine the future traffic volumes along the road, the Land Transportation Planning Branch prepared a traffic projection report, "Traffic Assignment Project TA 78-19 Sand Island Project No 64A-01-79," in February, 1979.

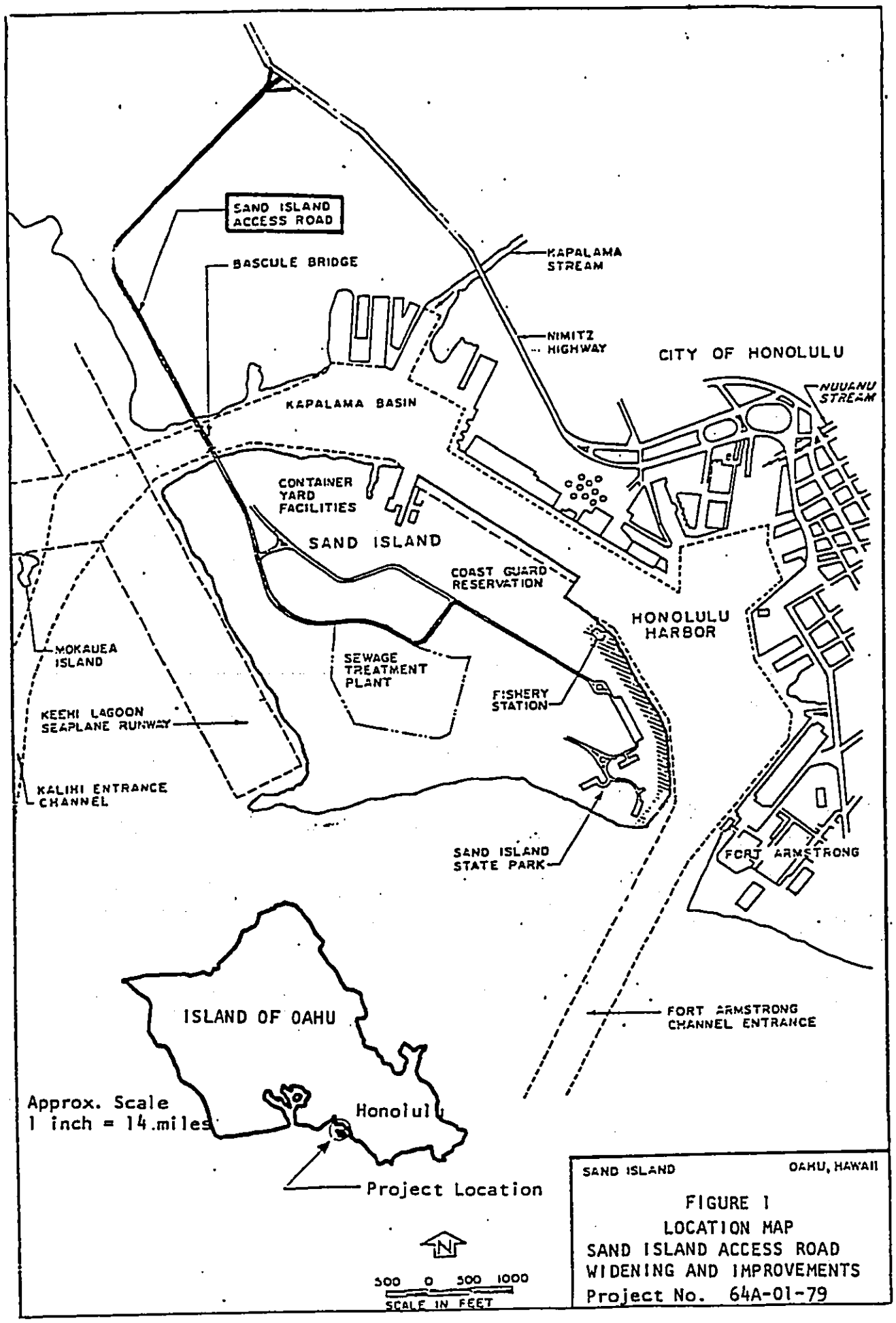

SAND ISLAND ACCESS ROAD
BASCULE BRIDGE
KAPALAMA STREAM
NIMITZ HIGHWAY
CITY OF HONOLULU
NUUANU STREAM
KAPALAMA BASIN
CONTAINER YARD FACILITIES
SAND ISLAND
COAST GUARD RESERVATION
HONOLULU HARBOR
MOKAUEA ISLAND
SEWAGE TREATMENT PLANT
FISHERY STATION
KEEHI LAGOON SEAPLANE RUNWAY
KALIHI ENTRANCE CHANNEL
SAND ISLAND STATE PARK
FORT ARMSTRONG
FORT ARMSTRONG CHANNEL ENTRANCE
ISLAND OF OAHU
Honolulu
Approx. Scale
1 inch = 14 miles
Project Location
N
500 0 500 1000
SCALE IN FEET
SAND ISLAND OAHU, HAWAII
FIGURE 1
LOCATION MAP
SAND ISLAND ACCESS ROAD
WIDENING AND IMPROVEMENTS
Project No. 64A-01-79

Table 1 provides the data abstracted from this report. As the projected traffic volumes indicate, between the years 1980 to 2000, there will be an approximate 50 percent increase in vehicular traffic along Sand Island Access Road. Additionally, the bascule bridge (John H. Slattery Bridge) is a drawbridge which creates a "bottleneck" situation during peak hours and when the bridge is drawn up for ship passage. At this time it is felt that the objective of this proposed action can best be met by improving the road and/or installing traffic signalizations and constructing a second bascule bridge.

The cost of the proposed action will be available upon completion of the engineering studies. The funding of this proposed action is anticipated to be provided by the State; Federal funds may also be requested.

(e) Summary Description of the Affected Environment

As described, the present Sand Island Access Road is 2.7 miles in length. The length of the travelway from Nimitz Highwy to the bascule bridge is 1.79 miles and its length on Sand Island itself is 0.91 mile. The road is in varying stages of improvement. From Nimitz Highway to approximately 0.5 mile down the travelway, the road is a four-lane divided (12 to 18 foot medial strip) highway. From beyond that point to the bascule bridge, the roadway becomes a wide, two-lane unimproved roadway. On the Sand Island side of the bascule bridge to the entrance of the Matson container handling yard, the road has a 28 to 40 foot wide asphalt concrete pavement with concrete curb and gutters. From Matson facilities' entrance until the entrance of Sand Island State Park, the road narrows to a two-lane roadway 20 to 22 feet wide with 2 to 8 foot shoulders. The bascule bridge, built in 1959, spans the Kalihi Channel and is operated from a control tower next to the bridge. It is the only roadway corridor connecting Sand Island to Oahu. The bridge is a steel bascule bridge with concrete approaches; it is 28 feet wide and 670 feet long; (the portion which is raised for ship passage is 250 feet long). Because the Kalihi Channel serves as an auxiliary waterway to Honolulu Harbor, about 11 percent of the harbor's waterway traffic passes through the Kalihi Channel; the remaining 89 percent utilize the Fort Armstrong Channel. On the average, the bridge is drawn three times a day; the duration of the bridge operation cycle varies between 7 and 15 minutes, with the average cycle time estimated at 9 minutes.

The present speed limit along Sand Island Access Road is 25 mph. It should also be noted that on an average day, the percentage of trucks is extremely high, reflecting the industrial uses along the Sand Island Access Road corridor.

Description and Overview of Sand Island. Sand Island, also known as Anuenue Island, lies adjacent to Honolulu Harbor on the south coast of Oahu. Sand Island is a man-made island and consists of approximately 520 acres. The island shelters Honolulu Harbor from the open sea and is connected to the Kapalama peninsula by a bascule bridge at the western end of the island.

Existing uses on Sand Island consist of harbor and maritime industries, various light industrial activities, a U.S. Coast Guard station, the Sand Island Sewage Treatment Plant, the Sand Island State Park, vacant lands, and "squatters" (unauthorized homesteaders) living in wooden homes along the southwest shore of Sand Island.

In February, 1976, the Multi-Modal Task Force, under the auspices of the State Department of Transportation, formulated the "1995 Master Plan for Honolulu Harbor". This Plan was developed as a policy statement for the growth, improve-

TABLE 1

PROJECTED TRAFFIC ALONG SAND ISLAND ACCESS ROAD

TRAFFIC DATA		LOCATIONS ALONG SAND ISLAND ACCESS ROAD: AFTER NIMITZ HIGHWAY INTERSECTION	WEST OF BASCULE BRIDGE	EAST OF BASCULE BRIDGE
Year: 1980				
Going Mauka	(ADT*	8994	5506	2917
	(AM Peak	415	342	180
	(PM Peak	796	813	405
Going Makai	(ADT	9764	5506	2917
	(AM Peak	1099	780	346
	(PM Peak	420	322	183
Year: 1990				
Going Mauka	(ADT	12128	9651	4064
	(AM Peak	560	599	251
	(PM Peak	1074	1425	564
Going Makai	(ADT	12991	9651	4064
	(AM Peak	1463	1367	482
	(PM Peak	5597	564	255
Year: 2000				
Going Mauka	(ADT	13367	10810	4457
	(AM Peak	617	671	275
	(PM Peak	1184	1596	619
Going Makai	(ADT	14304	10810	4457
	(AM Peak	1611	1531	529
	(PM Peak	616	632	280

*ADT - Average Daily Traffic

ment, and the efficient consolidation of the land usage around Honolulu Harbor (including Sand Island). The memorandum document was approved as the long-range plan for Honolulu Harbor by Governor George R. Ariyoshi on April 23, 1976. Figure 2 shows the future land uses for Sand Island and the Honolulu Harbor area as indicated in the 1995 Master Plan.

Briefly, the Master Plan continues to place emphasis on the industrial uses of Sand Island, consolidating certain activities in specific areas. Additionally, the Plan recognizes the recreational value and shore uses of the Sand Island State Park.

Topography. Sand Island was created on a shallow reef by incremental deposition of material from adjacent dredging in Honolulu Harbor and Keehi Lagoon. Except for intermittent small land forms and depressions in the undeveloped areas, the island is relatively flat with an average gradient of less than minus 1 percent towards the shoreline. The road lies about 8 feet above mean sea level (both on Sand Island and the portion of the road from Nimitz Highway to the bascule bridge).

Microclimate. The climate of Sand Island is typical of the leeward coastal lowlands of Oahu. The area is characterized by abundant sunshine, persistent trade winds (from the northeast quadrant, at 10 to 15 miles per hour), relatively constant temperatures, and low rainfall (annual average of 20 to 25 inches per year).

Flora. Because of the dry climate, coraline soil conditions, its man-made origins, and the intensity of development, the natural vegetation found on Sand Island is sparse and consists primarily of exotic (introduced) plant species.

Fauna. Two birds which have been sighted on Sand Island are endemic (native) endangered species: the Hawaiian Stilt (*Himantopus himantopus knudseni*) and the Hawaiian owl (*Asio flammeus sandwichensis*). Other birds and mammals found on the project site are common species distributed in other areas of Oahu.

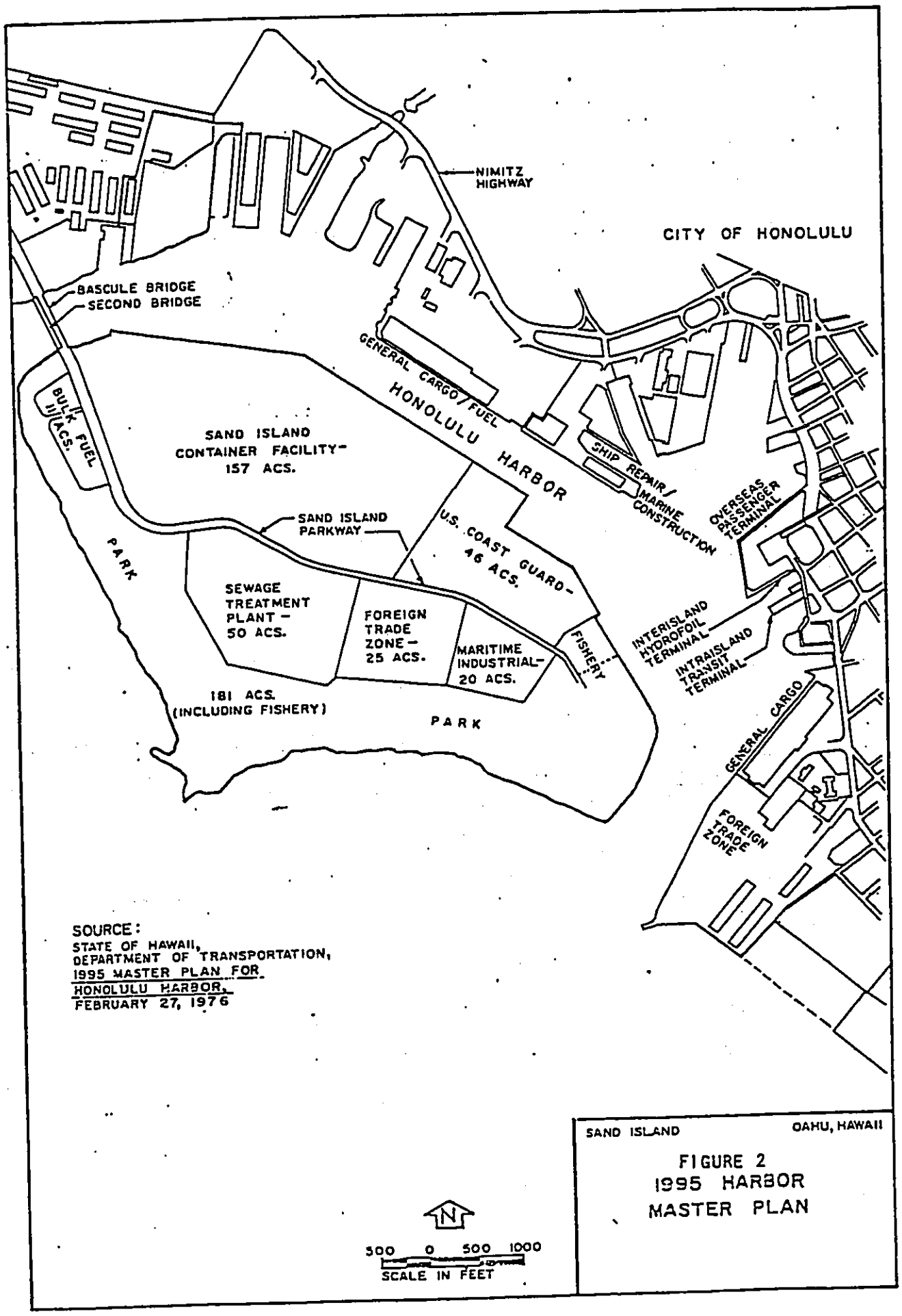
(f) Discussion of the Assessment Process

An Environmental Assessment was prepared for the proposed action in April, 1979. It reviewed the various environmental and socioeconomic aspects and impacts of the proposed project on a broad basis. The main conclusions of the Environmental Assessment have been drawn into this Environmental Impact Statement Preparation Notice.

(g) Identification and Evaluation of Potential Impacts

Impact on the topography, soils and microclimate. No impact is foreseen in these areas of concern. The roadway project is relatively miniscule compared to these considerations.

Impact on flora and fauna. The proposed action is not anticipated to affect any endemic, endangered species of plants or animals. The area is not a feeding or nesting ground for any endangered birds. The Hawaiian Stilts and Hawaiian owls are infrequently seen in the area, and when they are sighted, these are primarily overflights through the area in the direction of Keehi Lagoon. Other avifauna, fauna and flora are common and found elsewhere on Oahu.



SOURCE:
STATE OF HAWAII,
DEPARTMENT OF TRANSPORTATION,
1995 MASTER PLAN FOR
HONOLULU HARBOR,
FEBRUARY 27, 1976

Impact on air quality. Existing data indicates that the air quality along the road is relatively good under tradewind conditions. During Kona weather, the air remains generally above the island and relatively poor air quality conditions prevail due to this lack of circulation and air movement. Particulate matter exceeds the State of Hawaii air quality standards at the Kalihi-Kai air sampling station located one mile from the road.

Air quality will be affected in two ways: (1) the short-term impact caused by the construction of the improvements; and (2) the long-term indirect impact of vehicular air emissions along the Sand Island Access Road. It is anticipated that during construction, fugitive dust will create a nuisance, and the watering down of the work area will be necessary. On a long-term basis, the road will accommodate a larger amount of vehicles which would likely increase the carbon monoxide released by vehicles, as well as other vehicular emissions. An air quality study will be prepared to determine the impact of the proposed action.

Impact on noise. Because of the heavy usage of the road by trucks, traffic noise along the road corridor is very noticeable. Noise readings taken along the road in 1977 indicated that the noise exceeds the allowable *Comprehensive Zoning Code* requirements.

Noise will be generated during construction and, after the road improvements implemented, by vehicles using the road. Because the automobile industry is in the process of curtailing noise emissions in new automobiles, the result may likely offset the projected increases in traffic noise. A noise study will be undertaken to determine noise impact. Both the noise and air studies will take into consideration the high percentage of truck traffic.

Impact on surface water quality. Because of the low rainfall and the high permeability of the soils, no impact on the surface water quality or quantity is anticipated.

Impact on coastal water quality. Due to the numerous discharges (urban and industrial related) into Honolulu Harbor, the Sand Island sewage outfall, and the rubble along the seaward shore of Sand Island, the coastal water quality around Sand Island is poor and does not meet the present Class B and Class A standards established by the State Department of Health.

If a second bascule bridge is built, some construction work in the water will be necessary. At this time the extent of work in the waters is unknown; if it is limited to providing support structures for the proposed bridge, little or no impact to the coastal water quality is foreseen. Any work in the water will result in temporary impacts such as increase in turbidity, potential solid waste accidentally falling into the channel, et cetera.

Tsunami, flood and earthquake hazards. It is anticipated that these natural hazards will probably not have impact on the proposed action. For the most part, the road does not lie within the tsunami inundation zone (as designated by the Oahu Civil Defense Agency), nor has it been historically subject to tsunamis, floods or earthquakes.

Impact on scenic views. Because no scenic views are afforded from the roadway, no impact on scenic views are foreseen.

Impact on the residents of Sand Island. The U.S. Coast Guard station on Sand Island is estimated to have a resident population of less than 100 persons. It is felt this proposed action will benefit these permanent residents because of better access to the station. The "squatters" illegally living on State lands along the seaward shore of Sand Island will also benefit from the improvement of the road.

Impact on land value. The improved road would likely increase land value along the corridor; such an increase would be modest, and subject to other factors such as competitive costs, zoning and land availability. Additionally, the improvement to Sand Island Access Road has been anticipated for several years and in many cases, the land value already reflects the planned improvement of the road.

Compatibility with the existing and proposed land uses. The State Land Use Commission has designated the land around the road as Urban. The City's zoning consists of I-1, I-2, (I - industrial), and R-6 (urban residential).

The road improvements are consistent with the existing and proposed land uses and zoning established by the State and County. In addition, other major projects on the island such as the Sand Island State Park, the Sand Island Sewage Treatment Plant, the development of the Container Handling Facilities, and the Sand Island Shore Protection Plan have included, in their respective reports and EISs, an assumption that the roadway improvements will occur and that such improvements would be beneficial or necessary for their projects to be developed. The proposed zoning and uses will increase traffic volumes about 50 percent in the next twenty (20) years, and if the road is not improved, there would be traffic congestion.

Historical and archaeological sites of significance. The State Historic Preservation Officer has indicated that there may be historical structures of value on Sand Island. Specifically, in the approximate middle of the island there remain two buildings which were once part of the quarantine station and internment camp (1930's and World War II, respectively). Along the seaward shore, there are defense structures (World War II) which may be of some historical interest. Because of the man-made nature of the island, no archaeological sites are known to exist.

The roadway improvement is not expected to affect these historical structures.

Utilities and public facilities. Utilities serving Sand Island will not be affected by the proposed action. The public facilites (park and sewage treatment plant) will be beneficially affected because the roadway will provide a better access to these facilities.

(h) Major Impacts and Provision for Detailed Study

As mentioned in the previous section, two studies relating to air pollution and noise impact will be prepared to provide detailed infomation on the project's impact in these two areas. Additionally, as detailed plans are formulated, other investigations will occur in order to determine if other environmental and socioeconomic considerations should be studied in detail.

(i) Proposed Mitigation Measures

At this time, no specific mitigation measures for adverse environmental impacts have been formulated. It is anticipated that as the engineering study is prepared, some mitigation measures will be included in the proposed plans; these will be discussed in the Environmental Impact Statement.

Standard mitigation measures used to curtail the adverse impacts due to construction will likely be implemented. Other applicable standards and regulations must also be adhered to.

(j) Determination

An Environmental Impact Statement is required.

(k) Findings and Reasons Supporting the Determination

Based on the analysis included in the Environmental Assessment and summarized in this Preparation Notice, it is felt that an Environmental Impact Statement should be prepared; specific reasons for this determination include:

(1) the proximity of the project to the shoreline and its impact on uses adjacent to the shoreline; and

(2) the potentially adverse impacts foreseen in the area of air quality and noise emissions.

(l) Agencies to be Consulted in the Preparation of the Environmental Impact Statement

Federal Agencies:	Department of the Interior Environmental Protection Agency U.S. Army Corps of Engineers Federal Highways Administration
State Agencies:	Department of Health State Historic Preservation Officer Department of Land and Natural Resources Department of Planning and Economic Development Office of Environmental Quality Control Water Resources Research Center, University of Hawaii Manoa Department of Accounting and General Services
City Agencies:	Department of General Planning Department of Land Utilization Department of Parks and Recreation Department of Public Works Department of Transportation Services Building Department Fire Department Police Department
Private Agencies:	Kalihi-Palama Community Council Kalihi-Palama Neighborhood Board American Lung Association of Hawaii Hawaiian Electric Company Sand Island Planning Committee Aotani & Associates (consultant for Sand Island State Park)

APPENDIX E

EIS PREPARATION NOTICE PROCESS

LT-PA
2.50566

Copy of letter sent to attached list of agencies requesting review and comments on the EIS Preparation Notice.

Subject: Sand Island Access Road Widening and Improvements, Project No. 64A-01-79 Environmental Impact Statement Preparation Notice

The Department of Transportation, Land Transportation Facilities Division, has determined that an Environmental Impact Statement is required in the development of the proposed project. Assuming that the project may be of interest to you, the enclosed copy of the Environmental Impact Statement Notice of Preparation is submitted for your review and comments.

This Notice of Preparation has been prepared not only to inform the various governmental agencies and the public of the proposed project, but also as a planning tool to solicit input to assist in plan development, policy formulation and evaluation. We would appreciate any comments you may have regarding any beneficial or adverse impacts resulting from the project. According to the Environmental Quality Commission's regulation, you have 30 days in which to comment and written comments will receive a written response.

If you have any questions, contact the Land Transportation Facilities Division, Planning Branch, at 548-4710 or 548-3258.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna

AH:lm

Enclosure

Federal Highway Administration
U.S. Department of Transportation
300 Ala Moana Boulevard, Box 50206
Honolulu, Hawaii 96850

Federal Aviation Administration
U. S. Department of Transportation
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

U. S. Coast Guard
14th Coast Guard District
P.O. Box 50229
Honolulu, Hawaii 96850

Agricultural Stabilization and Conservation Service
U. S. Department of Agriculture
P.O. Box 50008
Honolulu, Hawaii 96850

Soil Conservation Service
U. S. Department of Agriculture
300 Ala Moana Boulevard, Box 50004
Honolulu, Hawaii 96850

Fish and Wildlife Service
U. S. Department of the Interior
300 Ala Moana Boulevard, Box 50167
Honolulu, Hawaii 96850

Environmental Protection Agency
300 Ala Moana Boulevard, Box 50003
Honolulu, Hawaii 96850

District Engineer
U. S. Army Engineer
Honolulu District
Building 230
Fort Shafter, Hawaii 96858

Mr. Robert Garvey
Executive Director
Advisory Council on Historic Preservation
801 19th Street NW
Suite 618
Washington, D.C. 20005

U. S. Department of Housing and Urban Development
Area Office
300 Ala Moana Boulevard, Box 50007
Honolulu, Hawaii 96850

Geological Survey
U. S. Department of Interior
300 Ala Moana Boulevard, Box 50165
Honolulu, Hawaii 96850

Life of the Land
404 Piikoi Street, Room 209
Honolulu, Hawaii 96814

Castle and Cooke, Inc.
Office of the Trustees
P.O. Box 2990
Honolulu, Hawaii 96802

Hawaiian Telephone Company
1177 Bishop Street
Honolulu, Hawaii 96813

Hawaiian Electric Company
820 Ward Street
Honolulu, Hawaii 96814

Gasco Inc.
1060 Bishop Street
Honolulu, Hawaii 96813

The Honorable Richard O'Connell
Director
Office of Environmental Quality Control
550 Halekauwila Street
Honolulu, Hawaii 96813

The Honorable Hideo Murakami
Comptroller
Department of Accounting and General Services
1151 Punchbowl Street
Honolulu, Hawaii 96813

The Honorable John Farias, Jr.
Director
Department of Agriculture
1428 South King Street
Honolulu, Hawaii 96814

The Honorable Georgiana K. Padeken
Director
Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

The Honorable Charles Clark
Superintendent
Department of Education
1390 Miller Street
Honolulu, Hawaii 96813

The Honorable George Yuen
Director
Department of Health
1250 Punchbowl Street
Honolulu, Hawaii 96813

The Honorable Susumo Ono
Director
Department of Land and
Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

Ms. Jane Silverman
State Historic Preservation Officer
Department of Land and Natural
Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

The Honorable Hideto Kono
Director
Department of Planning and
Economic Development
Kamamalu Building
250 South King Street
Honolulu, Hawaii 96813

The Honorable Andrew Chang
Director
Department of Social Services
and Housing
1390 Miller Street
Honolulu, Hawaii 96813

Mr. Hubert Hinn
Chairman
Board of Education
P.O. Box 2360
Honolulu, Hawaii 96804

University of Hawaii
Water Resources Research Center
Honolulu, Hawaii 96822

Mr. George Moriguchi
Chief
Department of General Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

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

Mr Tyrone Kusao
Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Mr. Wallace S. Miyahira
Director
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

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

Mr. Robert Way
Director
Department of Transportation
Services
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Mr. Howard Shima
Director
Department of Buildings
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

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

The Honorable Rudy Pacarro
Chairman
City Council
City and County of Honolulu
City Hall
Honolulu, Hawaii 96813

The Honorable Frank Fasi
Mayor
City and County of Honolulu
530 South King Street
Honolulu, Hawaii 96813

Mr. Francis Keala
Chief
Honolulu Police Department
1455 South Beretania Street
Honolulu, Hawaii 96814

Mr. Boniface Aiu
Chief
Honolulu Fire Department
1455 South Beretania Street
Room 305
Honolulu, Hawaii 96813

Mrs. Ashby J. Fristoe
President
The Outdoor Circle
200 North Vineyard Boulevard
Honolulu, Hawaii 96817

Mr. James W. Morrow
Director
Environmental Health
American Lung Association
245 North Kukui Street
Honolulu, Hawaii 96817

Dr. Rhoda Heckler
Hawaiian Historical Society
560 Kawaiahao Street
Honolulu, Hawaii 96813

Shoreline Protection Alliance
P.O. Box 4247
Honolulu, Hawaii 96813

Sierra Club
P.O. Box 22897
Honolulu, Hawaii 96822

Matson Navigation Company
P.O Box 899
Honolulu, Hawaii 96808

United States Lines, Inc.
P.O. Box 1420
Honolulu, Hawaii 96806

Sand Island Tenants' Association
P.O. Box 17603
Honolulu, Hawaii 96817

Estate of S. M. Damon
First Hawaiian Bank Building
Suite 1210
Honolulu, Hawaii 96813

Aotani & Associates
225 Queen Street, Suite 400
Honolulu, Hawaii 96813

Mr. A. L. Kilgo
180 Sand Island Road
Honolulu, Hawaii 96819

Sand Island Businessmen's Association
P.O. Box 17603
Honolulu, Hawaii 96819

Mr. John Farnell
Hawaii Transportation Association
P.O. Box 30166
Honolulu, Hawaii 96820

Kalihi-Palama Neighborhood Board
c/o Multi-Service Center
333 North King Street
Honolulu, Hawaii 96817

Kalihi-Palama Community Council
Sand Island Planning Committee
c/o Multi-Purpose Center
333 North King Street
Honolulu, Hawaii 96817

APPENDIX F

CONCEPTUAL STAGE RELOCATION PROGRAM PLAN
FOR SAND ISLAND ROAD WIDENING AND IMPROVEMENT
PROJECT NO. 64A-01-79

APPENDIX F

CONCEPTUAL STAGE RELOCATION PROGRAM PLAN FOR SAND ISLAND ROAD WIDENING AND IMPROVEMENT PROJECT NO. 64A-01-79

This is the conceptual stage relocation program plan for the subject project, which is located in the Kalihi-Kai district of Honolulu between the Airport and Honolulu Harbor. The project's alternatives under consideration will affect properties on the mauka (northerly) and makai (southerly) side of Nimitz Highway.

The relocation program has the following benefits applicable to the relocatees:

1. Actual moving costs up to 50 miles will be paid.
2. Searching costs incurred in connection with the obtainment of a new business site can be reimbursed.
3. In lieu of items 1 and 2 above, a fixed payment based upon the net income of the business that cannot be reestablished without substantial loss of existing patronage.
4. Benefits of the Small Business disaster loan program under Section 7(b)(c) of the Small Business Act (15 U.S.C. 636(b)(3) may be available to eligible relocatees and to those businesses outside of the project (but not displaced) where substantial economic injury results because of the highway project.
5. State relocation advisory services are available.

The indications provided by our study are applicable as of the present. Future surveys might indicate otherwise at such point in time.

A discussion of the number and types of properties affected, the feasibility of relocation including the availability of relocation sites are as follows for each of the two alternatives:

Alternative V(A)

This alternative involves ten (10) parcels of land, of which two (2) are whole takings and eight (8) partial takings. Seven (7) of the parcels affected are zoned I-2, Heavy Industrial, and three (3) are roadways. Four (4) businesses will be affected by this alternative. No residences will be affected on this project.

The four (4) operations affected are:

1. Auto Leasing Company (Auto & Equipment Leasing Company, Inc., of Hawaii)
2. Auto Care Company (Auto Care of Hawaii)
3. Used Car Sales (Portuguese Used Cars)
4. Moving Storage Company (Y. Higa Enterprises)

It is anticipated that three (3) of the operations will have to relocate to new sites. The Auto Care Company and the Used Car Sales operation could relocate to another location in the area as the area required for its operations are not that large.

The Auto Leasing and the Moving & Storage operations will have problems in relocating to new sites. The Auto Leasing operation will require an area that is at least 40,000 square feet or more. The Moving & Storage operation may be able to continue its operation on its remainder land. If it cannot continue to operate on its remainder property, a site that is large enough and near its present location must be made available to the firm. The unique feature of its operation makes it an economic disaster to move to another location such as Campbell Industrial Park. Its line of business is highly competitive and

moving away from the Harbor and Airport area will jeopardize its business. The firm requires approximately four and one-half acres of land.

It is anticipated that problems will be encountered in the relocation of the two (2) operations, the Auto Leasing and Moving & Storage firms.

Alternative V(C)

It is anticipated that this interchange alternative will involve eleven (11) parcels of land of which all will be by partial takings. There are three (3) roadway parcels and eight (8) I-2 Heavy Industrial zoned parcels affected. Three (3) businesses will be affected and of these only one will have to be relocated. No residences will be affected.

The businesses affected are:

1. Warehouse and Storage (Mercantile Trucking Service)
2. Warehouse and Storage (Bigway Market Warehouse)
3. Surplus Store (Big 88)

Two of the operations will not have to relocate as only a portion of their warehouses will be affected and will not hamper their operations. The other operation, the surplus store, will have to relocate to another location. A new location for the surplus store may be a blessing to them as their present location is not the ideal spot for an operation of that kind.

As indicated by the survey of available spaces in the area, there are many available spaces that are large enough to accommodate the surplus store operation. The spaces available are shown on the attached Exhibit "A".

It is, therefore, anticipated that the surplus store operation will not encounter any problems in relocating as evidenced by the availability of industrial and business properties within the area.

APPENDIX G

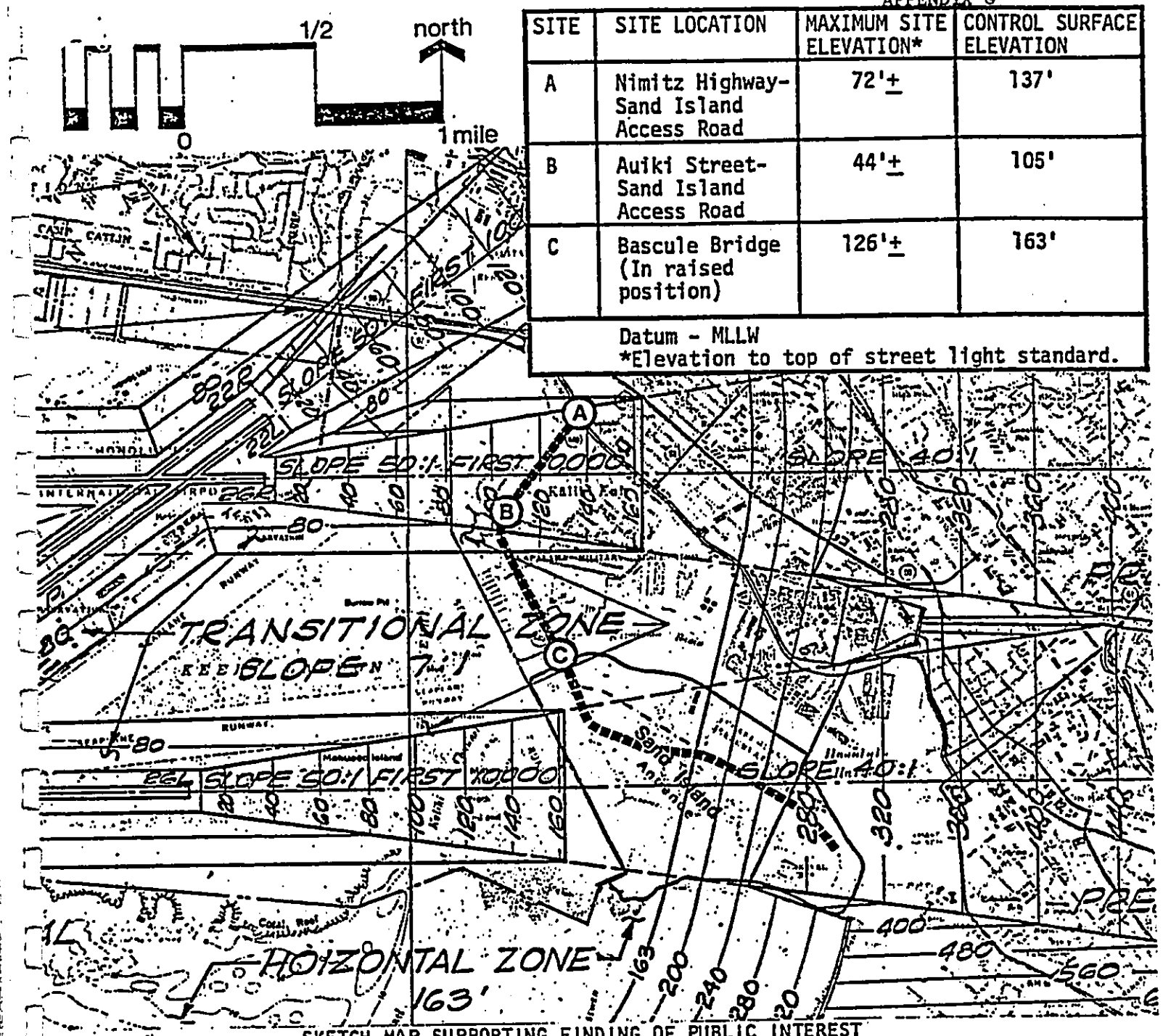
SKETCH MAP SUPPORTING FINDING OF PUBLIC INTEREST

AT HONOLULU INTERNATIONAL AIRPORT

HONOLULU, HAWAII

SITE	SITE LOCATION	MAXIMUM SITE ELEVATION*	CONTROL SURFACE ELEVATION
A	Nimitz Highway-Sand Island Access Road	72'±	137'
B	Auiki Street-Sand Island Access Road	44'±	105'
C	Bascule Bridge (In raised position)	126'±	163'

Datum - MLLW
*Elevation to top of street light standard.



SKETCH MAP SUPPORTING FINDING OF PUBLIC INTEREST
AT HONOLULU INTERNATIONAL AIRPORT
HONOLULU, HAWAII

APPENDIX G

In compliance with Section 318, Title 23, U.S. Code, we concur that the location of this airport and the consequent construction of Project No. 64A-01-79 are in the public interest.

Dept. of Trans., Airports Division

8/26/80
Date

Dept. of Trans., Highways Division

10/10/80
Date

Federal Aviation Administration

9-22-80
Date

Federal Highway Administration

OCT 27 1980
Date

APPENDIX H

MEMORANDUM CONCERNING POSSIBLE ADVERSE EFFECTS ON

THE HAWAIIAN OWL HABITAT

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

DIVISIONS:
CONSERVATION AND ENFORCEMENT
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

October 28, 1980

Honorable Ryokichi Higashionna
Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

This is in reply to your October 10, 1980 memorandum concerning possible adverse effects on the Hawaiian owl habitat by carrying out the widening of the Sand Island Access Road project.

We do not feel that mitigation measures are warranted in this case.

Very truly yours,

NOBUO HONDA
Acting State Forester

Enclosure

cc: Oahu District

RECEIVED
80 OCT 25 A 8:02
DIVISION OF FORESTRY

State of Hawaii
Department of Land and Natural Resources
Division of Forestry & Wildlife
Oahu District

MEMORANDUM

Date: Oct. 24, 1980

TO: LIBERT K. LANDGRAE, State Forester
THROUGH: HERBERT H. KIKUKAWA, Oahu District Forester
FROM: RALPH S. SAITO, Oahu District Wildlife Biologist

File No.:

SUBJECT: Comments on or Review of: Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Comments requested by: Director, Dept. of Transportation

Date of Request: 10/10/80 Date Received: 10/16/80 Deadline:

Summary of Proposal

Title: Sand Island Access Road Widening and Improvements, Project No. 64A-01-79

Project by: Department of Transportation

Location: Honolulu, Oahu, Hawaii

Brief Description: Proposal to widen and improve Sand Island Access Road, including an interchange at Nimitz Highway, a second bridge across Kalihi Channel and roadway widening from Nimitz to the Park at Sand Island.

COMMENTS

___ 1. Comments for this proposal were previously submitted; refer to:

2. Based on the information provided, forestry, wildlife and other environmental values may be affected as follows:

__X__ a. No foreseeable adverse effects. See page 3 for additional comments.

___ b. No endangered species or habitat present.

___ c. Possible adverse effects:_____

___ d. Possible beneficial effects:_____

3. Evaluation of the proposal cannot be made because of:

___ a. Insufficient information provided; information needed on:_____

___ b. The activity or proposal is not in our area of professional jurisdiction.

___ c. A field inspection is needed.

4. Additional Comments: The area of the proposed project is an already disturbed area and although we are concerned about the Hawaiian Owl's well being and protection of their habitat, mitigation measures for this area are not necessary.

5. Recommendations: _____

Ralph S. Saito

RALPH S. SAITO
Wildlife Biologist
Oahu District

CONCUR:

LIBERT K. LANDGRAF, State Forester
Division of Forestry and Wildlife

APPENDIX I

CONCURRENCE OF CONSTRUCTION AND OPERATION OF A SECOND BASCULE BRIDGE

APPENDIX I

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

~~VERNE C. WAITE, M.D.~~
DEPUTY DIRECTOR OF HEALTH

HENRY N. THOMPSON, M.A.
DEPUTY DIRECTOR OF HEALTH

~~JAMES C. KUMAGAI, Ph.D., P.E.~~
DEPUTY DIRECTOR OF HEALTH

~~TADAO BEPPU~~
DEPUTY DIRECTOR OF HEALTH

RECEIVED
JUN 25 1980
WILSON OKAMOTO & ASSOCIATES

June 23, 1980

In reply, please refer to:
File: EPHS-SS

Mr. Ernest Takahashi, Planner
Wilson, Okamoto & Associates
P. O. Box 3530
Honolulu, Hawaii 96811

Dear Mr. Takahashi:

Subject: Sand Island Access Road Improvements and Second Bascule Bridge Construction

Please be informed that we concur that the construction and operation of a second bascule bridge across the Kalihi Channel will not have any significant adverse impacts to the water quality of the Kalihi Channel. We are confident that adequate mitigative measures will be taken to minimize temporary pollution levels during construction such that the subject construction activities will be in compliance with Public Health Regulations, Chapter 37-A, Water Quality Standards, State of Hawaii.

Sincerely,

SHINJI SONEDA, Chief
Environmental Protection &
Health Services Division