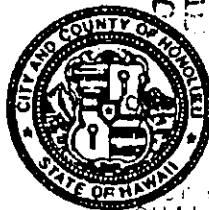


DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4564 • Fax: (808) 523-4567

JEREMY HARRIS
MAYOR



RANDALL K. FUJIKI, AIA
DIRECTOR

ROLAND D. LIBBY, JR., AIA
DEPUTY DIRECTOR

RECEIVED
NOV 10 P3:31
QUALITY
November 8, 1999

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

**SUBJECT: Finding of No Significant Impact (FONSI) for Punchbowl Street
Improvements Vineyard Boulevard to H-1 Freeway Underpass**

Dear Ms. Salmonson:

The City and County of Honolulu Department of Design and Construction has reviewed the comments received during the 30-day public comment period which began on September 23, 1999. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the November 23, 1999 OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the final EA. Should you have any questions, please contact Gregory Hee at 527-6977.

Sincerely,


FOR Randall K. Fujiki
Director

enclosure

NOV 23 1999

FILE COPY

*1999-11-23-DA-FA-Punchbowl Street Widening
Vineyard to Lusitana*

Final Environmental Assessment

for

Punchbowl Street Improvements:
Vineyard Boulevard to
H-1 Freeway Underpass

Prepared for:

Department of Design & Construction
City and County of Honolulu
Honolulu, Hawaii

Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.
1001 Bishop Street
Pacific Tower, Suite 3000
Honolulu, Hawaii 96813

November 1999

Final Environmental Assessment

for

**Punchbowl Street Improvements:
Vineyard Boulevard to H-1 Freeway
Underpass**

Prepared for:

City and County of Honolulu
Department of Design and Construction
Honolulu, Hawaii

Prepared by:

Parsons Brinckerhoff Quade & Douglas, Inc.
1001 Bishop Street
Pacific Tower, Suite 3000
Honolulu, Hawaii 96813

November 1999

TABLE OF CONTENTS

CHAPTER 1 PROPOSED PROJECT	1-1
1.1 PROJECT DESCRIPTION AND LOCATION	1-1
1.2 PURPOSE AND NEED	1-1
1.3 PLANNING PROCESS	1-7
1.3.1 HAWAII REVISED STATUTES, CHAPTER 343	1-7
1.3.2 ENVIRONMENTAL ASSESSMENT	1-8
1.4 DESCRIPTION OF THE PROPOSED PROJECT	1-8
1.4.1 EXISTING PUNCHBOWL STREET, H-1 FREEWAY TO VINEYARD BOULEVARD	1-8
1.4.2 NO BUILD CONDITION	1-8
1.4.3 TSM ALTERNATIVE	1-8
1.4.4 BUILD ALTERNATIVE	1-10
1.5 PROJECT SCHEDULE AND COSTS	1-11
CHAPTER 2 ENVIRONMENTAL SETTING, IMPACTS, AND PROPOSED MITIGATION	2-1
2.1 PHYSICAL ENVIRONMENT	2-1
2.1.1 TOPOGRAPHY, GEOLOGIC CONDITIONS AND SOILS	2-1
2.1.1.1 Existing Condition	2-1
2.1.1.2 Hazardous Materials	2-1
2.1.1.3 Potential Impact	2-2
2.1.2 WATER RESOURCES	2-2
2.1.2.1 Existing Condition	2-2
2.1.2.2 Potential Impact	2-2
2.1.3 BIOLOGICAL CONDITIONS	2-3
2.1.3.1 Existing Condition	2-3
2.1.3.2 Potential Impact	2-3
2.1.4 AIR QUALITY	2-3
2.1.4.1 Ambient Air Quality Standards	2-3
2.1.4.2 Existing Air Quality Conditions	2-3
2.1.4.3 Air Quality Impacts of Project	2-4
2.1.5 NOISE	2-6
2.1.5.1 Existing Condition	2-6
2.1.5.2 Potential Impact	2-7
2.1.5.3 Mitigation Measures	2-7
2.2 SOCIAL ENVIRONMENT	2-7
2.2.1 LAND USE	2-7
2.2.1.1 Existing Condition	2-7
2.2.1.2 Potential Impact	2-9
2.2.1.3 Mitigation Measures	2-10
2.2.2 SOCIAL AND ECONOMIC ACTIVITIES	2-13
2.2.2.1 Existing Condition	2-13
2.2.2.2 Housing	2-13
2.2.2.3 Income	2-13
2.2.2.4 Economic Activity	2-14

2.2.2.5	Potential Impact	2-14
2.2.3	RECREATIONAL ACTIVITIES	2-15
2.2.3.1	Existing Condition	2-15
2.2.3.2	Potential Impact	2-16
2.2.4	HISTORIC SITES	2-17
2.2.4.1	Existing Condition	2-17
2.2.4.2	Potential Impact	2-17
2.2.4.3	Mitigation Measures.....	2-19
2.2.5	VISUAL AND AESTHETIC RESOURCES	2-19
2.2.5.1	Existing Condition	2-19
2.2.5.2	Potential Impact	2-19
2.3	INFRASTRUCTURE.....	2-19
2.3.1	TRANSPORTATION.....	2-19
2.3.1.1	Existing Roadway System	2-19
2.3.1.2	Existing Traffic Volumes.....	2-21
2.3.1.3	Parking.....	2-23
2.3.1.4	Potential Impact on Traffic Operations	2-23
2.3.1.5	Mitigation Measures.....	2-24
2.4.1	UTILITIES.....	2-24
2.4.1.1	Existing Condition	2-24
2.4.1.2	Potential Impact	2-24
2.5	CONSISTENCY WITH GOVERNMENTAL PLANS AND POLICIES.....	2-27
2.5.1	STATE OF HAWAII.....	2-27
2.5.1.1	Hawaii State Plan	2-27
2.5.1.2	Hawaii State Land Use Controls	2-27
2.5.2	CITY AND COUNTY OF HONOLULU.....	2-27
2.5.2.1	General Plan	2-27
2.5.2.2	Primary Urban Center Development Plan	2-27
2.5.2.3	Zoning.....	2-28
2.5.2.4	Punchbowl Special District	2-28
2.6	CONSTRUCTION PERIOD IMPACTS AND MITIGATION MEASURES	2-29
2.6.1	TRAFFIC	2-29
2.6.2	AIR QUALITY	2-29
2.6.3	NOISE.....	2-32
2.6.4	SOLID AND HAZARDOUS WASTE AND MATERIALS	2-33
2.6.5	UTILITIES.....	2-33
2.6.6	SITE RUNOFF.....	2-33
2.7	REQUIRED PERMITS AND APPROVALS	2-33
CHAPTER 3 CONSULTATION AND SCOPING		3-1
3.1	CONSULTATION AND SCOPING ACTIVITIES.....	3-1
3.2	AGENCY AND PUBLIC COMMENTS	3-2
CHAPTER 4 ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT		4-1
CHAPTER 5 REFERENCES		5-1

LIST OF FIGURES

Figure 1-1 Project Location.....	1-2
Figure 1-2 Existing Traffic Queues	1-3
Figure 1-3 Analyzed Intersections.....	1-4
Figure 1-4 Existing Punchbowl Street from the H-1 Freeway to Vineyard Boulevard	1-9
Figure 1-5 Transportation System Management Alternative	1-12
Figure 1-6 Build Alternative	1-13
Figure 2-1 Noise Measurement Locations.....	2-8
Figure 2-2 Land Uses Immediately Adjacent to Project Site.....	2-11
Figure 2-3 Major Land Uses in the General Vicinity of Project Site.....	2-12
Figure 2-4 Recreational and Public Facilities in Vicinity of Project Site.....	2-18
Figure 2-5 Punchbowl Street Segments.....	2-22
Figure 2-6 Existing A.M. Peak Hour Volumes.....	2-25
Figure 2-7 Existing P.M. Peak Hour Volumes.....	2-26
Figure 2-9 Punchbowl Special District Boundaries and Vistas	2-31

LIST OF TABLES

Table 1-1 Existing Levels of Service at Selected Intersections.....	1-5
Table 1-2 Project Schedule	1-11
Table 2-1 Near-Intersection Concentrations at Punchbowl and Beretania Streets.....	2-4
Table 2-2 Mid-Block Concentrations on Punchbowl Street Mauka of Vineyard Boulevard	2-5
Table 2-3 Existing Noise Measurements.....	2-6
Table 2-4 Future Traffic Noise Levels.....	2-7
Table 2.6 Right-of-Way Impacts	2-10
Table 2-7 Demographic Information for Hawaii, County of Honolulu, and Census Tracts 41 & 42	2-14
Table 2-8 Housing Information for Hawaii, County of Honolulu, and Census Tracts 41 & 42.....	2-15
Table 2-9 Median Household Income and Poverty Rates for Hawaii, County of Honolulu and Census Tracts 41 & 42.....	2-16
Table 2-10 Intersection Operations Analysis.....	2-23
Table 2-10 Typical Ranges of Construction Equipment Noise.....	2-32
Table 3-1 Summary of Initial Consultation and Comments	3-1
Table 3-2 Summary of DEA Consultation and Comments.....	3-3

APPENDICES

Appendix A	Levels of Service Definitions
Appendix B	Limited Phase I Environmental Assessment Report
Appendix C	Air Quality Impact Assessment
Appendix D	Environmental Noise Assessment Study
Appendix E	Historic Inventory Survey

CHAPTER 1

PROPOSED PROJECT

1.1 PROJECT DESCRIPTION AND LOCATION

The City and County of Honolulu, Department of Design and Construction (DDC) is proposing to provide an additional north (mauka-bound) lane on Punchbowl Street from Vineyard Boulevard to the H-1 Freeway, a distance of approximately 700 feet. This segment of Punchbowl Street currently has three lanes, two lanes south (makai-bound) and one lane north (mauka) bound. After construction, this segment would have two south (makai-bound) lanes and two north (mauka-bound) lanes.

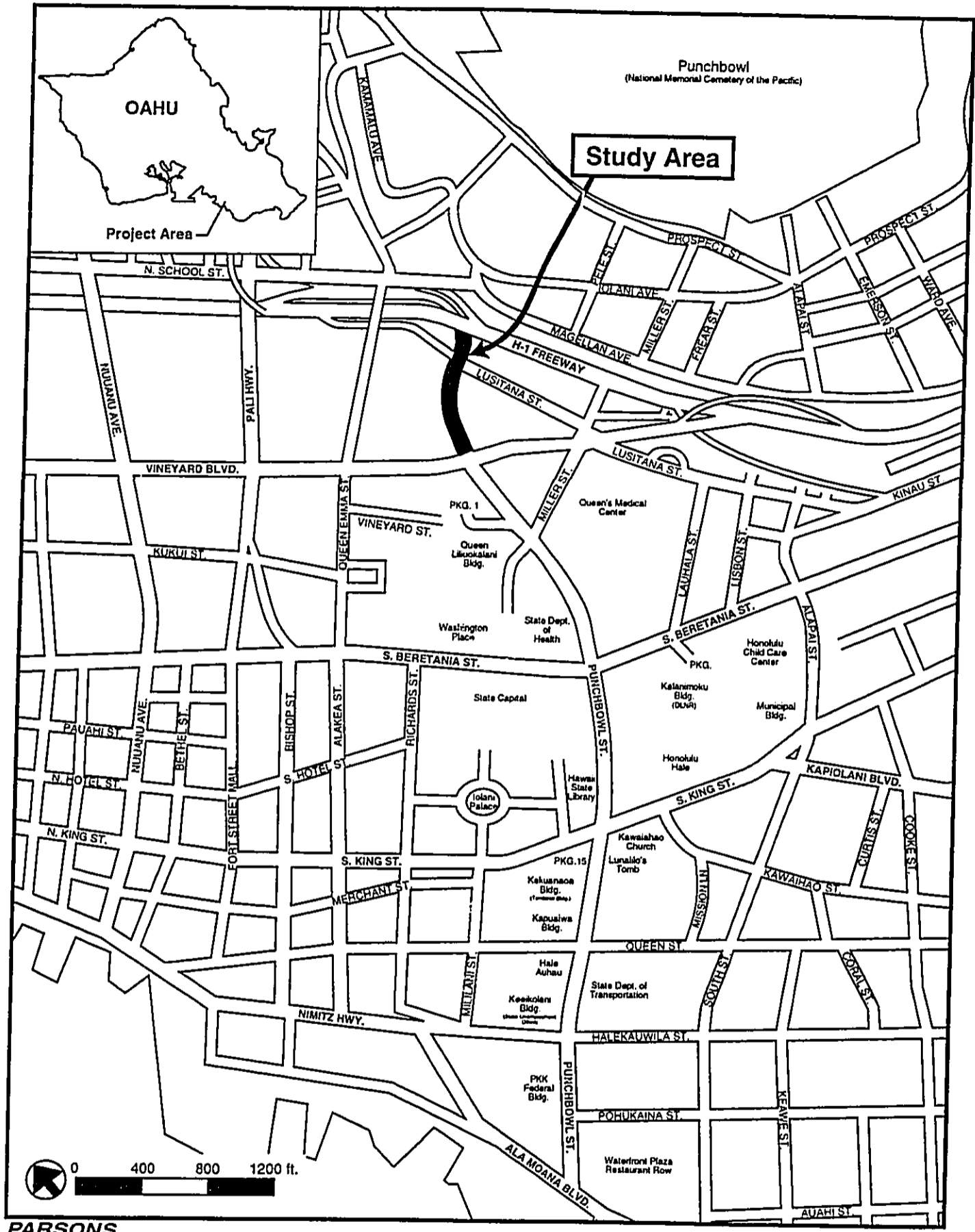
The proposed project is located in the City and County of Honolulu, Hawaii (see Figure 1-1). Punchbowl Street is a principal north-south (mauka-makai) arterial roadway, and is one of the major access roads between the Interstate H-1 Freeway and downtown Honolulu, the Capital District, the Civic Center, Queen's Medical Center, the Prince Kuhio Federal Building, and other employment and public facilities (see Figure 1-1). The northern (mauka) terminus of Punchbowl Street is the on-ramp to the H-1 Freeway and Pali Highway, and the southern (makai) terminus is Ala Moana Boulevard (see Figure 1-1).

1.2 PURPOSE AND NEED

The purpose of this project is to increase mauka-bound roadway capacity on Punchbowl Street from Vineyard Street to the Ewa-bound H-1 on-ramp. By increasing this roadway capacity, vehicle queuing and congestion will be greatly relieved at the Punchbowl Street/Vineyard Boulevard intersection, expediting travel time for those travelling from Downtown to points Ewa via the Punchbowl on-ramp and the H-1 Freeway:

These proposed improvements would allow the Vineyard Boulevard / Punchbowl Street intersection to process traffic more efficiently. This would help reduce the length of the traffic queues on Punchbowl Street by allowing both mauka-bound lanes of Punchbowl Street between South Beretania Street and Vineyard Boulevard to be fully utilized as through lanes. As an associated benefit, the proposed project would allow the provision of double left-turn lanes on Vineyard Boulevard for Koko Head-bound to mauka-bound left-turning traffic. This would help reduce the queues for this traffic movement as well. The overall benefit would be reduced delay for travelers and less disruption of access by vehicle queues.

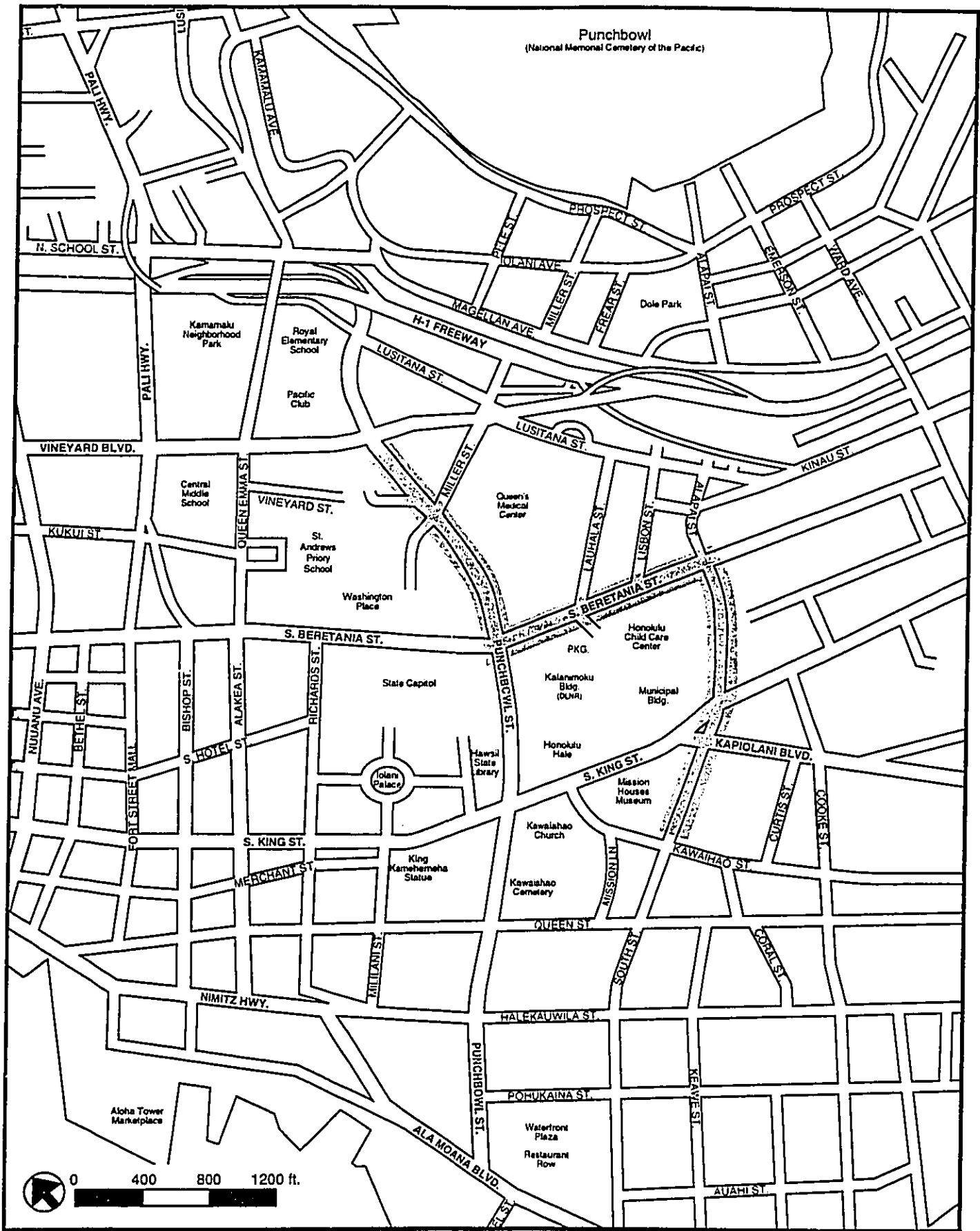
The segment of Punchbowl Street mauka of South Beretania Street provides access to the H-1 Freeway and to Pali Highway from the Civic Center area. There is an existing traffic bottleneck at the Vineyard Boulevard/Punchbowl Street intersection. Because there is only one mauka-bound lane on Punchbowl Street mauka of Vineyard Boulevard, only one through traffic lane is provided on the mauka-bound approach of Punchbowl Street south makai of Vineyard Boulevard. The inner mauka-bound lane becomes a left-turn only lane at Vineyard Boulevard and does little to help convey traffic destined for H-1 Freeway. In the afternoon peak



PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

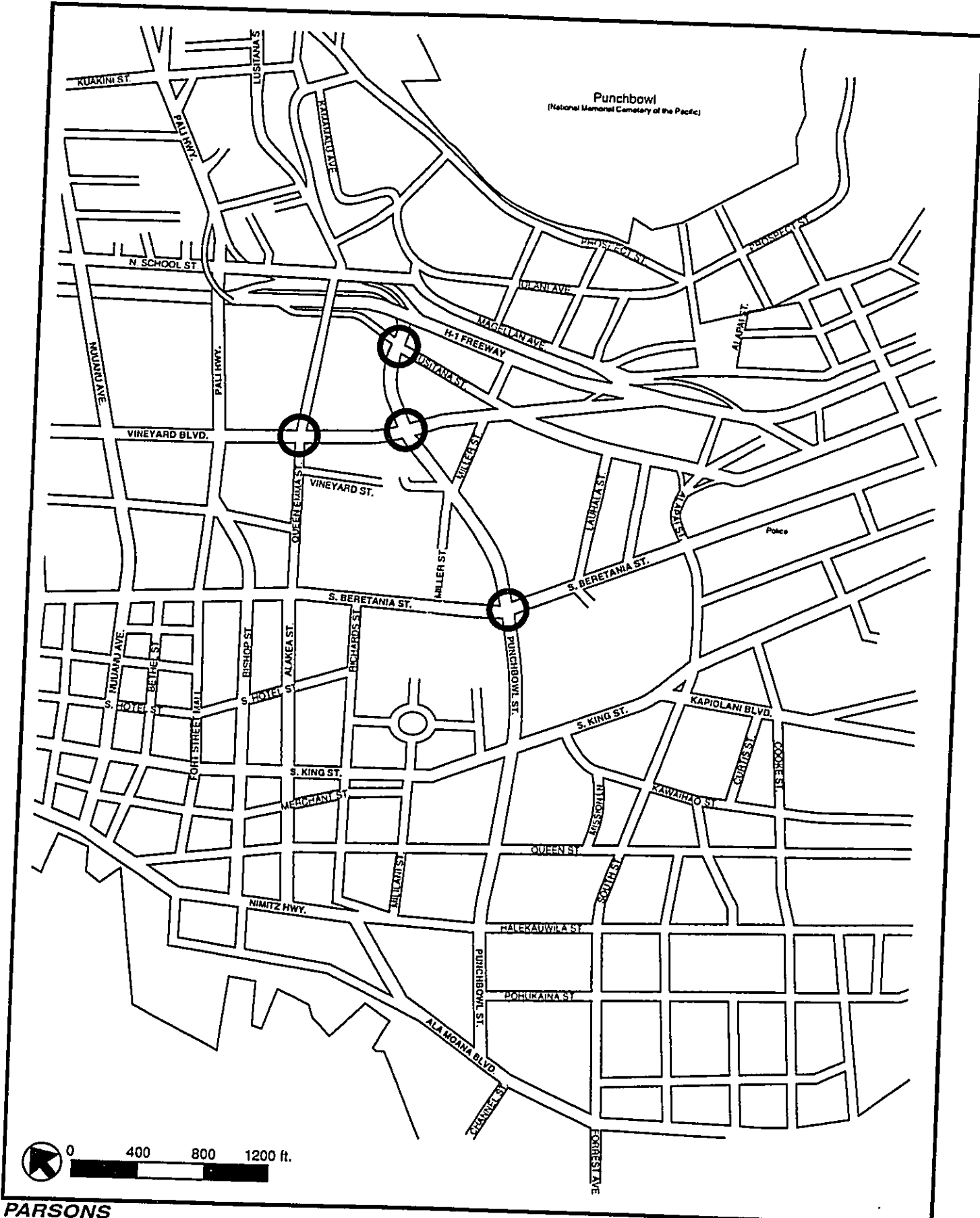
Project Location
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 1-1

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100



**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

**Existing Traffic Queues
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 1-2**



PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

Analyzed Intersections
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 1-3

commuter period, the curb lane of mauka-bound Punchbowl Street queues from Vineyard Boulevard to South Beretania Street, while the inner lane has relatively little demand. This queue continues onto South Beretania Street and backs up as far as Alapai Street (see Figure 1-2).

Traffic conditions along Punchbowl Street and adjacent streets were analyzed using observation, methodologies contained in the 1994 Highway Capacity Manual (HCM), and microscopic evaluation tools. These evaluations concluded that operations at the intersections were very constrained during peak traffic hours. The analyzed intersections are shown on Figure 1-3.

Table 1-1 displays existing Levels of Service (LOS) resulting from the HCM analyses at the intersections shown on Figure 1-3. LOS is a qualitative measure which ranges from A to F. LOS A represents free-flow operating conditions, while LOS F represents congested conditions. Appendix A contains detailed definitions of intersection LOS.

Table 1-1
Existing Levels of Service at Selected Intersections

Intersection/Movement	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (second/vehicle)	LOS	Delay (second/vehicle)
Punchbowl St. / Vineyard Blvd.	F	60.0+	F	60.0+
KKHD-bound Vineyard Blvd.	D	42.5	E	51.4
Ewa-bound Vineyard Blvd.	D	29.1	D	31.9
Mauka-bound Punchbowl St.	F	60.0+	F	60.0+
Makai-bound Punchbowl St.	E	52.0	C	16.2
Punchbowl St. / Beretania St.	B	14.9	F	60.0+
Ewa-bound Beretania St.	B	8.9	F	60.0+
Makai-bound Punchbowl St.	D	26.9	C	18.3
Vineyard Blvd. / Queen Emma St.	D	28.8	D	39.2
KKHD-bound Vineyard Blvd.	C	22.3	D	38.6
Ewa-bound Vineyard Blvd.	C	21.2	C	21.4
Mauka-bound Queen Emma St.	D	34.0	E	50.3
Makai-bound Queen Emma St.	E	59.2	D	31.8
Punchbowl St. / Lusitana St.	A	2.6	A	1.3
Makai-bound Punchbowl St. to Lusitana	B	5.5	A	4.7
Ewa-bound right-turn from Lusitana St.	B	7.0	C	10.9

Source: Parsons Brinckerhoff Quade & Douglas, Inc., 1999.

Note: KKHD-Koko Head

- The Punchbowl Street / Vineyard Boulevard intersection operates at LOS F in both A.M. and P.M. peak hours. Mauka-bound Punchbowl Street traffic experiences extremely long delays during the P.M. peak hour because travel demand substantially exceeds the capacity of the single through lane, given the duration of traffic signal green time provided. Because travel demand on Koko Head-bound Vineyard Boulevard is also substantial, re-

timing the traffic signal to provide more green time for mauka-bound Punchbowl Street would transfer the problem to Vineyard Boulevard.

- The Punchbowl / Beretania Street intersection operates well during the A.M. peak, but at LOS F during the P.M. peak hour. Field observations revealed that vehicle queuing from the Punchbowl Street / Vineyard Boulevard intersection extended through this intersection onto Beretania Street during the P.M. peak hour.
- The Vineyard Boulevard / Queen Emma Street intersection also experiences congestion in both A.M. and P.M. peak periods. During the A.M. peak hour, left turns from makai-bound Queen Emma Street experience delays, primarily due to the lack of a protected signal phase. During the P.M. peak, the heavy right-turn demand on mauka-bound Queen Emma Street results in long queues, partially caused by traffic to H-1 Freeway in both the Koko Head and Ewa-bound directions. This indicates that Queen Emma Street is not a viable alternate route for vehicles utilizing Punchbowl Street.
- The Punchbowl/Lusitana Street intersection was observed to have very low turning movement demand. In the P.M. peak, vehicles turning right from Lusitana Street Punchbowl Street have to wait for a break in the mauka-bound Punchbowl Street traffic, resulting in LOS C.

To address the vehicular queuing on mauka-bound Punchbowl Street at Vineyard Boulevard, prior studies by the City and County of Honolulu identified the need to widen Punchbowl Street mauka of Vineyard Boulevard to provide two mauka-bound lanes, and the Primary Urban Center Development Plan Public Facilities Map (PUC 150) identifies such a widening. This plan was reinforced by a recent study entitled, Punchbowl Street Roadway Corridor Modification, Operational Analysis Report, April 1999, by Parsons Brinckerhoff Quade & Douglas, Inc. Providing two mauka-bound lanes between Vineyard Boulevard and the H-1 Freeway would allow widening of mauka-bound Punchbowl Street between the existing Miller Street and Vineyard Boulevard to provide two mauka-bound through lanes and a designated left-turn storage lane. In addition to the proposed widening, the study also proposed the following actions to enhance mobility and convenience within the Civic Center Area:

- Converting Punchbowl Street to two-way operations between Beretania Street and Ala Moana Boulevard
- Spot intersection and pedestrian crossing improvements

Addressing the current traffic bottleneck at the Punchbowl Street / Vineyard Boulevard intersection through selective widening of Punchbowl Street, through this project, and through improvements to be implemented by Queen's Medical Center, would deliver benefits on its own.

Although mauka-bound Punchbowl Street would have two full through lanes mauka of South Beretania Street, these lanes are only fed by one right-turn lane on South Beretania Street. Only one lane on Alapai Street feeds directly into the right-turn lane on South Beretania Street, and only one lane on South Street feeds directly into the lane on Alapai Street that is destined for the right-turn lane on South Beretania Street. This is part of the reason why both South and

Alapai Streets are not fully utilized during peak demand. A large proportion of the traffic on these streets heads toward mauka-bound Punchbowl Street. To do so, traffic has to be in certain lanes which become congested as traffic is concentrated into these lanes.

Converting Punchbowl Street to two-way operation makai of South Beretania Street provides two paths to Punchbowl Street mauka of South Beretania Street, distributing traffic among different streets, thereby making more efficient use of the street system. This plan would not be possible without the proposed widening of Punchbowl Street.

The project described in this document represents the most "downstream" roadway segment that these other projects would feed, and in this sense, these other projects need the project described herein to be effective. However, were these future projects not to proceed, the project addressed in this document would still deliver the transportation improvements described above, and therefore this project has a separate purpose and goal apart from possible future improvements to the downtown roadway network that would be accomplished elsewhere. In addition, this project does not represent a governmental commitment to larger actions, or obligate any government agency to the completion of these other projects in order to achieve transportation benefits, since transportation benefits would ensue from this project alone. This final EA does not address the possible environmental impacts of these potential future projects because this project delivers separate transportation benefit, apart from the benefits that could be delivered by future additional roadway modifications in the Downtown area.

1.3 PLANNING PROCESS

1.3.1 Hawaii Revised Statutes, Chapter 343

The proposed project is currently undergoing environmental review in accordance with Hawaii Revised Statutes (HRS) Chapter 343 (the State Environmental Impact Statement (EIS) Law) because City and County of Honolulu funds would be used, and the project is not on the list of DDC projects and programs that are "exempted" from Chapter 343 review.

Based on Significance Criteria specified in Hawaii Administrative Rules (HAR) Chapter 200, DDC anticipates issuing a Finding of No Significant Impact (FONSI) for the proposed project (see Chapter 4). Therefore, this Final Environmental Assessment (EA) was prepared and is being announced in the State Environmental Notice in accordance with HRS Chapter 343 and HAR Chapter 200.

During the preparation of the Draft EA, scoping activities were conducted, and the results were used to complete the Final EA (see Chapter 3).

Following the 30-day Draft EA comment period, DDC reviewed and considered all agency and public comments, and determined that a FONSI determination is appropriate. DDC then prepared the Final EA, and is announcing its availability in the State Environmental Notice. The approving agency for the Final EA is the Director of DDC.

1.3.2 Environmental Assessment

This EA identifies and assesses the environmental and social impacts that could result from the construction of the proposed project. The improvements would be designed for anticipated traffic volumes in the year 2005. The proposed project's construction-phase impacts are also assessed in Section 2.5.

1.4 DESCRIPTION OF THE PROPOSED PROJECT

1.4.1 Existing Punchbowl Street, H-1 Freeway to Vineyard Boulevard

The proposed project would improve the section of Punchbowl Street from the H-1 Freeway to Vineyard Boulevard (see Figure 1-4). The entire length of Punchbowl Street is from the H-1 Freeway to Ala Moana Boulevard. It is classified as a principal north-south arterial, and provides direct access between the Freeway, downtown Honolulu, the Capitol District, the Civic Center, and Kakaako.

The mauka terminus of Punchbowl Street is Koko Head-bound off-ramp and Ewa-bound on-ramp to the H-1 Freeway. Both ramps also connect with Pali Highway. Two makai-bound lanes from the H-1 Freeway and Pali Highway off-ramps feed directly to Punchbowl Street. The H-1 Freeway and Pali Highway on-ramps are fed by one mauka-bound lane from Punchbowl Street as it emerges from a one-lane tunnel under the H-1 Freeway.

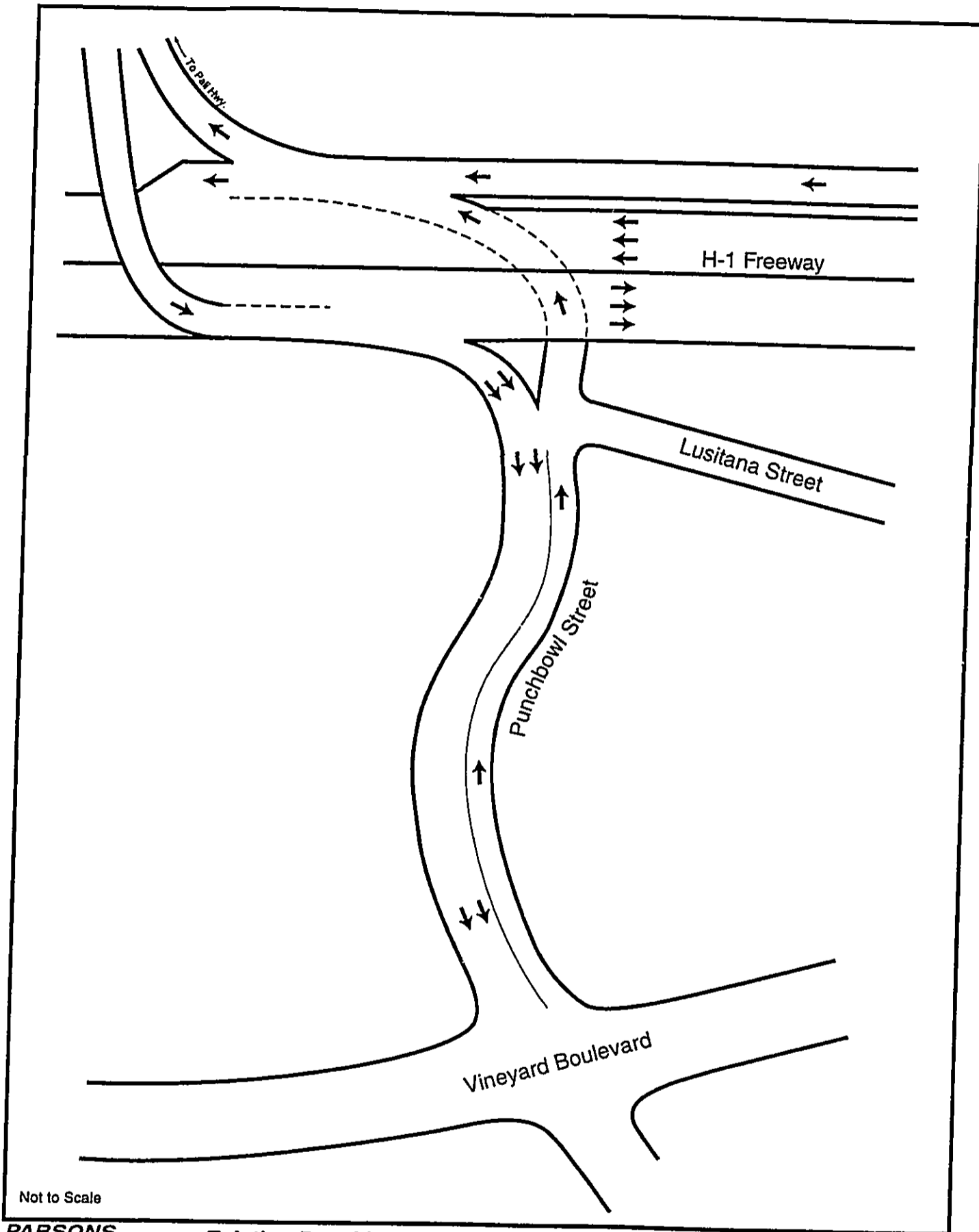
Between the H-1 Freeway and Vineyard Boulevard, Punchbowl Street consists of two lanes makai-bound, one lane mauka-bound, and sidewalks along both sides of the roadway. Punchbowl Street's intersection with Lusitana Street is not signalized, but its intersection with Vineyard Boulevard is signalized.

1.4.2 No Build Condition

The No Build alternative is defined as the future transportation condition without the proposed project. It is based on the Oahu Regional Transportation Plan (ORTP) (November 1995) roadway network for the year 2005, and includes the two-way operation conversion of Punchbowl Street to two-way operation between Beretania Street and Ala Moana Boulevard. Improvements to Punchbowl Street by Queen's Medical Center are not included in the No Build condition because Queen's project would not function without the proposed project.

1.4.3 TSM Alternative

A Transportation System Management (TSM) alternative was developed that would avoid the acquisition of additional right-of-way (see Figure 1-5). TSM is the application of construction, operational and institutional actions to make the most productive use of existing transportation facilities and services (Judycki and Berman, 1992). During the P.M. peak period, the inside makai-bound lane would be contra-flowed to the mauka-bound direction. City and County of Honolulu Department of Transportation Services maintenance personnel would cone off this



PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

Existing Punchbowl Street from the H-1 Freeway to Vineyard Boulevard
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 1-4

lane from the other makai-bound lane. This would provide an additional mauka bound lane without the acquisition of right-of-way.

Providing the additional mauka-bound lane during the P.M. peak period would require either merging the two makai-bound lanes prior to Lusitana Street, or closing the H-1 Punchbowl Street off-ramp. Both methods would adversely affect the safety and traffic operations of the H-1 Punchbowl Street off-ramp and the H-1 Koko Head-bound traffic lanes. Therefore, the TSM Alternative was eliminated from further study.

1.4.4 Build Alternative

The proposed project will provide an additional mauka-bound lane from Vineyard Boulevard to the H-1 Freeway underpass (see Figure 1-6). To accommodate the additional lane, the existing right-of-way will be widened along the Diamond Head side of the roadway from Vineyard Boulevard to Lusitana Street. The existing sidewalk and driveways will be reconstructed along this length.

Mauka of Lusitana Street, the mauka-bound curb lane will be merged with the mauka-bound inside lane prior to the H-1 Freeway underpass. This merge configuration was modeled and simulated to determine the effectiveness of the proposed merge condition. Analyses determined that the merge configuration will accommodate the necessary future traffic projections without impacting the Vineyard Boulevard/Punchbowl Street intersection.

The signal timing for the Vineyard Boulevard/Punchbowl Street intersection traffic signal will be adjusted, as necessary, to control the queuing on the H-1 on-ramp. In addition, should the State Department of Transportation decide at a later date to implement ramp metering at this location, the construction contract will include the necessary provisions for the infrastructure (conduits and pullboxes) of a ramp metering signal at the Punchbowl Street/Lusitana Street intersection. The existing one lane configuration for the underpass provides a stopping sight distance of 200 feet, which accommodates a design speed of 30 MPH. The posted advisory speed prior to the entrance of the underpass is 25 MPH. The proposed merge will be designed to meet the existing one lane configuration prior to the underpass.

To minimize cumulative impacts of other roadway projects, the project will be coordinated with future improvements at the Vineyard Boulevard/Punchbowl Street intersection by Queen's Medical Center (see Figure 1-6).

The potential to widen Punchbowl Street on the Ewa side from Vineyard Boulevard to Lusitana Street was not an option due to the following:

- The PUC Development Plan Public Facilities Map identified the need for additional right-of-way on the Diamond Head side since 1981 (Ordinance 81-79, PUC 150).
- State of Hawaii Department of Accounting and General Services will not permit any additional widening to its property on the makai/Ewa corner of the Vineyard Boulevard/Punchbowl Street intersection. Widening into this property would be necessary to accommodate the required transition for the makai-bound traffic lanes.

1.5 PROJECT SCHEDULE AND COSTS

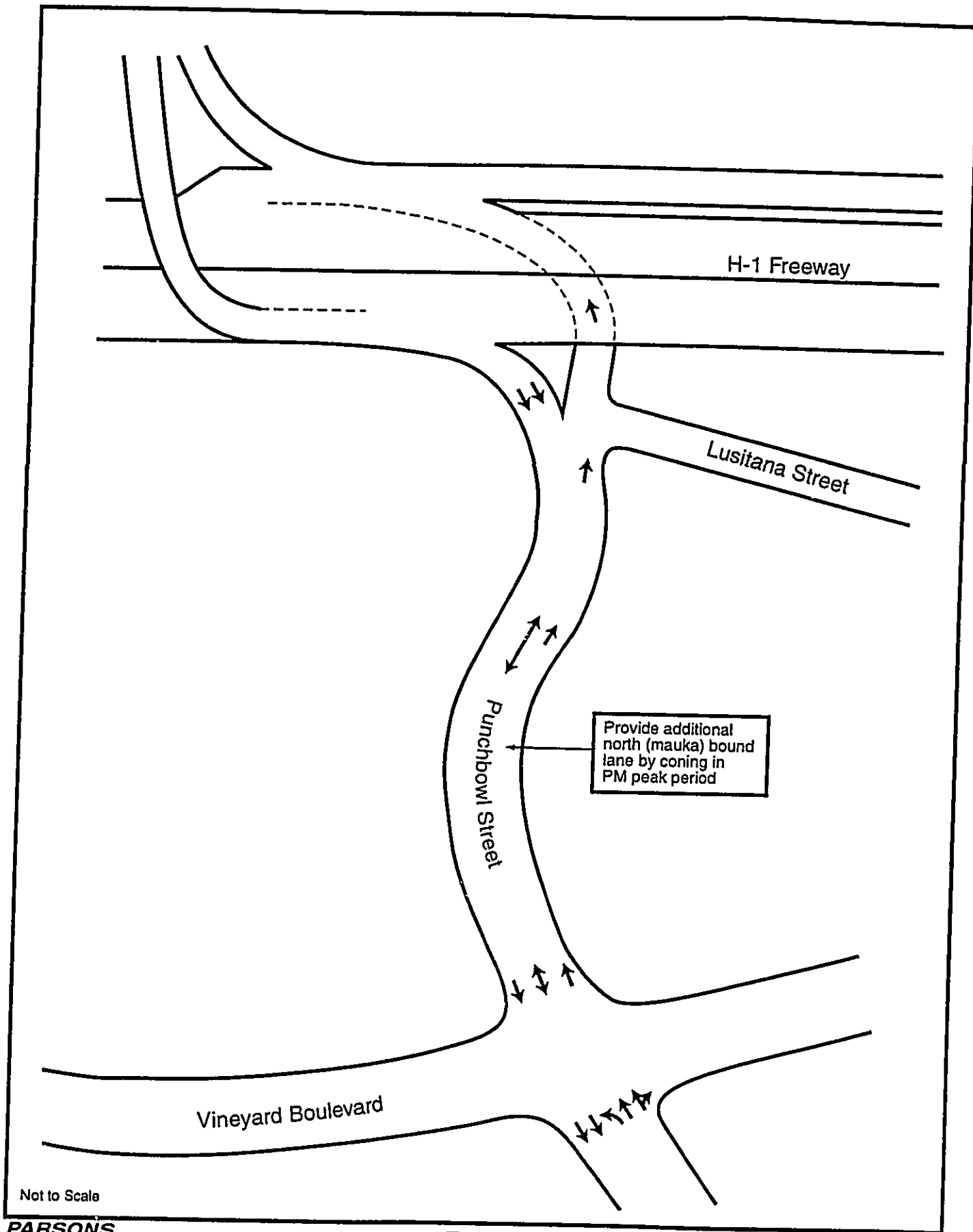
The present project schedule is shown on Table 1-2. Environmental review under HRS Chapter 343 is anticipated to be completed by late 1999. With construction anticipated to begin in early 2000, the proposed project is expected to be completed in early 2001.

Table 1-2
Project Schedule

Activity	Period
HRS Chapter 343 Environmental Review	Mid 1999 to Late 1999
Design and Right-of-Way Acquisition	Mid 1999 to Early 2000
Construction	Early 2000 to Early 2001

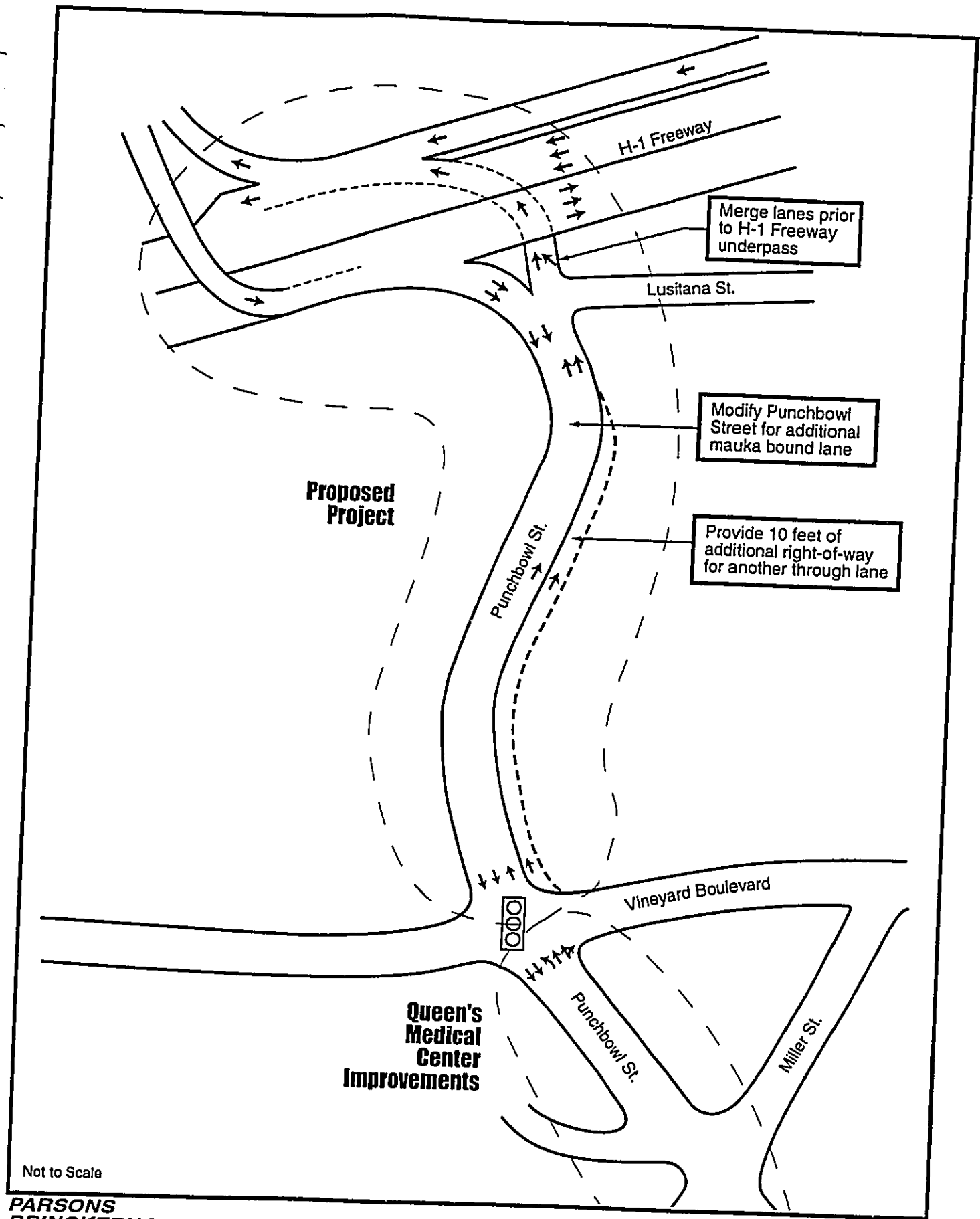
Source: City and County of Honolulu, Department of Design and Construction, 1999.

The estimated cost of the project is \$1.65 million in 1999 dollars. These estimates include roadway construction, utility relocations, landscaping, and right-of-way acquisition. This estimate is based on conceptual design. A more accurate cost estimate will be developed during final design.



PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

Transportation System Management Alternative
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 1-5



Not to Scale

**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

Build Alternative
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 1-6

CHAPTER 2 ENVIRONMENTAL SETTING, IMPACTS, AND PROPOSED MITIGATION

This chapter describes the existing environmental conditions of the project area. It also describes the short-term construction impacts and long-term impacts of the No Build Alternative and the Widening Alternative (proposed project). Where a short- or long-term impact is considered adverse, proposed mitigation measures are provided.

2.1 PHYSICAL ENVIRONMENT

2.1.1 Topography, Geologic Conditions and Soils

2.1.1.1 Existing Condition

The island of Oahu was formed by two shield volcanoes: the Waianae volcano and the Koolau volcano. The end of the Koolau volcanic activity brought a long erosion period of at least two million years. Volcanic activity then returned on the southeastern end of the Koolau range and more than 30 different eruptions formed lava flows, cinder cones, and tuff cones. These eruptions, scattered over a period of hundreds of thousands of years, are called the Honolulu Volcanic Series and include famous Oahu landmarks such as Punchbowl, Tantalus, Salt Lake, Diamond Head, and Koko Head.

The project site (see Figure 1-1) is located along the makai base of Punchbowl crater, a cinder cone formed during the Honolulu Volcanic Series. This area has elevation ranging from approximately 30 feet to 80 feet. The topography of the project site has a general grade of approximately 3 percent rising north (mauka). There is a rapid rise in elevation beyond the north (mauka) end of the project site (north of Interstate Route H-1), up to elevations of 500 feet at the top of Punchbowl Crater, and 2,000 feet further mauka along Pacific Heights on the Koolaus.

The project is located in an area with soil type Tantalus Silty Clay Loam (TCC). These soils are generally fine-grained, highly organic and well drained. This soil type is associated with slow runoff and slight erosion potential. However, these soils are apt to erode severely if protective measures are not taken. In most places the soils are more than 20 inches deep and are found on slopes of 8 to 15 percent, but can be found on slopes of up to 70 percent. Permeability in these soils is moderately rapid.

2.1.1.2 Hazardous Materials

A limited Phase I Environmental Site Assessment Report (Appendix B) was prepared for the identification of hazardous material sites within the study area (Dawson Environmental

Services, 1999). Federal, State and local records were reviewed for the presence of underground storage tanks (USTs) in the vicinity of the project site. The Jiffy Lube site within the project limits on Punchbowl Street was found on the UST and Leaking Underground Storage Tank (LUST) lists. This site is listed as having three USTs permanently out of service, associated with site clean-up that was completed in 1998. According to the State Department of Health (SDOH), there are no concerns of record presently associated with this site. In addition, a site visit confirmed that the USTs formerly present are no longer on the site, and no new USTs have been installed since the removal of the original ones.

2.1.1.3 Potential Impact

There are no adverse impacts expected in terms of USTs from the proposed project or the No Build Alternative. The Jiffy Lube facility poses no threat of obstruction to the right-of-way expansion of Punchbowl Street from USTs.

2.1.2 Water Resources

2.1.2.1 Existing Condition

The project site is located approximately 1.25 miles from the coastline, and away from any other water body. As a result, there is no surface water body in the project area.

Underlying all of southern Oahu is an extensive basal aquifer called the Southern Oahu Basal Aquifer (SOBA), which contains large supplies of fresh ground water. The SOBA was designated a sole or principal source aquifer by the U.S. Environmental Protection Agency (EPA) in November 1987. The project site lies within the Honolulu District of the SOBA.

According to the Flood Insurance Rate Map (FIRM), the proposed project site is not within a 50-, 100- or 500-year floodplain.

Wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. The project site does not have wetlands.

2.1.2.2 Potential Impact

After construction, since there are no surface water resources in the area, there are no adverse impacts on surface water resources expected from either the proposed project or the No Build Alternative. The project would have no effect on potable water supplied by the Southern Oahu Basal Aquifer. The project limits are not within the aquifer's recharge area and subsurface work associated with the project would not affect the aquifer. See Section 2.6.6 Site Runoff for discussion of construction activity related impacts and mitigation measures.

2.1.3 Biological Conditions

2.1.3.1 Existing Condition

The grounds of the privately owned Pacific Club on the Ewa side of the project contain landscaped plantings and trees. The Diamond Head side of the roadway contains a grassy strip along the sidewalk and some trees, most of which are within private lots. There are no known exceptional trees in the project site.

The proposed action is within a highly urbanized area of Honolulu. Terrestrial faunal habitats are modified and populated with introduced species.

2.1.3.2 Potential Impact

The landscaping at the Pacific Club will not be affected by the proposed project. Street trees will be required within the new roadway shoulder, in accordance with the new street planting standards of the City and County of Honolulu.

The No Build Alternative would maintain the existing landscaping.

2.1.4 Air Quality

2.1.4.1 Ambient Air Quality Standards

Air quality standards have been established by both federal and State governments which limit ambient concentrations of particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. In addition, a State standard has been established for hydrogen sulfide. The Hawaii air quality standards (particularly the carbon monoxide standards) are more stringent than the comparable national limits except for the standards for sulfur dioxide, particulate matter and lead, which are set at the same levels. The Hawaii air quality standards for carbon monoxide are set at 10 milligrams per cubic meter for a 1-hour average and 5 milligrams per cubic meter for an 8-hour average, whereas the federal 1-hour and 8-hour standards are set at 40 and 10 milligrams per cubic meter, respectively.

2.1.4.2 Existing Air Quality Conditions

Air quality in the vicinity of the proposed project is currently affected mostly by emissions from motor vehicle traffic on nearby roadways. The Hawaii Department of Health operates a network of air quality monitoring stations located at various sites around the State, including a downtown Honolulu monitoring station located very near the project area. Data that are available from the downtown Honolulu monitoring station and other nearby locations suggest that both State and national ambient air quality standards are currently being met in the project area, except possibly for the State standard for ozone. It should be noted, however, that carbon monoxide concentrations along sidewalks near traffic-congested intersections may be higher than concentrations measured at the Department of Health monitoring stations.

Estimates based on computer modeling of existing worst-case carbon monoxide concentrations along sidewalks in the project area are discussed below in conjunction with an assessment of the potential impacts of the project. See Appendix C for Air Quality Assessment by B. D. Neal and Associates in its entirety.

2.1.4.3 Air Quality Impacts of Project

The potential air quality impacts of the project near the intersection of Punchbowl Street and Vineyard Boulevard were evaluated using U.S. EPA-approved computerized emission and atmospheric dispersion models. Estimates of worst-case concentrations of carbon monoxide were made for present and future (2005) scenarios, with and without the project. The "future without project" scenario assumed that traffic volumes would remain substantially unchanged from the present, and that the intersection of Punchbowl Street and Vineyard Boulevard would remain as it is today. The results of this evaluation are summarized below in Table 2-1.

Table 2-1
Near-Intersection Concentrations
at Punchbowl and Beretania Streets

Scenario	Worst-Case 1-Hour Carbon Monoxide Concentration (mg/m ³)		Worst-Case 8-Hour Carbon Monoxide Concentration (mg/m ³)
	A.M.	P.M.	
1999 Existing	18.7	16.1	9.4
2005 Without Project	16.2	14.3	8.1
2005 With Project	15.2	14.5	7.6
Hawaii Standard	10		5
National Standard	40		10

Source: B.D. Neal and Associates, 1999.

In all three scenarios, the highest concentrations were predicted to occur during the morning peak-traffic period. As indicated in the table above, it is estimated that the worst-case existing carbon monoxide concentrations along sidewalks near the Punchbowl Street intersection with Vineyard Boulevard are below national standards, but exceed State standards by a large margin. In the year 2005 without the project, it is predicted that the highest worst-case concentrations would decrease by about 13 percent compared to the existing values. This is primarily due to the replacement of older, more polluting motor vehicles with new, less polluting vehicles over time. With the project, the highest (morning) worst-case concentrations in the year 2005 would likely decrease by about 6 percent compared to the "without project" scenario, and by about 19 percent compared to the existing situation. However, even with the improvement in air quality afforded by the project, worst-case concentrations of carbon monoxide would continue to potentially exceed State standards. The decrease in the projected highest (morning) worst-case concentrations with the project is attributable to the

substantially improved traffic operations at the intersection, which would reduce vehicle delay times, idling, traffic queuing and excess air pollution emissions associating with idling. These factors overpower the widening of the intersection, which will allow higher traffic volumes than at present.

Worst-case concentrations mid-block along Punchbowl Street mauka of Vineyard Boulevard were also evaluated based on estimated average travel speeds. The results of this evaluation are summarized in Table 2-2.

Table 2-2
Mid-Block Concentrations on Punchbowl
Street Mauka of Vineyard Boulevard

Scenario	Worst-Case 1-Hour Carbon Monoxide Concentration (mg/m ³)		Worst-Case 8-Hour Carbon Monoxide Concentration (mg/m ³)
	A.M.	P.M.	
1999 Existing	11.4	5.3	6.7
2005 Without Project	9.8	4.9	4.9
2005 With Project	8.8	7.5	4.4
Hawaii Standard	10		5
National Standard	40		10

Source: B.D. Neal and Associates

Carbon monoxide concentrations would be substantially lower mid-block compared to the intersection of Punchbowl Street and Vineyard Boulevard. Worst-case concentrations at this location would be well within the national standards for all scenarios, but the projected worst-case concentrations would exceed the State standards for the existing case. As at the near-intersection locations, the highest mid-block concentrations for all scenarios were predicted to occur during the morning. Without the project in the year 2005, it was estimated that the morning worst-case concentrations would decrease by about 14 percent and would meet the State standards by a small margin. With the project in the year 2005, the estimated morning worst-case concentrations decreased by 23 percent compared to the existing values, providing a larger margin of compliance with the State standards. Although the highest worst-case concentrations, which occur during the morning, were predicted to decrease somewhat with the project, afternoon worst-case concentrations with the project were estimated to increase by about 50 percent compared to the "without project" case.

In summary, worst-case carbon monoxide concentrations along sidewalks in the project area may currently exceed State standards, but comply with national limits. The proposed roadway improvements would result in a slight improvement in air quality near the intersection of Punchbowl Street and Vineyard Boulevard, and at mid-block areas mauka of this intersection, during the morning peak-traffic period when concentrations are highest. During the afternoon,

carbon monoxide concentrations with the project will likely increase but remain below the worst-case morning values. With or without the project, worst-case concentrations will likely continue to exceed the State standards at locations near this intersection. Predicted exceedances of the very stringent State standards for carbon monoxide are not unique to this area.

2.1.5 Noise

2.1.5.1 Existing Condition

A noise assessment study (Appendix D) was performed to analyze the proposed project (D.L. Adams Associates, Ltd., 1999). Noise measurements were taken at eight locations within the study area. Figure 2-1 shows the noise measurement locations. The dominant noise source at these locations was traffic from Punchbowl Street and other roadways. Existing ambient noise levels at these locations range from 59 to 70 dBA. This range is typical for urban areas near busy roadways. Table 2-3 shows existing noise levels at the measurement sites.

Table 2-3
Existing Noise Measurements

Measurement Location	Existing Noise Levels (Leq) in (dBA)	Duration of Measurement	Comments
1	59.0 dBA	10 min.	Dominant noise due to traffic on Punchbowl Street and Vineyard Boulevard. Voices from pool and dining areas also audible.
2	59.8	15 min.	Same as for Location 1.
3	67.8	10 min.	Traffic on Punchbowl Street and grinding noise from Pacific Club.
4	68.0	5 min.	Same as for Location 3.
5	63.4	10 min.	Dominant noise due to traffic on Punchbowl Street. Voices at playground also audible.
6	69.8	10 min.	Same as for Location 5.
7	63.6	6 min.	Traffic on Punchbowl Street and occasional distant emergency vehicle sirens.
8	66.9	5 min.	Dominant noise due to traffic on Punchbowl Street and H-1 Freeway.

Source: D.L. Adams Associates, Ltd., 1999.

Note: Leq is the equivalent sound level that represents a constant level of sound having the same total acoustic energy as that contained in the actual time-varying sound measured over a specific time period.

2.1.5.2 Potential Impact

Table 2-4 displays predicted future traffic noise levels for the morning and afternoon peak traffic hours with and without the proposed project. Traffic noise level increases due in part to the project's increased traffic would be equal to or less than 3.3 dBA at all but one location. Location 9 had a predicted noise level increase of 5.0 dBA. One reason for a larger increase at this location is the removal of the one-story tile building when the project is built. Under the No Build Alternative, this obstruction provided partial shielding and attenuated noise from the roadway to the receptor.

Table 2-4
Future Traffic Noise Levels

Location	Existing Noise Levels	Future No Build (Leq) (in dBA)		Future Build (Leq) (in dBA)		Increase Due to Project	
		A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
1	59.0	57.2	54.8	57.8	55.8	0.6	1.0
2	59.8	60.1	57.8	60.8	58.8	0.7	1.0
3	67.8	67.3	66.1	70.2	69.4	2.9	3.3
4	68.0	67.9	66.9	70.0	69.4	2.1	2.5
5	63.4	64.7	63.2	65.5	64.4	0.8	1.2
6	69.8	69.2	67.2	69.6	68.0	0.4	0.8
7	63.6	66.0	65.1	67.1	66.5	1.1	1.4
8	66.9	66.5	66.5	67.2	67.4	0.7	0.9
9	N/A	66.5	65.3	70.9	70.3	4.4	5.0
10	N/A	68.5	67.6	71.0	70.5	2.5	2.9

Source: D.L. Adams Associates, Ltd., 1999.

Note: Leq is the equivalent sound level that represents a constant level of sound having the same total acoustic energy as that contained in the actual time-varying sound measured over a specific time period.

2.1.5.3 Mitigation Measures

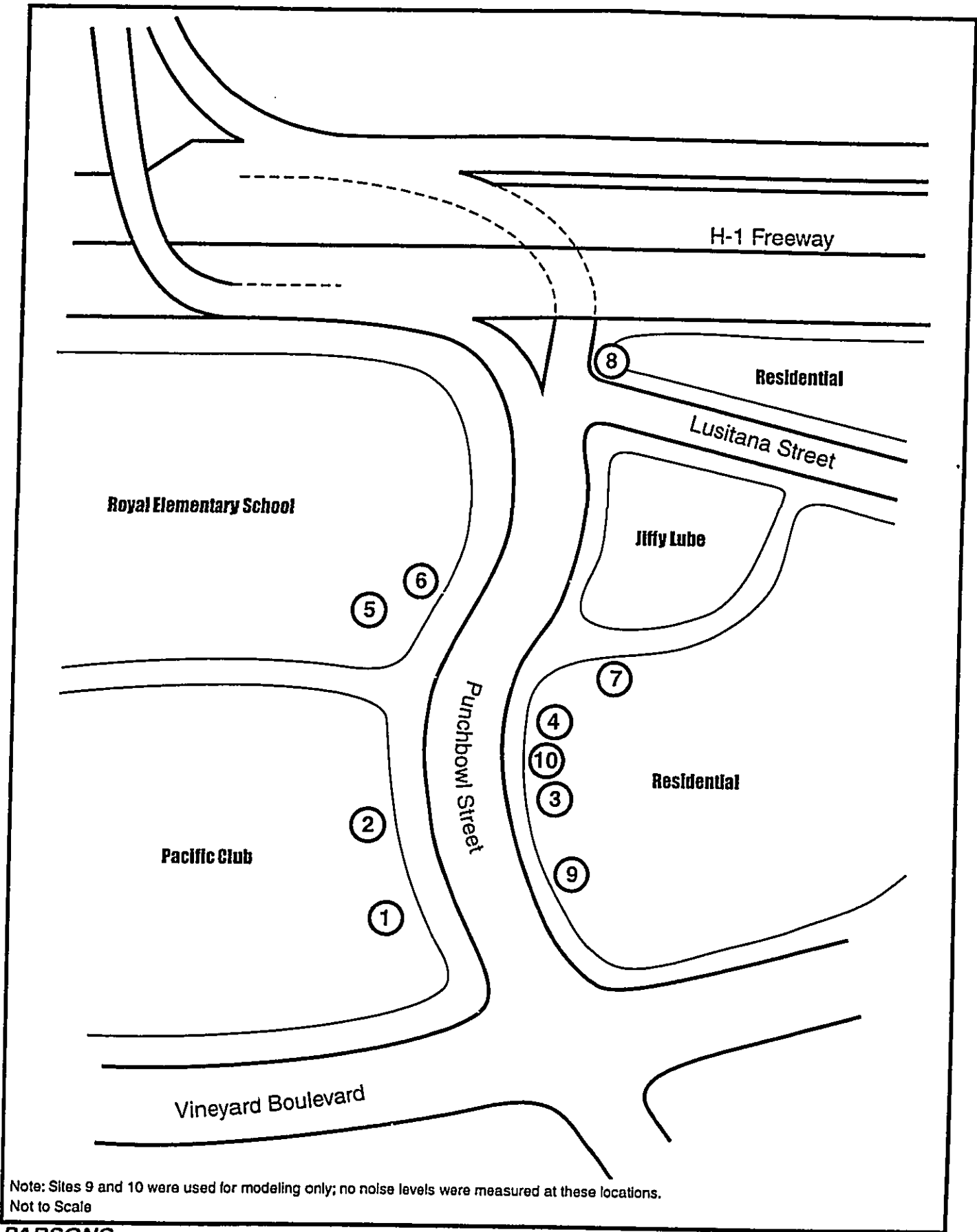
Although FHWA and SDOT policies are not required to be met since no federal funds are involved, traffic noise mitigation has been considered. DDC has determined that with the proposed property improvements, additional noise abatement measures will not be required.

2.2 SOCIAL ENVIRONMENT

2.2.1 Land Use

2.2.1.1 Existing Condition

The proposed project is located in an urban area of Honolulu. Land uses immediately adjacent to the project site are mostly residences. Other land uses include Royal Elementary



**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

**Noise Measurement Locations
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-1**

School and the Pacific Club, a private club on the Ewa side of the roadway, and Jiffy Lube, an automobile lubricating service shop, on the Diamond Head side of the roadway. The residences adjacent to the roadway include three single-family units, and three walk-up apartment buildings. Figure 2-2 displays the existing land uses immediately adjacent to the project site.

Land uses in the general vicinity of the project site are shown on Figure 2-3.

To the Ewa, Diamond Head and mauka of the project site, single-family and multi-family residences dominate. A majority of these units are two- and three-story walk-up apartments, but there is also a large number of single-family houses, as well as a few high-rise apartment buildings. Areas mauka of the project site, including the National Cemetery of the Pacific in Punchbowl Crater, are physically separated by the H-1 Freeway. The area Ewa of Punchbowl Street contains a variety of land uses, such as parks, a YMCA, a shopping center, and Foster Botanical Garden.

Land uses to the south (*makai*) of the project site include Queen's Medical Center, the State Capitol, Honolulu Hale, several State and City and County office buildings, and downtown Honolulu. The area *makai* of the project site also contains several visitor attractions, such as Iolani Palace, the War Memorial, Washington Place, King Kamehameha Statue and Kawaiahao Church.

2.2.1.2 Potential Impact

Since the area surrounding the project site is already fully developed, there will be no new development resulting from the proposed project or the No Build Alternative.

Although the land use in the project area will not change, there will be changes to several of the driveways along Punchbowl Street. To provide for the wider right-of-way, the City and County will acquire frontages of private properties on the Diamond Head side of Punchbowl Street in accordance with HRS Chapter 101. The right-of-way acquisition will range from approximately 9 to 14 feet from properties on the Diamond Head side of the road. Table 2-5 describes the estimated right-of-way acquisition for each property.

A total of about 9 parking spaces at 1475 and 1487 Punchbowl Street will be removed as a result of this project. In addition, one garage structure at 1475 Punchbowl Street will be demolished. A one-story tile storage building at 1459 Punchbowl Street will be demolished and reconstructed within the same parcel.

The City is currently evaluating roadway alignment alternatives that may require an easement from the State for the use of a vacant portion of the parcel on the *makai*/Ewa corner of the Punchbowl Street and Vineyard Boulevard intersection (approximately 1,200 square feet).

**Table 2.6
Right-of-Way Impacts**

Property Address	Estimated Right-of-Way Acquisition	Notes
1449 Punchbowl Street (TMK 2-1-22:11)	390 ft ²	Multi-family residential; reconstruct trash enclosure and driveway.
1459 Punchbowl Street (TMK 2-1-22:12)	1,405 ft ²	Single-family dwelling; demolish white concrete rectangular storage building; reconstruct driveway and storage building
1475 Punchbowl Street (TMK 2-1-22:13)	670 ft ²	2 single-family dwellings; demolish garage, remove 4 parking spaces; replacement parking to be provided at 1481 Punchbowl
1481 Punchbowl Street (TMK 2-1-22:14)	None	Property being acquired by City; 2 single-family dwellings; reconstruct driveway, demolish buildings to provide replacement parking for 1475 and 1487 Punchbowl Street
1487 Punchbowl Street (TMK 2-1-22:15)	165 ft ²	Multi-family residential; reconstruct driveway, remove 4 parking stalls; replacement parking to be provided at 1481 Punchbowl
1489 Punchbowl Street (TMK 2-1-22:1)	None	Jiffy Lube; reconstruct driveway

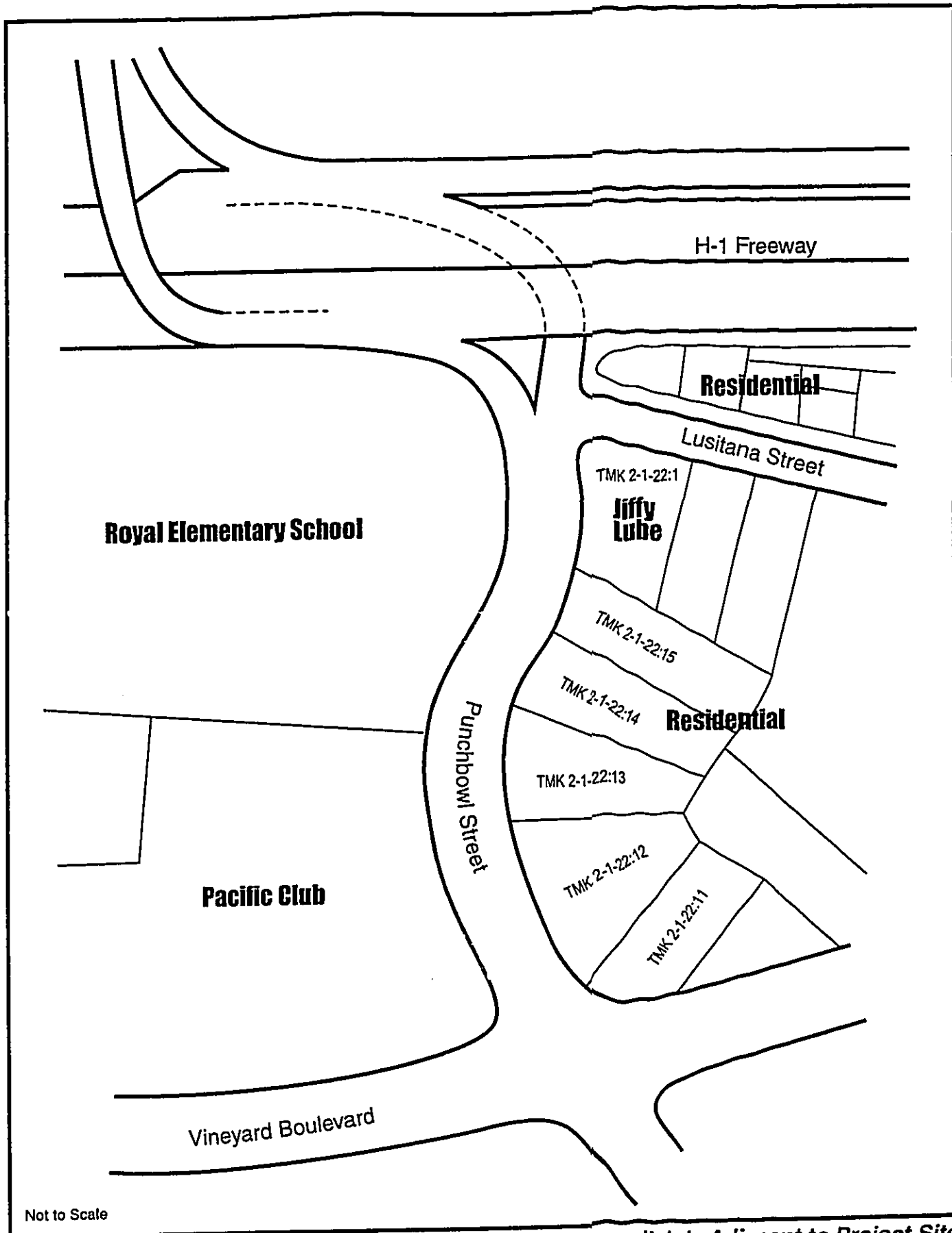
Source: City and County of Honolulu, Department of Design and Construction, 1999.

2.2.1.3 Mitigation Measures

The driveways disturbed by the construction will be reconstructed as part of the project. Each affected owner will be reimbursed at fair market value for the loss of property in accordance with HRS Chapter 111, Assistance to Displaced Persons.

The City and County is purchasing the property for sale at 1481 Punchbowl Street as it will use this property to replace the parking spaces that would be lost at 1475 and 1487 Punchbowl Street due to the right-of-way expansion. Additional mitigation measures are:

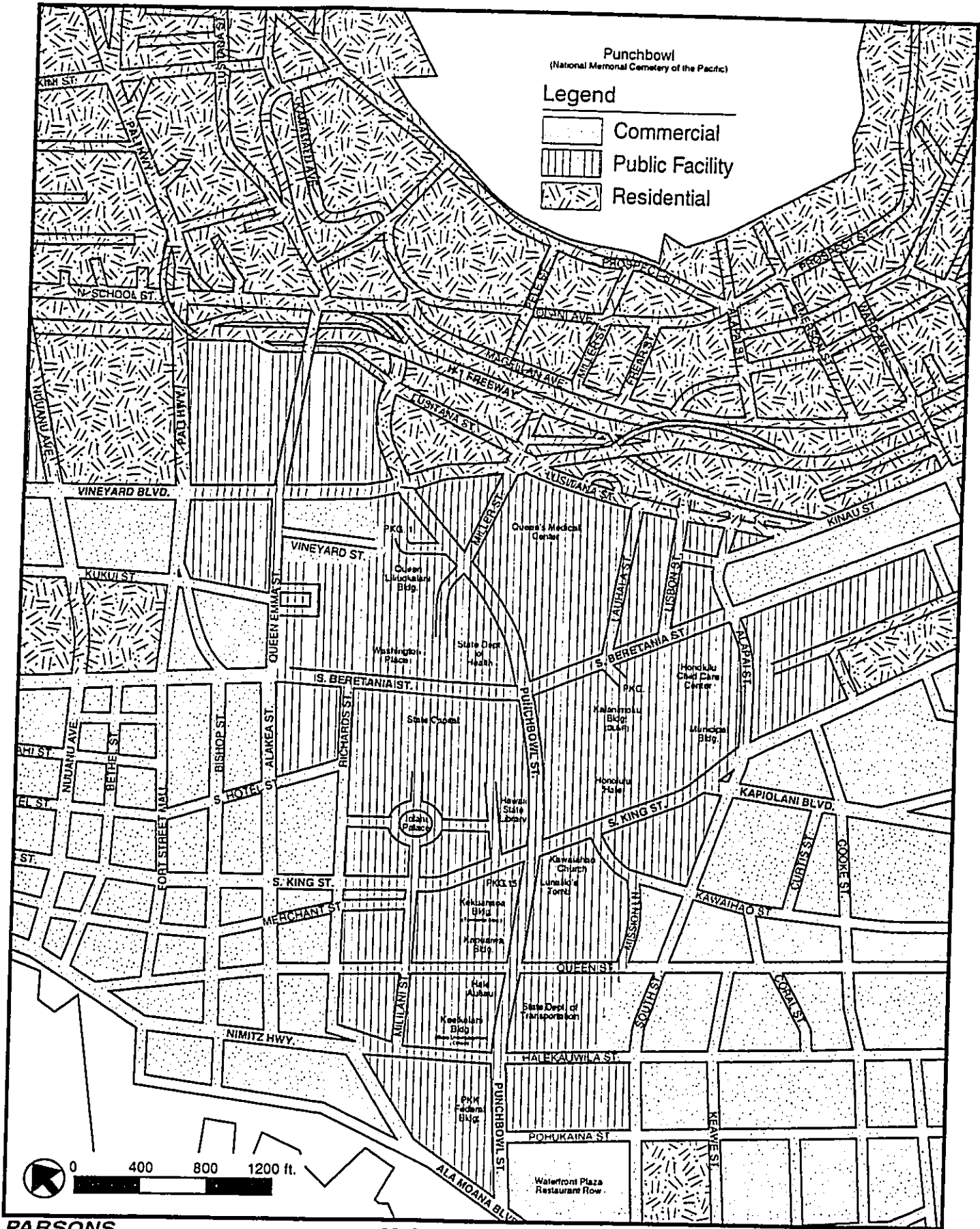
- Reconstruction of trash enclosure at 1449 Punchbowl Street
- Reconstruction of storage building at 1459 Punchbowl Street



Not to Scale

**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

**Land Uses Immediately Adjacent to Project Site
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY**
Final Environmental Assessment
FIGURE 2-2



**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

**Major Land Uses in the General Vicinity of Project Site
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-3**

2.2.2 Social and Economic Activities

2.2.2.1 Existing Condition

The project is located in Census tract 41. Census tract 42 is the neighboring tract but will not be affected by the proposed action. Table 2-7 displays demographic information for these two census tracts. This table also contains figures for the State of Hawaii and the County of Honolulu. According to the U.S. Census Bureau, these two census tracts had a population of 7,352 in 1990.

The proportions of females in each of these census tracts were higher than the proportions of females in the State and County. Whites made up more than 31 percent of the population and residents of Japanese descent accounted for over 21 percent of the population in each of these census tracts. Census tracts 41 and 42 had higher proportions of Chinese and Korean residents than the State and the County. There were lower proportions of Filipino and Hawaiian residents in these census tracts than in the State and the County.

2.2.2.2 Housing

Housing information for the project area is shown in Table 2-8. There was a total of 3,737 housing units in census tracts 41 and 42. The majority of these units are in multifamily structures. Census tract 42 had no single-family homes, and 92 percent of the housing units are in structures with 50 or more units. Only 6 percent of the homes in census tract 41 were single family residences, and 78 percent of the units are in structures with 10 or more units. Homeownership in these census tracts was low, with 70 percent of the housing units in each tract being rented. In fact, the renter/owner ratios in these census tracts were almost three times higher than the ratios for the State and County. In 1990, the median age of the housing units in these tracts was 19 years, slightly lower than the State and County medians.

2.2.2.3 Income

Median household income in census tracts 41 and 42 was generally lower than the State and County medians (See Table 2-9). Census tract 41 had a median household income of \$26,908. Median income in Census tract 42 was slightly higher at \$32,095. In comparison, Oahu's median household income was \$40,581, and the statewide median income was \$38,829.

Poverty rates in the project study area were slightly higher than the State and County rates. Approximately 650 people in Census tracts 41 and 42 had incomes below the poverty level in 1990, making up approximately 10 percent of the population in these tracts. For the State and County, poverty rates were 8 and 7 percent respectively.

Table 2-7
Demographic Information for Hawaii, County of Honolulu,
and Census Tracts 41 & 42

	State		County		Census Tract 41		Census Tract 42	
	Number	%	Number	%	Number	%	Number	%
Population	1,108,229	-	836,231	-	4,680	-	2,672	-
Gender								
Males	564,338	51%	426,606	51%	2,288	49%	1,252	47%
Females	543,891	49%	409,625	49%	2,392	51%	1,420	53%
Race								
White	370,270	33%	264,767	32%	1,486	32%	962	36%
Black	26,669	2%	25,711	3%	117	3%	73	3%
Chinese	68,769	6%	63,354	8%	500	11%	410	15%
Filipino	168,232	15%	119,053	14%	453	10%	146	5%
Japanese	252,291	23%	198,732	24%	1,010	22%	666	25%
Korean	24,361	2%	22,664	3%	273	6%	170	6%
Vietnamese	5,557	1%	5,283	1%	31	1%	0	0%
Other Asian	7,935	1%	7,028	1%	79	2%	44	2%
Hawaiian	135,263	12%	90,174	11%	428	9%	169	6%
Pacific Islander	23,983	2%	21,122	3%	115	2%	14	1%
Other Race	24,899	2%	18,343	2%	188	4%	18	1%
Households	356,748	-	265,625	-	2,114	-	1,513	-
Families	266,439	-	199,597	-	993	-	627	-

Source: U.S. Census Bureau, 1990.

2.2.2.4 Economic Activity

The major employment centers on Oahu are downtown Honolulu and Waikiki. The project site is located downtown, approximately one mile from the central core of the downtown area. The major employer near the site is Queens Medical Center. The State Capitol and State office buildings are also major employment centers in the immediate area.

2.2.2.5 Potential Impact

The residential area on the Diamond Head side of the project site would be affected through right-of-way acquisition, and, in addition, two single-family homes will be demolished. The project could cause some inconvenience to residents in getting out of their driveways. However, affected property owners will be financially compensated by the City and County for property acquisition. Overall, the project's anticipated adverse impacts on the social and economic conditions of Punchbowl between Vineyard Blvd. and Lusitana Street will not be significant. The community benefit of improving mauka-bound roadway capacity to the H-1 on-ramp will be greater.

The No Build Alternative would not result in any of these impacts to residential properties. On the other hand, the community benefit of improved access on Punchbowl Street to the H-1 on-ramp would not be realized under the No Build Alternative. The project would not lead to gentrification in the area or increases in residential property values. There would be no changes to zoning or land use, so the project would be compatible with the Primary Urban Center development plan.

Table 2-8
Housing Information for Hawaii, County of Honolulu, and Census
Tracts 41 & 42

	State		County		Census Tract 41		Census Tract 42	
	Number	%	Number	%	Number	%	Number	%
Number of Units in Structure								
1 detached	203,193	52%	126,350	45%	80	4%	0	0%
1 attached	34,009	9%	28,859	10%	52	2%	0	0%
2	8,589	2%	6,362	2%	8	0%	5	0.3%
3-4	15,480	4%	12,983	5%	121	6%	0	0%
5-9	22,423	6%	18,541	7%	192	9%	0	0%
10-19	21,538	6%	16,844	6%	374	17%	19	1%
20-49	22,173	6%	17,885	6%	401	18%	66	4%
50 or more	56,824	15%	49,961	18%	931	43%	1,429	92%
Other	5,581	1%	3,898	1%	31	1%	28	2%
Total Housing Units	389,810	100%	281,683	100%	2,190	100%	1,547	100%
Home Ownership								
Owner Occupied	191,894	49%	137,893	49%	557	25%	421	27%
Renter Occupied	164,373	42%	127,411	45%	1,539	70%	1,087	70%
Rent/Own Ratio	0.86		0.92		2.76		2.58	
Median Age of Structure	20 years		22 years		19 years		19 years	

Source: U.S. Census Bureau, 1990.

Short-term employment would increase with the proposed project as a result of construction activities. However, no changes in long-term employment opportunities are anticipated since the proposed project is not a precondition of continuing development in the area. The project could affect long-term property values of affected lots because lot sizes will be reduced.

2.2.3 Recreational Activities

2.2.3.1 Existing Condition

The recreational facilities in this area include a privately owned club, parks, and visitor attractions.

- The Pacific Club, a privately owned club;
- Kamamalu Neighborhood Park;
- Foster Botanical Garden;
- Beretania Park;
- Dole Community Park;
- Thomas Square;
- Neal Blaisdell Center;
- Punchbowl Crater which houses the National Memorial Cemetery of the Pacific;
- Iolani Palace;
- King Kamehameha Statue;
- Kawaiahao Church; and
- Mission Houses Museum.

The locations of these recreational facilities are shown in Figure 2-4.

Table 2-9
Median Household Income and Poverty Rates for Hawaii, County of Honolulu
and Census Tracts 41 & 42

	State		County		Census Tract 41		Census Tract 42	
	Number	%	Number	%	Number	%	Number	%
Median Household Income	\$38,829	-	\$40,581	-	\$26,908	-	\$32,095	-
Total Above Poverty Level:	982,944	92%	743,111	93%	3,722	90%	2,427	91%
0-17 years	243,574	23%	180,260	22%	608	15%	205	8%
18-34 years	270,716	25%	213,554	27%	1,430	34%	547	21%
35-59 years	311,440	29%	233,100	29%	1,250	30%	901	34%
60 years & over	157,214	15%	116,197	14%	434	10%	774	29%
Total Below Poverty Level:	88,408	8%	60,093	7%	424	10%	235	9%
0-17 years	31,944	3%	21,064	3%	23	1%	23	1%
18-34 years	25,307	2%	18,080	2%	111	3%	79	3%
35-59 years	18,836	2%	12,287	2%	127	3%	74	3%
60 years & over	12,321	1%	8,662	1%	163	4%	59	2%

Source: U.S. Census Bureau, 1990.

2.2.3.2 Potential Impact

There are no adverse impacts on recreational facilities anticipated from either the proposed project or the No Build Alternative.

2.2.4 Historic Sites

2.2.4.1 Existing Condition

There are several older structures abutting the project site. The ages of homes along Punchbowl Street in the vicinity of the project site range from 29 years to 89 years. The average age of these structures is 53 years.

A Historic Inventory Survey (September 1991, Mason Architects) was conducted on the residential properties at 1475 Punchbowl Street (TMK 2-1-22:13) and 1481 Punchbowl Street (TMK 2-1-22:14) which will be affected by the street widening project. A complete report of this survey can be found in Appendix E. Field checks, file and literature research at the State Historic Preservation Division (SHPD), and historic photo and map searches were done at the State Archives, State of Hawaii Library, Bureau of Conveyances, and the City and County Property Tax Office. No original construction drawings were found for any of the buildings.

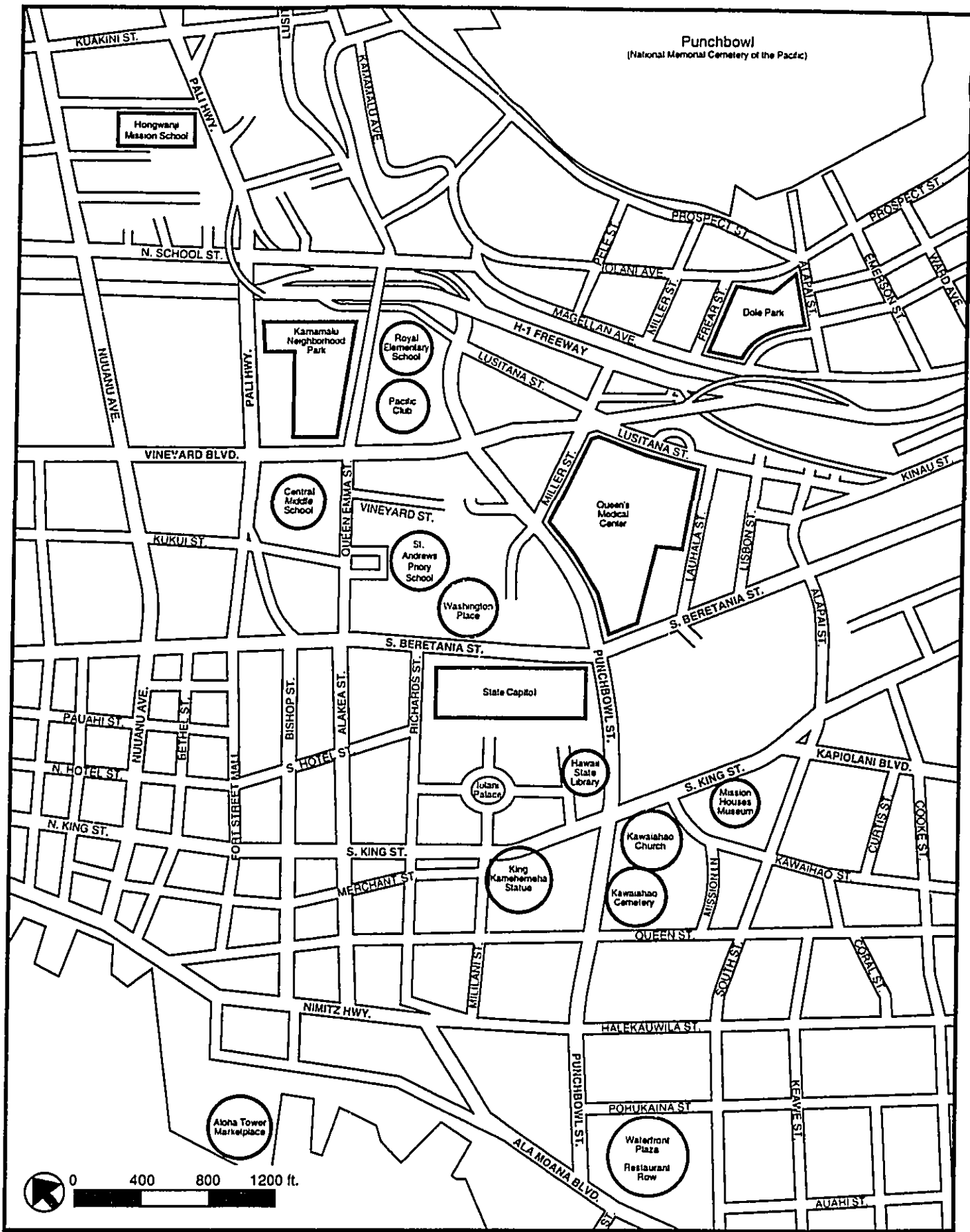
The residences included in this study meet the National Register of Historic Places "Criterion A" for their association with the "broad patterns of our history," as remnants of a once thriving Portuguese residential neighborhood on the northwest flank and foot of Punchbowl Crater (Mason Architects, August 1999). The majority of the lots in this subdivision were purchased by Portuguese immigrants. Street names in this area reflect the dominance of Portuguese culture. Lusitana Street was named for the Portuguese Welfare Society, whose members were largely immigrants from the Azores who arrived in Hawaii in 1883.

The buildings also meet the National Register of Historic Places "Criterion C" since they "embody the distinctive characteristics of a type, period, or method of construction." The Craftsmen-Style architectural elements, such as decorative bracketing and rafters, ornamental windows, and lava rock piers and wood columns, make these homes more distinctive than many other structures of the period.

The residential structure at 1459 Punchbowl Street (TMK 2-1-22:12) also meets the age criterion for the National Register of Historic Places. However, because the structure would not be affected by the project, it was not included in the survey.

2.2.4.2 Potential Impact

Other than the loss of the garage building, demolition of the garage structure at 1475 Punchbowl Street, structure constructed circa 1921, and the relocation of the sidewalk and street closer to the buildings (in the current parking area), the project will not adversely affect the structures at 1475 Punchbowl Street. However, the demolition of the garage structure at 1475 Punchbowl Street and the structures at 1481 Punchbowl Street will contribute further to the loss of setting and association with historic events.



**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

**Recreational and Public Facilities in Vicinity of Project Site
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-4**

2.2.4.3 Mitigation Measures

To mitigate the proposed demolition of the single car garage at 1475 Punchbowl Street and the two homes at 1481 Punchbowl Street, the structures on both parcels will be documented prior to their demolition. The appropriate level of documentation will be recommended by SHPD and agreed to by the City and County of Honolulu. In a letter dated October 29, 1999, SHPD concurred with "recommendations regarding mitigation measures for adverse effect the project will have on historic sites." (D. Hibbard, LOG No: 24250). Chapter 6E coordination activities between the SHPD and the City and County will continue through completion of documentation of the historic structures.

2.2.5 Visual and Aesthetic Resources

2.2.5.1 Existing Condition

The project area is located in an urban setting. The landscaping within the Pacific Club grounds provides one scenic view that is close to the project site. However, this view is limited due to the high rock wall encircling the grounds of the club. While traveling towards the mountains (mauka) on Punchbowl Street, there is a scenic vista of the slopes of Punchbowl Crater, an inactive volcano. In fact, this view of Punchbowl Crater from Punchbowl Street is designated by the City and County of Honolulu as a viewing site in the Punchbowl Special District (See Section 2.5.2.4 and Figure 2-9). With this special designation, preservation of special viewsheds is ensured. Further south (makai) of the project site, Punchbowl Street is tree-lined. This landscaping provides another scenic view from the project site.

2.2.5.2 Potential Impact

There are no visual impacts anticipated from the proposed project or the No Build Alternative. The Punchbowl Special District view plane will not be affected.

2.3 INFRASTRUCTURE

2.3.1 Transportation

2.3.1.1 Existing Roadway System

Generally, the dominant highways on Oahu parallel the coastline and carry west-east or outbound-inbound traffic. Major Diamond Head - Ewa highways and arterial streets in the vicinity of the proposed project are the Interstate H-1 Freeway, Vineyard Boulevard, Beretania Street, South King Street, and Ala Moana Boulevard. Major mauka-makai highways and arterial streets in the vicinity of the proposed project include Punchbowl Street, Queen Emma Street, Alakea Street, Pali Highway, Bishop Street, Alapai Street and South Street. In addition,

there are numerous Diamond Head-Ewa and mauka-makai minor or collector roadways in the vicinity. Figure 1-3 shows the roadway system in the vicinity of the project.

Freeways and Major Highways

H-1 Freeway is part of Oahu's interstate system that forms the backbone of Oahu's roadway network. H-1 is a Diamond Head - Ewa freeway and is approximately 26 miles long. Its limits are from Ewa on the west side of the island to Kahala on the east side of Honolulu. Other freeways of the interstate system are H-2, which connects H-1 to central Oahu, and H-3, which connects H-1 in Halawa with Kaneohe Marine Base on the windward side of the island. H-1 carries more traffic than any other roadway on Oahu. The posted speed limit on H-1 in Honolulu is 50 mph.

Pali Highway is one of the three major arterial trans-Koolau roadways connecting the leeward and windward sides of the island. The highway has four lanes, with two lanes in each direction. Its makai-bound to Koko Head-bound off-ramp to the H-1 Freeway also provides access to Punchbowl Street. The posted speed limit on Pali Highway in Honolulu is 35 mph.

Punchbowl Street

Punchbowl Street is a principal north-south arterial roadway that provides direct access between the H-1 Freeway, and downtown Honolulu, the Capital District, the Civic Center, and Kakaako. These areas are some of Oahu's largest employment and public service centers. The mauka terminus of Punchbowl Street is an Koko Head-bound off-ramp and an Ewa-bound on-ramp to the H-1 Freeway. Both ramps also connect with Pali Highway. The makai terminus of Punchbowl Street is Ala Moana Boulevard. On-street parking is permitted on both sides of Punchbowl Street between Beretania Street and Pohukaina Street. There is no parking allowed on Punchbowl Street within the project limits. The posted speed limit on Punchbowl Street is 25 mph.

The section of Punchbowl Street (mauka) of Lusitana Street includes a one-lane tunnel under the H-1 Freeway. This tunnel provides access to the Ewa-bound freeway on-ramp for mauka-bound travelers on Punchbowl Street.

Punchbowl Street consists of four main segments of different lane configurations (see Figure 2-5). Segment 1 between Lusitana Street and Vineyard Boulevard is three lanes wide with two lanes makai-bound and one lane mauka-bound. Segment 2 between Vineyard Boulevard and Beretania Street is four lanes wide with two lanes in each direction. As described in Section 1.2, Queen's Medical Center is planning to widen the section of Punchbowl Street from Vineyard Boulevard to Miller Street. Segment 3, between Beretania Street and South King Street, is four lanes wide with three lanes -makai-bound and one lane mauka-bound. Segment 4 between South King Street and Ala Moana Boulevard is one-way makai-bound with the number of lanes varying from three to five. The City and County is planning to convert this section of Punchbowl Street to two-way operation, with three lanes makai-bound and one lane mauka-bound. All intersections on Punchbowl Street are signalized except for Lusitana Street, Miller Street and Pohukaina Street.

Major Arterial Roadways

Vineyard Boulevard is a principal arterial providing east-west circulation through the Palama, Liliha, Nuuanu, and downtown areas. It is a six-lane divided roadway with left turn lanes at

major intersections. In the vicinity of Punchbowl Street, parking is not permitted. The posted speed limit on Vineyard Boulevard is 30 mph.

Beretania Street is a one-way principal arterial providing east to west circulation from Moiliili to Iwilei. Near Punchbowl Street, the number of lanes on Beretania Street varies from five to six, and parking is not permitted. The posted speed limit on Beretania Street is 30 mph.

King Street is a principal arterial providing east-west circulation from Kalihi to Kaimuki. The roadway is called North King Street from Kalihi to Nuuanu Avenue, and South King Street from Nuuanu Avenue to Kaimuki. It is a one-way Koko Head-bound roadway from Iwilei to Kaimuki. Near Punchbowl Street, the number of lanes on King Street varies from five to six, and parking is permitted on the mauka side. The posted speed limit on King Street is 30 mph.

Queen Emma Street, Alakea Street, and Bishop Street are the principal mauka-makai arterials providing circulation in the downtown Honolulu area. At Kukui Street, Queen Emma Street changes to Alakea Street. Alakea Street is one-way mauka-bound, and Bishop Street is one-way makai-bound. These streets form a one-way couplet.

South and Alapai Streets are arterials providing north-south circulation through Kakaako. South Street between Ala Moana Boulevard and Pohukaina Street is a four-lane two-way roadway. North of Pohukaina Street, the road transitions to one-way with four to five lanes. South Street changes to Alapai Street, a four- to five-lane one-way roadway, at Kapiolani Boulevard. Parking is permitted on both sides of South Street between Pohukaina Street and Kapiolani Boulevard. There is no parking on Alapai Street. The posted speed limit on both roads is 25 mph.

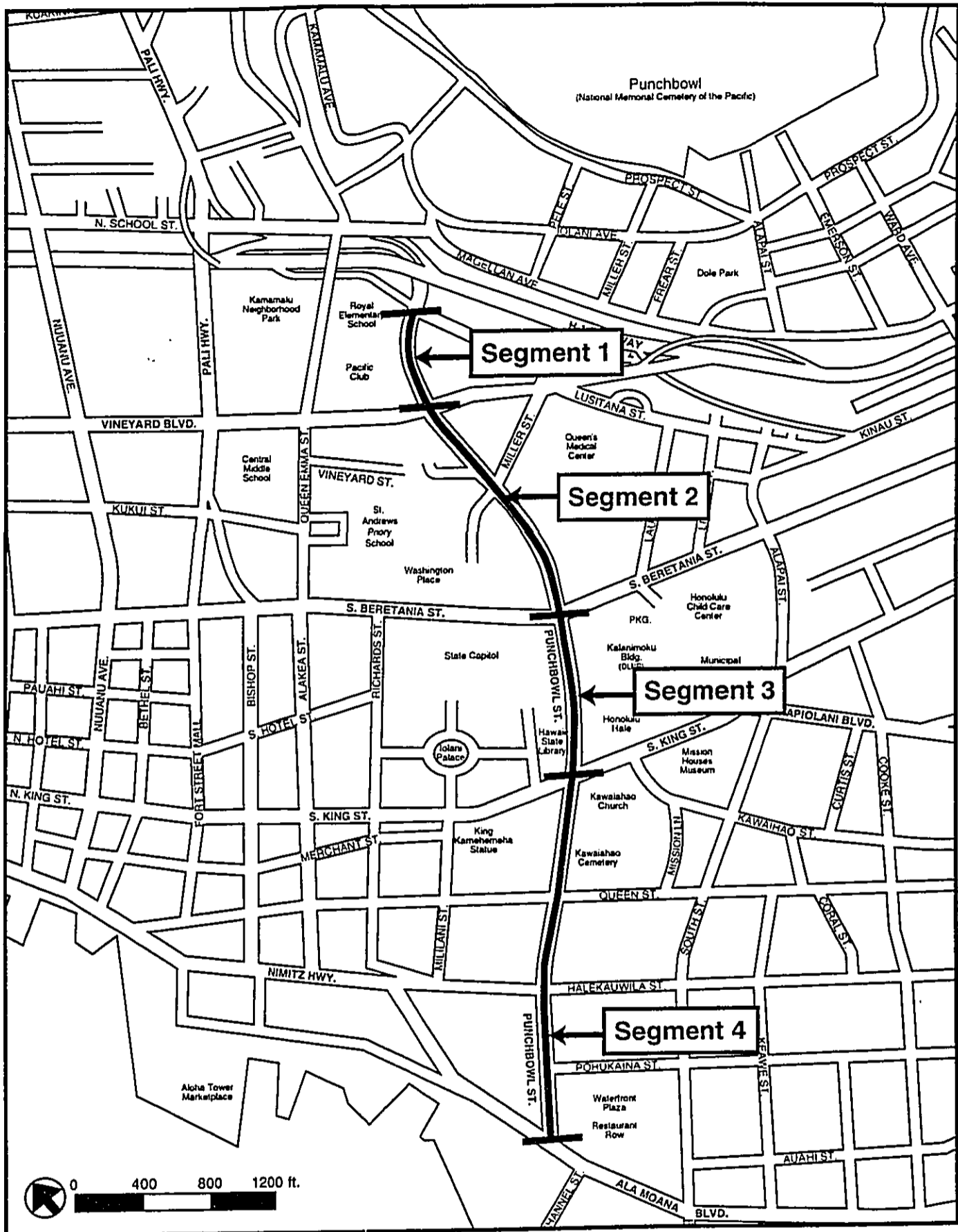
Minor Roadways

Lusitana Street is a two-lane local road providing east-west circulation in the residential neighborhood between Vineyard Boulevard and H-1 Freeway. Parking is permitted on both sides of the road. Its posted speed limit is 25 mph.

Miller Street is a two-lane local road providing east-west circulation between Vineyard Boulevard and Punchbowl Street. Only Queen's Medical Center accesses Miller Street in this segment. Parking is permitted on the mauka side of the road. The posted speed limit is 25 mph.

2.3.1.2 Existing Traffic Volumes

Traffic turning movement counts were conducted at selected intersections during the week of September 21, 1998. The A.M. and P.M. peak hours were found to occur from 7:15 to 8:15 A.M. and from 4:00 to 5:00 P.M., respectively. Figures 2-6 and 2-7 show the existing A.M. and P.M. peak hour traffic volumes for each turning movement at the selected intersections.



**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

**Punchbowl Street Segments
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-5**

2.3.1.3 Parking

There is no parking allowed on Punchbowl Street within the project limits. Currently, residents park in private driveways along Punchbowl Street. The right-of-way expansion will result in a loss of private parking for the homes along the east side of Punchbowl Street (See Section 2.2.1.3).

2.3.1.4 Potential Impact on Traffic Operations

The proposed project will widen Punchbowl Street between Vineyard Boulevard and the H-1 Freeway underpass by one lane in the mauka-bound direction, thus relieving the major traffic bottleneck in this area. The proposed project most benefits P.M. peak hour operations. During the morning peak, congestion on Punchbowl Street is not related to the mauka-bound vehicles on Punchbowl Street, mauka of Beretania Street. The proposed improvements will work in conjunction to the roadway improvements that will be completed by Queen's Medical Center on Punchbowl Street between Miller Street and Vineyard Boulevard.

A secondary impact could be inducing more traffic into the Punchbowl Street corridor as flow is improved. The Civic Center area is not projected to grow significantly in the future, and, therefore, traffic growth is not likely. However, to account for this potential, a 50 percent increase in traffic volume at the Vineyard/Punchbowl intersection was tested and it was found that this added demand could be handled by the build alternative, because of the additional laneage. The improved traffic throughput gained by widening Punchbowl Street between Vineyard Boulevard and Lusitana Street will allow approximately 50 percent more vehicles to move through the Vineyard Boulevard/Punchbowl Street intersection. Table 2-10 compares the existing and proposed project Levels of Service (LOS) for the Punchbowl Street/Vineyard Boulevard and the Punchbowl Street/Beretania Street intersections.

Table 2-10
Intersection Operations Analysis

Intersection/Movement	Existing Condition				Future Build			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Punchbowl/Vineyard	F	60.0+	F	60.0+	D	34.1	D	31.4
Koko-Head-Bound	D	42.5	E	51.4	D	36.4	D	36.3
Ewa-Bound	D	29.1	D	31.9	D	29.0	C	24.6
Mauka-Bound	F	60.0+	F	60.0+	D	36.5	D	27.7
Makai-Bound	E	52.0	C	16.2	D	36.7	D	32.4
Punchbowl/Beretania	B	14.9	F	60.0+	B	15.0	E	47.7
Ewa-Bound	B	8.9	F	60.0+	B	8.7	E	58.4
Mauka-Bound	--	--	--	--	C	18.4	D	32.8
Makai-Bound	D	26.9	C	18.3	D	26.9	C	18.3

With the increased throughput of traffic from the Vineyard Boulevard/Punchbowl Street intersection, an associated potential impact is the effect on the operations of the H-1 on-ramp.

Although this section of the H-1 Freeway is extremely congested during the peak hours, the H-1 on-ramp processes the existing traffic from the Vineyard Boulevard/Punchbowl Street intersection.

The No Build Alternative will not improve traffic conditions and the traffic queues will remain.

2.3.1.5 Mitigation Measures

Parking

The City and County of Honolulu will purchase the property located at 1481 Punchbowl Street. The buildings on this lot will be demolished. The lot will be developed as replacement parking for those spaces lost due to the right-of-way expansion.

H-1 On-Ramp

The signal timing for the Vineyard Boulevard/Punchbowl Street intersection traffic signal will be adjusted, as necessary, to control the queuing on the H-1 on-ramp. In addition, should the State Department of Transportation decide at a later date to implement ramp metering at this location, the construction contract will include the necessary provisions for the infrastructure (conduits and pullboxes) of a ramp metering signal at the Punchbowl Street/Lusitana Street intersection.

2.4.1 Utilities

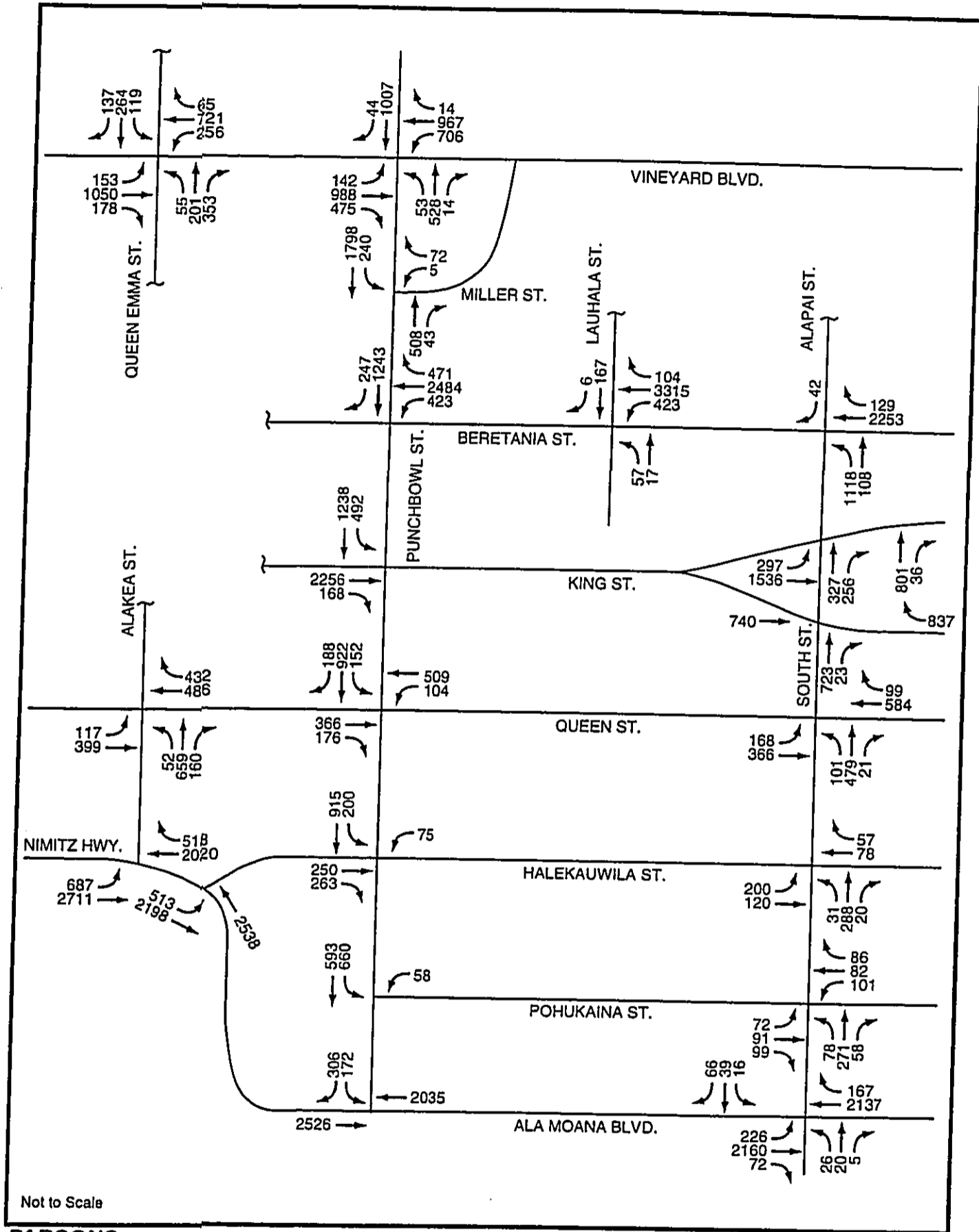
2.4.1.1 Existing Condition

Water lines within the project limits run underneath Punchbowl Street. An eight-inch main runs underneath Punchbowl Street. A sanitary sewer main connecting to Sand Island Wastewater Treatment Plant runs underneath Punchbowl Street. The storm drains under the sidewalks along Punchbowl Street collect storm water runoff, which is ultimately discharged into Honolulu Harbor.

Street lighting is provided along Punchbowl Street within the project limits. The lights are located primarily on the Ewa side of the roadway. Electric and telephone lines along Punchbowl Street are aerial lines.

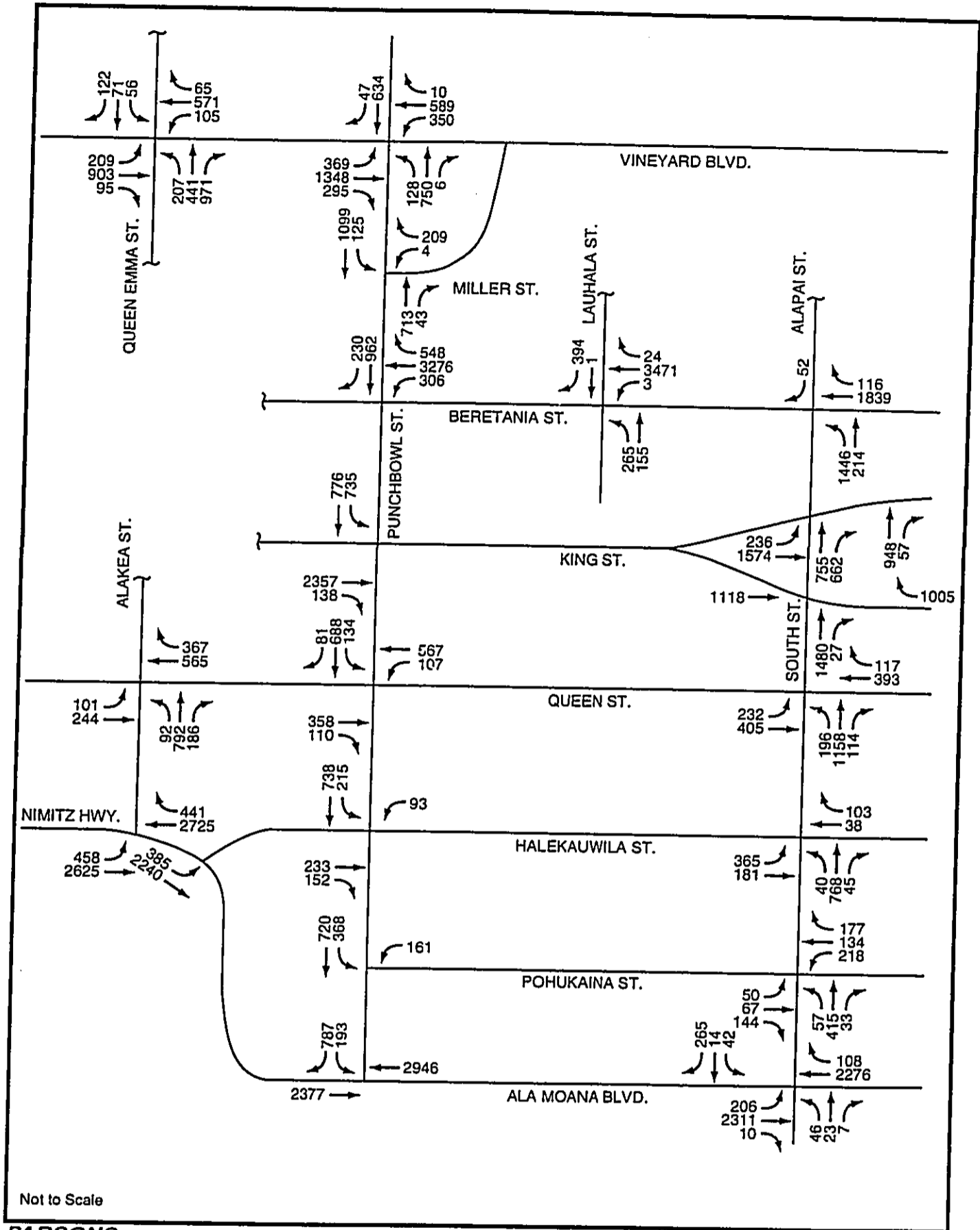
2.4.1.2 Potential Impact

Construction of the proposed project will require relocation of the traffic signal, street lighting, aerial electric and telephone lines, and water service laterals. In addition, there will be new storm drainage improvements associated with the right-of-way expansion. Punchbowl Special District policies state that utilities will be placed underground. The design of the proposed project will be coordinated with the Department of Planning and Permitting to comply with the requirements of the Punchbowl Special District.



PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

Existing A.M. Peak Hour Volumes
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-6



PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

Existing P.M. Peak Hour Volumes
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-7

An improvement to the visual quality of the project area will be created by undergrounding utilities.

2.5 CONSISTENCY WITH GOVERNMENTAL PLANS AND POLICIES

2.5.1 State of Hawaii

2.5.1.1 Hawaii State Plan

The Hawaii State Plan (June, 1991) consists of comprehensive goals, objectives, policies and priorities in all areas of government functions. It also mandates the preparation of 12 "Functional Plans" which provide details for implementing the State Plan. While the State Plan establishes long-term objectives for Hawaii, the State Functional Plans focus on short-term implementation.

2.5.1.2 Hawaii State Land Use Controls

Lands in the State are divided into four classifications: Urban, Agriculture, Rural and Conservation. The location of the proposed action is within an Urban District. Land uses within Urban districts are administered by the four counties (Hawaii County, Maui County, City and County of Honolulu, and Kauai County), except in cases where the State has a compelling interest in the development of an area, such as the Kakaako Development District. Therefore, the City and County of Honolulu has exclusive administrative authority in all matters relevant to zoning in the vicinity of the project.

2.5.2 City and County of Honolulu

2.5.2.1 General Plan

The General Plan (revised 1992) provides broad statements on the objectives and policies of the City and County of Honolulu with regard to overall physical and economic development of the island, as well as the health and safety of the island's residents.

2.5.2.2 Primary Urban Center Development Plan

According to the Primary Urban Center (PUC) Development Plan (Revised Ordinances of Honolulu, 1990, Chapter 24, Article 2), the PUC shall efficiently accommodate relatively intensive commercial, governmental, residential, and recreational functions in a manner that safeguards and adds to the existing amenities of the City's urban environment. The PUC Development Plan is in the process of being revised. A public draft (July, 1999) is currently in circulation for public and agency review and comment.

According to the PUC Development Plan Land Use Map, most of the area in the general vicinity of the proposed project is designated for Medium Density Apartment (MDA) or Public Facility (PF). Ordinance 81-79 (PUC 150) identified the need for additional right-of-way for road widening on this portion of Punchbowl Street, and has been reflected on the Development Plan Public Facilities Map since 1981. Existing land uses are consistent with the Development Plan Land Use designations.

2.5.2.3 Zoning

The City and County of Honolulu Zoning Code is required to be in conformance with Development Plan designations. Zoning is administered by the Department of Planning and Permitting (DPP).

Figure 2-8 displays the zoning in the vicinity of the proposed action. Most of this area is zoned medium density apartment (A-2).

2.5.2.4 Punchbowl Special District

The City and County of Honolulu has established special districts for the purpose of preserving, protecting, or enhancing significant physical and visual aspects of parts of the island. The project is located in the Punchbowl Special District. This special district was established to enhance Punchbowl Crater and, more specifically, the National Memorial of the Pacific. Objectives of the Punchbowl District include:

- preserve and enhance Punchbowl's form and character as a significant landmark;
- preserve and enhance the park-like character of the slopes of Punchbowl;
- preserve and enhance significant views to and from Punchbowl;
- provide landscaping and open space which will enhance views; and
- preserve, enhance, and restore the serene and scenic qualities within the national cemetery.

The Punchbowl Special District and its prominent vistas are displayed in Figure 2-9. Under Punchbowl Special District policies, roadway widening is considered a minor project for which a Special District Permit is required (See Permits in Section 2.6). A Punchbowl Special District Permit will be sought for this project. Existing overhead utilities will be required by the Department of Planning and Permitting to be placed underground.

2.6 CONSTRUCTION PERIOD IMPACTS AND MITIGATION MEASURES

2.6.1 Traffic

Construction will cause motorists traveling on Punchbowl Street and adjacent roadways to experience delay and inconvenience for approximately 12 months, the estimated duration of construction.

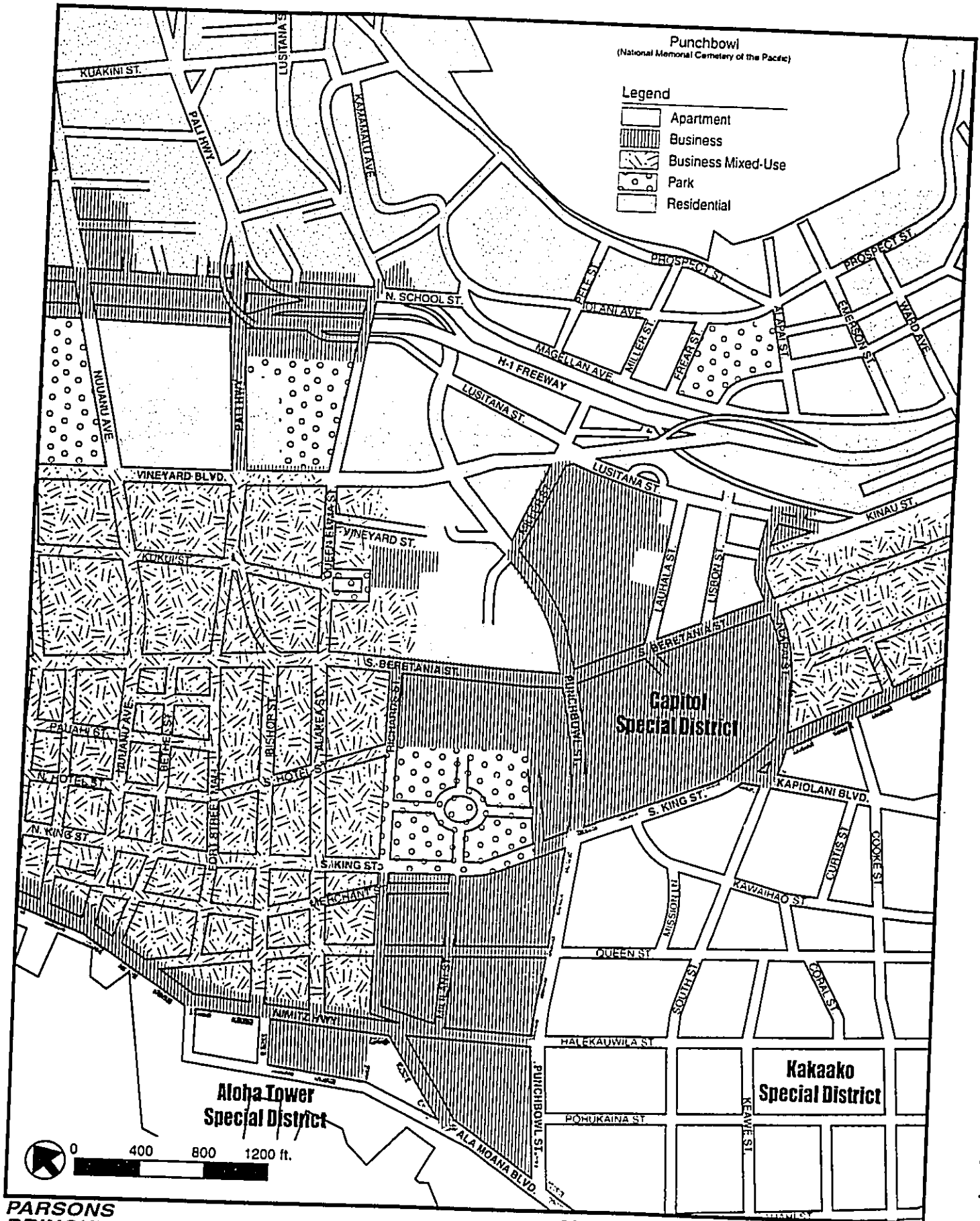
To minimize traffic and access inconvenience on Punchbowl Street and adjacent roadways, a traffic and pedestrian control plan will be prepared and implemented. This plan will include the following provisions:

- At least one lane in each direction will be kept open, and access to residences along the roadway will be maintained during all phases of the construction work;
- The construction contract will contain necessary provisions for adequate public information prior the start of construction;
- Other measures, including construction rescheduling will be considered in order to minimize congestion;
- Pedestrian movements will also be maintained, but may be limited to one side of the roadway at any given time;
- Construction activities that would close moving lanes will be restricted to off-peak hours whenever feasible;
- Lane closures during non-peak periods may occur during clearing and grubbing, cold-planing, pavement overlaying, restriping, and when traffic control devices are being secured; and
- All State and County regulations will be followed.

2.6.2 Air Quality

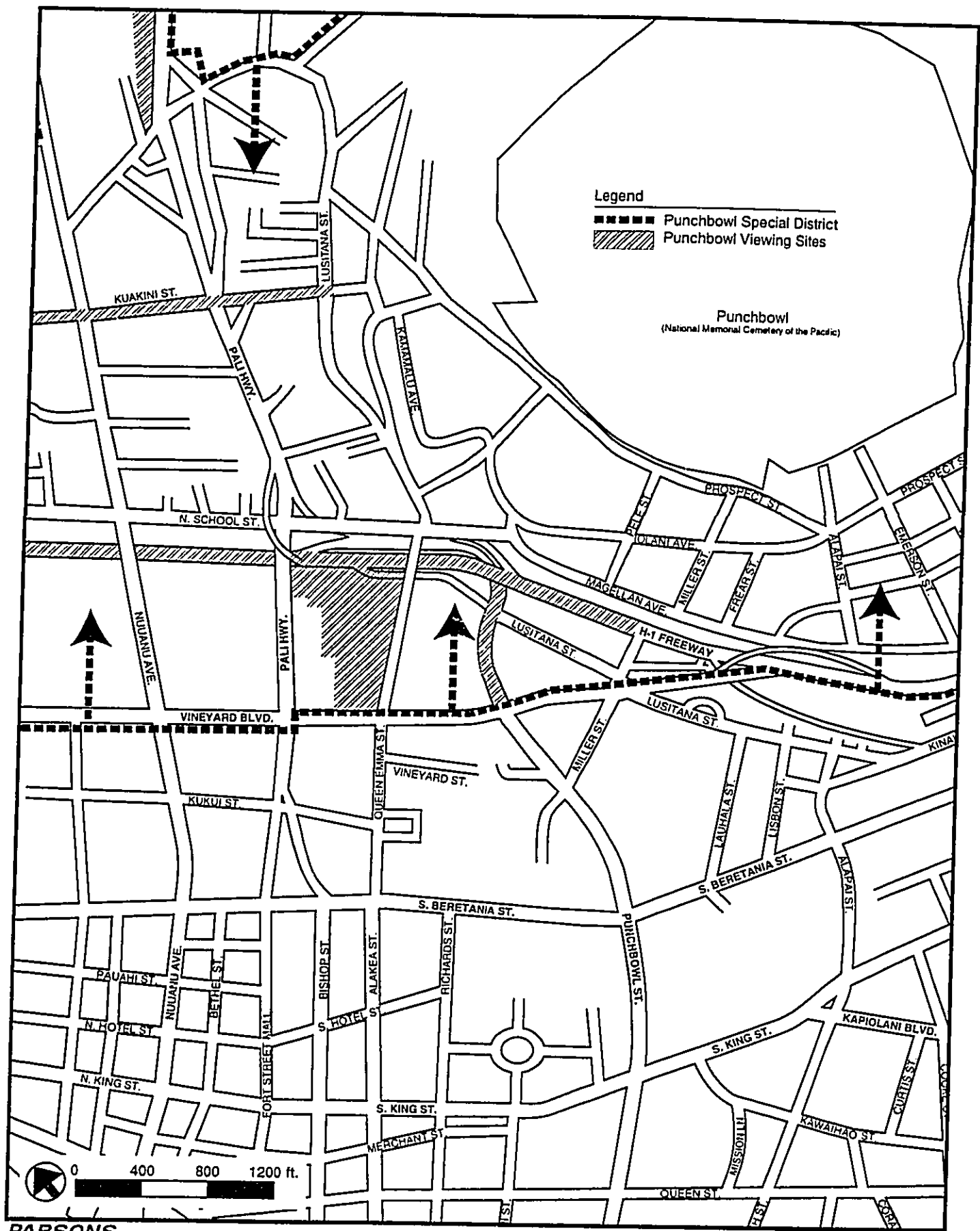
As discussed in Section 2.1.4, carbon monoxide (CO) is the principal pollutant of concern in localized (microscale) areas. Since emissions of CO from motor vehicles increase with decreasing vehicle speed, the disruption of traffic during construction could result in short-term elevated concentrations of CO. To minimize CO concentrations, efforts will be made during construction to limit disruptions to traffic, especially during peak travel periods.

The City and County will closely coordinate other construction projects in the vicinity to minimize traffic congestion. These include roadway improvement projects proposed by the State Department of Transportation (resurfacing of H-1), and Punchbowl Street widening by Queen's Hospital.



PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.

City and County of Honolulu Zoning
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-8



**PARSONS
BRINCKERHOFF
QUADE &
DOUGLAS, INC.**

**Punchbowl Special District Boundaries and Vistas
PUNCHBOWL STREET IMPROVEMENTS;
VINEYARD BOULEVARD TO H-1 FREEWAY
Final Environmental Assessment
FIGURE 2-9**

2.6.3 Noise

Short-term noise impacts will be experienced by residences and businesses during construction. The actual noise levels produced will be a function of the methods employed during each stage of the construction process. Table 2-9 presents the typical range of sound levels for mobile construction equipment and compressors measured at a distance of 50 feet. Since construction activities will take place within 50 feet of noise sensitive receptors, the values in Table 2-9 are representative of the noise levels to be expected along Punchbowl Street during various stages of construction. The Pacific Club, Royal Elementary School, and residences along the road would experience similar noise levels for short periods of time.

Table 2-10
Typical Ranges of Construction Equipment Noise

Source	(dBA) at 50 feet
Backhoes	72-94
Front Loaders	72-85
Pavers	85-88
Scrapers/ Graders	79-94
Compactors (Rollers)	72-75
Concrete Mixers	75-88
Trucks	83-93
Tractors	78-97
Cranes (movable)	75-85
Generators	72-82
Compressors	75-85

Source: D.L. Adams Associates, Ltd., 1999.

Note: Based on limited available data samples.

Specifications for allowable noise levels will be formulated and implemented to minimize adverse impacts to the surrounding community. Since SDOH promulgates community noise control standards (HAR 11-46) that apply to construction noise, these specifications will be submitted to SDOH for their review. In cases where construction noise may exceed the SDOH standards, a permit will be required.

To minimize noise impacts from construction, the following mitigation measures will be followed:

- Design Considerations: during the early stages of construction plan development, placement of shielding to attenuate construction noise will be considered;
- Sequence of Operations: noisy operations will be scheduled concurrently; and
- Source Control: techniques that control noise emissions at the source, such as muffler systems that lower exhaust noise by at least 10 dBA, will be employed.

These mitigation measures will be incorporated into the construction plan, and noise level criteria will be adhered to during construction.

2.6.4 Solid and Hazardous Waste and Materials

Widening Punchbowl Street will require clearing land. Excavated asphalt, concrete, soil, vegetation, and other materials will be transported to approved disposal sites or recycled. A Grubbing, Grading, and Stockpiling Permit will be obtained from the City and County of Honolulu Department of Planning and Permitting.

As described in Section 2.1.1.2, it is unlikely that contaminated soil will be encountered during construction. Should contaminated soil be encountered, the material will require special handling procedures per SDOH requirements. Treatment of contaminated materials is dependent on the character of the contamination, the volume of contaminated material, the character of the native materials, and project scheduling.

2.6.5 Utilities

Substantial planning will be needed so that interruptions in utility service do not occur or are minimized. During the design and construction phases, coordination will occur with utility providers. If necessary, disruptions to utility service will be short-term and localized. Careful scheduling of these disruptions, and prior notification of properties that will be affected by temporary service cut-offs, will mitigate some of the utility relocation impacts.

2.6.6 Site Runoff

Accelerated erosion and sedimentation resulting from exposure, stockpiling and transportation of excavated material have the potential to impair water quality during construction. Sediment loading of storm water could occur when unstabilized, exposed soil at excavation or stockpile areas experience heavy rains. Because of the small size of the construction site and excavated areas, impacts from storm water runoff would be minimal. The project will not require a National Pollutant Discharge Elimination System permit because the construction area is less than five acres. However, the construction contract will require the preparation and employment of Best Management Practices (BMPs) to minimize potential impacts on water quality in accordance with the Department of Planning and Permitting Rules Relating to Soil Erosion Standards and Guidelines, effective date April 8, 1999..

The City and County of Honolulu will closely coordinate other construction projects in the vicinity to minimize potential stormwater runoff and turbidity impacts. These projects include the Queen's Hospital Punchbowl Street improvements and State Department of Transportation's H-1 resurfacing project.

2.7 REQUIRED PERMITS AND APPROVALS

This project will require the following permits. Other permits may be identified as design proceeds.

City and County of Honolulu

- Grubbing, Grading, and Stockpiling Permit (Department of Planning and Permitting)
- Special District Permit for a Minor Project in Punchbowl Special District (Department of Planning and Permitting)
- Conditional Use Permit for off-site parking (Department of Planning & Permitting)

State of Hawaii

- State Historic Preservation Law, Chapter 6E, HRS
- Noise Permit, if construction noise is expected to exceed allowable levels (State Department of Health)
- Work in State Right-of-Way

CHAPTER 3 CONSULTATION AND SCOPING

This chapter summarizes scoping and consultation activities conducted by the City and County of Honolulu, Department of Design and Construction (DDC) that occurred before the preparation of this Environmental Assessment (EA); and written comments that were received from initial consultation. Announcement of the Draft EA was published in the September 23, 1999 Environmental Notice.

3.1 CONSULTATION AND SCOPING ACTIVITIES

Several agencies were consulted and invited to comment on the project. The agencies that were consulted and invited to comment are shown on Table 3-1.

**Table 3-1
 Summary of Initial Consultation and Comments**

Agency	Invited to Comment	Provided Written Comments
Federal Agencies		
Federal Highway Administration	✓	
State of Hawaii Agencies		
Department of Business, Economic Development & Tourism	✓	
Office of Planning, DBED&T	✓	
Department of Education	✓	
Department of Health	✓	
Department of Land and Natural Resources	✓	
State Historic Preservation Division, DLNR	✓	✓
Department of Transportation	✓	
Highways Division, DOT	✓	
Office of Environmental Quality Control	✓	
Office of Hawaiian Affairs	✓	
City and County of Honolulu Agencies		
Planning Division, Department of Planning & Permitting	✓	
Department of Planning and Permitting	✓	
Department of Transportation Services	✓	
Fire Department	✓	✓
Police Department	✓	
Board of Water Supply	✓	
Department of Environmental Services	✓	✓
Councilmember Jon Yoshimura	✓	
Nuuanu/Punchbowl Neighborhood Board No. 12	✓	
Downtown Neighborhood Board No. 13	✓	

3.2 AGENCY AND PUBLIC COMMENTS

Those who provided comments on the project were provided copies of the Draft EA. Thirty-five agencies and organizations were sent copies and 14 responded. Of the responding parties, four had no comments. Table 3-2 contains a summary of the parties sent copies of the Draft EA and of the respondents. The City and County Department of Design and Construction responded in writing to each of the comments. The EA was revised appropriately to reflect responses to comments received.

**Table 3-2
 Summary of DEA Consultation and Comments**

Agency	Invited to Comment	Responded with No Comment	Provided Comments
Federal Agencies			
Federal Highways Administration	✓		✓
U.S. Fish & Wildlife Service	✓		
State of Hawaii Agencies			
Department of Business, Economic Development & Tourism	✓		
Office of Planning, DBED&T	✓	✓	
Department of Education	✓	✓	
Department of Health	✓	✓	
Department of Land and Natural Resources	✓		
State Historic Preservation Division, DLNR	✓		✓
Department of Transportation	✓		
Highways Division, DOT	✓		
Office of Environmental Quality Control	✓		✓
Office of Hawaiian Affairs	✓		✓
Hawaii Documents Center, State Public Library System	✓		
Senator Rod Tam	✓		
Representative Ken Hiraki	✓		
City and County of Honolulu Agencies			
Planning Division, Department of Planning & Permitting	✓		
Department of Planning and Permitting	✓		✓
Department of Transportation Services	✓		
Fire Department	✓		✓
Police Department	✓		✓
Board of Water Supply	✓		
Department of Environmental Services	✓	✓	
Councilmember Jon Yoshimura	✓		
Nuuanu/Punchbowl Neighborhood Board No. 12	✓		
Downtown Neighborhood Board No. 13	✓		✓
Municipal Reference & Records Center	✓		
Councilmember Mufi Hannemann	✓		
Other			
Ms. Patricia S. Martin	✓		
Mr. & Mrs. Ming K. Wong	✓		
Mr. & Mrs. Edwin N. Matsusaka	✓		
Mrs. Yvonne Hussey	✓		
Mr. Myles Tsukamoto	✓		
GTE Hawaiian Tel	✓		✓
The Gas Company	✓		
Hawaiian Electric Company	✓		✓
Mr. Terry Young	✓		
Outdoor Circle	✓		
Oceanic Cable	✓		



OCT 21 1999 *Lisa C*
**DEPARTMENT OF BUSINESS,
 ECONOMIC DEVELOPMENT & TOURISM**

OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
 Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96801
 Ref. No. P-8295

September 30, 1999

Mr. Randall K. Fujiki, Director
 Department of Design and Construction
 City and County of Honolulu
 650 South King Street, 2nd floor
 Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Punchbowl Street Improvements
 Vineyard Boulevard to H-1 Freeway Underpass
 Draft Environmental Assessment

We have reviewed the above referenced document to provide an additional northbound lane on Punchbowl Street from Vineyard Boulevard to the H-1 Freeway, a distance of about 700 feet. Currently there are two lanes going south and one lane going north.

After the project is constructed, there will be two northbound lanes on Punchbowl. This action will mitigate traffic congestion on Punchbowl Street to the H-1 Freeway. We assume that the additional right-of-way for the northbound lane can be acquired.

We have no further comments at this time. If you have any questions, please contact Lorene Maki of our staff at 587-2888.

Sincerely,

David W. Blanc
 David W. Blanc
 Director
 Office of Planning

cc: Kazu Hayashida, DOT

99-1983
 BOLAUN L. CAETANO
 SHELLEE HAYASHIDA
 BRADLEY J. BOSSMAN
 DEPUTY DIRECTOR
 DIRECTOR, OFFICE OF PLANNING

Telephone: (808) 547-2844
 Fax: (808) 547-2824

20:8:11 4:13:06 PM
 99 OCT -4

99 OCT -7 10:54
 DESIGN & CONSTRUCTION
 DIV. OF HIGHWAYS & BRIDGES
 DESIGN SECTION



DEPARTMENT OF ENVIRONMENTAL SERVICES
 CITY AND COUNTY OF HONOLULU
 650 SOUTH KING STREET, 2ND FLOOR • HONOLULU, HAWAII 96813
 PHONE: (808) 537-6600 • FAX: (808) 537-6675 • WWW: www.cc.honolulu.hi

AGENT NAME
 Mayor

99-1992

OCT 7 1999

EMERITH L. SPALDING, P.E., P.A.
 Director
 PLANNING DIVISION
 Deputy Director

ENV 99-109

OCT -6 1999

MEMORANDUM

TO: RANDALL K. FUJIKI, DIRECTOR
 DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: KEARNEY E. SPRAGUE, DIRECTOR
 DEPARTMENT OF ENVIRONMENTAL SERVICES

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
 PUNCHBOWL STREET IMPROVEMENTS
 VINEYARD BOULEVARD TO H-1 FREEWAY UNDERPASS

We have reviewed the subject DEA and have no comments to offer at this time.
 Should you have any questions, please contact Alex Ho at extension 4150.

BEAULIEU J. CASTILLO
COMMISSIONER



STATE OF HAWAII
DEPARTMENT OF EDUCATION
PO BOX 2320
HONOLULU HAWAII 96810

OFFICE OF THE SUPERINTENDENT
October 7, 1999

PAUL G. LAMARCA, Ph.D.
SUPERINTENDENT

Paul G. Lamarca

DESIGN & CONSTRUCTION
DIVISION
99 OCT -8 AM 10:36
99 OCT -8 AM 10:36

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
RECEIVED
1800 PAPA STREET SUITE 200
HONOLULU HAWAII 96813-1000

Oct 18 7 51 AM '99

ATTORNEY GENERAL
FIRE DEPT
JOHN CLARE
REGISTERED CLERK
99 OCT 15 PM 4:14
DESIGN & CONSTRUCTION
DIVISION
99 OCT 15 PM 4:14

Mr. Randall Fujiki, Director
Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Draft EA for Punchbowl Street Improvements

The Department of Education has no comment on the subject draft environmental assessment.
Thank you for the opportunity to respond.

Very truly yours,

Paul G. Lamarca, Ph.D.
Superintendent of Education
PLcM:hy

cc: A. Suga, OBS

TO: RANDALL K. FUJIKI, DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION
FROM: ATTILIO K. LEONARDI, FIRE CHIEF
SUBJECT: PUNCHBOWL STREET IMPROVEMENTS
VINEYARD BOULEVARD TO I-I FREEWAY UNDERPASS
DRAFT ENVIRONMENTAL ASSESSMENT
HFD INTERNAL NO. OL 99-201

October 11, 1999

We received your memorandum dated September 23, 1999, regarding the Punchbowl Street Improvements. We have no further comments to add to our correspondence dated March 1, 1999.
Should you have any questions, please call Acting Battalion Chief Alan Chong of our Fire Prevention Bureau at 831-7778.

for ATTILIO K. LEONARDI
Fire Chief

AKL/AC:jf

125
99-297

RECEIVED
BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH



RECEIVED
OCT 29 10 49 AM '99
STATE OF HAWAII
DEPARTMENT OF HEALTH
PO. BOX 3378
HONOLULU, HAWAII 96801

99-204/epo

RECEIVED
Nov 18 46 AM '99

RECEIVED
WILLIAM E. CASTLE
GOVERNOR OF HAWAII

Nov 18 41 AM '99

October 25, 1999

Mr. Randall K. Fujiki, Director
Department of Design & Construction
City and County of Honolulu
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Draft Environmental Assessment (DEA)
Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Honolulu, Hawaii

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

Sincerely,

GARY GILL
Deputy Director for
Environmental Health

c: OEQC

99-2903

THOMAS E. BROWN, CHAIRMAN
BOARD OF LAND AND NATURAL RESOURCES
DEPT. OF LAND AND NATURAL RESOURCES
JANET E. LAMBLE



RECEIVED
OCT 29 10 12 AM '99
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION
1140 Kalia Road, Suite 200
Honolulu, Hawaii 96813
DESIGN

October 20, 1999

Mr. Randall Fujiki, Director
Department of Design & Construction
City & County of Honolulu
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

SUBJECT: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment
THK 2-1-22:13 & 14, Honolulu, Oahu

LOG NO: 24250
DOC NO: 9910CO13
Architecture

Thank you for the opportunity to review the Draft Environmental Assessment for Punchbowl Street Improvements. Vineyard Boulevard to H-1 Freeway Underpass. We concur with the recommendations regarding mitigation measures for adverse effect the project will have on historic sites. Thank you for the opportunity to comment, should you or your staff have any questions please call Tonia Moy or Carol Ogata at 692-8015.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

CO:lm

Mailed
out
11/4/99

99-2215

GTE Hawaiian Tel
Beyond the call

GTE Hawaiian Telephone Company Incorporated
P.O. Box 2200 Honolulu, HI 96811 • 808 548-4311

RECEIVED

NOV 1 3 40 PM '99

NOV -1 NO 57

October 27, 1999

DESIGN & CONSTRUCTION
DIV OF H.P.A. PROJECTS
1212 SIGN 2

Mr. Randall K. Fujiki, Director
Department of Design and Construction
City and County of Honolulu
630 South King Street, 2nd Floor
Honolulu, Hawaii 96813

NOV - 2 1999

Dear Mr. Fujiki:

Subject: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

Thank you for the opportunity to review and comment on the subject document. Our comments are as follows:

GTE Hawaiian Tel's aerial facilities will be affected in the subject area. Our cable is attached to the pole line located along the west (Ewa) side of Punchbowl Street. There are also aerial drop lines crossing Punchbowl Street to the individual residential properties and apartment buildings. Service poles located on the east (Diamond Head) side of Punchbowl Street support these aerial crossings. As a result of this project, our overhead facilities will need to be relocated.

Should you have further questions, please call Mr. Grant Torigoe at 840-2970.

Sincerely,


Jay Furukawa

Section Manager - Metro
Access Design & Construction

c: file
J. Lee
G. Torigoe

A part of GTE Corporation

Form 80006055

November 4, 1999

Mr. Jay Furukawa
Section Manager - Metro
Access Design and Construction
GTE Hawaiian Telephone Company, Inc.
P.O. Box 2200
Honolulu, Hawaii 96841

Subject: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

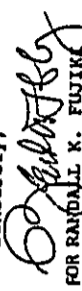
Dear Mr. Furukawa:

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

During the final design, the project engineers will coordinate with GTE Hawaiian Tel (GTE) on the relocation of affected existing GTE facilities.

Should you have any questions, please contact Gregory Hea at 527-6977.

Sincerely,


FOR RANDALL K. FUJIKI
Director



DOWNTOWN NEIGHBORHOOD BOARD, NO. 13

1015 KEELE STREET, 2ND FLOOR, HONOLULU, HAWAII 96813

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

850 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-1644 • Fax: (808) 523-4687

October 22, 1999

Mr. Randall K. Fujiki, Director
Department of Design and Construction
City and County of Honolulu
650 S. King Street, 2nd Floor
Honolulu, HI 96813

Re: Draft Environmental Assessment for Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass

Dear Mr. Fujiki:

At its October 7, 1999 meeting, the Downtown Neighborhood Board #13 requested the Draft Environmental Assessment (EA) as being an inaccurate assessment of the quality of the environment beneficial to the residents of this community.

There was also concern raised that:

1. the EA does not address the impacts of the upcoming H-1 resurfacing project on the Punchbowl Street Improvements and its attendant traffic and
2. there are no plans to widen the tunnel and on-ramp to the H-1, in essence moving the traffic jam, not alleviating it.

Thank you for the opportunity to comment.

Sincerely,

Lynne Matusow

Lynne Matusow, Chair

DEBRA HARVEY
MAYOR



November 8, 1999

Ms. Lynne Matusow, Chair
Downtown Neighborhood Board No. 13
c/o Neighborhood Commission
City Hall, Room 400
Honolulu, Hawaii 96813

SUBJECT: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

Dear Ms. Matusow:

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

Please note the following responses to your comments:

Quality of Life / Environment. The assessment of project impacts is documented in accordance with the 13 significance criteria specified in HAR Section 11-200-12. These criteria are delineated in Chapter 4 of the Draft EA, wherein project impacts are summarized in response to each of the 13 criterion which are focused on the protection of quality of life and the environment. Protecting the quality of life and the environment are important goals and objectives expressed through City and County and State plans and policies. The proposed Punchbowl Street Improvement project's impacts, adverse and beneficial, as well as appropriate mitigation measures, are consistent with these public plans, policies, goals and objectives.

H-1 Resurfacing Project. The City and the State Department of Transportation (DOT) have coordinated the construction schedules and activities of the two projects. Since the subject Punchbowl Street Improvement project is scheduled to begin construction first, DOT will change order its construction contract as necessary to accommodate the City's improvements. A discussion of the coordinative effort and

RECEIVED

99 OCT 25 9 31 AM '99
DEPT OF DESIGN & CONSTRUCTION
PLANNING DIVISION
PROJECT DIVISION
M.H.

RECEIVED

OCT 25 10 51 AM '99



City's Neighborhood Board System - Established 1977

Ms. Lynne Matusow, Chair
Downtown Neighborhood Board No. 13
November 8, 1999
Page 2 of 2

Possible impacts will be included in the Final EA.

Traffic Impact. As stated in section 2.3.1.4 Potential Impact, on page 2-25 of the DEA, the improved traffic throughput gained by the proposed widening would allow approximately 50 percent more vehicles per signal phase to process through the Vineyard Boulevard / Punchbowl Street intersection. Based on conservative estimates and documented reports of similar merge conditions on Honolulu roadways, the design as presented will improve traffic flow to the Ewa bound H-1 on-ramp.

Should you have any questions, please contact Gregory Hee at 527-6977.

Sincerely,


FOR RANDALL K. FUJIKI
Director

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

RECEIVED

OCT 21 4 02 PM '99

PERMITTING DIVISION



OCT 21 10 27 AM '99

DESIGN & CONSTRUCTION DIVISION

JAN HAOE SULLIVAN
DIRECTOR

LEATHA S. C. CHOI
DEPUTY DIRECTOR

October 21, 1999

1999/CLOG-6218
EA Comments Zone 2

MEMORANDUM

TO: RANDALL K. FUJIKI, DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: JAN N. SULLIVAN, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

SUBJECT: PUNCHBOWL STREET IMPROVEMENTS
VINEYARD BOULEVARD TO H-1 FREEWAY UNDERPASS
DRAFT ENVIRONMENTAL ASSESSMENT

We have reviewed the Draft EA regarding the above-referenced project received on September 22, 1999. Our comments are as follows:

1. A minor Special District permit and construction plan approval for street trees is required for the proposed road improvements.
2. All utilities that have been affected by the widening will be required to be placed underground.
3. Street trees will be required within the new roadway shoulder, in accordance with the new street tree planting standards of the department and the special district requirements.
4. P.2-10: If the replacement parking for Parcels 13 and 15 is provided on a separate parcel, a Conditional Use Permit for off-site parking will be required, or the proposed parking site will have to be subdivided and consolidated with Parcels 13 and 15.
5. The jurisdictional limits between the City and State Department of Transportation road right-of-way should be clearly demarcated. As required, the limits of the right-of-ways should be adjusted to match the intended jurisdictional limits, after this project is completed.

RANDALL K. FUJIKI, DIRECTOR
Page 2
October 21, 1999

6. The traffic control plans, which will be used during construction, should be site specific for the type of work being performed. A program to inform motorists and residents of the pending construction work should also be prepared and should include advance notifications on the affected roadways and in the news media.

Please contact Jeff Lee of our staff at extension 6274 if you have any questions.

Jan N. Sullivan
JAN HAOE SULLIVAN
Director of Planning and Permitting

JNS:lq
DN 10/21/99

99 OCT 21 PM 12:52

304
99-3133

sent to DPP
11/5/99

JAN N. SULLIVAN, DIRECTOR
PAGE 2 OF 2

Jurisdictional Limits. The existing right-of-way between the City and State Department of Transportation will remain at its present location on the makai side of the Lusitana Street intersection. All design plans submitted for City and State approvals will show this right-of-way line with the appropriate jurisdictional limits.

Traffic Control Plan. Site specific traffic control plans will be prepared as part of the construction contract. Also, the construction contract will contain the necessary provisions for adequate public information prior to the start of construction.

Should you have further questions, please contact Gregory Hee at 527-6977.

November 5, 1999

MEMORANDUM

TO: JAN N. SULLIVAN, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING



FROM: RANDALL K. FUJIKI
DIRECTOR

SUBJECT: PUNCHBOWL STREET IMPROVEMENTS
VINEYARD BOULEVARD TO H-1 FREEWAY UNDERPASS
DRAFT ENVIRONMENTAL ASSESSMENT

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

Please note the following responses to your comments:

Minor Punchbowl Special District Permit. A permit application will be prepared for the project.

Utilities. Except for private service connections, all affected utilities will be relocated underground. A waiver has been requested to the Department of Planning and Permitting to leave private service connections overhead. The project engineers will coordinate with the appropriate utility companies for the relocation of these existing facilities.

Street Trees. Street trees will be provided with the project.

Replacement Parking on Separate Parcel. A Conditional Use Permit application will be prepared for the proposed off-site parking.



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
Hawaii Division
300 Ala Moana Blvd., Room 3-306
Honolulu, HI 96850
October 20, 1999

MEMORANDUM
HEC-HI

Randall K. Fujiki, Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 2nd Floor
Honolulu, HI 96813

Dear Mr. Fujiki:

Subject: Puncbbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

The FHWA Hawaii Division has completed its review of the draft environmental assessment (EA) for the subject project. Since the project is not federally funded, the FHWA's review is limited to potential impacts to the H-1 Freeway.

The following comments are listed below for your consideration:

1. The draft EA focuses analyses on Puncbbowl and Beretania Streets but not on impacts at the proposed merge and the H-1 on-ramp. The draft EA should expand its discussion on the potential impacts to the operations of the H-1 on-ramp.
In general, this section of the H-1 Freeway is extremely congested during peak hours. The locations of the H-1 on-ramp and the School Street exit are closely spaced, resulting in merging and weaving maneuvers. The draft EA should include discussions on the rate at which traffic arrives impacts merging and weaving capacity.
Without this analysis in the draft EA, it is difficult to determine if these modifications will impact safety and traffic operations to the H-1 Freeway and the H-1 on-ramp.
2. Geometrics and sight distance should be evaluated at the merge. Backup of traffic on the on-ramp could create a sight distance problem at the underpass.

Based on our comments, the FHWA recommends the draft EA be revised to address FHWA's concerns for the subject project. Since there is a potential traffic backup on the H-1 on-ramp, the FHWA also recommends that ramp metering technique be investigated to address the potential backup. If the City and County of Honolulu is not able to adequately address the FHWA's safety

concerns, then we recommend an experiment on the traffic circulation modifications be performed to determine if traffic backup will occur on the H-1 on-ramp.

Thank you for this opportunity to review the draft EA. Please contact me at 541-2700 extension 305 to discuss any of these comments.

Sincerely yours,

Pat V. Phung, P.E.
Transportation Engineer

cc: Ms. Lois Chong, DDC (fax 527-6061)
Mr. Perides Manthos, SDOT (fax 587-2150)
Mr. Paul Hamamoto, SDOT, (fax 692-7690)
Mr. Darrin Chinen, Parsons Brinckerhoff (fax 528-2368)

U. S. Department of Transportation
November 9, 1999
Page 2 of 2

Should you have any questions, please contact Gregory Hee at 527-6977.

November 8, 1999

Mr. Pat V. Phung
U. S. Department of Transportation
Federal Highway Administration
Hawaii Division
300 Ala Moana Blvd., Room 3-306
Honolulu, Hawaii 96850

SUBJECT: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

Dear Mr. Phung:

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

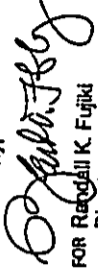
Please note the following responses to your comments:

Potential Impact to H-1 On-Ramp. The signal timing for the Vineyard Boulevard / Punchbowl Street intersection traffic signal will be adjusted to address the queuing concern for the H-1 on-ramp. In addition, should the State Department of Transportation decide at a later date to implement ramp metering at this location, we would coordinate access and construction with Department of Transportation to facilitate the future installations.

Geometrics and Sight Distance. The existing one lane configuration for the underpass provides a stopping sight distance of 200 feet, which accommodates a design speed of 30 MPH. The posted advisory speed prior to the entrance of the underpass is 25 MPH. The proposed merge will be designed to meet the existing one lane configuration prior to the underpass.

Mr. Pat V. Phung

Sincerely,



FOR Randall K. Fujiki
Director

99-2151
 151C-66
 RECEIVED
 CITY AND COUNTY OF HONOLULU
 801 SOUTH BERTANIA STREET
 HONOLULU, HAWAII 96813 - AREA CODE (808) 528-3111
 http://www.honolulu.gov

99 OCT 25 AM 10:10
 JEREMY HARRIS
 MAYOR

DESIGN & CONSTRUCTION
 DIV. OF INFRASTRUCTURE
 DESIGN & ENGINEERING



OUR REFERENCE CS-DL
 October 20, 1999

DESIGN & CONSTRUCTION
 DIVISION OF
 PLANNING & PROGRAMMING

RECEIVED
 OCT 25 3:18 PM '99
 RECEIVED
 OCT 25 11 36 AM '99

TO: RANDALL K. FUJIKI, DIRECTOR
 DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: LEE D. DONOHUE, CHIEF OF POLICE
 HONOLULU POLICE DEPARTMENT

SUBJECT: PUNCHBOWL STREET IMPROVEMENTS
 VINEYARD BOULEVARD TO H-1 FREEWAY UNDERPASS
 DRAFT ENVIRONMENTAL ASSESSMENT

Thank you for the opportunity to review the subject document. We are concerned about the traffic flow in and around this well-traveled area during the construction phase. Since the proposed project will have a definite impact on police service, we are recommending the following:

- † Inform the public (i.e., radio and television) of the project before construction begins to allow motorists to plan their travel routes and adjust their schedules to compensate for any delays.
- † End construction work at 2 p.m. instead of 3 p.m. as a possible means of minimizing congestion.

If there are any questions, please call me at 529-3255 or Major Henry Lau of District 1 at 529-3386.

LEE D. DONOHUE
 Chief of Police

BY: *Eugene Quehura*
 EUGENE QUEHURA
 Assistant Chief
 Support Services Bureau

sent to
 HPD
 11/4/99

November 4, 1999

MEMORANDUM

TO: LEE D. DONOHUE, CHIEF OF POLICE
 HONOLULU POLICE DEPARTMENT

FROM: FOR RANDALL K. FUJIKI
 DIRECTOR

SUBJECT: PUNCHBOWL STREET IMPROVEMENTS
 VINEYARD BOULEVARD TO H-1 FREEWAY UNDERPASS
 DRAFT ENVIRONMENTAL ASSESSMENT

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

The construction contract will contain the necessary provisions for adequate public information prior to the start of construction. Further, appropriate operational measures, including adjusted construction scheduling will be considered in order to minimize congestion.

If you have further questions, please contact Gregory Hee at 527-6977.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

850 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 534-1884 • FAX: (808) 534-1887



MARGALIE F. FURUKI, AIA
DIRECTOR
ROLAND D. LIBBY, JR., AIA
DEPUTY DIRECTOR

JEREMY HARRIS
MAYOR

November 8, 1999

Mr. Colin Kippen
Deputy Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

SUBJECT: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

Dear Mr. Kippen:

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

Please note the following has responses to your comments:

Historic Property Impact. We concur with your concern about the possible effect of the project on the three houses. A Historic Inventory Survey was conducted on the properties, and the findings, mitigation measures and continued coordination with State Historic Preservation Division (SHPD) have been documented in the Draft EA. A copy of the report prepared by Mason Architects can be found as Appendix E in the Draft EA. Please also note a letter from SHPD dated October 29, 1999 in the Final EA Appendices, in which the SHPD concurs with proposed mitigation measures that were discussed in the Draft EA.

Traffic Impact. As stated in section 2.3.1.4 Potential Impact, on page 2-25 of the DEA, the improved traffic throughput gained by the proposed widening would allow approximately 50 percent more vehicles per signal phase to process through the Vineyard Boulevard / Punchbowl Street intersection. Based on conservative estimates and documented reports of similar merge conditions on Honolulu roadways, the design

cc Libby
99-2078
FAX (808) 594-1885

RECEIVED
OCT 18 10 08:37 AM '99



RECEIVED
OCT 18 10:14 AM '99
STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
DESIGN & CONSTRUCTION DIVISION
711 KAPĪOLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

October 11, 1999

Mr. Randall K. Fujiki, Director
Department of Design and Construction
City & County of Honolulu
650 South King Street, 2nd Floor
Honolulu, Hawaii 96813

EIS #342

Subject: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

Dear Mr. Fujiki,

Thank you for the opportunity to review the above-referenced draft.

At this time the Office of Hawaiian Affairs has no projects that would be impacted by this proposed construction. We would like to reiterate the concerns brought up by Don Hibbard of the State Historic Preservation Division regarding the three houses over 50 years that may be impacted by the project.

The Office of Hawaiian Affairs would also like to point out that this proposed construction will cause unnecessary delays and frustration to the community if the tunnel itself is not widened. Otherwise, all this project would do is move the existing bottleneck up another 700 feet.

We ask that these issues be addressed in writing before any action is taken on this project. If you have any questions please contact Ken R. Salva Cruz, Policy Analyst at 594-1847.

Sincerely,

Colin Kippen
Colin Kippen
Deputy Administrator

C. Salva Cruz
C. Sebastian Aloia
Division Director

cc: Board of Trustees

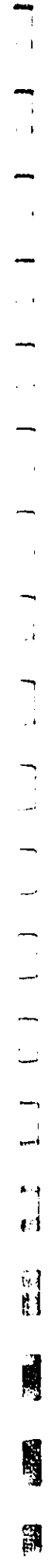
Mr. Colin Kippen
Office of Hawaiian Affairs
November 8, 1999
Page 2 of 2

as presented will improve traffic flow to the Ewa bound H-1 on-ramp.

Should you have any questions, please contact Gregory Hee at 527-6977.

Sincerely,


Randall K. Fujiki
Director



BENJAMIN J. CAVETANO
GOV. HONOLULU



OCT - 8 1999

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
226 SOUTH KAUAIANA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 548-4118
FACSIMILE (808) 548-4158

October 7, 1999

Randall Fujiki, Director
Department of Design & Construction
650 South King Street
Honolulu, Hawaii 96813

Attention: Gregory Hee

Dear Mr. Fujiki:

Subject: Draft Environmental Assessment (EA) for Punchbowl Street Widening

We have the following comments to offer:

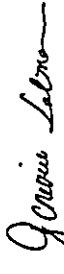
1. Two-sided pages: In order to reduce bulk and conserve paper, we recommend printing on both sides of the pages in the final document.
2. Segmentation: The draft EA notes planned improvements all the way to the makai end of Punchbowl Street at Ala Moana Boulevard. The Environmental Impact Statement law prohibits segmentation of larger projects and requires that full disclosure of impacts be made on projects in their entirety. Provide a full analysis and discussion of this and all related portions of this project.
3. Cumulative Impacts: Renovations to Miller Street and to Queen's Medical Center are nearby projects. The Environmental Impact Statement law requires that full disclosure of cumulative impacts be made on geographically-related projects. Provide a full analysis and discussion of these and any other projects in the area. The analysis should include cumulative impacts regarding storm runoff, traffic and safety impacts for both the construction (short-term) and operational (long-term) phases. Particularly essential is a thorough discussion of impacts to traffic during construction periods.
4. Project design: It appears that the planned improvements (increasing road width and redesigning turn lanes) will simply move the traffic bottleneck

Randall Fujiki
October 7, 1999
Page 2

further mauka to the one-lane tunnel at the entrance of the Ewa-bound H-1 on-ramp. How will this project serve to increase traffic flow once the additional traffic reaches the tunnel?

If you have any questions, please call Nancy Heinrich at 586-4185.

Sincerely,


GENEVIEVE SALMONSON
Director

c: Darin Chinen

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
850 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 533-4544 • FAX: (808) 533-4527

EMILY HARRIS
MAILER



MARGALIT K. FUJIKI, AIA
DIRECTOR
ROLAND D. LIBBY, JR., AIA
DEPUTY DIRECTOR

November 8, 1999

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

Attention: Ms. Nancy Heinrich

SUBJECT: PUNCHBOWL STREET IMPROVEMENTS
VINEYARD BOULEVARD TO H-1 FREEWAY UNDERPASS
Draft Environmental Assessment

Dear Ms. Salmonson:

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

Please note the following responses to your comments:

Two-Sided Pages. Printing of the Final EA will be done on both sides of the pages.

Segmentation. We are aware that the Environmental Impact Statement law prohibits segmentation of larger projects. However, the Punchbowl Street Vineyard Boulevard to H-1 Freeway Underpass project has independent functional utility in that it serves a purpose and need that is different from the other projects either completed or planned for major portions of Punchbowl Street. The widening between Vineyard Boulevard and Lusitana Street is intended to facilitate access to the H-1 on-ramp by relieving traffic congestion on Punchbowl Street at Vineyard Boulevard, while the two-way improvements between Beretania Street and Ala Moana Boulevard are intended to address other issues, such as relieving traffic congestion on Beretania Street, Alapai Street, and South Street.

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
November 8, 1999
Page 2 of 2

Further, the subject project (Vineyard to Lusitana) will involve right-of-way take, while the two-way conversion will work within the existing curb lines without affecting right-of-way. Thus, the subject project requires a Chapter 343, HRS environmental review while the other projects are exempted.

This discussion will be detailed in the Final EA.

Cumulative Impacts. The Final EA will include discussion, as appropriate, regarding potential cumulative impacts on geographically related projects.

Project Design. As stated in section 2.3.1.4 Potential Impact, on page 2-25 of the DEA, the improved traffic throughput gained by the proposed widening would allow approximately 50 percent more vehicles per signal phase to process through the Vineyard Boulevard / Punchbowl Street intersection. Based on conservative estimates and documented reports of similar merge conditions on Honolulu roadways, the design as presented will improve traffic flow to the Ewa bound H-1 on-ramp.

Should you have any questions, please contact Gregory Hee at 527-6977.

Sincerely,

FOR RANDALL K. FUJIKI
DIRECTOR

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001

RECEIVED
OCT 29 2 56 PM '99

RECEIVED
OCT 29 11:11 AM '99
cc: Libby
Greg Hee
99X0558

DESIGN & CONSTRUCTION
DIV. OF INFRASTRUCTURE
DESIGN & ENGINEERING

Scott W.H. Seu, P.E.
Manager
Environmental Department

DEPT OF DESIGN & CONSTRUCTION
OCT 29 8:31 AM '99

October 26, 1999

Mr. Randal K. Fujiki, Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 2nd Floor
Honolulu, HI 96813

Dear Mr. Fujiki

Subject: Punchbowl Street Improvements

Thank you for the opportunity to comment on your September 1999 Draft EA for the Punchbowl Street Improvements. We have reviewed the subject document and would like the opportunity to convert any circuits that are going to be relocated from 4KV to 12KV to facilitate the eventual removal of the Emma 4KV substation.

Our point of contact for this project, and the originators of these comments, are Francis Hirakami (543-7535), principal engineer, and Matt Goo (543-7826), lead distribution planning engineer. I suggest your staff and consultants deal directly with Francis and Matt to coordinate HECO's continuing input on this project.

Sincerely,

cc: OECC
F. Hirakami/S. Elbot
R. Wong/M. Goo



WINNER OF THE EDISON AWARD
FOR DISTINGUISHED INDUSTRY LEADERSHIP

mailed out
11/4/99

November 4, 1999

Mr. Scott W. H. Seu, Manager
Environmental Department
Hawaiian Electric Company, Inc.
P. O. Box 2750
Honolulu, Hawaii 96840-0001

Subject: Punchbowl Street Improvements
Vineyard Boulevard to H-1 Freeway Underpass
Draft Environmental Assessment

Dear Mr. Seu:

Thank you for your comments on the Draft Environmental Assessment (DEA) for the Punchbowl Street Improvements from Vineyard Boulevard to the H-1 Freeway Underpass.

During the final design, the project engineers will coordinate with Hawaiian Electric Company (HECO) on the underground relocations for the secondary power lines and the private property service connections. As requested, the project engineers will also coordinate with HECO on the conversion of any affected existing facilities from 4KV to 12KV.

Should you have any questions, please contact Gregory Hee at 527-6977.

Sincerely,

FOR RANDAL K. FUJIKI
Director

CHAPTER 4

ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT

In accordance with the Hawaii Revised Statutes, Chapter 343 and the Hawaii Administrative Rules (HAR), Sections 11-200-9 and 11-200-11.2, the City and County of Honolulu, Department of Design and Construction, as the accepting authority, has reviewed the FEA and determined that a Finding of No Significant Impact (FONSI) for the proposed action is appropriate. A FONSI determination is based on an assessment of project impacts, as described in Chapter 2, in relation to the Significance Criteria specified in HAR 11-200-12(b). A final assessment of the project's extent of impacts has been prepared following receipt of comments. The following is an analysis of the proposed project in terms of the significance criteria specified in HAR Section 11-200-12.

Involves an irrevocable commitment to loss or destruction of any natural or cultural resource- The proposed action will not cause the loss or destruction of any natural or cultural resource. Three historic structures will be demolished as a result of this project. Two are residential structures and one is a garage. Mitigation measures will include photo documentation of these prior to demolition. The SHPD has, and will continue to be consulted with on these actions. Coordination between the DDC and SHPD is ongoing in accordance with Chapter 6E, HRS. SHPD has concurred with DDC's proposed recommendations regarding mitigation measures (see letter from Don Hibbard to Randall Fujiki dated October 29, 1999).

Curtails the beneficial uses of the environment- The proposed project will not curtail the beneficial use of the environment. The proposed project will serve motorists and pedestrians, and represents a beneficial use of roadway right-of-way. The proposed project is consistent with official State and County land use plans for the affected area.

Conflicts with the State's long-term environmental policies or goals and guidelines expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders- The proposed action is consistent with the environmental goals and objectives of the State of Hawaii.

Substantially affects the economic or social welfare of the community or State- The proposed action will affect residents on the Diamond Head side of Punchbowl Street. However, they will be reimbursed for property losses at fair market value. Driveways and specified structures will be reconstructed by the City and County. The general public will benefit from improved transportation service. The regional benefits outweigh the localized impact.

Substantially affects public health- The proposed action will not adversely affect public health. Increased noise levels due to construction activities will be mitigated through strict adherence to City and State rules, regulations and ordinances.

Involves substantial secondary impacts- The proposed project will not cause secondary impacts in light of the existing land uses and zoning designations along the roadway.

Involves substantial degradation of environmental quality- The project will result in some degradation of environmental quality by adding more impervious surface to the area. However, benefits including undergrounding utilities, better air quality, better traffic flow, and new landscaping will result in environmental betterment.

Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions- The proposed action will not cause commitments for other actions. Other roadway projects in the area will be closely coordinated by the City and County to minimize the potential for cumulative impacts.

Substantially affects a rare, threatened or endangered species, or its habitat- There are no rare, threatened or endangered plant or animal species in the area directly affected by the proposed action.

Detrimentially affects air or water quality or ambient noise levels- Since there are no water resources near the project site, there will be no impacts on water quality. Although the project overlies the Southern Oahu Basal Aquifer (SOBA), the aquifer will not be affected. Air quality is expected to improve with the proposed project because there will be less queuing of vehicles and lower CO emissions. Noise levels are expected to increase by less than 3.3 dBA at all but one site. At this site, an increase of 5 dBA is expected. Traffic noise mitigation is being studied by the DDC. Increased noise levels during construction activities will be mitigated through strict adherence to State and City rules and regulations.

Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters- The section of Punchbowl Street which will be affected by the proposed action is not located in an environmentally sensitive area. It is not located in a 50-, 100- or 500- year floodplain, tsunami zone, or near any water resource. While the Southern Oahu Basal Aquifer (SOBA) underlies the project site, the aquifer will not be affected by the proposed action.

Substantially affects scenic vistas and viewplanes identified in County or State plans or studies- The proposed action will not affect scenic vistas or viewplanes. The special viewing site associated with the Punchbowl Special District will not be affected.

Requires substantial energy consumption- The proposed action will not require substantial energy consumption. The proposed project will reduce regional energy consumption in comparison to the No Build Alternative because of improved traffic flow on Punchbowl Street. Traffic congestion is a major source of energy waste.

CHAPTER 5 REFERENCES

- City and County of Honolulu, General Plan, 1992.
- City and County of Honolulu, Primary Urban Center Development Plan, 1990.
- Dawson Environmental Services, "Limited Phase Environmental Site Assessment Report", 1999.
- D.L. Adams, Ltd., d.b.a. Darby & Associates, Acoustical Consultants, Environmental Noise Assessment Study Punchbowl Street Improvements Phase III Honolulu, Hawaii, July 8, 1999.
- B.D. Neal, Meteorologist, Punchbowl Street Widening Project Air Quality Impact Assessment, September 10, 1999.
- Judycki, Dennis C. and Wayne Berman, "Transportation System Management", Transportation Planning Handbook, Institute of Transportation Engineers, 1992
- Mason Architects, Inc., Historical Architectural Consultants, Punchbowl Street Improvements Vineyard Boulevard to H-1 Freeway Historic Inventory Survey of 4 Houses, August 12, 1999.
- Transportation Research Board, National Research Council, 1994 Highway Capacity Manual, 3rd Edition, Washington D.C.
- Oahu Metropolitan Planning Organization, Oahu Regional Transportation Plan (ORTP), November 1995.
- State of Hawaii, Hawaii State Plan, 1991.

Appendix A
Levels of Service Definitions

Appendix A Levels of Service Definitions

The Highway Capacity Manual defines six Levels of Service (LOS), labeled A through F, from best to worst conditions. Levels of Service for signalized and unsignalized intersections are defined in terms of average user delays. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time.

For unsignalized intersections, the Highway Capacity Manual evaluates gaps in the major street traffic flow and calculates available gaps for left-turns across oncoming traffic and for the left and right-turns onto the major roadway from the minor street. The definitions of each level of service are as follows:

- LEVEL-OF-SERVICE A:** Little or no delay.
- LEVEL-OF-SERVICE B:** Short traffic delays.
- LEVEL-OF-SERVICE C:** Average traffic delays.
- LEVEL-OF-SERVICE D:** Long traffic delays.
- LEVEL-OF-SERVICE E:** Very long traffic delays.
- LEVEL-OF-SERVICE F:** Demand volume exceeds capacity, resulting in extreme delays with queuing that may cause severe congestion and affect other movements at the intersection.

Appendix B
Limited Phase I Environmental
Assessment Report



Dawson
ENVIRONMENTAL
SERVICES, INC.

WORKING
TO PRESERVE HAWAII'S
ENVIRONMENT

LIMITED PHASE I ENVIRONMENTAL
SITE ASSESSMENT REPORT

1489 Punchbowl Street
Honolulu, Oahu, Hawaii

March 19, 1999

Dawson Environmental Services, Inc.
900 Fort Street Mall, Suite 1280
Honolulu, Hawaii 96813
800.528.2500

DES JOB No. 99026

Prepared By:

Garrett Jung
Garrett Jung
Staff Geologist

Reviewed By:

Soren Knudsen
Soren Knudsen, P.E.
Senior Engineer

Prepared For:

Parsons Brinckerhoff Quade & Douglas, Inc.
Pacific Tower Suite 3000
1001 Bishop Street
Honolulu, HI 96813

EXECUTIVE SUMMARY

Dawson Environmental Services, Inc. performed a limited Phase I Environmental Site Assessment of the property located at 1489 Punchbowl Street, Honolulu, Hawaii; TMK 2-1-22-001, and its immediate vicinity, to uncover potential USTs in the area. This assessment was performed within the scope and limitations of ASTM Standard Practice E 1527-97 addressing USTs. Based on the information reviewed, this assessment did not uncover any locations with USTs in the immediate vicinity.

1489 Punchbowl Street
Hawaiian Jilly Lube
Limited Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
DES Job No. 89028

TABLE OF CONTENTS

	PAGE
EXECUTIVE SUMMARY.....	i
TABLE OF CONTENTS.....	ii
LIST OF ACRONYMS.....	iii
1.0 INTRODUCTION.....	1
1.1 Purpose and Scope	
1.2 Limitations and Exclusions	
2.0 REGULATORY AGENCY RECORDS REVIEW.....	1
2.1 Federal and State Records	
2.2 Local Records	
2.2.1 Historic Maps	
2.2.2 Aerial Photographs	
2.2.3 Title and Lease Records	
3.0 SITE RECONNAISSANCE AND INTERVIEW INFORMATION.....	3
3.1 Site Reconnaissance	
4.0 CONCLUSIONS.....	4
5.0 SOURCES OF INFORMATION.....	4
APPENDICES	
APPENDIX A: TMK MAPS	
APPENDIX B: FEDERAL AND STATE ENVIRONMENTAL RECORDS	
APPENDIX C: SUPPORT DOCUMENTS	
APPENDIX D: QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS	

1489 Punchbowl Street
Hawaiian Jilly Lube
Limited Phase I Environmental Site Assessment

+

Dawson Environmental Services, Inc.
DES Job No. 89028

LIST OF ACRONYMS

ACRONYM	DEFINITION
ACM	Asbestos Containing Material
ASTM	American Society for Testing and Materials
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CORRACTS	Corrective Action Report
DES	Dawson Environmental Services, Inc.
DOH	State of Hawaii Department of Health
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Phase I Environmental Site Assessment
FINDS	Facility Index System
HMIRS	Hazardous Materials Information Reporting System
kg	Kilogram
MLTS	Material Licensing Tracking System
NPL	National Priorities List
PADS	PCB Activity Database System
PCBs	Polychlorinated biphenyls
RAATS	RCRA Administrative Action Tracking System
RCRA	Resource Conservation and Recovery Act
RCRIS-TSD	Resource Conservation and Recovery Information System
SHWS	State Hazardous Waste
SWF/LF	Permitted Landfills in the State of Hawaii
TSCA	Toxic Substances Control Act
TMK	Tax map key
TRIS	Toxic Chemicals Release Inventory System
UST	Underground Storage Tank

1489 Punchbowl Street
Hawaiian Jiffy Lube
United Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
DES Job No. 98028

1.0 INTRODUCTION

1.1 Purpose and Scope

The purpose of this limited Phase I Environmental Site Assessment (ESA) is to provide a professional opinion as to the potential for the existence of regulated Petroleum underground storage tanks (USTs) on the property located at 1489 Punchbowl Street, Honolulu, HI 96826; tax map key (TMK) 2-1-22-001, and in the immediate vicinity.

This assessment was conducted in accordance with the elements addressing USTs of ASTM Standard E 1527-97, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (ASTM, 1997). The scope of work consisted of review of the following sources:

- 1) Records Review
 - Federal Databases
 - State Databases
 - Local Records
 - Site History
 - 2) Site Reconnaissance and Interviews
 - Site Reconnaissance
 - Interviews
 - 3) Conclusions
- ### 1.2 Limitations and Exclusions

Dawson Environmental Services, Inc. (DES) reviewed record information from standard sources that were readily ascertainable. Occasionally, these records are incomplete or inaccurate. However, DES has made every reasonable effort to ensure the accuracy of the information presented. The purpose of this review was to identify, to the extent feasible, possible UST locations that may affect the right-of-way expansion planned along Punchbowl Street.

2.0 REGULATORY AGENCY RECORDS REVIEW

The record review included a review of publicly available federal, state and local records. Federal and state environmental databases were searched to identify operations on the subject property and vicinity properties regulated by the Environmental Protection Agency (EPA) and/or the Hawaii State Department of Health (DOH).

1489 Punchbowl Street
Hawaiian Jiffy Lube
United Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
DES Job No. 98028

2.1 Federal and State Records

The federal and state environmental databases search was conducted by Environmental Data Resources, Inc. (EDR) which issues a report summarizing their findings (see Appendix B). The EDR database search included the following listings: National Priorities List (NPL) sites; Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) sites; Corrective Action Report (CORRACTS); Facility Index System (FINDS); Resource Conservation State Land Fills/Solid Waste Disposal Sites; Toxic Release Inventory System (TRI); and Leaking Underground Storage Tank (LUST) sites. For the purposes of this report, only the UST and LUST lists were pertinent.

The EDR database did identify the subject site on the UST and LUST lists. The review identified the current Jiffy Lube site as Rod's Auto Service DOH ID # 9-100889. It is listed as having three USTs permanently out of service, associated with site clean-up (LUST) that was completed in 1998. DES conducted a review of DOH records concerning this site on March 12, 1999. According to the DOH, there are no concerns of record associated with the site. Based on this information, it appears that this facility does not pose a threat of underground obstruction from USTs associated with right of way expansion of Punchbowl Street.

2.2 Local Records

Historic Sanborn Fire Insurance Company Maps and aerial photographs were searched for and reviewed when possible to research historic uses of the vicinity. Hawaii Real Property Assessment division records were reviewed to compile an ownership and lease history. Hawaii Tax Appraisal Field Books were reviewed to determine the date of construction or renovation for site structures.

2.2.1 Historic Maps

A review was conducted of Sanborn Fire Insurance Company maps for the site; 1914 through 1927 and 1927 through 1951 maps were found.

The 1914 through 1927 map shows the area bound by Punchbowl Street, Lusitana Street and the then Kinau Lane, now Pele St., and immediate vicinity as a residential area. Tenements and schoolrooms exist where the Royal School cafeteria and classroom structures are present today. The Pacific Club property line runs along Punchbowl Street as it does today. Club tennis courts and several storage facilities are shown along the property line.

1489 Punchbowl Street
Hawaiian Jiffy Lube
Limited Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
DES Job No. 99028

-2-

The 1951 update of the 1927 map shows little significant change to the residential nature of the area. The Royal School is laid out as it exists today. Club cottages have replaced the Pacific Club's tennis courts

2.2.2 Aerial Photographs

Aerial photographs of the area for 1963, 1969, 1983 and 1997 were reviewed to determine if any activity of concern was recorded. The photographs chronicle the area's change from primarily single family to multi-family residential. The Jiffy Lube site appears as a service station for the first time on the 1963 photograph. It remains relatively unchanged throughout the years to the present day.

2.2.3 Title and Lease Records

Based on review of Sanborn Fire Insurance Maps and the available aerial photographs, only the Jiffy Lube site appeared to present a potential cause for concern. Therefore, only the targeted site chain-of-title was reviewed to identify previous owners and lessors. A search of City and County of Honolulu Department of Finance Tax Maps identified the following relevant activities on-site:

- In 1956, Union Oil Company of California acquired parcel 1 from George F. Centeio and wife et al. That same year, Union Oil conveyed the property to North American Life Insurance Company of Chicago who in turn leased the property back to Union Oil for 20 years. The station was built the same year.
- In 1973, Union Oil's lease was canceled and the property was conveyed from North American Life Insurance Company to Theodor Glatzel and wife Maria.
- In 1985, Wilitum, Ltd. acquired the location after having leased it from Theodor Glatzel et al since 1984.
- In 1992, Hawaiian Jiffy, Inc. entered into a lease with Wilitum, Ltd. which remains in effect today.

3.0 SITE RECONNAISSANCE AND INTERVIEW INFORMATION

3.1 Site Reconnaissance

Mr. Soren Knudsen, P.E., of Dawson Environmental Services, Inc. conducted the site reconnaissance on March 12, 1999. Mr. Daryl Matsuno, operations manager of Jiffy Lube, accompanied him. The site reconnaissance included an inspection of the service bays and parking area. The visit confirmed DOH records that the USTs formerly present were no longer on site. According to the operations manager no other USTs have been installed since the removal of the original ones in 1993.

1489 Punchbowl Street
Hawaiian Jiffy Lube
Limited Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
DES Job No. 99028

-3-

4.0 CONCLUSIONS

Dawson Environmental Services, Inc. performed a limited Phase I Environmental Site Assessment of the property located at 1489 Punchbowl Street, Honolulu, Hawaii; TMK 2-1-22-001, and its immediate vicinity, to uncover potential USTs in the area. This assessment was performed within the scope and limitations of ASTM Standard Practice E 1527-97 addressing USTs. Based on the information reviewed, this assessment did not uncover any locations with USTs in the immediate vicinity.

5.0 SOURCES OF INFORMATION

- Procedures
- American Society for Testing and Materials, 1997, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Standard E 1527-97, ASTM, Philadelphia, PA.
 - Hawaii Real Property Assessment Division.
- TMK Information
- Environmental Data Resources, Inc., Southport, CT.
- Federal and State Records
- Hawaii Real Property Assessment Division Tax Maps Branch: History Sheets and Field Appraisal Books.
 - Sanborn Fire Insurance Company Maps from the Bishop Museum.
 - R.M. Towill Corporation, Aerial Photographs.
- Department of Health
- Solid and Hazardous Waste Branch
 - Hazard Evaluation and Emergency Response Branch

APPENDIX A

TMK Map

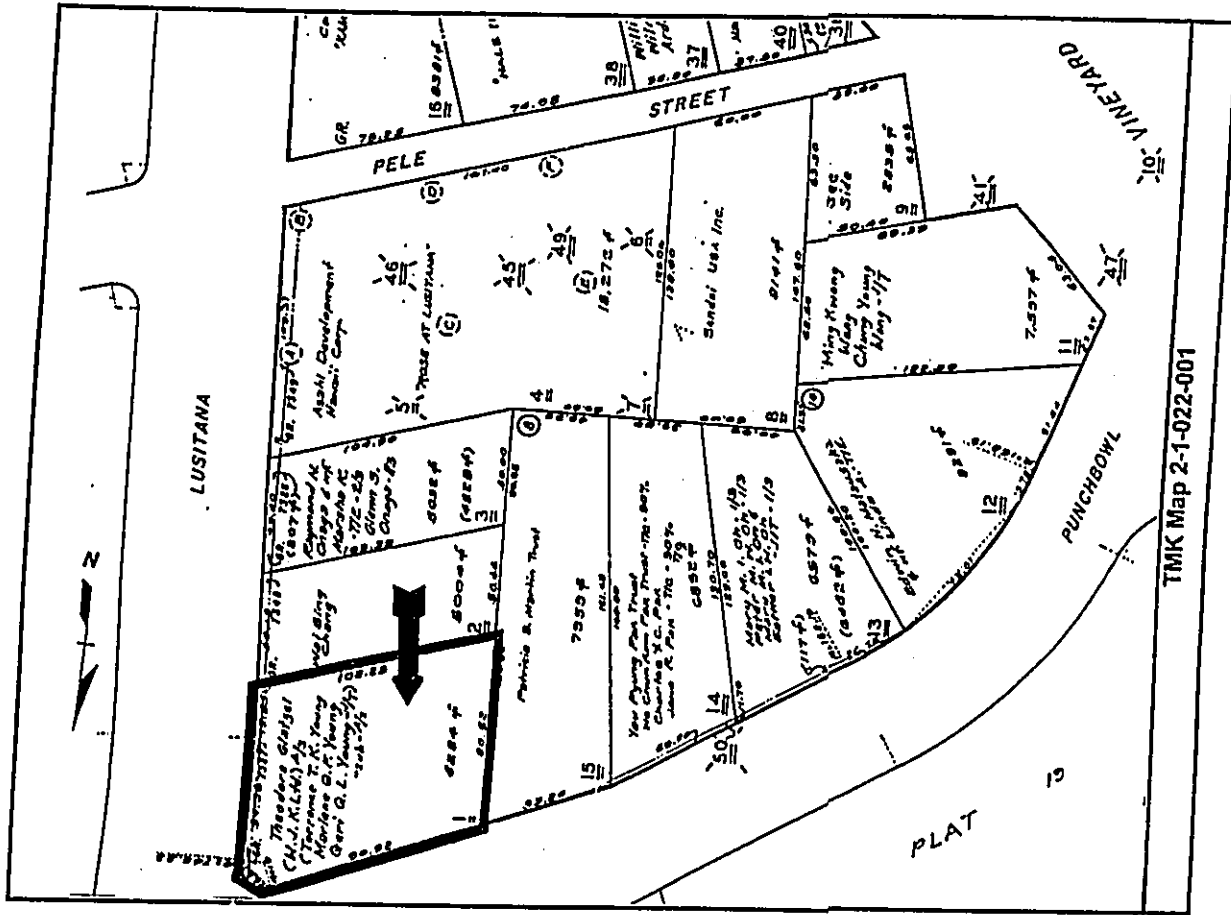
1489 Punchbowl Street
Hawaiian Jiffy Lube
Limited Phase I Environmental Site Assessment

-4-

Dawson Environmental Services, Inc.
DES Job No. 99028

1489 Punchbowl Street
Hawaiian Jiffy Lube
Limited Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
DES Job No. 99028



APPENDIX B
Federal and State
Environmental Records

1489 Punchbowl Street
 Hawaiian Jiffy Lube
 Limited Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
 DES Job No. 89026

TMK Map 2-1-022-001



**The EDR-Radius Map
with GeoCheck®**

1489 Punchbowl
1489 Punchbowl
Honolulu, HI 96813

Inquiry Number: 0346096.1r

March 09, 1999

**The Source
For Environmental
Risk Management
Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Executive Summary.....	ES1
Topographic Map.....	2
GeoCheck Summary.....	3
Overview Map.....	5
Detail Map.....	6
Map Summary - All Sites.....	7
Map Summary - Sites with higher or the same elevation as the Target Property.....	8
Map Findings.....	9
Orphan Summary.....	27
 <u>APPENDICES</u>	
GeoCheck Version 2.1.....	A1
Government Records Searched / Data Currency Tracking Addendum.....	A6

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer and Other Information

This Report contains information obtained from a variety of public and other sources and Environmental Data Resources, Inc. (EDR) makes no representation or warranty regarding the accuracy, reliability, quality, suitability, or completeness of said information or the information contained in this report. The customer shall assume full responsibility for the use of this report.
NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXPRESSED OR IMPLIED, SHALL APPLY AND EDR SPECIFICALLY DISCLAIMS THE MAKING OF SUCH WARRANTIES. IN NO EVENT SHALL EDR BE LIABLE TO ANYONE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES. COPYRIGHT (C) 1998 BY ENVIRONMENTAL DATA RESOURCES, INC. ALL RIGHTS RESERVED.
Unless otherwise indicated, all trademarks used herein are the property of Environmental Data Resources, Inc. or its affiliates.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-97. Search distances are per ASTM standard or custom distances requested by the user.

The address of the subject property for which the search was intended is:

1489 PUNCHBOWL,
HONOLULU, HI 96813

No mapped sites were found in EDR's search of available ("reasonably ascertainable") government records either on the subject property or within the ASTM E 1527-97 search radius around the subject property for the following Databases:

- NPL: National Priority List
- Delisted NPL: NPL Deletions
- RCRIS-TSD: Resource Conservation and Recovery Information System
- SHWS: State Haz. Waste
- CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
- CERC-NFRAP: Comprehensive Environmental Response, Compensation, and Liability Information System
- SWFAP: Permitted Landfills in the State of Hawaii
- HAATS: RCRA Administrative Action Tracking System
- HIMRS: Hazardous Materials Information Reporting System
- PADS: PCB Activity Database System
- ERMS: Emergency Response Notification System
- TRIS: Toxic Chemical Release Inventory System
- NPL Liens: NPL Liens
- TSCA: Toxic Substances Control Act
- MULTS: Material Licensing Tracking System
- ROD: ROD
- CONSENT: Superfund (CERCLA) Consent Decrees

Unmapped (orphan) sites are not considered in the foregoing analysis.

Search Results:

Search results for the subject property and the search radius, are listed below:

Subject Property:

The subject property was identified in the following government records. For more information on this property see page 9 of the attached EDR Radius Map report.

Site	Database(s)	EPA ID
RODS AUTO SVC 1489 PUNCHBOWL ST HONOLULU, HI 96813	RCRIS-SQG FINDS LUST	HIC981693260

EXECUTIVE SUMMARY

Surrounding Properties:

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the subject property includes a tolerance of +/-10 feet. Sites with an elevation equal to or higher than the subject property have been differentiated below from sites with an elevation lower than the subject property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in **bold italics** are in multiple databases.

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which rationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 12/01/1998 has revealed that there is 1 CORRACTS site within approximately 1 mile of the subject property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
HAWAIIAN ELECTRIC CO HONOLULU	170 ALA MOANA BLVD	1/2 - 1 SW	21	25

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Health's Active Leaking Underground Storage Tank Log Listing.

A review of the LUST list, as provided by EDR, and dated 01/20/1999 has revealed that there are 15 LUST sites within approximately 0.5 miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MIKE'S AUTOMOTIVE/SUPPLY INC	225 S VINEYARD BLVD	0 - 1/8 NW	2	9
HIRIAMS CHEVROK	140 SOUTH SCHOOL ST	1/4 - 1/2 N	10	14
BERETANIA STATION	630 S BERETANIA ST	1/4 - 1/2 S	13	17
SASAMOTO UNION SERVICE L-5005	33 S VINEYARD BLVD	1/4 - 1/2 NW	14	18
MTL BUS FACILITY	1133 ALAPAI ST	1/4 - 1/2 S	15	20
TEXACO FOOD MART	1602 NUUANU ST	1/4 - 1/2 HWY 18	18	24

Lower Elevation	Address	Dist / Dir	Map ID	Page
QUEENS MEDICAL CTR	1301 PUNCHBOWL	0 - 1/8 SSW	A3	11
TEXACO STATION	215 VINEYARD BLVD	1/8 - 1/4 NW	5	12
STATE CAPITOL	415 S BERETANIA ST	1/8 - 1/4 SW	8	13
TENNEY'S BISHOP UNION	169 S BERETANIA ST	1/4 - 1/2 W	11	15
DAGS - AUTOMOTIVE MANAGEMENT D	869A PUNCHBOWL ST	1/4 - 1/2 SSW	12	17
DOWNTOWN CHEVROK	17 S BERETANIA ST	1/4 - 1/2 HWY 18	16	22
HAWAII NEWSPAPER AGENCY INC	605 KAPOLAN BLVD	1/4 - 1/2 S	B17	23
HAWAII NUT & BOLT, INC	905 KUKUI ST	1/4 - 1/2 S	B19	24
MALAMA PACIFIC CORP	759 S KING ST	1/4 - 1/2 S	20	25

EXECUTIVE SUMMARY

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health's Listing of Underground Storage Tanks.

A review of the UST Est. as provided by EDR, and dated 07/01/1998 has revealed that there are 5 UST sites within approximately 0.25 miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
MIKE'S AUTOMOTIVE SUPPLY INC	225 S VINEYARD BLVD	0 - 1/8 NW	2	9
QUEEN'S PHYSICIANS' OFFICE BUI	1329 LUSITANA ST	1/8 - 1/4 SSE	9	14
Lower Elevation	Address	Dist / Dir	Map ID	Page
QUEENS MEDICAL CTR	1301 PUNCHBOWL	0 - 1/8 SSW	A3	11
TEXACO STATION	215 VINEYARD BLVD	1/8 - 1/4 NW	5	12
STATE CAPITOL - TMK 2-1-33:25	415 S BERETANA ST	1/8 - 1/4 SW	8	13

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG Est. as provided by EDR, and dated 10/01/1998 has revealed that there is 1 RCRIS-SQG site within approximately 0.25 miles of the subject property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
QUEENS MEDICAL CENTER	1301 PUNCHBOWL	0 - 1/8 SSW	A4	11

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-LOG Est. as provided by EDR, and dated 10/01/1998 has revealed that there are 2 RCRIS-LOG sites within approximately 0.25 miles of the subject property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
DEPT OF HEALTH	1250 PUNCHBOWL ST	1/8 - 1/4 SSW	5	12
HAWAII STATE DEPT OF EDUCATION	1270 QUEEN EMMA ST	1/8 - 1/4 W	7	13

(Coal Gas) Former Manufactured gas (Coal Gas) Sites:
The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

A review of the Coal Gas Est. as provided by EDR, has revealed that there are 2 Coal Gas sites within approximately 1 mile of the subject property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
HAWAIIAN GAS PRODUCTS LTD.	516-522 KUWILI ST.	1/2 - 1 WNW	22	25
HONOLULU GAS CO., LTD.	400-484 PACIFIC ST.	1/2 - 1 WNW	23	26

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
OAHU LUMBER & HARDWARE CO., LTD.	UST, LUST
ALLSTATE INDUSTRIAL AND MARINE	RCRIS-SQG, FINDS

**GEOCHECK VERSION 2.1
SUMMARY**

AREA RADON INFORMATION

EPA Radon Zone for HONOLULU County: 3

Note: Zone 1 indoor average level > 4 pCi/L
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L
 : Zone 3 indoor average level < 2 pCi/L

Zip Code: 96813

Number of sites tested: 3

Area	Average Activity	% <= 4 pCi/L	% 4-20 pCi/L	% > 20 pCi/L
Living Area - 1st Floor	0.067 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.350 pCi/L	100%	0%	0%

OVERVIEW MAP - 0346096.1r - Dawson Environmental Services



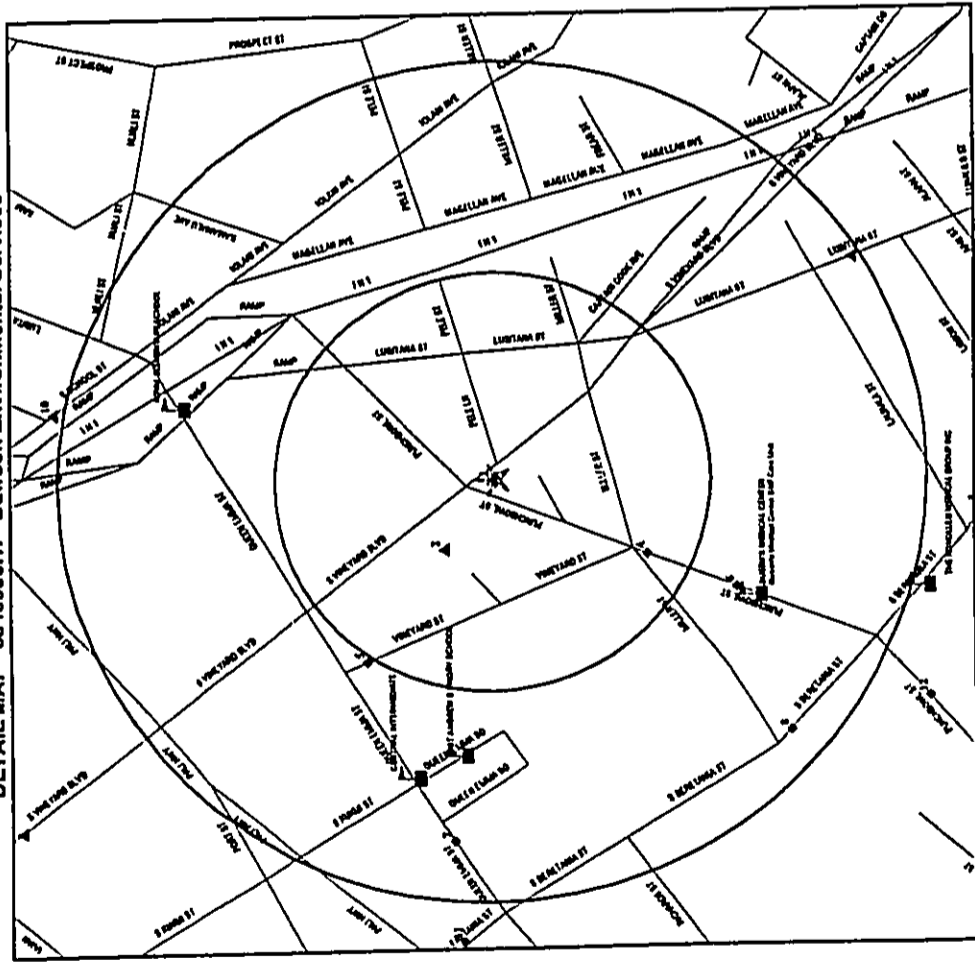
- * Target Property
- A Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- A Coal Gasification Sites (if requested)
- National Priority List Sites
- Landfill Sites

- N Power transmission lines
- M Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY: 1489 Punchbowl
 ADDRESS: 1489 Punchbowl
 CITY/STATE/ZIP: Honolulu HI 96813
 LAT/LONG: 21.3132 / 157.8569

CUSTOMER: Dawson Environmental Services
 CONTACT: Mr. Soren Krauttsen
 INQUIRY #: 0346096.1r
 DATE: March 09, 1999 3:05 pm

DETAIL MAP - 0346096.1r - Dawson Environmental Services



MAP FINDINGS SUMMARY SHOWING ALL SITES

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Provided
NPL		1.000	0	0	0	0	NR	0
Deified NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
CERCLUS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	1	NR	1
State Landfill		0.500	0	0	0	NR	NR	0
LUST	X	0.500	2	2	11	NR	NR	15
UST	X	0.250	2	3	NR	NR	NR	5
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sn. Quan. Gen.	X	0.250	1	0	NR	NR	NR	1
RCRIS Lq. Quan. Gen.		0.250	0	2	NR	NR	NR	2
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Users	X	TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		1.000	0	0	0	2	NR	2

TP - Target Property
 NR - Not Requested at this Search Distance
 * Sites may be listed in more than one database

TARGET PROPERTY: 1489 Punchbowl
 ADDRESS: 1489 Punchbowl
 CITY/STATE/ZIP: Honolulu HI 96813
 LAT/LONG: 21.3132 / 157.8569

CUSTOMER: Dawson Environmental Services
 CONTACT: Mt. Sorens Knudsen
 INQUIRY #: 0346096.1r
 DATE: March 05, 1999 3:07 pm

MAP FINDINGS SUMMARY SHOWING ONLY SITES HIGHER THAN OR THE SAME ELEVATION AS TP

Map ID: MAP FINDINGS

Direction: NW
 Distance (ft): 284
 Elevation: Higher

Database(s): RCRIS-SOG, FINDS, LUST, LUST

EDR ID Number: 1000373484
 EPA ID Number: H0298187240

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Devised NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST	X	0.500	1	0	5	NR	NR	6
UST	X	0.250	1	1	NR	NR	NR	2
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.	X	0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PAIS		TP	NR	NR	NR	NR	NR	0
ERMS		TP	NR	NR	NR	NR	NR	0
FINDS	X	TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		1.000	0	0	0	0	NR	0

TP = Target Property
 NR = Not Requested at this Search Distance
 * Sites may be listed in more than one database

1
 Target Property: RCRIS-SOG, FINDS, LUST, LUST
 Address: 1489 POUNGCHOWL ST, HONOLULU, HI 96813
 Elevation: 284
 Direction: NW
 Distance (ft): 284
 Elevation: Higher

Owner: RODNEY Y. TAKAMATSU
 (415) 555-1212
 Contact: ENVIRONMENTAL MANAGER
 (808) 336-9724
 Record Date: 12/11/1986
 Classification: Small Quantity Generator
 Used Oil Recycle: No
 Violation Status: No violations found

LUST:
 Facility ID: 9-100889
 Alternate Event ID: 910063
 Facility Status: Site Cleanup Completed
 Facility Status Date: 1/17/1998

UST:
 Facility ID: 9-100889
 Tank Status: Permanently Out of Use
 Installed: 05/08/95
 Substance: Gasoline
 Owner: WILLIAM, LTD.
 94-748A HIKUAOE ST.
 Waiapahu, HI 96797

UST:
 Facility ID: 9-100889
 Tank Status: Permanently Out of Use
 Installed: 05/08/95
 Substance: Gasoline
 Owner: WILLIAM, LTD.
 94-748A HIKUAOE ST.
 Waiapahu, HI 96797

UST:
 Facility ID: 9-100889
 Tank Status: Permanently Out of Use
 Installed: 05/08/95
 Substance: Used Oil
 Owner: WILLIAM, LTD.
 94-748A HIKUAOE ST.
 Waiapahu, HI 96797

2
 Target Property: MIKE'S AUTOMOTIVE/SUPPLY INC
 Address: 225 S VINEYARD BLVD, HONOLULU, HI 96813
 Elevation: 284
 Direction: NW
 Distance (ft): 284
 Elevation: Higher

LUST:
 Facility ID: 9-101004
 Alternate Event ID: 880026
 Facility Status: LUST Cleanup Imposed: Petroleum
 Facility Status Date: 03/04/1989

Map ID
Direction
Distance
Elevation
Site

MAP FINDINGS

Database(s)
EPA ID Number

U001233331

MIK'S AUTOMOTIVE/SUPPLY INC (Continued)

UST:
Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/19/71
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/18/65
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/18/65
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/18/65
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 09/26/95
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Currently in Use
Installed: 09/26/95
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Currently in Use
Installed: 09/26/95
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Tank ID: R-1
Tank Capacity: 6000
Date Closed: 18-Sep-95

Tank ID: R-2
Tank Capacity: 7000
Date Closed: 18-Sep-95

Tank ID: R-3
Tank Capacity: 6000
Date Closed: 18-Sep-95

Tank ID: R-4
Tank Capacity: 4000
Date Closed: 18-Sep-95

Tank ID: R-5
Tank Capacity: 500
Date Closed: 20-Sep-95

Tank ID: 6
Tank Capacity: 12000
Date Closed: Not reported

Tank ID: 7
Tank Capacity: 12000
Date Closed: Not reported

Map ID
Direction
Distance
Elevation
Site

MAP FINDINGS

Database(s)
EPA ID Number

MLTS
UST
LUST

QUEENS MEDICAL CTR
1301 PUNCHBOWL
HONOLULU, HI 96813

UST:
Facility ID: 9-100901
Alarmable Event ID: 990796
Facility Status: Confirmed Release
Facility Status Date: 12/22/1998

Facility ID: 9-100901
Alarmable Event ID: 900056
Facility Status: Disconfirmed Release
Facility Status Date: 06/20/1993

UST:
Facility ID: 9-100901
Tank Status: Currently in Use
Installed: 04/09/85
Substance: Diesel
Owner: THE QUEENS MEDICAL CENTER
FACILITIES & BUILDING MAINTENANCE / 1301 PUNCHBOWL S
Honolulu, HI 96813

Tank ID: 1
Tank Capacity: 15000
Date Closed: Not reported

Facility ID: 9-100901
Tank Status: Currently in Use
Installed: 04/09/85
Substance: Diesel
Owner: THE QUEENS MEDICAL CENTER
FACILITIES & BUILDING MAINTENANCE / 1301 PUNCHBOWL S
Honolulu, HI 96813

Tank ID: 2
Tank Capacity: 10000
Date Closed: Not reported

Facility ID: 9-100901
Tank Status: Currently in Use
Installed: 04/09/85
Substance: Diesel
Owner: THE QUEENS MEDICAL CENTER
FACILITIES & BUILDING MAINTENANCE / 1301 PUNCHBOWL S
Honolulu, HI 96813

Tank ID: 3
Tank Capacity: 9000
Date Closed: Not reported

QUEENS MEDICAL CENTER
1301 PUNCHBOWL
HONOLULU, HI 96813

RCRIS:
Owner: QUEENS MEDICAL CENTER
(808) 517-4596
Contact: RICHARD MORGAN
(808) 517-4586
Record Date: 01/20/1995
Classification: Small Quantity Generator

A3
SSW
< 1/8
525
Lower

RCRIS-SQG
FMDS
1000978235
RID15773284

Map ID
Direction
Distance
Elevation
Site

MAP FINDINGS

Database(s)
EPA ID Number

U001233331

MIK'S AUTOMOTIVE/SUPPLY INC (Continued)

UST:
Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/19/71
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/18/65
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/18/65
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 04/18/65
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Permanently Out of Use
Installed: 09/26/95
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Currently in Use
Installed: 09/26/95
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Facility ID: 9-101034
Tank Status: Currently in Use
Installed: 09/26/95
Substance: Gasoline
Owner: SHELL OIL CORPORATION
1441 KAPOLANI BLVD., SUITE 1001
Honolulu, HI 96814

Tank ID: R-1
Tank Capacity: 6000
Date Closed: 18-Sep-95

Tank ID: R-2
Tank Capacity: 7000
Date Closed: 18-Sep-95

Tank ID: R-3
Tank Capacity: 6000
Date Closed: 18-Sep-95

Tank ID: R-4
Tank Capacity: 4000
Date Closed: 18-Sep-95

Tank ID: R-5
Tank Capacity: 500
Date Closed: 20-Sep-95

Tank ID: 6
Tank Capacity: 12000
Date Closed: Not reported

Tank ID: 7
Tank Capacity: 12000
Date Closed: Not reported

Map ID
Direction
Distance
Elevation
Site

MAP FINDINGS

Database(s)
EPA ID Number

MLTS
UST
LUST

QUEENS MEDICAL CTR
1301 PUNCHBOWL
HONOLULU, HI 96813

UST:
Facility ID: 9-100901
Alarmable Event ID: 990796
Facility Status: Confirmed Release
Facility Status Date: 12/22/1998

Facility ID: 9-100901
Alarmable Event ID: 900056
Facility Status: Disconfirmed Release
Facility Status Date: 06/20/1993

UST:
Facility ID: 9-100901
Tank Status: Currently in Use
Installed: 04/09/85
Substance: Diesel
Owner: THE QUEENS MEDICAL CENTER
FACILITIES & BUILDING MAINTENANCE / 1301 PUNCHBOWL S
Honolulu, HI 96813

Tank ID: 1
Tank Capacity: 15000
Date Closed: Not reported

Facility ID: 9-100901
Tank Status: Currently in Use
Installed: 04/09/85
Substance: Diesel
Owner: THE QUEENS MEDICAL CENTER
FACILITIES & BUILDING MAINTENANCE / 1301 PUNCHBOWL S
Honolulu, HI 96813

Tank ID: 2
Tank Capacity: 10000
Date Closed: Not reported

Facility ID: 9-100901
Tank Status: Currently in Use
Installed: 04/09/85
Substance: Diesel
Owner: THE QUEENS MEDICAL CENTER
FACILITIES & BUILDING MAINTENANCE / 1301 PUNCHBOWL S
Honolulu, HI 96813

Tank ID: 3
Tank Capacity: 9000
Date Closed: Not reported

QUEENS MEDICAL CENTER
1301 PUNCHBOWL
HONOLULU, HI 96813

RCRIS:
Owner: QUEENS MEDICAL CENTER
(808) 517-4596
Contact: RICHARD MORGAN
(808) 517-4586
Record Date: 01/20/1995
Classification: Small Quantity Generator

A4
SSW
< 1/8
525
Lower

RCRIS-SQG
FMDS
1000978235
RID15773284

Map ID
Direction
Distance
Elevation

MAP FRIDINGS

EDR ID Number
EPA ID Number

Database(s)

100078823

QUEENS MEDICAL CENTER (Continued)

Used On Recyc: No
Violation Status: No violations found

FRIDS:

Other Potential Environmental Activity Identified at Site:
- Facility is monitored or permitted for air emissions under the Clean Air Act (under AFS/AIRS)

TEXACO STATION
215 VINEYARD BLVD
HONOLULU, HI 96813

UST
LUST

U00123169
N/A

LUST:

Facility ID: 9-100343
Alternate Event ID: 980150
Facility Status: Confirmed Release
Facility Status Date: 05/15/1998

Facility ID: 9-100343
Tank Status: Currently In Use
Installed: 02/06/85
Substance: Gasoline
Owner: TEXACO REFINING & MARKETING INC.
ENVIRONMENTAL SERVICES / 1800 SW FIRST AVE., SUITE 1
Portland, OR 97201

Facility ID: 9-100343
Tank Status: Currently In Use
Installed: 02/06/85
Substance: Gasoline
Owner: TEXACO REFINING & MARKETING INC.
ENVIRONMENTAL SERVICES / 1800 SW FIRST AVE., SUITE 1
Portland, OR 97201

Facility ID: 9-100343
Tank Status: Currently In Use
Installed: 02/06/85
Substance: Gasoline
Owner: TEXACO REFINING & MARKETING INC.
ENVIRONMENTAL SERVICES / 1800 SW FIRST AVE., SUITE 1
Portland, OR 97201

DEPT OF HEALTH
1259 PUNCHBOWL ST
HONOLULU, HI 96813

UST
LUST

100154489
HID:980716987

Map ID
Direction
Distance
Elevation

MAP FRIDINGS

EDR ID Number
EPA ID Number

Database(s)

1000154489

DEPT OF HEALTH (Continued)

FRIDS:
Owner: STATE OF HAWAII
(415) 555-1212

Contact: ENVIRONMENTAL MANAGER
(808) 548-2203

Record Date: 06/18/1982

Classification: Large Quantity Generator

Used On Recyc: No

Violation Status: No violations found

HAWAII STATE DEPT OF EDUCATION
1270 QUEEN KAMA ST
HONOLULU, HI 96813

FRIDS
RCRIS-LOG

100016667
HID:980485731

RCRIS:

Owner: NOT REQUIRED
(415) 555-1212

Contact: ENVIRONMENTAL MANAGER
(808) 385-8916

Record Date: 12/14/1981

Classification: Large Quantity Generator

Used On Recyc: No

Violation Status: No violations found

STATE CAPITOL - TANK 2-1-31-23
415 S BERETANIA ST
HONOLULU, HI 96813

UST
LUST

U003154812
N/A

LUST:

Facility ID: 9-102632
Alternate Event ID: 920078
Facility Status: Confirmed Release
Facility Status Date: 03/20/1993

Facility ID: 9-102632
Tank Status: Temporarily Out of Use
Installed: 12/20/72
Substance: Not Listed
Owner: STATE DAGS - PROJECT MANAGEMENT BRANCH
1151 PUNCHBOWL ST, RM 427
Honolulu, HI 96813

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Database(s)
EPA ID Number

1003154812

STATE CAPITOL - TANK 2-1-33-25 (Continued)

Facility ID: 9-102792
Tank Status: Temporary Out of Use
Installed: 12/20/72
Substance: Not Used
Owner: STATE DIAGS. - PROJECT MANAGEMENT BRANCH
1151 PUNCHBOWL ST. RM 427
Honolulu, HI 96813

Tank ID: 2
Tank Capacity: 1000
Date Closed: Not reported

QUEEN'S PHYSICIANS' OFFICE BUILDING
1329 LUSITANIA ST
HONOLULU, HI 96813

UST

U001215983
N/A

UST:

Facility ID: 9-102022
Tank Status: Currently in Use
Installed: 11/20/90
Substance: Diesel
Owner: THE QUEEN'S MEDICAL CENTER
FACILITIES & BUILDING MAINTENANCE / 1301 PUNCHBOWL S
Honolulu, HI 96813

Tank ID: 14-1
Tank Capacity: 500
Date Closed: Not reported

HIRAAMS CHEVRON
140 SOUTH SCHOOL ST
HONOLULU, HI 96813

1600150007
HD381654773

UST:

Facility ID: 9-101229
Alternate Event ID: 880013
Facility Status: Site Cleanup Completed
Facility Status Date: 12/27/1994

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101229
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Honolulu, HI 96813

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Database(s)
EPA ID Number

1000150007

HIRAAMS CHEVRON (Continued)

Facility ID: 9-101229
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Honolulu, HI 96813

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101229
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Honolulu, HI 96813

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101229
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Honolulu, HI 96813

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101229
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Honolulu, HI 96813

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

TERNEY'S BISHOP UNION
169 S BERTANIA ST
HONOLULU, HI 96813

U001215003
N/A

UST:

Facility ID: 9-100015
Alternate Event ID: 910092
Facility Status: Site Cleanup Completed
Facility Status Date: 03/04/1995

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-100015
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: UNOCAL CORPORATION
3915 Mission Avenue
Honolulu, HI 96813

11
West
1/4-1/2
1448
Lower

UST
LUST

Map ID
Direction
Distance (ft)
Elevation

MAP FINDINGS

TEHNEY'S BISHOP UNOON (Continued)

		Database(s)	EPA ID Number
Facility ID:	9-100015		U001225003
Tank Status:	Not reported		
Installed:	Not reported	Tank ID:	Not reported
Substance:	Not reported	Tank Capacity:	Not reported
Owner:	UNOCAL CORPORATION	Date Closed:	Not reported
	3915 Mission Avenue		
	Not reported		
Facility ID:	9-100015		
Tank Status:	Not reported	Tank ID:	Not reported
Installed:	Not reported	Tank Capacity:	Not reported
Substance:	Not reported	Date Closed:	Not reported
Owner:	UNOCAL CORPORATION		
	3915 Mission Avenue		
	Not reported		
Facility ID:	9-100015		
Tank Status:	Not reported	Tank ID:	Not reported
Installed:	Not reported	Tank Capacity:	Not reported
Substance:	Not reported	Date Closed:	Not reported
Owner:	UNOCAL CORPORATION		
	3915 Mission Avenue		
	Not reported		
Facility ID:	9-100015		
Tank Status:	Not reported	Tank ID:	Not reported
Installed:	Not reported	Tank Capacity:	Not reported
Substance:	Not reported	Date Closed:	Not reported
Owner:	UNOCAL CORPORATION		
	3915 Mission Avenue		
	Not reported		
Facility ID:	9-100015		
Tank Status:	Not reported	Tank ID:	Not reported
Installed:	Not reported	Tank Capacity:	Not reported
Substance:	Not reported	Date Closed:	Not reported
Owner:	UNOCAL CORPORATION		
	3915 Mission Avenue		
	Not reported		

Map ID
Direction
Distance (ft)
Elevation

MAP FINDINGS

Database(s)

		Database(s)	EPA ID Number
Map ID:	12		U001235088
Direction:	SW		N/A
Distance (ft):	14-12	UST	
Elevation:	1499	LUST	
Site:	Lower		
DAGS - AUTOMOTIVE MANAGEMENT DIVISION			
889A PUNCHBOWL ST HONOLULU, HI 96813			
LUST:			
Facility ID:	9-100189		
Assemble Event ID:	870009		
Facility Status:	Site Cleanup Completed		
Facility Status Date:	08/03/1996		
LUST:			
Facility ID:	9-100189	Tank ID:	001
Tank Status:	Currently In Use	Tank Capacity:	6000
Installed:	12/01/87	Date Closed:	Not reported
Substance:	Gasoline		
Owner:	STATE DAGS - AUTO MANAGEMENT DIVISION		
	889A PUNCHBOWL ST.		
	Honolulu, HI 96813		
Facility ID:	9-100189	Tank ID:	002
Tank Status:	Currently In Use	Tank Capacity:	500
Installed:	12/01/87	Date Closed:	Not reported
Substance:	Used Oil		
Owner:	STATE DAGS - AUTO MANAGEMENT DIVISION		
	889A PUNCHBOWL ST.		
	Honolulu, HI 96813		
Facility ID:	9-100189	Tank ID:	R-1
Tank Status:	Permanently Out of Use	Tank Capacity:	6000
Installed:	04/30/81	Date Closed:	Not reported
Substance:	Gasoline		
Owner:	STATE DAGS - AUTO MANAGEMENT DIVISION		
	889A PUNCHBOWL ST.		
	Honolulu, HI 96813		
Facility ID:	9-100189	Tank ID:	R-2
Tank Status:	Permanently Out of Use	Tank Capacity:	250
Installed:	04/30/81	Date Closed:	Not reported
Substance:	Used Oil		
Owner:	STATE DAGS - AUTO MANAGEMENT DIVISION		
	889A PUNCHBOWL ST.		
	Honolulu, HI 96813		
BERETANA STATION			
630 S BERETANA ST HONOLULU, HI 96813			
LUST:			
Facility ID:	9-100118		U00221547
Assemble Event ID:	820104		N/A
Facility Status:	Site Cleanup Completed		
Facility Status Date:	07/16/1993		

Map ID
 Direction
 Distance
 Elevation

MAP FRIDINGS

Database(s)
 EDR ID Number
 EPA ID Number

UN03221547

BERETAUNA STATION (Continued)

UST:
 Facility ID: 9-100118
 Tank Status: Currently In Use
 Installed: 10/01/93
 Substance: Gasoline
 Owner: BOARD OF WATER SUPPLY
 630 S. BERETAUNA ST
 Honolulu, HI 96843

Tank ID: 1
 Tank Capacity: 2500
 Date Closed: Not reported

Facility ID: 9-100118
 Tank Status: Currently In Use
 Installed: 10/01/93
 Substance: Gasoline
 Owner: BOARD OF WATER SUPPLY
 630 S. BERETAUNA ST
 Honolulu, HI 96843

Tank ID: 2
 Tank Capacity: 2500
 Date Closed: Not reported

Facility ID: 9-100118
 Tank Status: Currently In Use
 Installed: 12/30/90
 Substance: Diesel
 Owner: BOARD OF WATER SUPPLY
 630 S. BERETAUNA ST
 Honolulu, HI 96843

Tank ID: 3
 Tank Capacity: 1000
 Date Closed: Not reported

Facility ID: 9-100118
 Tank Status: Permanently Out of Use
 Installed: 12/30/90
 Substance: Diesel
 Owner: BOARD OF WATER SUPPLY
 630 S. BERETAUNA ST
 Honolulu, HI 96843

Tank ID: R-4
 Tank Capacity: 550
 Date Closed: 24-Nov-92

Facility ID: 9-100118
 Tank Status: Permanently Out of Use
 Installed: 12/30/92
 Substance: Other
 Owner: BOARD OF WATER SUPPLY
 630 S. BERETAUNA ST
 Honolulu, HI 96843

Tank ID: R-5
 Tank Capacity: 10000
 Date Closed: 30-Aug-92

Facility ID: 9-100118
 Tank Status: Permanently Out of Use
 Installed: 12/30/92
 Substance: Other
 Owner: BOARD OF WATER SUPPLY
 630 S. BERETAUNA ST
 Honolulu, HI 96843

Tank ID: R-6
 Tank Capacity: 10000
 Date Closed: 30-Aug-92

14
 NW
 1/4-1/2
 1795
 Higher

UST
 UST

UN03221548
 N/A

Map ID
 Direction
 Distance
 Elevation

MAP FRIDINGS

Database(s)
 EDR ID Number
 EPA ID Number

UN03221548

SASAMOTO UNION SERVICE L-5005 (Continued)

UST:
 Facility ID: 9-100022
 Tank Status: Not reported
 Installed: Not reported
 Substance: Not reported
 Owner: UNOCAL CORPORATION
 3915 Mission Avenue
 Honolulu, HI 96843

Tank ID: Not reported
 Tank Capacity: Not reported
 Date Closed: Not reported

Facility ID: 9-100022
 Tank Status: Not reported
 Installed: Not reported
 Substance: Not reported
 Owner: UNOCAL CORPORATION
 3915 Mission Avenue
 Honolulu, HI 96843

Tank ID: Not reported
 Tank Capacity: Not reported
 Date Closed: Not reported

Facility ID: 9-100022
 Tank Status: Not reported
 Installed: Not reported
 Substance: Not reported
 Owner: UNOCAL CORPORATION
 3915 Mission Avenue
 Honolulu, HI 96843

Tank ID: Not reported
 Tank Capacity: Not reported
 Date Closed: Not reported

Facility ID: 9-100022
 Tank Status: Not reported
 Installed: Not reported
 Substance: Not reported
 Owner: UNOCAL CORPORATION
 3915 Mission Avenue
 Honolulu, HI 96843

Tank ID: Not reported
 Tank Capacity: Not reported
 Date Closed: Not reported

Facility ID: 9-100022
 Tank Status: Not reported
 Installed: Not reported
 Substance: Not reported
 Owner: UNOCAL CORPORATION
 3915 Mission Avenue
 Honolulu, HI 96843

Tank ID: Not reported
 Tank Capacity: Not reported
 Date Closed: Not reported

Facility ID: 9-100022
 Tank Status: Not reported
 Installed: Not reported
 Substance: Not reported
 Owner: UNOCAL CORPORATION
 3915 Mission Avenue
 Honolulu, HI 96843

Tank ID: Not reported
 Tank Capacity: Not reported
 Date Closed: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Map ID
Direction
Distance
Elevation

MAP FINDINGS

EDR ID Number
EPA ID Number

EDR ID Number
EPA ID Number

Database(s)

Database(s)

SASAMOTO UNION SERVICE L-5005 (Continued)

U003221548

MTL BUS FACILITY (Continued)

U001235087

Facility ID: 9-100022
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: UHOICAL CORPORATION
3915 Mission Avenue
Honolulu, HI 96813

Tank ID:
Tank Capacity:
Date Closed:
Not reported
Not reported
Not reported

Facility ID: 9-100022
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: UHOICAL CORPORATION
3915 Mission Avenue
Honolulu, HI 96813

Tank ID:
Tank Capacity:
Date Closed:
Not reported
Not reported
Not reported

MTL BUS FACILITY

U001235087

Facility ID:
Tank Status:
Installed:
Substance:
Owner:

Tank ID:
Tank Capacity:
Date Closed:
R-A6
2000
30-Jun-90

LUST:

Facility ID: 9-100150
Alternate Event ID: 900059
Facility Status: Site Cleanup Completed
Facility Status Date: 10/24/1995

UST
LUST

UST:

Facility ID: 9-100150
Tank Status: Permanently Out of Use
Installed: Not reported
Substance: Diesel
Owner: HONOLULU C&C DEPT OF TRANSPORTATION SERVICES
711 KAPOLOAHI BLVD. SUITE 1200
Honolulu, HI 96813

U001235087

Facility ID:
Tank Status:
Installed:
Substance:
Owner:

Tank ID:
Tank Capacity:
Date Closed:
R-A7
4000
30-Jun-90

UST:

Facility ID: 9-100150
Tank Status: Permanently Out of Use
Installed: Not reported
Substance: Diesel
Owner: HONOLULU C&C DEPT OF TRANSPORTATION SERVICES
711 KAPOLOAHI BLVD. SUITE 1200
Honolulu, HI 96813

U001235087

Facility ID:
Tank Status:
Installed:
Substance:
Owner:

Tank ID:
Tank Capacity:
Date Closed:
R-1
12000
Not reported

UST:

Facility ID: 9-100150
Tank Status: Permanently Out of Use
Installed: Not reported
Substance: Diesel
Owner: HONOLULU C&C DEPT OF TRANSPORTATION SERVICES
711 KAPOLOAHI BLVD. SUITE 1200
Honolulu, HI 96813

U001235087

Facility ID:
Tank Status:
Installed:
Substance:
Owner:

Tank ID:
Tank Capacity:
Date Closed:
R-2
12000
Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

EPA ID Number
EPA ID Number

Database(s)

MTL BUS FACILITY (Continued)
U001235047

Facility ID: 9-100150
Tank Status: Permanently Out of Use
Installed: 01/21/92
Substance: Used Oil
Owner: HONOLULU C&C DEPT OF TRANSPORTATION SERVICES
711 KAPOLANI BLVD. SUITE 1200
HONOLULU, HI 96813

Tank ID: R-4
Tank Capacity: 4000
Date Closed: Not reported

16
WTRW
1/4-1/2
2108
Lower

DOWNTOWN CHEVRON
17 S BERETANIA ST
HONOLULU, HI 96813

U003221646
N/A

LUST
LUST

LUST:
Facility ID: 9-101100
Alternate Event ID: 910002
Facility Status: Site Cleanup Completed
Facility Status Date: 12/02/1992

Facility ID: 9-101100
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Not reported

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101100
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Not reported

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101100
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Not reported

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101100
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Not reported

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

EPA ID Number
EPA ID Number

Database(s)

DOWNTOWN CHEVRON (Continued)
U003221646

Facility ID: 9-101100
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Not reported

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

Facility ID: 9-101100
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: CHEVRON U.S.A., INC
1001 BISHOP ST.
Not reported

Tank ID: Not reported
Tank Capacity: Not reported
Date Closed: Not reported

HAWAII NEWSPAPER AGENCY INC
605 KAPOLANI BLVD
HONOLULU, HI 96813

1000146678
LUST
LUST

B17
South
1/4-1/2
2160
Lower

LUST:
Facility ID: 9-100938
Alternate Event ID: 920071
Facility Status: Confirmed Release
Facility Status Date: 09/01/1991

Facility ID: 9-100938
Tank Status: Not reported
Installed: Not reported
Substance: Not reported
Owner: HAWAII NEWSPAPER AGENCY, INC.
605 KAPOLANI BLVD.
HONOLULU, HI 96813

Tank ID: R-3
Tank Capacity: 0
Date Closed: Not reported

Facility ID: 9-100938
Tank Status: Permanently Out of Use
Installed: Not reported
Substance: Not reported
Owner: HAWAII NEWSPAPER AGENCY, INC.
605 KAPOLANI BLVD.
HONOLULU, HI 96813

Tank ID: 1
Tank Capacity: 6000
Date Closed: Not reported

Facility ID: 9-100938
Tank Status: Currently in Use
Installed: 05/16/78
Substance: Gasoline
Owner: HAWAII NEWSPAPER AGENCY, INC.
605 KAPOLANI BLVD.
HONOLULU, HI 96813

Tank ID: 2
Tank Capacity: 6000
Date Closed: Not reported

Facility ID: 9-100938
Tank Status: Currently in Use
Installed: 05/16/78
Substance: Gasoline
Owner: HAWAII NEWSPAPER AGENCY, INC.
605 KAPOLANI BLVD.
HONOLULU, HI 96813

Tank ID: 2
Tank Capacity: 6000
Date Closed: Not reported

Map ID: 18
 Direction: SW
 Distance: 1/4-1/2
 Elevation: 243
 Site: Higher

Map ID: 20
 Direction: South
 Distance: 1/4-1/2
 Elevation: 2573
 Site: Lower

Map ID: 21
 Direction: SW
 Distance: 1/2-1
 Elevation: 3800
 Site: Lower

Map ID: 22
 Direction: SW
 Distance: 1/2-1
 Elevation: 3800
 Site: Lower

MAP FINDINGS

Database(s): UST, LUST

EPA ID Number: U001235570
 EDR ID Number: N/A

TEXACO FOOD MART
 1602 HUIJUANU ST
 HONOLULU, HI 96817

LUST:
 Facility ID: 9-101725
 Alternate Event ID: 960151
 Facility Status: Confirmed Release
 Facility Status Date: 05/15/1998

UST:
 Facility ID: 9-101725
 Tank Status: Currently in Use
 Installed: 09/20/88
 Substance: Gasoline
 Owner: TEXACO REFINING & MARKETING INC.
 ENVIRONMENTAL SERVICES / 1800 SW FIRST AVE., SUITE 1
 Portland, OR 97201

Tank ID: 001
 Tank Capacity: 10000
 Date Closed: Not reported

Facility ID: 9-101725
 Tank Status: Currently in Use
 Installed: 09/20/88
 Substance: Gasoline
 Owner: TEXACO REFINING & MARKETING INC.
 ENVIRONMENTAL SERVICES / 1800 SW FIRST AVE., SUITE 1
 Portland, OR 97201

Tank ID: 002
 Tank Capacity: 10000
 Date Closed: Not reported

Facility ID: 9-101725
 Tank Status: Currently in Use
 Installed: 09/20/88
 Substance: Gasoline
 Owner: TEXACO REFINING & MARKETING INC.
 ENVIRONMENTAL SERVICES / 1800 SW FIRST AVE., SUITE 1
 Portland, OR 97201

Tank ID: 003
 Tank Capacity: 10000
 Date Closed: Not reported

HAWAII HUT & BOLT, INC
 905 AHUA ST
 HONOLULU, HI 96819

LUST:
 Facility ID: 9-101899
 Alternate Event ID: 800123
 Facility Status: LUST Cleanup Initiated: Petroleum
 Facility Status Date: 12/04/1989

UST:
 Facility ID: 9-101899
 Tank Status: Permanently Out of Use
 Installed: Not reported
 Substance: Gasoline
 Owner: HAWAII HUT & BOLT, INC
 905 AHUA ST
 Honolulu, HI 96819

Tank ID: R-01
 Tank Capacity: 1000
 Date Closed: Not reported

MALAMA PACIFIC CORP
 739 S KING ST
 HONOLULU, HI 96813

LUST:
 Facility ID: 9-102158
 Alternate Event ID: 890019
 Facility Status: See Cleanup Completed
 Facility Status Date: 02/20/1997

UST:
 Facility ID: 9-102158
 Tank Status: Permanently Out of Use
 Installed: Not reported
 Substance: Used Oil
 Owner: MALAMA PACIFIC
 P.O. BOX 730
 Honolulu, HI 96808

Tank ID: R-1
 Tank Capacity: 1000
 Date Closed: Not reported

Facility ID: 9-102158
 Tank Status: Permanently Out of Use
 Installed: Not reported
 Substance: Gasoline
 Owner: MALAMA PACIFIC
 P.O. BOX 730
 Honolulu, HI 96808

Tank ID: R-2
 Tank Capacity: 5000
 Date Closed: Not reported

Facility ID: 9-102158
 Tank Status: Permanently Out of Use
 Installed: Not reported
 Substance: Gasoline
 Owner: MALAMA PACIFIC
 P.O. BOX 730
 Honolulu, HI 96808

Tank ID: R-3
 Tank Capacity: 10000
 Date Closed: Not reported

Facility ID: 9-102158
 Tank Status: Permanently Out of Use
 Installed: Not reported
 Substance: Gasoline
 Owner: MALAMA PACIFIC
 P.O. BOX 730
 Honolulu, HI 96808

Tank ID: R-4
 Tank Capacity: 11500
 Date Closed: Not reported

HAWAIIAN ELECTRIC CO HONOLULU
 170 ALA MOANA BLVD
 HONOLULU, HI 96813

CERCLIS HFRAP Classification Data:
 See Incident Category: Not reported
 Ownership Status: Private
 CERCLIS HFRAP Assessment History:
 Assessment: DISCOVERY
 Completed: 19900508

Federal Facility: Not reported
 NPL Status: Not on the NPL

Database(s): UST, LUST

EPA ID Number: U001235754
 EDR ID Number: N/A

Database(s): UST, LUST

EPA ID Number: U001235818
 EDR ID Number: N/A

Database(s): UST, LUST

EPA ID Number: U001235818
 EDR ID Number: N/A

Database(s): UST, LUST

EPA ID Number: U001235818
 EDR ID Number: N/A

Map ID
 Direction
 Distance
 Distance (ft)
 Elevation Site

MAP FINDINGS

Database(s)
 EDR ID Number
 EPA ID Number

HAWAIIAN ELECTRIC CO HONOLULU (Continued)
 Assessment: PRELIMINARY ASSESSMENT
 CORRACTS Data: Completed: 19900515
 Progression: Low
 Status: Not reported
 RCIS: HAWAIIAN ELECTRIC CO., INC.
 Owner: (808) 548-7311
 Contact: DOMI FUKUDA
 (808) 543-5674
 Record Date: 07/29/1993
 Classification: Small Quantity Generator, Hazardous Waste Transporter
 Used On Recyc: No
 Violation Status: Violation information exist

There are 1 violation record(s) reported at this site:
 EVIDENCE: Area of Violation
 Financial Record Review (FRR) TSD Financial Responsibility Requirements
 Date of Compliance: 05/08/1986

FINDS:
 Other Permit Environmental Activity Identified at Site:
 - Facility has an active water discharge permit (under PCS)
 - Facility is monitored or permitted for air emissions under the Clean Air Act (under AFS/AIRS)

22
 WNW
 1/2-1
 3828
 Lower

HAWAIIAN GAS PRODUCTS LTD.
 515-523 KUPUHI ST.
 HONOLULU, HI 96817

COAL GAS SITE DESCRIPTION:
 Hawaiian Gas Products Ltd. Supply Warehouse is located at 434 Kuwili. Hawaiian Gas Products Ltd. is on the east side of Kuwili, just west of the intersection of Kuwili and Pine. Site is bordered on the north-west by SR 90 and east of Kasaah St.
 ©Copyright 1993 Real Property Scan, Inc.

23
 WNW
 1/2-1
 4723
 Lower

HONOLULU GAS CO., LTD.
 400-484 PACIFIC ST.
 WAIKIKI (HONOLULU), HI 96817

COAL GAS SITE DESCRIPTION:
 Honolulu Gas Co. offices and Construction Department 1187-1189 Alakaa Honolulu Honolulu Gas Co. is on the east side of Pacific, north of Iniki. Site is south of railroad line and west of Sumner Street.
 ©Copyright 1993 Real Property Scan, Inc.

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
HONOLULU	1000154481	OAHU LUMBER & HARDWARE CO. LTD.	863 N MARITZ HWY	96817	UST, LUST	9-100284
HONOLULU	100060448	ALSTATE INDUSTRIAL AND MARINE	3082 N MARITZ HWY	96813	PCNS-SOQ, FNDS	

**GEOCHECK VERSION 2.1 ADDENDUM
FEDERAL DATABASE WELL INFORMATION**

Well Closest to Target Property (Northern Quadrant)

BASIC WELL DATA
 Site ID: 211911157512901 Distance from TP: 1/4 - 1/2 Mile
 Site Type: Single well, other than collector or Runway type
 Year Constructed: 1959 County: Honolulu
 Altitude: 35.00 ft. State: Hawaii
 Well Depth: 53.00 ft. Topographic Setting: Not Reported
 Depth to Water Table: Not Reported Prim. Use of Site: Withdrawal of water
 Date Measured: Not Reported Prim. Use of Water: Commercial

LITHOLOGIC DATA
 Not Reported

WATER LEVEL VARIABILITY
 Not Reported

DETAILED ORPHAN LISTING

Site EDR ID Number EPA ID Number Database(s)

OAHU LUMBER & HARDWARE CO., LTD.
 863 N. NIIMITZ HWY
 HONOLULU, HI 96817
 UST: U003154461
 LUST: N/A

UST: 9-100284 Tank ID: P-2
 Tank Status: Permanently Out of Use Tank Capacity: 0
 Installed: 03/28/76 Date Closed: Not reported
 Substance: Gasoline
 Owner: OAHU LUMBER & HARDWARE CO., LTD.
 863 N. NIIMITZ HWY.
 Honolulu, HI 96817

LUST: 9-100284 Tank ID: R-1
 Tank Status: Permanently Out of Use Tank Capacity: 1500
 Installed: 03/28/76 Date Closed: 28-Jan-94
 Substance: Gasoline
 Owner: OAHU LUMBER & HARDWARE CO., LTD.
 863 N. NIIMITZ HWY.
 Honolulu, HI 96817

Facility ID: 9-100284 Tank ID: R-3
 Tank Status: Permanently Out of Use Tank Capacity: 1000
 Installed: Not reported Date Closed: Not reported
 Substance: Gasoline
 Owner: OAHU LUMBER & HARDWARE CO., LTD.
 863 N. NIIMITZ HWY.
 Honolulu, HI 96817

LUST:
 Facility ID: 9-100284
 Alternative Event ID: 940082
 Facility Status: Site Cleanup Completed
 Facility Status Date: 11/07/1996

ALLSTATE INDUSTRIAL AND MARINE
 3365 NIIMITZ HWY
 HONOLULU, HI 96813
 RCRIS: RCRIS-SOG 1006660449
 FIIDS: HI0000035584

Owner: BLANCA MUNO
 (819) 233-1881
 Contact: DANIELO LICUDINE
 (808) 839-7001
 Record Date: 12/30/1995
 Classification: Conditionally Exempt Small Quantity Generator
 Used On Recycle: No
 Violation Status: No Violations found

**GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION**

Well Closest to Target Property (Eastern Quadrant)

BASIC WELL DATA

Site ID: 211826157503501
Site Type: Single well, other than collector or Runway type
Year Constructed: 1982
Altitude: 37.00 ft.
Well Depth: 375.00 ft.
Depth to Water Table: Not Reported
Date Measured: Not Reported

Distance from TP: 1/2 - 1 Mile
County: Honolulu
State: Hawaii
Topographic Setting: Not Reported
Prim. Use of Site: Destroyed
Prim. Use of Water: Not Reported

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

**GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION**

Well Closest to Target Property (Southern Quadrant)

BASIC WELL DATA

Site ID: 211844157512201
Site Type: Single well, other than collector or Runway type
Year Constructed: 1958
Altitude: 34.00 ft.
Well Depth: 480.00 ft.
Depth to Water Table: Not Reported
Date Measured: Not Reported

Distance from TP: 0 - 1/8 Mile
County: Honolulu
State: Hawaii
Topographic Setting: Not Reported
Prim. Use of Site: Withdrawal of water
Prim. Use of Water: Irrigation

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

**GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION**

Well Closest to Target Property (Western Quadrant)

BASIC WELL DATA

Well ID: 211849157512701
 Well Type: Single well, other than collector or Ramney type
 Year Constructed: 1984
 Altitude: 28 00 ft.
 Well Depth: 560 00 ft.
 Depth to Water Table: Not Reported
 Date Measured: Not Reported

Distance from TP: 0 - 1/8 Mile
 County: Honolulu
 State: Hawaii
 Topographic Setting: Not Reported
 Prim. Use of Site: Withdrawal of water
 Prim. Use of Water: Commercial

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

**GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION**

Searched by Nearest PWS:

PWS SUMMARY:

PWS ID: H0000023
 Date Inactivated: June / 1977
 PWS Name: PACIFIC CLUB
 1451 QUEEN ELIZABETH STREET
 HONOLULU, OAHU, HI 96813

PWS Status: Active
 Date Deactivated: Not Reported
 Distance from TP: 0 - 1/8 Mile
 Dir relative to TP: West

Address / Facility:

Operator:
 MR. MARTIN KELLY
 THE PACIFIC CLUB
 1451 QUEEN ELIZABETH STREET
 HONOLULU, HI 96813

Facility Latitude:

21 18 49
 City Served: HONOLULU
 Treatment Class: Untreated

Facility Longitude:

157 51 27
 Population Served: 101 - 500 Persons

PWS currently has or has had major violation(s): No

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides information that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
 Source: EPA
 Telephone: 703-413-0223
 CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priority List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.
 Date of Government Version: 11/10/98
 Date Made Active at EDR: 01/29/99
 Database Release Frequency: Quarterly
 Date of Data Arrival at EDR: 12/24/98
 Elapsed ASTM days: 31
 Date of Last EDR Contact: 12/02/98

ERMS: Emergency Response Notification System

Source: EPA/ITIS
 Telephone: 202-260-2342
 Emergency Response Notification System: ERMS records and stores information on reported releases of oil and hazardous substances
 Date of Government Version: 12/31/98
 Date Made Active at EDR: 01/16/99
 Database Release Frequency: Quarterly
 Date of Data Arrival at EDR: 01/13/99
 Elapsed ASTM days: 5
 Date of Last EDR Contact: 01/04/99

NPL: National Priority List

Source: EPA
 Telephone: 703-603-8832
 National Priority List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Geographic Interpretation Center (EGIC)

Date of Government Version: 01/19/99

Date Made Active at EDR: 02/19/99
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 02/04/99
 Elapsed ASTM days: 11
 Date of Last EDR Contact: 02/04/99

RCRIS: Resource Conservation and Recovery Information System

Source: EPA/ITIS
 Telephone: 800-424-9346
 Resource Conservation and Recovery Information System: RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA)

Date of Government Version: 10/01/98

Date Made Active at EDR: 01/29/99
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 12/24/98
 Elapsed ASTM days: 32
 Date of Last EDR Contact: 01/23/99

CORRACTS: Corrective Action Report

Source: EPA
 Telephone: 800-424-9346
 CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.
 Date of Government Version: 12/01/98
 Date Made Active at EDR: 01/29/99
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 12/24/98
 Elapsed ASTM days: 32
 Date of Last EDR Contact: 12/22/98

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEDERAL NON-ASTM RECORDS:

BRS: Biennial Reporting System
 Source: EPA/ITIS
 Telephone: 800-424-9346
 The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.
 Date of Government Version: 12/31/98
 Database Release Frequency: Biennially
 Date of Last EDR Contact: 12/21/98
 Date of Next Scheduled EDR Contact: 01/22/99

CONSENT: Superfund (CERCLA) Consent Decrees

Source: EPA Regional Offices
 Telephone: Varies
 Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.
 Date of Government Version: Varies
 Database Release Frequency: Varies
 Date of Last EDR Contact: Varies
 Date of Next Scheduled EDR Contact: N/A

FIHDS: Facility Index System

Source: EPA/ITIS
 Telephone: 703-908-2493
 Facility Index System: FIHDS contains both facility information and 'contacts' to other sources that contain more detailed EDR information. FIHDS includes the following FIHDS databases in this report: PCS (Permit Compliance System), AIRS (Aeronautics Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil and judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).
 Date of Government Version: 09/30/97
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 12/23/98
 Date of Next Scheduled EDR Contact: 03/28/99

HMIRS: Hazardous Materials Information Reporting System

Source: U.S. Department of Transportation
 Telephone: 202-365-4329
 Hazardous Materials Incident Report System: HMIRS contains hazardous material spill incidents reported to DOT.
 Date of Government Version: 12/31/97
 Database Release Frequency: Annually
 Date of Last EDR Contact: 01/23/99
 Date of Next Scheduled EDR Contact: 04/28/99

MLTS: Material Licensing Tracking System

Source: Nuclear Regulatory Commission
 Telephone: 301-415-7169
 MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 tags which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.
 Date of Government Version: 12/04/98
 Database Release Frequency: Quarterly
 Date of Last EDR Contact: 12/01/98
 Date of Next Scheduled EDR Contact: 03/10/99

NPL LIENS: Federal Superfund Liens

Source: EPA
 Telephone: 205-564-4267
 Federal Superfund Liens: Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA completes a listing of lien notices of Superfund Liens.
 Date of Government Version: 10/15/91
 Database Release Frequency: No Updates Planned
 Date of Last EDR Contact: 11/23/98
 Date of Next Scheduled EDR Contact: 02/22/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PADS: PCB Activity Database System
 Source: EPA
 Telephone: 202-260-3193
 PCB Activity Database: PADS identifies generators, transporters, commercial stores and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.
 Date of Government Version: 09/22/97
 Database Release Frequency: Semi-Annually
 Date of Last EDR Contact: 12/03/98
 Date of Next Scheduled EDR Contact: 02/15/99

RAATS: RCRA Administrative Action Tracking System
 Source: EPA
 Telephone: 202-564-4104
 RCRA Administration Action Tracking System: RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administrative actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.
 Date of Government Version: 04/17/95
 Database Release Frequency: No Update Planned
 Date of Last EDR Contact: 12/15/98
 Date of Next Scheduled EDR Contact: 03/15/99

ROD: Records Of Decision
 Source: IRTIS
 Telephone: 703-416-0223
 Record of Decision: ROD documents mandate a permanent remedy at an NPL (Superfund) site concerning technical and health information to aid in the cleanup.
 Date of Government Version: 03/31/95
 Database Release Frequency: Annually
 Date of Last EDR Contact: 02/16/99
 Date of Next Scheduled EDR Contact: 04/15/99

TRIS: Toxic Chemical Release Inventory System
 Source: EPA/RTIS
 Telephone: 202-260-1531
 Toxic Release Inventory System: TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.
 Date of Government Version: 12/01/95
 Database Release Frequency: Annually
 Date of Last EDR Contact: 12/28/98
 Date of Next Scheduled EDR Contact: 03/23/99

TSCA: Toxic Substances Control Act
 Source: EPA
 Telephone: 202-260-1444
 Toxic Substances Control Act: TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.
 Date of Government Version: 12/01/94
 Database Release Frequency: Every 4 Years
 Date of Last EDR Contact: 01/25/99
 Date of Next Scheduled EDR Contact: 04/26/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF HAWAII ASTM RECORDS:

LUST: LUST Database
 Source: Department of Health
 Telephone: 808-586-4228
 Leaking Underground Storage Tank Incident Reports: LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.
 Date of Government Version: 01/20/99
 Date Made Active at EDR: 03/03/99
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 02/02/99
 Elapsed ASTM days: 29
 Date of Last EDR Contact: 02/02/99

SHWS: CERCLUS
 Source: Department of Health
 Telephone: 703-603-8904
 State Hazardous Waste Sites: State hazardous waste site records are the state's equivalent to CERCLUS. These sites may or may not already be listed on the federal CERCLUS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.
 Date of Government Version: 11/10/98
 Date Made Active at EDR: 01/29/99
 Database Release Frequency: Quarterly
 Date of Data Arrival at EDR: 12/23/98
 Elapsed ASTM days: 31
 Date of Last EDR Contact: 12/23/98

LF: Permitted Landfills in the State of Hawaii
 Source: Department of Health
 Telephone: 808-586-4215
 Solid Waste Facilities/Landfill Sites: SVWAF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subpart D Section 4004 criteria for solid waste landfills or disposal sites.
 Date of Government Version: 07/20/98
 Date Made Active at EDR: 01/29/99
 Database Release Frequency: Annually
 Date of Data Arrival at EDR: 01/08/99
 Elapsed ASTM days: 18
 Date of Last EDR Contact: 12/03/98

UST: UST Database
 Source: Department of Health
 Telephone: 808-586-4228
 Registered Underground Storage Tanks: UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.
 Date of Government Version: 07/01/98
 Date Made Active at EDR: 10/20/98
 Database Release Frequency: Semi-Annually
 Date of Data Arrival at EDR: 08/17/98
 Elapsed ASTM days: 74
 Date of Last EDR Contact: 02/02/99

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED IPL: IPL Deepbotts
Source: EPA
Telephone: 703-603-8769

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the IPL. In accordance with 40 CFR 300.425 (g), sites may be deleted from the IPL where no further response is appropriate.

Date of Government Version: 01/19/99
Date Made Active at EDR: 02/19/99
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 02/08/99
Elapsed ASTM days: 11
Date of Last EDR Contact: 02/08/99

IFRAP: No Further Remedial Action Planned

Source: EPA
Telephone: 703-613-0223

As of February 1995, CERCLUS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLUS. NFRAP sites may be sites where, following an initial investigation, no contaminants (gas found, contamination was removed quickly without the need for the site to be placed on the IPL, or the contamination was not serious enough to require Federal Superfund action or IPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended burden to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help clean, reuse, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 11/10/98
Date Made Active at EDR: 01/29/99
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 12/29/98
Elapsed ASTM days: 31
Date of Last EDR Contact: 12/02/98

PWS: Public Water Systems

Source: EPA/Office of Drinking Water
Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water
Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

Air & Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRMA directed EPA to test and identify areas of U.S. with the potential for elevated indoor radon levels.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Oil/Gas Pipeline/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphics from 1:100,000 Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1996 from the Federal Emergency Management Agency (FEMA). Data depicts 100 year and 500 year flood zones as defined by FEMA.

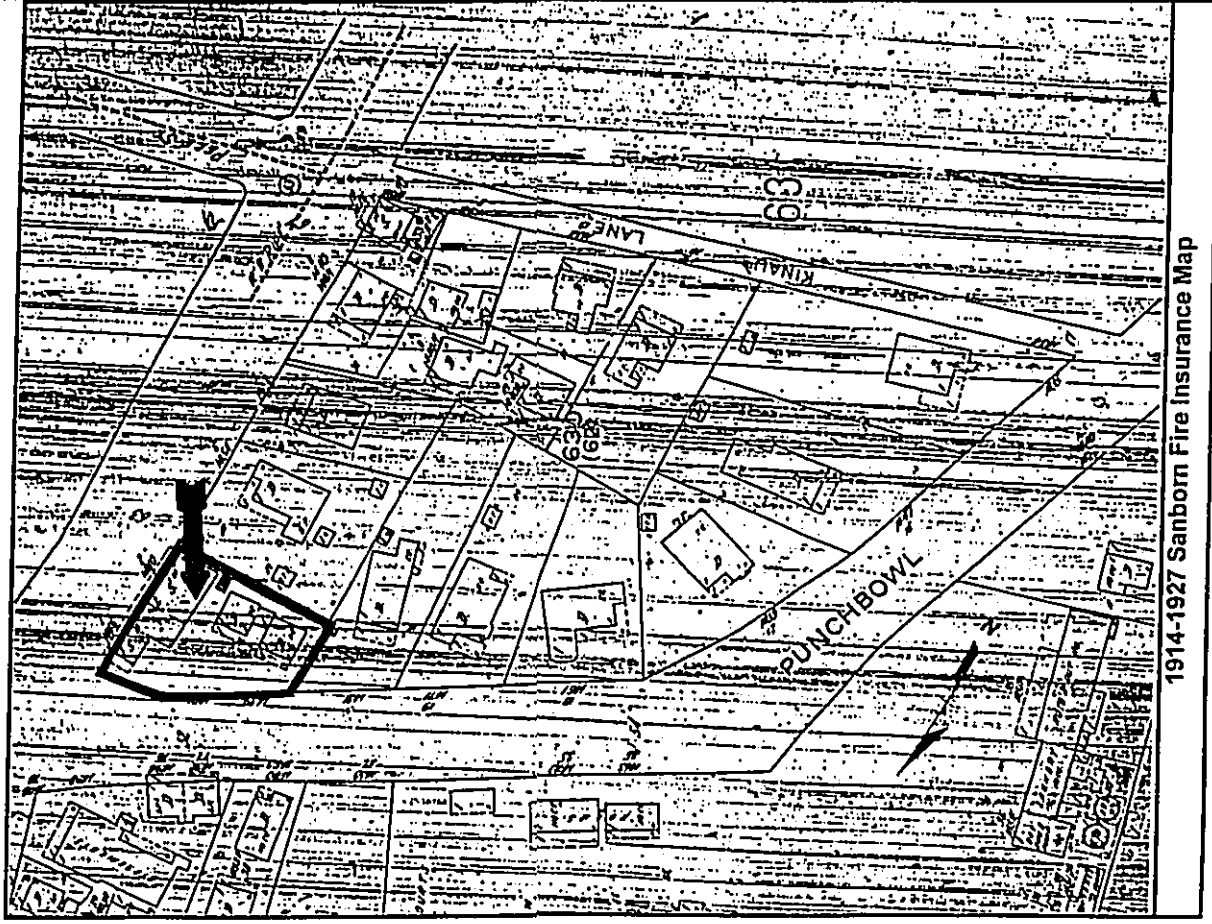
WWT: National Wastewater Inventory: This data, available in select counties across the country, was obtained by EDR in March 1997 from the U.S. Fish and Wildlife Service.

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801

National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

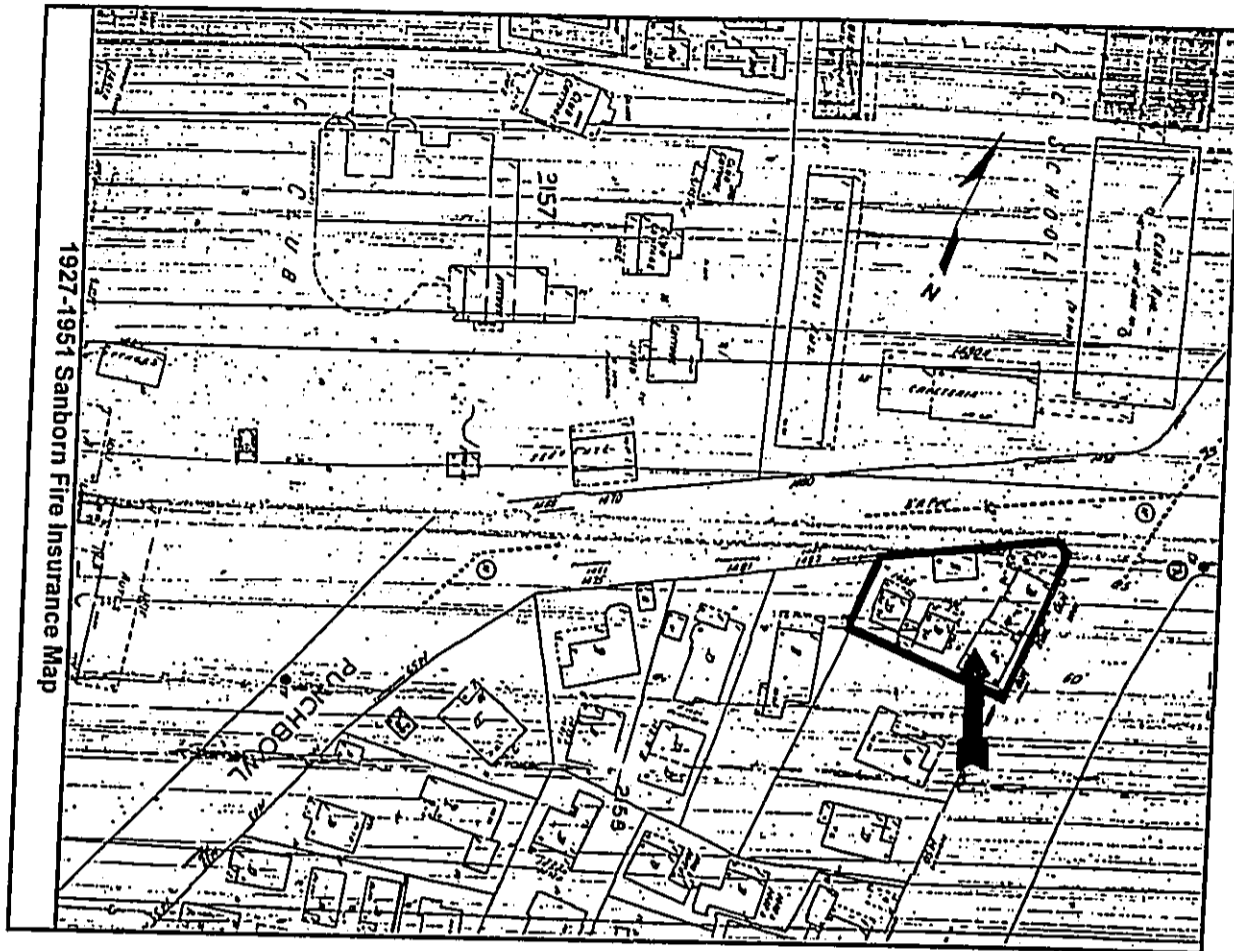
APPENDIX C
Support Documents



1489 Punchbowl Street
Hawaiian Jiffy Lube
Limited Phase I Environmental Site Assessment

Dawson Environmental Services, Inc.
DES Job No. 99026





SOURCE Record LOCATION LUSIURNA ST.
 BY CCW DATE 10/20/42
 Inst 56932 3765 ✓
 BE 1727 P 247
 Cons: DEED 1942
 R S : Centeio & Co Ltd to Antonio F Centeio Trust
 Dated: Oct 8, 1942
 Rec: Oct 12, 1942
 Haw'n Trust Co Ltd TRUSTEE

DIVISION			
CON	SEC	PLAT	PANEL
2	1	22	1 & 2

TAX MAPS	✓
TAX OFFICE	✓
IN RE	✓
ROUTE SLIP	✓
SKETCH	✓
ADJOINING & C.	✓
LEADER	✓
INDEX	✓

All assets of the Grantor, real & Personal, tangible & intangible, of whatever nature & wherever situated in the Terr. of Haw.

CHARGE	ALL DATA AS SHOWN ON TAX MAPS AS OF 10/23/42				OWNER	INV
	CON	SEC	PLAT	PANEL		
Ownership	2	1	22	1	6,813) Antonio F Centeio Trust Est	
				2	8,543) Haw'n Trust Co Ltd - Tr	

SOURCE Record LOCATION Auwailima
 BY H Kerr DATE 10/20/42
 3635 / DEED 1942
 Inst 56832
 Bk 1727 p 247
 Cons: Centeio & Co, Ltd. to Antonio F Centeio Tru
 Rev Stamp: Hawaiian Trust Co, Lt
 Date: Oct 8, 1942 TRUSTEE
 Rec: Oct 12, 1942

DIVISION			
ZONE	SEC	PLAT	PARCEL
2	1	22	1 & 2

TAX MAPS	<input checked="" type="checkbox"/>
TAX OFFICE	<input checked="" type="checkbox"/>
TRACING	<input checked="" type="checkbox"/>
ROUTE SLIP	<input checked="" type="checkbox"/>
SKETCH	<input checked="" type="checkbox"/>
ADJOINING PARCELS	<input checked="" type="checkbox"/>
F.B. LEDGER	<input type="checkbox"/>
RETURN PLATE	<input type="checkbox"/>

Gr 7348 & pors of Gr 7327 & Gr 4636 situated on the S corner of Lusitana & Punchbowl Sts.
 Area 15410 (.)

Dos.

Note:

This was not called a Trust Deed due to the fact that there are not stipulations made as to how long the Trustee is to hold this land, what is to be done with earned income or as to how the trustee may deal with this land.

(O V E R)

FORMER KEY				CHANGE				FINAL DATA AS SHOWN ON TAX MAPS AS OF 10/23/42				OWNER	
ZONE	SEC.	PLAT	PARCEL	ZONE	SEC.	PLAT	PARCEL	ZONE	SEC.	PLAT	PARCEL	AREA	OWNER

The only provisions cited in this deed are the following:

To have & to hold the same unto the Trustee absolutely & forever.

The foregoing transfer is made by the Grantor as the owner of all of the shares of capital stock of the corporation & in complete liquidation of said corporation & in complete cancellation of all of the shares of the capital stock, in connection with the dissolution & liquidation of the corporation, which dissolution & liquidation was approved & voted at a special meeting of the stockholders held on 9/15/42.

The Grantee hereby accepts the foregoing transfer in complete liquidation of said corporation & in complete cancellation of all of the shares of the capital stock of the corporation.

The Grantee hereby surrenders to the Grantor for cancellation all of the shares of the capital stock of the corporation, being 73 share of an aggregate par value of \$7300.00

Note: MEK.

I checked as the Treasurer's Office relative to the above dissolution.

I find that a Petition for Dissolution has been filed & that the same has been approved.

Just as soon as "Tax Clearance" papers have been filed, a Decree of Dissolution will be issued.

SOURCE		Record		LOCATION		Anyvolinu		DIVISION			
BY M. Kerr		DATE 5/19/42		1168 ✓		D E E D 1942		ZONE	SEC	PLAT	PANEL
Inst 52113		Bk 1695 p 373		Cons: \$175.00		Centeio & Co, Ltd. to		2	1	22	1
Rev Stamp:		Date: Feb 7, 1942		Rec: May 8, 1942		to		City & County of Honolulu			

TAX MAPS	
TAX OFFICE	
TRACING	
ROUTE SLIP	
SKETCH	
ADJOINING PARCELS	
P.B. LEDGER	
RETURN PLATE	

Portions of Gr 4636 & Gr 7327 situated at the S corner of Lusitana & Punchbowl Sts described as follows:

Bg at the S corner of this land on the W side of Lusitana St, the coordinates of said point of bg referred to Street Monument near the S corner of Punchbowl & Lusitana Sts being 14.70 ft S and 26.07 ft W, and the coordinates of said Monument referred to Trig Station Punchbowl being 295.35 ft S and 1367.60 ft W and running:

1. Along new street line on a curve to the left with a radius of 20 ft the

(OVER) 177m-85

FORMER KEY				CHANGE	FINAL DATA AS SHOWN ON TAX MAPS AS OF 5/29/42				OWNER	INT.
ZONE	SEC.	PLAT	PANEL		ZONE	SEC.	PLAT	AREA		
2	1	22	For	Area	2	1	22	6,813	Centeio & Co Ltd	
			1	Dropped into road				247	City & County of Hon.	
					- O V E R -					

2. 237° 29' 19.14 ft along present S side of Punchbowl St;

3. Thence along the present street line on a curve to the right with a radius of 10 ft the chord azimuth & distance being 300° 44' 17.90 ft;

4. Thence along present W side of Lusitana St on a curve to the left with a radius of 746.33 ft the chord azimuth & distance being 2° 18' 26" 18.76 ft to the point of bg.

Area 247 () - Dropped into road

SOURCE:		LOC & TITLE:	DIV.	
		corner Lusitana & Punohoa Sts		
BY: ryt	DATE: 8/9/54	DEED, ETC.:	TMB NO. 1954	2 1 22 1
NO	GRANTOR ETC	AREA OF PARCEL	GRANTEE ETC	
1	(Haw'n Trust Co: Ltd, Trustee)	6,813 0	Antonio F Centeio Trust Est	
2	TMB 4620'54, ryt, 8/9/54	15,410 0	To: George Fernandes Centeio	
	D: Haw'n Trust Co: Ltd, Tr: Bk 2836 p 80		Kattie Fernandes Centeio Gomes	
	Cons: \$1. RS none, 6/17/54, 6/25/54,		William Fernandes Centeio	
	8543 0 fr par 2(2). Total area of 15356 0		John Fernandes Centeio	
	revised to 15410 0 by new des.		Francis Fernandes Centeio	
	F/D: 2122-1, area, des & ownership, Gr 7348,		Benjamin Fernandes Centeio	
	para 7327 & 4636.		Athena Fernandes Centeio Fernandez	
			Anthony Fernandes Centeio	
			Wilfred Fernandes Centeio, T/C	
3	TMB 3769 '55, ow 6/23/55		do	
	D: George F Centeio (& wf Andree K'D) et al	13,341 0	do	
	Bk 29 65 p 467 Cons: \$8275.95 RS: \$9.35			
	4/28/55 5/28/55. 20690 dropped into road.			
	To: Territory of Hawaii (20690)			
	F/D: 2122-1, Area & bdy, Gr 7348, Para			
	7327 & 4636.			
4	TMB M-709 '56 HN/ely 12/27/56		do	
	R/S: Parcel 2122-1 cons & resubd into	13,288 0	do	
	two lots - (8284 0) and 5004 0			
	Total area revised to 13,288 0.			
	F/D: 2122-1, Area & subd; Por Gr 4636 to			
5	TMB 10925 '55, 2122-1, IM, 1/24/56		to: Union Oil Company of California	
	D: To: 2122-2, Pick up, 5004 0	8,284 0	to: Union Oil Company of California	
	George F Centeio (& wf) et al: Bk 3059			
	p 100 Cons: \$10. RS: 336685 11/16/55 1/6/56			
	F/D: 2122-1, Area Bdry & Owner, Por Gr 7327			

SOURCE:		LOC & TITLE:	DIV.	
		Por Gr 7327 Gr 7348		
BY: JY	DATE: 12/27/56	DEED, ETC.: D E E D	TMB NO. 9098'56	1956 2 1 22 1
NO	GRANTOR ETC	AREA OF PARCEL	GRANTEE ETC	
6	page #2 D: Union Oil Co of California	8,284 0	To: North American Life Insurance Company of Chicago	
	Bk 3185 p 390 Cons: \$10. RS: \$72.15			
	10/25/56 11/14/56 Des			
7	TMB 9099'56 JY 12/27/56		do	
	To: North Am Life Ins Co of Chicago	8,284 0	do	
	Bk 3185 p 393 Terms: 20 yrs Bk 10/26/56			
	Rent: \$15.40 mo 10/26/56 11/14/56 Des		To: (Union Oil Company of California)	
	Lessee To pay taxes.		do	
8	Canc/L: Bk 8867 p 198 SCT\$--		North American Life Insurance Co of Chicago	
	12/16/72 1/12/73 DES			
9	D: Bk 8867 p 203 SCT\$30.00		do	
	12/26/72 1/12/73 DES			
10	R/S: Maria L Glatzel died 12/5/77		To: Theodor Glatzel & Maria T/B	
	Info per T U 6/19/79 (TK 2122-1, 9213-12)		Theodor Glatzel	
11	A/S: Bk 15190 p 782 SCT\$132.50 Amt\$265,000		do	
	Int 13% DP\$50,000 Mo\$2,500 12/1/80 12/5/80		do	
	DES		With: (W J K Ltd) A/S	
12	Sub-A/S: Bk 18064 p 685 SCT\$207.50		do	
	Amt\$415,000 Int: 9.75% DP\$100,000 Mo\$2739.07		do	
	8/3/84 8/7/84 DES		With: (Terrence T K Young (m) Marlene Q F Young (s) Geri Q L Young (m) J/T)	
13	A/Sub-A/S: Bk 18415 p. 568. SCT\$206.35		Sub-A/S	
	12/28/84 1/28/85		OWNER NO CHANGE (NO CHANGE) A/S (William Ltd) Sub-A/S	

CONTINUED

NOTE: LAST AREA & GRANTEE FINAL DATA AS SHOWN IN TAX MAPS

CORRECTION

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

08/17/98
 INSTR-DESC: AMENDMENT OF LEASE
 INSTR-NO: 98-00121248
 AREA: WILLUM LTD 8284 SQ.FT.
 LESSOR: WILLUM LTD
 LESSOR: HAWAIIAN JIFFY INC, CERTAIN LEASE DTD 7/1/92 REC AS DOC NO 52-108416; WILLUM AND HAWAIIAN JIFFY HAVE AGREED TO AMEND THE LEASE SET FORTH BELOW. NOW THEREFORE, PARTIES AGREE AS FOLLOWS: ETC.
 KEYED ONLY - AMEND LEASE TERMS
 OWNERSHIP: NAME
 F 0011 *WILLUM LTD
 L 0011 *HAWAIIAN JIFFY INC
 F TC 1-OWNER TITLE-DESC
 LE

FOR ASSESSMENT YEAR 1999
 -PITI: 300 AREA: 8284 F VALUE: 434900 EXEMPT: 41300
 -BLDG: 0001 CODE: 252 YB: 1970 VALUE: 41300 EXEMPT: 41300
 BLDG TOTALS--> VALUE: 41300 EXEMPT:
 SITE ADDRESS: 1489 PUNICHOHL ST APT:
 MAILING ADDRESS: WILLUM LTD 94-748A HIKIMOE ST WAIPAHU HI 96797

07/07/92
 INSTR-DESC: LEASE
 INSTR-NO: 92-00108416
 AREA: WILLUM LTD 8284 SQ.FT.
 FROM: WILLUM LTD
 TO: HAWAIIAN JIFFY, INC
 POR LP GR 4636 LP GR 7127 LP GR 7348
 OWNERSHIP: NAME
 F 0011 *WILLUM LTD
 L 0011 *HAWAIIAN JIFFY INC
 F TC 1-OWNER TITLE-DESC
 LE

AMOUNT: \$1,049,700
 PERIOD: 07/07/1992 TO 07/06/2012
 STATE-COM-TAX: \$524.85
 INST-DATE: 7/01/92
 REC-DATE: 1/07/92
 INT: 5.000%

FOR ASSESSMENT YEAR 1998
 -PITI: 300 AREA: 8284 F VALUE: 559200 EXEMPT: 42100
 -BLDG: 0001 CODE: 252 YB: 1970 VALUE: 42100 EXEMPT: 42100
 BLDG TOTALS--> VALUE: 42100 EXEMPT:
 FOR ASSESSMENT YEAR 1997
 -PITI: 300 AREA: 8284 F VALUE: 600600 EXEMPT: 40900
 -BLDG: 0001 CODE: 252 YB: 1970 VALUE: 40900 EXEMPT: 40900
 BLDG TOTALS--> VALUE: 40900 EXEMPT:
 FOR ASSESSMENT YEAR 1996
 -PITI: 300 AREA: 8284 F VALUE: 600600 EXEMPT: 41200
 -BLDG: 0001 CODE: 252 YB: 1970 VALUE: 41200 EXEMPT: 41200
 BLDG TOTALS--> VALUE: 41200 EXEMPT:

TAX MAPS BRANCH HISTORY SHEET

DATE:		LOCATION:		TITLE:		DIV.	
NO.	DESCRIPTION	AREA OF PARCEL	GRANTEE, ETC.	Z	B	PLAT	PAR
14	As Shown on Tax Maps	8284sq	Theodor Glatzel (W J K Ltd)A/S (Willum Ltd)Sub-A/S	2	1	22	1
15	Amd/A/Sub-A/S: Terrence T K Young etal To: Willum Ltd Bk 18771 p 51 6/10/85 7/10/85 KEYED ONLY	do	do				
16	Amd/A/S: Theodor Glatzel To: WJK Co formerly dba WJK Ltd Bk 18771 p 56 6/26/85 7/10/85	do	Theodore Glatzel With: (WJK Co)A/S (Willum Ltd)Sub-A/S				
17	Amd/Sub-A/S: WJK Co To: Terrence T K Young etal Bk 18771 p 66 6/10/85 7/10/85 DES KEYED ONLY	do	do				
18	D: Bk 18825 p 751 SCT\$00 7/29/85 8/2/85 (WJK Co, quitclaim)	do	To: Willum Ltd				

NOTE: INFORMATION ON THIS SHEET IS SUBJECT TO CHANGE

HONOLULU MAPS BRANCH
 HONOLULU DIVISION
 PROPERTY ASSESSMENT
 DEPARTMENT
 STATE OF HAWAII

FORM #18 HISTORY SHEET

TMK: 1 2 1 022 001

FOR ASSESSMENT YEAR 1995

-PITT: 300 AREA: 8284 F VALUE: 704100 EXEMPT: 40600
-BLDG: 0001 CODE: 252 YB: 1970 VALUE: 40600 EXEMPT: 40600
BLDG TOTALS--> VALUE:

FOR ASSESSMENT YEAR 1994

-PITT: 300 AREA: 8284 F VALUE: 695900 EXEMPT: 41400
-BLDG: 0001 CODE: 252 YB: 1970 VALUE: 41400 EXEMPT: 41400
BLDG TOTALS--> VALUE:

FOR ASSESSMENT YEAR 1993

-PITT: 300 AREA: 8284 F VALUE: 695900 EXEMPT: 40600
-BLDG: 0001 CODE: 252 YB: 1970 VALUE: 40600 EXEMPT: 40600
BLDG TOTALS--> VALUE:

MAILING ADDRESS: WILLOM LTD
94-748 A HIKIMOE STREET
WAIPAHU, HI 96797

10/07/87----- F I C & OWNER TITLE-DESC
OWNERSHIP: H&M F 0011 *WILLOM LTD

FOR ASSESSMENT YEAR 1992

-PITT: 300 AREA: 8284 F VALUE: 695900 EXEMPT: 36300
-BLDG: 0001 CODE: 252 YB: 1970 VALUE: 36300 EXEMPT: 36300
BLDG TOTALS--> VALUE:

FOR ASSESSMENT YEAR 1991

-PITT: 300 AREA: 8284 F VALUE: 695900 EXEMPT: 36100
-BLDG: 0001 CODE: 252 YB: 1970 VALUE: 36100 EXEMPT: 36100
BLDG TOTALS--> VALUE:

FOR ASSESSMENT YEAR 1990

-PITT: 300 AREA: 8284 F VALUE: 324700 EXEMPT: 26300
-BLDG: 0001 CODE: 252 YB: 1962 VALUE: 26300 EXEMPT: 26300
BLDG TOTALS--> VALUE:

FOR ASSESSMENT YEAR 1989

-PITT: 300 AREA: 8284 F VALUE: 284500 EXEMPT: 23700
-BLDG: 0001 CODE: 252 YB: 1962 VALUE: 23700 EXEMPT: 23700
BLDG TOTALS--> VALUE:

FOR ASSESSMENT YEAR 1988

-PITT: 300 AREA: 8284 F VALUE: 250591 EXEMPT: 39651
-BLDG: 0001 CODE: 252 YB: 1960 VALUE: 39651 EXEMPT: 39651
BLDG TOTALS--> VALUE:

MAILING ADDRESS: WILLOM LTD
94-748 A HIKIMOE STREET
WAIPAHU, HI 96797

-----SEE PARCEL SHEETS FOR MORE INFORMATION-----

PAGE: 2

HAWAIIAN COMMERCIAL CITY AND COUNTY OF HONOLULU PAGE 1

PROPERTY ASSESSMENT DIVISION DATE: 01/11/99

APPRaisal DATA CHANGED CARD NO 001 OF 001 1995

PARCEL ID: 1-2-1-033-001 0000

SITE ADDR: 00-1489 WILLOM LTD

FILE OWNER: *HAWAIIAN LTD PUNCHOWL ST APT

REG OWNER: *HAWAIIAN JIFFY INC

MAILING ADDRESS: 94-748A HIKIMOE ST

WAIPAHU HI 96797-0000

*** ASSESSED VALUATION ***

TOTAL LAND AREA: 8,284 SF 0.0000 AC ECT 41,300

PITT AREA(SF) 8,284 BLDG 41,300

0 0 0 0 0 0

0 0 0 0 0 0

0 0 0 0 0 0

PITT BLDG-TAX RATE BLDG-TAX AMT LAND-TAX RATE LAND-TAX AMT

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

0 0.000 0.000 0.000 0.000

FRESH PARTITION AC PLUMBING CONDITION UTIL
000 NONE M NONE NORMAL NORMAL
100 NORMAL M NORMAL POOL NORMAL

OTHER FEATURES & ATTACHED IMPROVEMENTS
STRUCTURE CODE FLAT AREA AREA3 UNITS

YARD IMPROVEMENTS &/OR SECONDARY BUILDINGS
STRUCTURE CODE FLAT AREA UNITS CODE UTIL TR BLT & GD
CANOPY ONLY 90000760 01 MORN MORN 1962 00

HOTEL/APARTMENT DATA: UNITS BERN BATHS PARKING SPACES
COVERED UNCOVERED

CORCO DATA: FLOOR- TYPE- STYLE- PCT LIT:
BUILDING PERMIT: 06/22/92 NUMBER AMOUNT STATUS PURPOSE
320336 30.065 CP ALTER

SOREN KNUDSEN, P. E., MBA, RME

Education: Master of Business Administration
Baylor University, Texas - 1983

Bachelor of Science in Civil Engineering
University of Texas, Texas - 1983

Specialized Training: 40-hour Hazardous Waste Operations and Emergency Response
OSHA 8-hour Hazwoper annual refresher course
Hazardous Material Management
Environmental Site Assessments
Inspecting Buildings for Asbestos Containing Materials
Managing Asbestos in Buildings
NPDES for Storm Water Discharge
Underground/Aboveground Storage Tank Installation and Removal

Languages: Portuguese, Spanish, French, Danish, Norwegian, Swedish and German

Registration: Hawaii General Contractor License #BC 21831
Professional Engineer - Civil Branch
Texas 1992 # 71954
Hawaii 1999 In Progress
California 1999 In Progress

Professional Affiliation: American Society of Civil Engineers
National Society of Professional Engineers
Water Environment Federation

Professional Experience: Project Manager, Senior Engineer

Mr. Knudsen is currently involved in the project management and business development areas at Dawson Environmental Services (DES). As marketing manager he identifies, targets, and pursues opportunities aimed at increasing market penetration for services offered by the firm. He is active in building strategic alliances and teaming arrangements designed to strengthen DES' position as a provider of engineering and environmental services. The services include planning, managing, and consulting covering work in the commercial, institutional, and federal arena. As senior engineer he manages both environmental and civil projects. Public utility and major petroleum companies are among the representative client base he services. Projects vary in scope and size to include construction management of public infrastructure projects and soil

Dawson Environmental Services, Inc.

Dawson Environmental Services, Inc.
DES Job No. 86026

1489 Punchbowl Street
Honolulu, Jiffy Lube
Limited Phase I Environmental Site Assessment

Resumes

APPENDIX D
Qualifications of Environmental Professionals

and groundwater environmental remediation design and implementation.

He has 14 years of civil engineering, construction management, and environmental remediation experience. He has controlled all phases of design-build work ranging from commercial subdivision development to industrial environmental systems. He has performed site-use investigations, developed engineered plans, contract specifications, and represented client interest from property acquisition to completion of on-site improvements. He initiated a facilities management program to handle the maintenance and upgrading needs of a \$135 million fixed capital asset base. He managed quality control and quality assurance programs for large US Navy award-winning fast-track construction projects. He has represented federally insured loan entities performing quality control inspection for single and multi-family residential housing developments.

Mr. Knudsen devised and implemented environmental strategy for the largest transportation company in the Southwest to manage and mitigate the corporation's liability. His program was awarded the Environmental Protection Agencies Environmental Excellence Award. He represented the corporation's interests with the regulatory agencies, clients, and citizens. He managed complex environmental remediation projects engaging multiple consultants and sub-contractors. In Texas, he pioneered the use of innovative time-saving remediation strategies, such as on-site thermal incineration, groundwater air-sparging and vapor extraction.

UST Closure, Site Characterization, and Assessment

Central Freight Lines, Inc. Corporate Headquarters Waco, TX.
Developed a long-range financially sound removal and retrofit UST program designed to bring the corporations 40 fueling sites into federal regulatory compliance. Prepared engineering estimates, plans and specifications for UST removals. Coordinated and managed all consultants and subcontractors. Determined and implemented appropriate remedial action for each site based on state driven regulatory requirements. Prepared and submitted applications for successful collection of payments from the State Remediation Reimbursement Fund.

Dawson Environmental Services, Inc.

Resumes

Construction Related Services

Central Austin Business Park, Lorena Land Company, Austin, TX.
Designed initial subdivision land use layout including lot sizes, right-of-way and utility location, roadway geometric design and drainage conveyance. Prior to City of Austin Planning Commission approval and commencement of on-site construction, finalized all cost estimates, engineering calculations and proposed designs associated with land acquisition, joint venture agreements, and water and wastewater approach mains. Acted as on-site project engineer during the construction phase of capital improvement infrastructure, managing all subcontractors and subconsultants.

New Freight Transfer Terminal Facility, Central Freight Lines, Inc. Bay City, TX.

Acted as Project Engineer and Owner's Representative from property acquisition through the site work phase. Performed all building and pavement structural design. Supervised plan and estimate finalization. Developed bid documentation and managed subcontractor selection process. Completed project quality control phase prior to turning building over to owner.

Operation and Maintenance Systems

Unocal Corporation, Former Station 4462, Honolulu, Hawaii.
Managing operation and maintenance program for an on-site vapor extraction and air sparging system designed and installed by DES crews. Compliance air and groundwater monitoring designed to verify equipment effectiveness and remedial results. Equipment maintenance aimed at optimizing remedial effect and minimizing financial impact.

Property Transfer Services

Property Transfer Assessment, McDonalds Restaurants of Hawaii.
Conducting Phase I ASTM Standard Practice Environmental Site Assessment for property transaction purposes. Perform all pertinent due diligence evaluation of past or present potential sources of impacts that may affect the subject property.

Dawson Environmental Services, Inc.

Resumes

Appendix C
Air Quality



B. D. NEAL & ASSOCIATES
Applied Meteorology • Air Quality • Computer Science

September 10, 1999

Ms. Colette Sakoda
Parsons Brinckerhoff
Pacific Tower, Suite 3000
1001 Bishop Street
Honolulu, Hawaii 96813

SEP 13 1999

Subject: Punchbowl Street Widening Project
Air Quality Impact Assessment

Dear Ms. Sakoda:

In response to your request, the potential air quality impacts from carbon monoxide emissions associated with motor vehicle traffic related to the proposed widening of Punchbowl Street in the vicinity of Vineyard Boulevard have been examined. The results of this examination along with background information related to this issue are summarized below.

Project Description

The purpose of the proposed project is to reduce the long north-bound traffic queue on Punchbowl Street that currently forms south of Vineyard Boulevard during the afternoon peak traffic period. The proposed project consists of providing an additional north (mauka) bound lane on Punchbowl Street from Vineyard Boulevard to the H-1 Freeway underpass, a distance of approximately 700 feet. This segment of Punchbowl Street currently has three lanes, two south (makai) bound lanes and one lane north (mauka) bound. After construction of the proposed project, this segment will have two south (makai) bound lanes and two north (mauka) bound lanes. A second left-turn lane on the eastbound approach of the intersection of Punchbowl Street and Vineyard Boulevard may also be added.

Ambient Air Quality Standards

At the present time, air quality standards have been established by both federal and state governments which limit ambient concentrations of particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. In addition, a state standard has been established for hydrogen sulfide. The Hawaii air quality standards (particularly the carbon monoxide standards) are more stringent than the comparable national limits except for the standards for sulfur dioxide, particulate matter and lead, which are set at the same levels. The Hawaii air quality standards for carbon monoxide are set at 10 milligrams per cubic meter for a 1-hour average and 5 milligrams per cubic meter for an 8-hour average, whereas the federal 1-hour and 8-hour standards are set at 40 and 10 milligrams per cubic meter, respectively.

Regional and Local Climatology

Regional and local climate together with the amount and type of human activity generally dictate the air quality of a given location. The climate of the downtown Honolulu area is very much affected by its leeward and near coastal situation. Winds are predominantly trade winds from the east-northeast and provide good ventilation much of the time. Wind speeds typically vary between about 5 and 15 miles per hour. Temperatures in the area are generally very moderate with average daily minimum and maximum temperatures ranging from about 70°F to 85°F. Average annual rainfall amounts to about 22 inches with summer months being the driest.

Existing Air Quality Conditions

Air quality in the vicinity of the proposed project is currently affected mostly by emissions from motor vehicle traffic on nearby roadways. The Hawaii Department of Health operates a network of air quality monitoring stations located at various sites around the state, including a downtown Honolulu monitoring station located very near the project area. Data that are available from the downtown Honolulu monitoring station and other nearby locations suggest that both state and national ambient air quality standards are currently being met in the project area except possibly for the state standard for ozone. It should be noted, however, that carbon monoxide concentrations along sidewalks near traffic-congested intersections may be higher than concentrations measured at the Department of Health monitoring stations. Estimates of existing worst-case carbon monoxide concentrations along sidewalks in the project area based on computer modeling are discussed below in conjunction with an assessment of the potential impacts of the project.

Air Quality Impacts of Project

The potential air quality impacts of the project near the intersection of Punchbowl Street and Vineyard Boulevard were evaluated using U.S. EPA-approved computerized emission and atmospheric dispersion models. Estimates of worst-case concentrations of carbon monoxide were made for the existing case and for future (2005) scenarios both with and without the project. The future without project scenario assumed that traffic volumes would remain substantially unchanged from the existing case and that the intersection of Punchbowl Street and Vineyard Boulevard would remain as it is today. The results of this evaluation are summarized below:

Near-Intersection Concentrations

Scenario	Worst-Case 1-Hour Carbon Monoxide Concentration (mg/m ³)		Worst-Case 8-Hour Carbon Monoxide Concentration (mg/m ³)
	AM	PM	
1999 Existing	18.7	16.1	9.4
2005 Without Project	16.2	14.3	8.1
2005 With Project	15.2	14.5	7.6
Hawaii Standard	10		5
National Standard	40		10

In all three scenarios, the highest concentrations were predicted to occur during the morning peak-traffic period. As indicated in the above table, it is estimated that the worst-case existing carbon monoxide concentrations along sidewalks near the Punchbowl Street intersection with Vineyard Boulevard are within the national standards but exceed the state standards by a large margin. In the year 2005 without the project, it is predicted that the highest worst-case concentrations would decrease by about 13 percent compared to the existing values. This is primarily due to the attrition of older, more-polluting motor vehicles over time. With the project, the highest (morning) worst-case concentrations in the year 2005 would likely decrease by about 6 percent compared to the without project scenario and by about 19 percent compared to the existing situation. However, even with the improvement in air quality afforded by the project, worst-case concentrations of carbon monoxide would continue to potentially exceed the state standards. The decrease in the projected highest (morning) worst-case concentrations with the project is attributable to the substantially improved traffic level-of-service at the intersection, which reduces motor vehicle delay times, traffic queuing and excess air pollution emissions. This more than compensates for the widening of the intersection which will tend to concentrate more traffic into a smaller area.

In addition to estimating worst-case concentrations near the intersection of Punchbowl Street and Vineyard Boulevard, worst-case concentrations near mid-block along Punchbowl Street mauka of Vineyard Boulevard were evaluated based on the estimated average travel speeds provided by the project traffic engineer. The results of this evaluation are summarized below:

Mid-Block Concentrations

Scenario	Worst-Case 1-Hour Carbon Monoxide Concentration (mg/m ³)		Worst-Case 8-Hour Carbon Monoxide Concentration (mg/m ³)
	AM	PM	
1999 Existing	11.4	5.3	6.7
2005 Without Project	9.8	4.9	4.9
2005 With Project	8.8	7.5	4.4
Hawaii Standard	10		5
National Standard	40		10

As indicated above, carbon monoxide concentrations were found to be substantially lower at mid-block compared to the area near the intersection of Punchbowl Street and Vineyard Boulevard. Worst-case concentrations at this location were found to be well within the national standards for all scenarios, but the projected worst-case concentrations exceeded the state standards for the existing case. As at the near-intersection locations, the highest mid-block concentrations for all scenarios were predicted to occur during the morning. Without the project in the year 2005, it was estimated that the morning worst-case concentrations would decrease by about 14 percent and would meet the state standards by a small margin. With the project in the year 2005, the estimated morning worst-case concentrations decreased by 23 percent compared to the existing values, providing a larger margin of compliance with the state standards. As indicated in the above table, although the highest worst-case concentrations, which occur during the morning, were predicted to decrease somewhat with the project, afternoon worst-case concentrations with the project were estimated to increase by about 50 percent compared to the without project case.

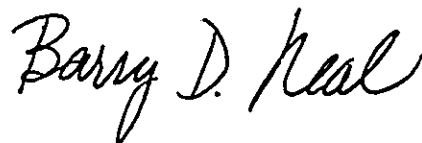
In summary, it appears likely that worst-case carbon monoxide concentrations along sidewalks in the project area currently exceed the state standards but comply with the national limits. The proposed roadway improvements should result in a slight improvement in air quality near the intersection of Punchbowl Street and Vineyard Boulevard and at mid-block areas mauka of this intersection during the morning peak-traffic period when concentrations are highest. During the afternoon, carbon monoxide concentrations with the project will likely increase but remain below the worst-case morning values. With or without the project, worst-case concentrations will likely continue to exceed the state standards at locations near this intersection. Predicted exceedances of the very stringent state standards for carbon monoxide are not unique to this area.

Ms. Colette Sakoda
Punchbowl Street Widening Project

September 10, 1999
Page 5

Please call me if you have any questions concerning the information presented herein or if you wish to discuss this matter further.

Very truly yours,



Barry D. Neal
Certified Consulting
Meteorologist

Appendix D
Environmental Noise Assessment
Study

Project No. 99-06

ENVIRONMENTAL NOISE ASSESSMENT STUDY
 PUNCHBOWL STREET IMPROVEMENTS PHASE III
 HONOLULU, HAWAII

July 8, 1999

Prepared for
 Parsons Brinckerhoff
 Honolulu, Hawaii

1111 PULASKI PLAZA • 970 NO. KALANHOA AVENUE • SUITE A-311
 KAILUA, HAWAII 96731 • (808) 254-3116 • FAX (808) 254-5295

<u>Section</u>	<u>Description</u>	<u>Page</u>
1.0	Summary	1
2.0	Project Description	1
3.0	Noise Standards and Guidelines	1
4.0	Existing Acoustical Environment	3
5.0	Potential Noise Impact Due to the Project and Noise Mitigation	3
6.0	References	6
Appendix A - Acoustical Terminology		
<u>Table</u>		
1	FHWA's Noise Abatement Criteria	7
2	Noise Measurement Results	8
3	Future (2005) Traffic Noise Prediction Results	9
<u>Figure</u>		
1A & 1B	Project Site and Vicinity	
2A	Noise Measurement Locations 1 through 4	
2B	Noise Measurement Locations 5 through 8	
3A	Noise Assessment Locations 1 through 4, 9 and 10	
3B	Noise Assessment Locations 5 through 8	
4	Typical Sound Pressure Levels from Construction Equipment	
5	Maximum Permissible Sound Levels for Various Zoning Districts	

PROJECT NO. 99-06

D. L. ADAMS ASSOCIATES, LTD.

PAGE I

1.0 SUMMARY

- 1.2 The proposed Punchbowl Street Improvements Phase III project involves the widening of Punchbowl Street right-of-way between Vineyard Boulevard and Lusitana Street to provide two mauka-bound traffic through lanes.
- 1.3 Existing properties along Punchbowl Street currently experience daytime ambient noise levels ranging from 59 to 70 dBA, which is typical for urban areas near busy roadways.
- 1.3 Traffic noise level increases due to the project were predicted to be equal or less than 3.3 dBA at most of the assessed locations along Punchbowl Street. A maximum increase of 5.0 dBA was, however, calculated at one location. A noise level increase of 5 dBA is considered "readily perceptible" and an increase of less than 3 dBA is "barely perceptible." However, based on the predicted future traffic noise levels and the Hawaii Department of Transportation, Highways Division's noise policy, traffic noise impacts occur at most of the assessed locations and noise mitigation is recommended.
- 1.4 Noise from project construction activities should be relatively short-term, occur during daytime hours, and must comply with State Department of Health noise regulations.

2.0 PROJECT DESCRIPTION

The proposed project involves the widening of the Punchbowl Street right-of-way from Vineyard Boulevard to Lusitana Street. The widening will occur on the diamond h "d"-side of Punchbowl Street to provide an additional mauka-bound through lane to the H-1 Freeway on-ramp, as shown in Figures 1A and 1B. Completion of the project is expected to allow efficient processing of H-1 and Pali Highway-bound traffic through the intersection of Punchbowl Street and Vineyard Boulevard.

Existing land uses which could be impacted by the project include Royal Elementary School, Pacific Club and noise sensitive homes along Punchbowl Street.

3.0 NOISE STANDARDS AND GUIDELINES

Various federal and local agencies have established standards and guidelines for assessing traffic noise impacts and setting noise level limits as a function of land use. A brief description of common acoustic terminology used in these standards and guidelines is presented in Appendix A.

- 3.1 U.S. Federal Highway Administration (FHWA) - The current FHWA procedures for highway traffic noise analysis and abatement are contained in 23 CFR 772 [Reference 1]. These procedures specify the requirements that State highway agencies must meet when using Federal-aid funds for highway projects. FHWA noise abatement criteria, as a

function of land use activity categories, are given in these procedures. The maximum hourly equivalent sound levels, $L_{eq(1h)}$, which must be met, are presented in Table 1

- 3.2 State of Hawaii Department of Transportation, Highways Division (DOTHD) - In June 1997, the DOTHD adopted FHWA's noise abatement criteria (Table 1) in its noise analysis and abatement policy [Reference 2]. DOTHD further defines in its policy that a traffic noise impact occurs when the predicted traffic noise levels "approach" or exceed FHWA's noise abatement criteria or when the predicted traffic noise levels "substantially exceed the existing noise levels." The policy states that "approach" means at least 1 dB less than FHWA's noise abatement criteria and "substantially exceed the existing noise levels" means an increase of at least 15 dB.

- 3.3 U.S. Department of Housing and Urban Development (HUD) - HUD's environmental noise criteria and standards in 24 CFR 51 [Reference 3] were established for determining housing project site acceptability. These standards are based on day-night equivalent sound levels, L_{dn} , and are not limited to traffic noise exposure. However, for project sites in the vicinity of highways, the L_{dn} may be estimated to be equal to the design hour $L_{eq(1h)}$ provided "heavy trucks (vehicles with three or more axles) do not exceed 10 percent of the total traffic flow in vehicles per 24 hours and the traffic flow between 10:00 p.m. and 7:00 a.m. does not exceed 15 percent of the average daily traffic flow in vehicles per 24 hours."

HUD site acceptability criteria rank sites as Acceptable, Normally Unacceptable, or Unacceptable. "Acceptable" sites are those where exterior noise levels do not exceed an L_{dn} of 65 dBA. Proposed housing projects on Acceptable sites do not require additional noise attenuation other than that provided by customary building techniques. "Normally Unacceptable" sites are those where the L_{dn} is above 65 dBA, but does not exceed 75 dBA. Housing on Normally Unacceptable sites requires some form of noise abatement, either at the property line or in the building construction, to ensure the interior noise levels are acceptable. "Unacceptable" sites are those where the L_{dn} is 75 dBA or higher. The term "unacceptable" does not necessarily mean that housing cannot be built on these sites. It means that more sophisticated sound attenuation will likely be needed.

- 3.4 U.S. Environmental Protection Agency (EPA) - The EPA has identified a range of yearly day-night equivalent sound levels, L_{dn} , sufficient to protect public health and welfare from the effects of environmental noise [Reference 4]. The EPA has established a goal to reduce exterior environmental noise (including, but not limited to, traffic noise) to an L_{dn} not exceeding 65 dBA and a future goal to reduce exterior environmental noise to an L_{dn} not exceeding 55 dBA. Additionally, the EPA states that to protect against hearing damage, one's 24-hour equivalent sound level, $L_{eq(24h)}$, exposure at that ear should not exceed 70 dBA. The EPA also emphasizes that these goals are not intended as regulations, since the EPA has no authority to regulate noise levels. Rather these goals are intended to be viewed as levels below which the general population will not be at risk

from any of the identified effects of noise.

4.0 EXISTING ACOUSTICAL ENVIRONMENT

On the mornings of February 22 and March 2, 1999, continuous five to fifteen-minute noise level measurements were obtained at eight locations in the vicinity of the project site. The measurements were obtained using a Larson Davis Model 700 sound level meter. The results are presented in Table 2 and the measurement locations are shown in Figures 2A and 2B. The dominant noise source at these measurement locations was traffic from Punchbowl Street and connected roadways. Other identifiable noise sources which were audible during the measurements are noted in Table 2.

During the measurements at Royal Elementary School (Locations 6 and 7) vehicle counts and classification, i.e., number of automobiles, vehicles with two axles and six wheels (medium trucks) and vehicles with three or more axles (heavy trucks), were made. This information was then used to calibrate the traffic noise prediction model.

5.0 POTENTIAL NOISE IMPACT DUE TO THE PROJECT

5.1 Project Generated Traffic Noise - FHWA's most current traffic noise prediction model, TNM Version 1.0, and the traffic data provided by others [Reference 5] were used to calculate the future (2005) "no-build" and "build" traffic noise levels during morning and afternoon peak-traffic hours. The noise levels were calculated at ten locations along Punchbowl Street as shown in Figures 3A and 3B. The noise receptor at each of these locations was calculated at 6 feet above ground, except at Location 2, which was about 13 feet above ground. For both "no build" and "build" scenarios, average vehicle speed was assumed to be at the posted speed limit of 25 mph. A 2% medium and 1% heavy truck mix was assumed for the morning peak-traffic hour and a 2% truck mix without heavy trucks was used for afternoon peak-traffic hour. The predicted noise levels are presented in Table 3. From these results, future traffic noise level changes due to the widening were determined and are also presented in Table 3.

As shown in Table 3, the noise level increases due to the project at all of the assessment locations were less than or equal to 3.3 dBA, except at Location 9. At this location, a maximum increase of 5.0 dBA was calculated. One reason for a higher increase at this location is the removal of the one-story tile building and garage when the project is built, as indicated in Figure 1A. Under the "no build" condition, these two obstructions provided partial shielding and attenuated noise from the roadway to the receiver. According to Reference 6, a sound level increase of 3 dBA is considered "barely perceptible" by most people with normal hearing. In addition, an increase of 5 dBA is considered "readily perceptible". Furthermore, a "substantial" increase is an increase of at least 10 dBA. Based on these criteria, future traffic noise level increases as a result of the improvement are not considered to be significant. However, in accordance with the

Hawaii DOT's traffic noise and abatement policy (Section 3.2), "traffic noise impacts" occurred at Locations 3 through 10 since the predicted future traffic noise levels at these locations were within 1 dB or exceeded the FHWA's exterior noise limit of 67 dBA. Even though the requirements set in the FHWA's and DOT's noise policies are not required to be met since the project does not involve Federal funds, consideration in providing traffic noise abatement for the "impacted" locations is recommended.

Possible noise abatement measures, if warranted, include:

1. Constructing roadside noise barrier walls;
2. Acquiring real property; and
3. Providing air-conditioning.

5.2 Project Construction Noise - The construction of the proposed project will involve excavation and grading. The various construction phases of the project may generate significant amounts of noise, which may impact nearby noise sensitive land uses. The actual noise levels produced will be a function of the methods employed during each stage of the construction process. Typical ranges of construction equipment noise are shown in Figure 4. Earthmoving equipment, e.g., bulldozers and diesel-powered trucks, will probably be the loudest equipment used during construction.

In cases where construction noise exceeds, or is expected to exceed the Hawaii State Department of Health's (DOH) "maximum permissible" property line noise levels as shown in Figure 5 [Reference 7], a permit must be obtained from the DOH to allow the operation of vehicles, construction equipment, power tools, etc., which emit noise levels in excess of "maximum permissible" levels. Specific permit restrictions for construction activities are:

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels...before 7:00 am and after 6:00 p.m. of the same day, Monday through Friday."

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels...before 9:00 am and after 6:00 p.m. on Saturday."

"No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays."

In addition, construction equipment and on-site vehicles or devices whose

operations involve the exhausting of gas or air, excluding pile hammers and pneumatic hand tools weighing less than 15 pounds, must be equipped with mufflers, and construction vehicles using traffic-way must satisfy the DOH's vehicular noise requirements [Reference 8].

6.0 REFERENCES

1. *Department of Transportation, Federal Highway Administration Procedures for Abatement of Highway Traffic Noise*, Title 23, CFR, Chapter 1, Subchapter 1, Part 772, 38 FR 15953, June 19, 1973; Revised at 47 FR 29654, July 8, 1982.
2. *Noise Analysis and Abatement Policy*, Department of Transportation, Highways Division, State of Hawaii, June 1997.
3. *Department of Housing and Urban Development Environmental Criteria and Standards*, Title 24, CFR, Part 51, 44 FR 40860, July 12, 1979; Amended by 49 FR 880, January 6, 1984.
4. *Toward a National Strategy for Noise Control*, U.S. Environmental Protection Agency, April 1977.
5. Facsimile Transmittals from Parsons Brinckerhoff, June 1, and June 16, 1999, and Telephone Conversation between Mike Miyamoto of Parson Brinckerhoff and Thao Nguyen of D.L. Adams Associates, Ltd., June 30 and July 1, 1999.
6. *Highway Traffic Noise Analysis and Abatement - Policy and Guidance*, U.S. Department of Transportation, Federal Highway Administration Office of Environment and Planning, Noise and Air Quality Branch, Washington, D.C., June 1995.
7. Chapter 46, *Community Noise Control*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 23, 1996.
8. Chapter 42, *Vehicular Noise Control for Oahu*, Department of Health, State of Hawaii, Administrative Rules, Title 11, September 24, 1981.

TABLE 1 - FHWA NOISE ABATEMENT CRITERIA

Activity Category	L_{eq}^* (in dBA)	Description of Activity Category
A	57 (Exterior)	Lands on 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.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

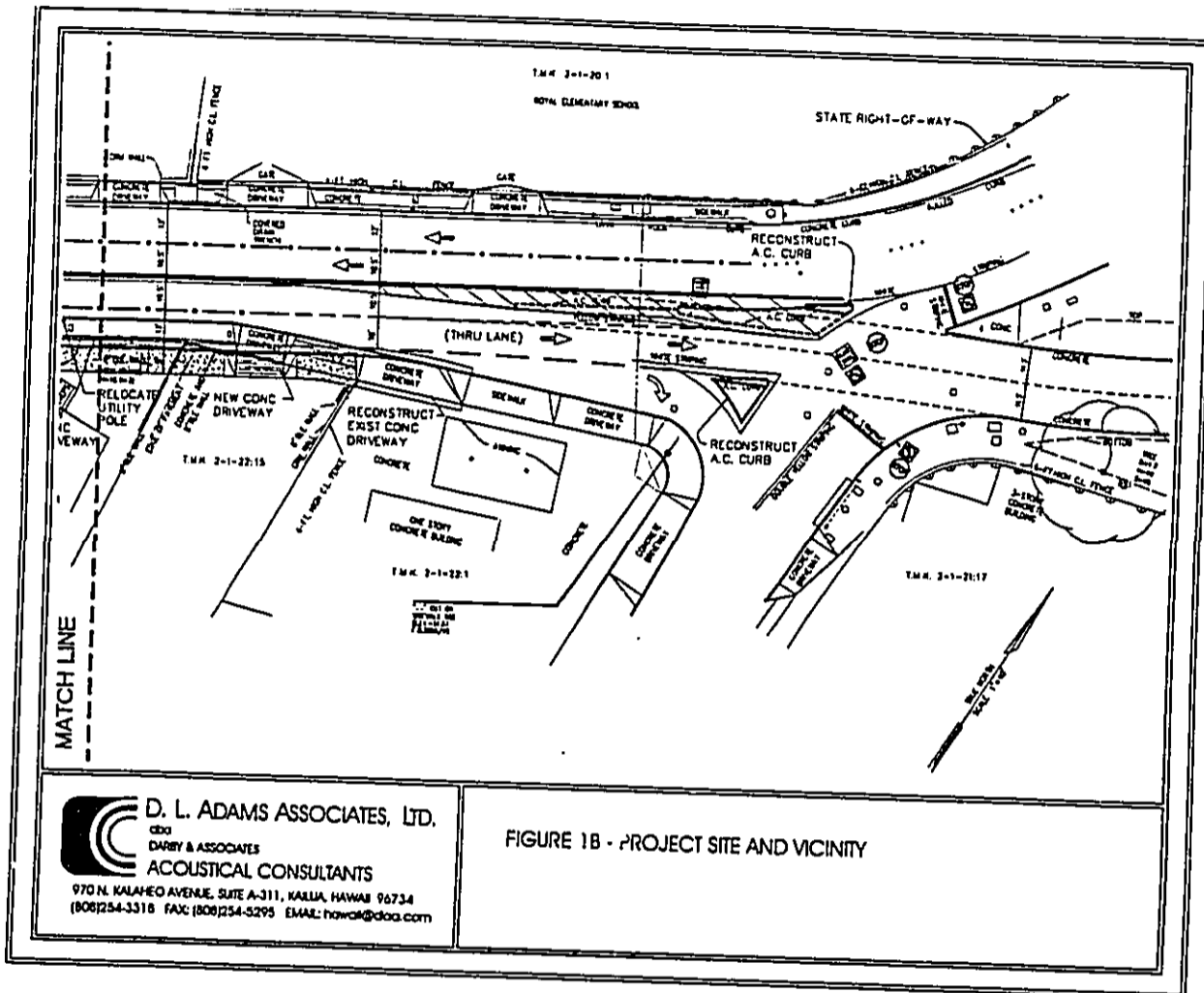
* L_{eq} is the hourly equivalent sound level that represents a constant level of sound having the same total acoustic energy as that contained in the actual time-varying sound measured during the one-hour period.

TABLE 2 - NOISE MEASUREMENT RESULTS

Measurement Location*	Measured L_{eq}^{**} (in dBA)	Duration of Measurement	Comments
1	59.0	10 min.	Dominant noise due to traffic on Punchbowl Street and Vineyard Boulevard. People voices at Pool and Dining Areas also audible.
2	59.8	15 min.	Same as for Location 1.
3	67.8	10 min.	Traffic on Punchbowl Street and grinding noise from Pacific Club.
4	68.0	5 min.	Same as Location 3.
5	63.4	10 min.	Dominant noise due to traffic on Punchbowl Street. Children voices at playground also audible.
6	69.8	10 min.	Same as for Location 5.
7	63.6	6 min.	Traffic on Punchbowl Street and occasional distant emergency vehicle sirens.
8	66.9	5 min.	Dominant noise due to traffic on Punchbowl Street and H-1 Freeway.

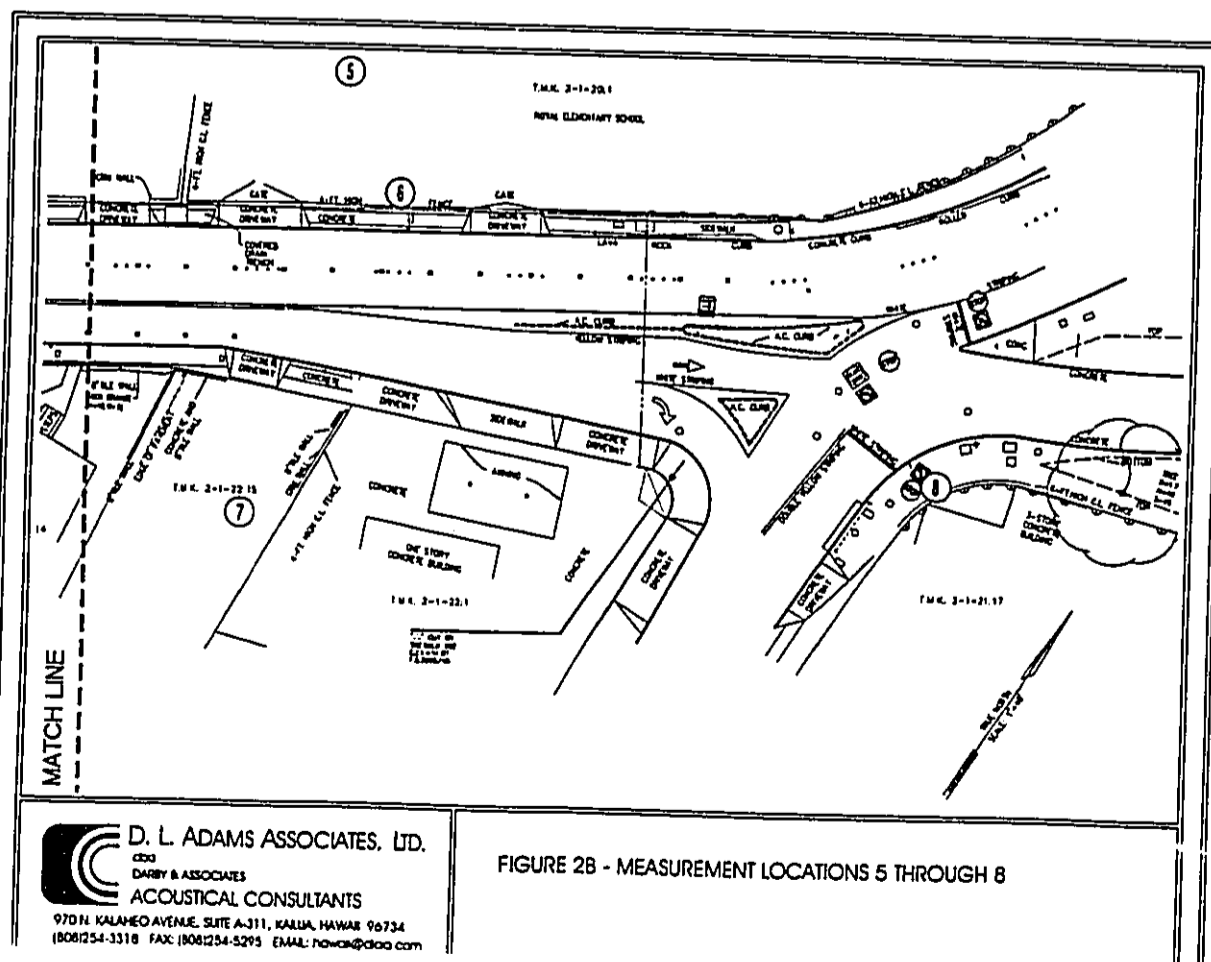
* See Figures 2A and 2B.

** L_{eq} is the equivalent sound level that represents a constant level of sound having the same total acoustic energy as that contained in the actual time-varying sound measured over a specific time period.



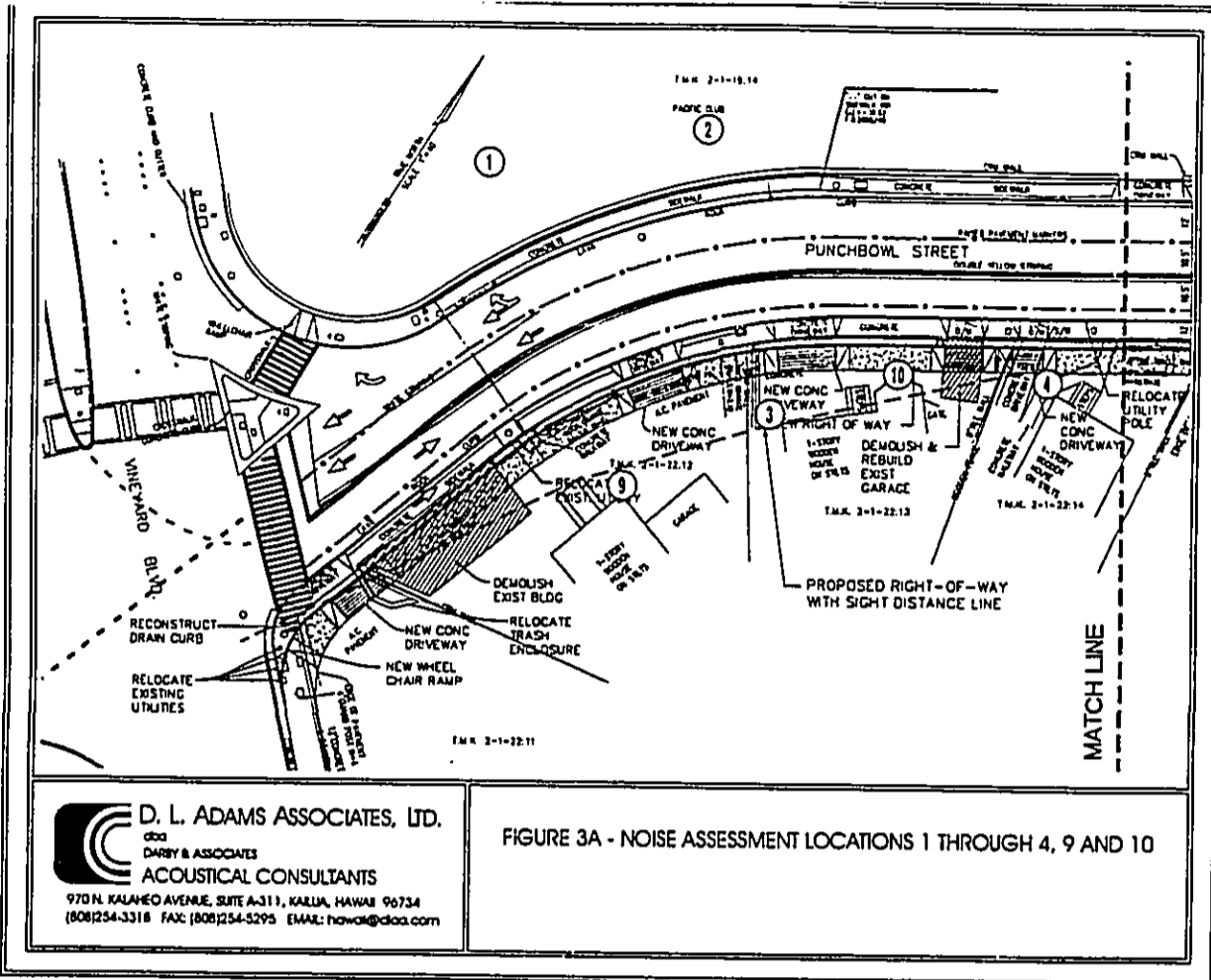
D. L. ADAMS ASSOCIATES, LTD.
 c/o
 DARBY & ASSOCIATES
 ACOUSTICAL CONSULTANTS
 970 N. KALAHEO AVENUE, SUITE A-311, KALUA, HAWAII 96734
 (808)254-3318 FAX: (808)254-5295 EMAIL: hawaii@dlad.com

FIGURE 1B - PROJECT SITE AND VICINITY



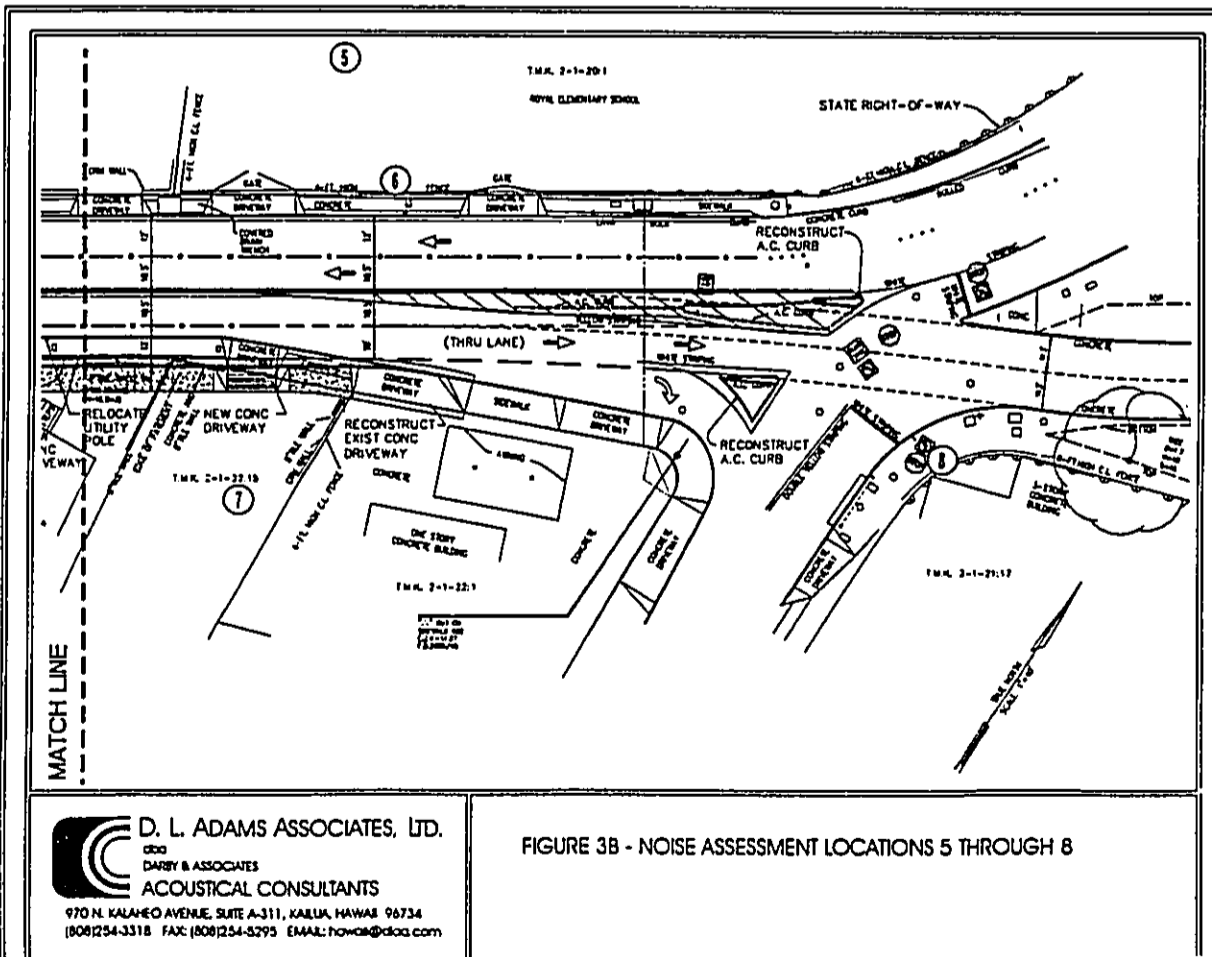
D. L. ADAMS ASSOCIATES, LTD.
 c/o
 DARBY & ASSOCIATES
 ACOUSTICAL CONSULTANTS
 970 N. KALAHEO AVENUE, SUITE A-311, KALUA, HAWAII 96734
 (808)254-3318 FAX: (808)254-5295 EMAIL: hawaii@dlad.com

FIGURE 2B - MEASUREMENT LOCATIONS 5 THROUGH 8



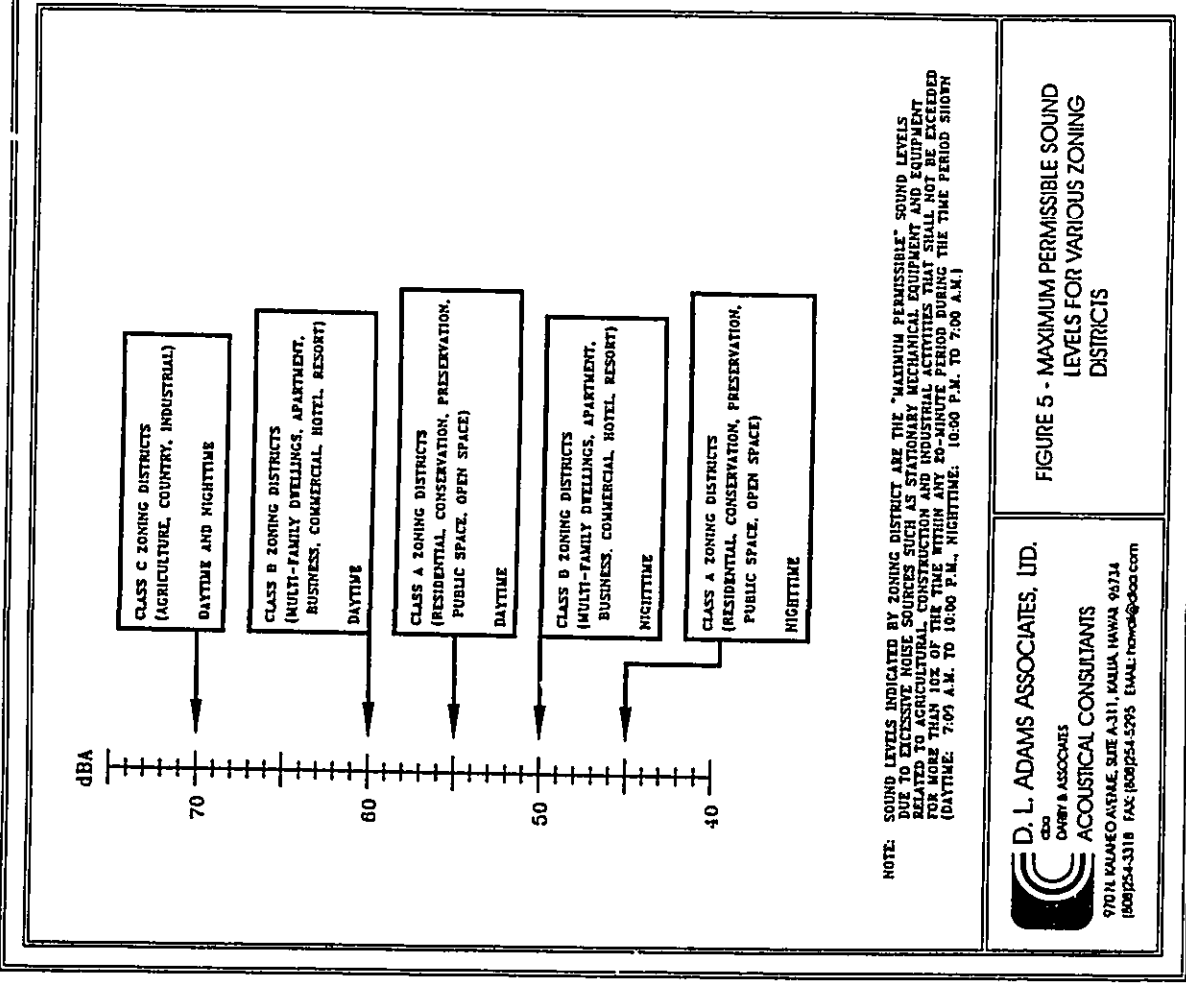
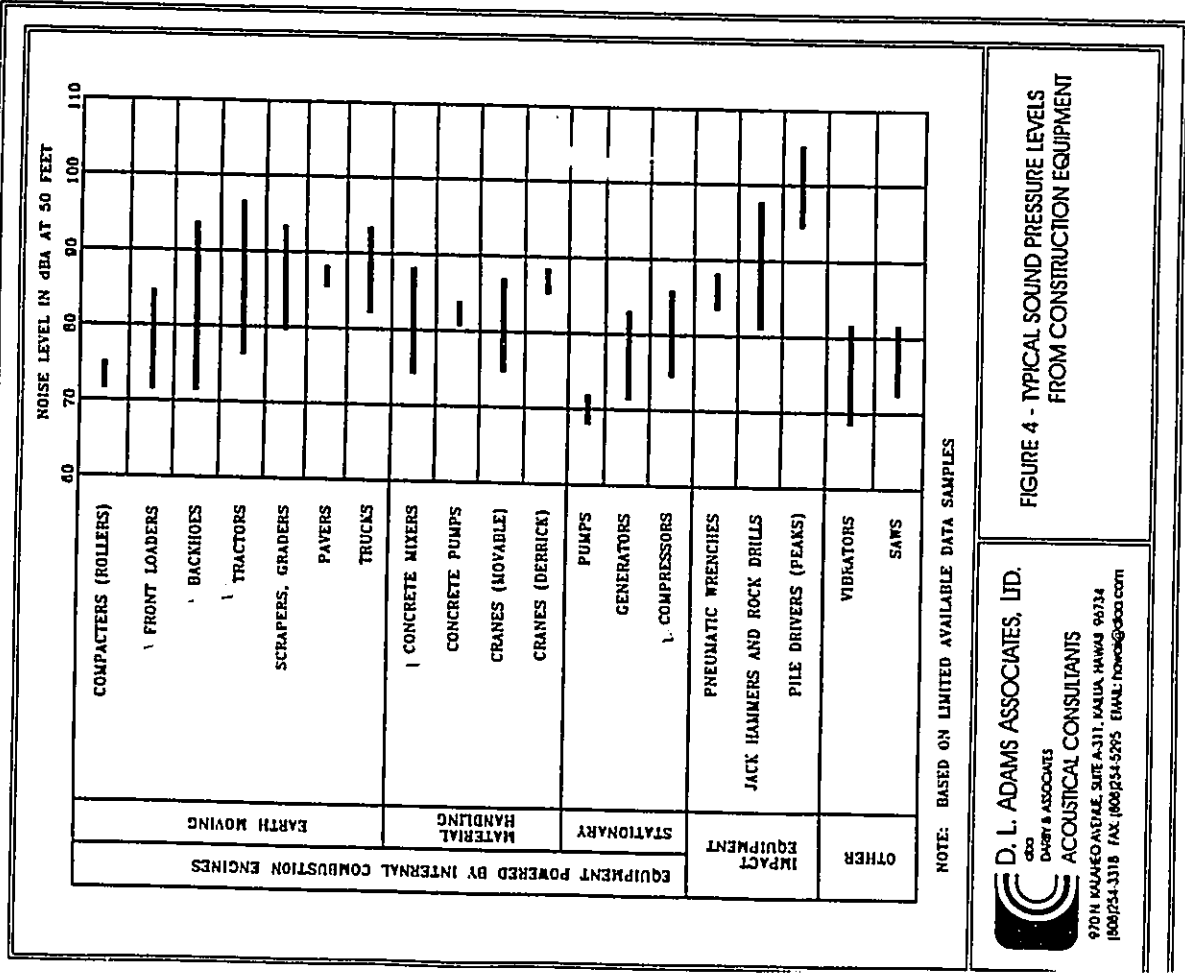
D. L. ADAMS ASSOCIATES, LTD.
 DARY & ASSOCIATES
 ACOUSTICAL CONSULTANTS
 970 N. KALAHEO AVENUE, SUITE A-311, KAILUA, HAWAII 96734
 (808)254-3318 FAX: (808)254-5295 EMAIL: hawaii@dlaa.com

FIGURE 3A - NOISE ASSESSMENT LOCATIONS 1 THROUGH 4, 9 AND 10



D. L. ADAMS ASSOCIATES, LTD.
 DARY & ASSOCIATES
 ACOUSTICAL CONSULTANTS
 970 N. KALAHEO AVENUE, SUITE A-311, KAILUA, HAWAII 96734
 (808)254-3318 FAX: (808)254-5295 EMAIL: hawaii@dlaa.com

FIGURE 3B - NOISE ASSESSMENT LOCATIONS 5 THROUGH 8



APPENDIX A

ACOUSTICAL TERMINOLOGY

Appendix A Acoustical Terminology (Continued)

Sound Pressure Level

Sound or noise consists of minute fluctuations in atmospheric pressure capable of evoking the sense of hearing. It is measured in terms of decibels (dB) using precision instruments known as sound level meters. Noise is defined as "unwanted" sound.

Technically, sound pressure level (SPL) is defined as:

$$\text{SPL} = 20 \log (P/P_{\text{ref}}) \text{ dB}$$

where P is the sound pressure fluctuation (above or below atmospheric pressure) and P_{ref} is the reference pressure, 20 micropascals, which is approximately the lowest sound pressure that can be detected by the human ear. For example, if P is 20 micropascals, then $\text{SPL} = 0 \text{ dB}$, or if P is 200 micropascals, then $\text{SPL} = 20 \text{ dB}$. The relation between sound pressure in micropascals and sound pressure level in decibels (dB) is shown in Figure A-1.

The sound pressure level that results from a combination of noise sources is not the arithmetic sum of the individual sound levels, but rather the logarithmic sum. For example, two sound levels of 50 dB produce a combined level of 53 dB, not 100 dB; two sound levels of 40 and 50 dB produce a combined level of 50.4 dB.

Human sensitivity to changes in sound pressure level is highly individualized. Sensitivity to sound depends on frequency content, time of occurrence, duration, and psychological factors such as emotions and expectations. However, in general, a change of 1 or 2 dB in the level of a sound is difficult for most people to detect. A 3 dB change is commonly taken as the smallest perceptible change and a 5 dB change corresponds to a noticeable change in loudness. A 10 dB increase or decrease in sound level corresponds to an approximate doubling or halving of loudness, respectively.

A-Weighted Sound Level

The human ear is more sensitive to sound in the frequency range of 250 Hertz (Hz) and higher, than in frequencies below 250 Hz. Due to this type of frequency response, a frequency weighting system, was developed to emulate the frequency response of the human ear. This system expresses sound levels in units of A-weighted decibels (dBA). A-weighted sound level de-emphasizes the low frequency portion of the spectrum of a signal. The A-weighted level of a sound is a good measure of the loudness of that sound. Different sounds having the same A-weighted sound level are perceived as being about equally loud. Typical values of the A-weighted sound level of various noise sources are shown in Figure A-1.

Statistical Sound Levels

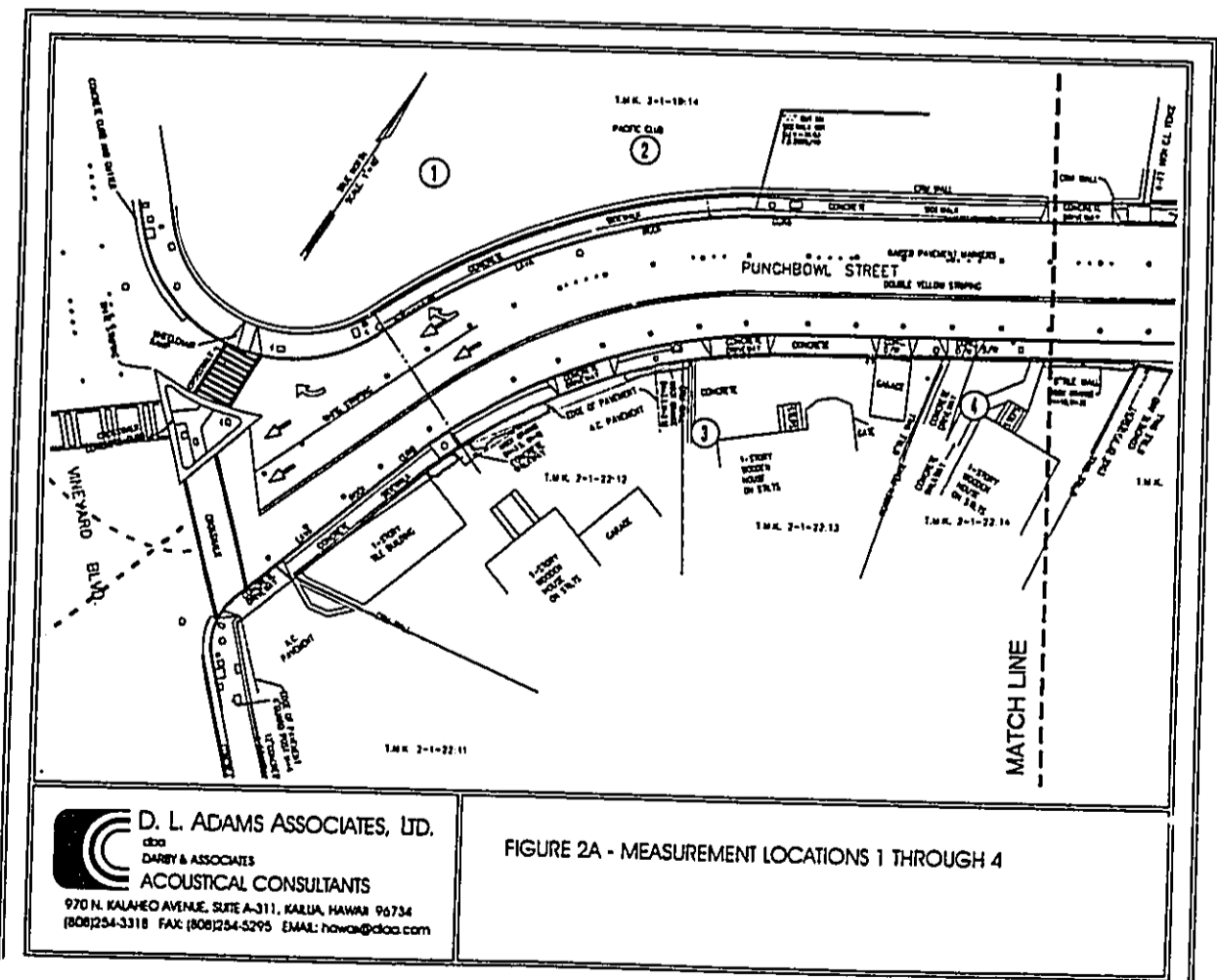
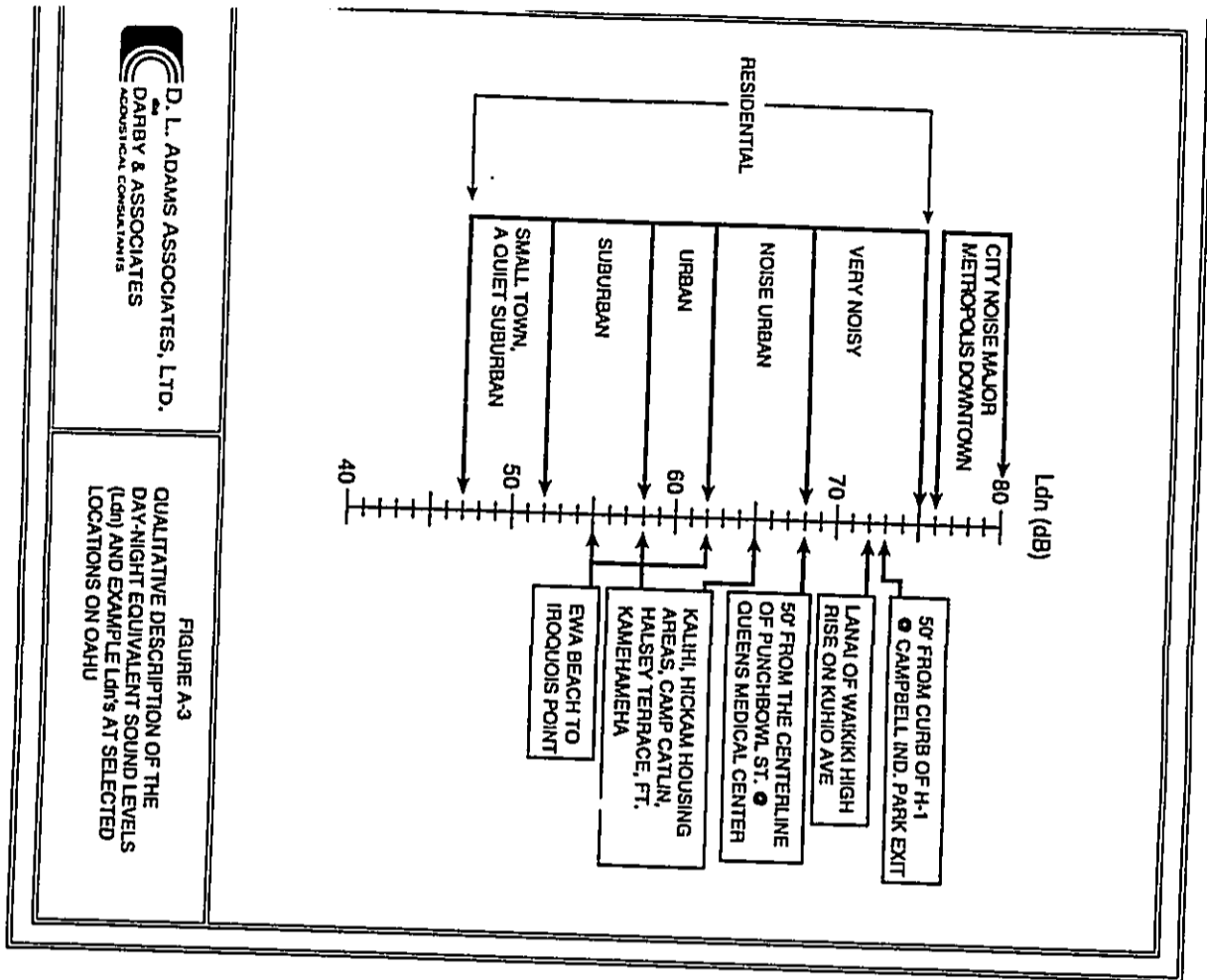
The sound levels of long-term noise producing activities, such as traffic movement, aircraft operations, etc., can vary considerably with time. In order to obtain a single number rating of such a noise source, a statistically-based method of expressing sound or noise levels developed. It is known as the Exceedence Level, L_n . The Exceedence Level, L_n , represents the sound level which is exceeded for n% of the measurement time period. For example, $L_{10} = 60 \text{ dBA}$ indicates that for the duration of the measurement period, the sound level exceeded 60 dBA 10% of the time. Commonly used Exceedence Levels include L_1 , L_{10} , L_{50} , and L_{90} , which are widely used to assess community and environmental noise. Figure A-2 illustrates the relationship between selected statistical noise levels.

Equivalent Sound Level

The Equivalent Sound Level, L_{eq} , represents a constant level of sound having the same total acoustic energy as that contained in the actual time-varying sound being measured over a specific time period. L_{eq} is commonly used to describe community noise, traffic noise, and hearing damage potential. It has units of dBA and is illustrated in Figure A-2.

Day-Night Equivalent Sound Level

The Day-Night Equivalent Sound Level, L_{dn} , is the Equivalent Sound Level, L_{eq} , measured over a 24-hour period. However, a 10 dB penalty is added to the noise levels recorded between 10 pm and 7 am to account for people's higher sensitivity to noise at night when the background noise level is typically lower. The L_{dn} is a commonly used noise descriptor in assessing land use compatibility, and is widely used by federal and local agencies and standards organizations. Qualitative descriptions, as well as local examples of L_{dn} , are shown in Figure A-3.



Appendix E
Historic Inventory Survey

FIGURES

Figure 1: 1475 Punchbowl Street (Front House).....15
 Figure 2: 1475 Punchbowl Street (Rear House).....15
 Figure 3: 1481 Punchbowl Street (Front House).....16
 Figure 4: 1481 Punchbowl Street (Rear House).....16
 Figure 5: Sanborn Fire Insurance Map, 1914.....17
 Figure 6: Sanborn Fire Insurance Map, 1927.....18
 Figure 7: Sanborn Fire Insurance Map, 1951.....19

INTRODUCTION/SCOPE OF WORK

Parsons Brinkerhoff retained Mason Architects to prepare an historic inventory survey report for two properties at 1475 Punchbowl Street (TMK 2-1-22:13) and 1481 Punchbowl Street (TMK 2-1-22:14). All the information required in the State Historic Preservation Division's (SHIPD) standard "Historic Resources Inventory Form" is included in this report, along with black and white photographs of each building. Recommendations as to whether the affected houses may be eligible for the Hawaii or National Register of Historic Places are also included in this report.

Field work was completed by Barbara Shideler, AIA of Mason Architects in August 1999. Ms. Shideler is trained in architectural history and historic preservation, and is a licensed architect in the State of Hawaii. She has a Bachelor's Degree in Architecture and a Graduate Certificate in Historic Preservation, both from the University of Hawaii at Manoa. She has had course work in American architectural history and more than ten years of professional research experience in the field. Ms. Shideler meets the professional qualification standards under Historic Architecture and Architectural History outlined in 36 CFR 61, Appendix A.

METHODOLOGY

The field checks included a visual survey of the affected buildings, as well as adjacent properties. Field photographs were taken with 35mm print film. The survey included the collection of data on both properties and the development of the Vineyard Street neighborhood. The files of the Hawaii State Historic Preservation Office were checked to see if the buildings were listed on the National Register of Historic Places or had been declared eligible for the Register. The Hawaii State Archives and the State of Hawaii Library were searched for historic photos, maps and other documentary materials. The files at the Bureau of Conveyances and the City and County Property Tax Office were also checked for pertinent background information, including maps. No original construction drawings were found for any of the buildings.

DESCRIPTION OF THE PROJECT

The City and County of Honolulu, Department of Design and Construction is proposing to provide an additional north (*mauka*) bound lane on Punchbowl Street from Vineyard Boulevard to the H-1 Freeway. This segment of Punchbowl Street currently has three lanes - two lanes south (*makai*) bound and one lane north (*mauka*) bound. After construction, this segment will have two south (*makai*) bound lanes and two north (*mauka*) bound lanes.

Potential Historic Properties

The following have been identified by Parsons Brinkerhoff, in consultation with the SHIPD, as the only 50-plus year old buildings affected by the project.

- Two house at 1475-A Punchbowl Street and 1475-B Punchbowl Street (TMK 2-1-22: 13) - the front house was built ca. 1915 (Figure 1) and the rear house ca. 1928 (Figure 2).
- Two houses at 1481 Punchbowl Street and 1481-A&B Punchbowl Street (TMK 2-1-22: 14) - the front house was built ca. 1910 (Figure 3) and a duplex in the rear built in 1941-42 (Figure 4).

Punchbowl Street Improvement Project

ii

Historic Inventory Survey

Punchbowl Street Improvement Project

i

Historic Inventory Survey

Expected Impacts

The project would require approximately ten feet of additional right-of-way on Punchbowl Street between Vineyard Boulevard and Lusitania Street, which would be obtained from the east (Diamond Head) side of the road. At 1475 Punchbowl Street, the existing wooden garage would be demolished, and the existing sidewalk would be relocated ten feet closer to the house. At 1481 Punchbowl Street, the City would obtain the property for mitigation of the loss of parking and access impacts to other properties. This would require the demolition of both houses on this site.

HISTORIC RESOURCES INVENTORY

PROPERTY A - 1475 PUNCHBOWL STREET (TMK 2-1-22:13)

Identification

Common Name: None

Historic Name (if known): Lot 10, Punchbowl Street

Street Address: 1475 A&B Punchbowl Street, Honolulu, Hawaii (originally 1461 Punchbowl Street - the street numbers changed after Vineyard Boulevard was rerouted during the construction of the H-1 Freeway).

Lot Area: 6,462 square feet.

Original Owners: Antone F. and Annie Santos (see below for subsequent owners).

Original and Present Use: Residence

Historic Context

- ca. 1895 A map at the State Survey office indicates a roughly triangular parcel of land located between Punchbowl, Vineyard and Lusitania Streets containing approximately twenty structures. The lots are owned by various people, including Queen Liliuokalani.
- 1902 The tract of land referred to as "Auwaiohimu" was granted to David Kawanakoa and Jonah Kuhio Kalaniano'le by the Territory of Hawaii in 1902 (Land Grant Patent 4636). The royal Princes Kawanakoa and Kalaniano'le were brothers, cousins of King Kalakaua and Queen Liliuokalani. They held the land until Kawanakoa's death in 1908.
- 1908 The property is sub-divided (reference is made in conveyance documents to a map by M.D. Monsarrat, dated April 20, 1908 - however the map has not been found) and various individual parcels are conveyed to Elia A.C. Long (Liber 302/465, Liber 247/121-27).
- 1908 Long transfers Parcel 10 (TMK 2-1-22:13) to Edward J. Lopes for \$646.20 (Liber 302/387).
- 1914-27 The Sanborn Fire Insurance Map for these years show the footprint of a structure that is identical to the building presently occupying the lot (Figure 5).

Punchbowl Street Improvement Project

2

Historic Inventory Survey

1924

E. J. Lopes and wife, Maria G. Lopes, both of Alameda, California, convey Parcel 10 to Pedro Lopes Teixeira for \$4750.00. The deed states that the transfer includes buildings [Liber 729/333].

1924

Pedro Lopes Teixeira and wife, Mary Lopes Teixeira, convey the property to Annie Ferreria Santos for \$4,475.00 [Liber 730/281]. She is the wife of Antone (Antonio) Ferreria Santos, an overseer at Ewa Plantation [Polk-Husted Directory for Honolulu, 1924]. It is uncertain whether the Santos family resided on the property.

1927

The Sanborn Fire Insurance Map for this year indicates a second dwelling at the rear of the property. The outline matches the plan of the existing structure behind the main house. The small garage structure also shows up on the map at this time (Figure 6).

1936

The Santos' deed the lot to George L. Medeiros for \$1.00 [Liber 1350/421, 423]. No further mention is made of Medeiros in any of the Bureau of Conveyance or Department of Taxation documents.

1940

Annie Santos dies on January 20.

1944

Antone Santos dies on December 23. The Antone Santos Estate is established after his death. The property is left to seven successor trustees (Manuel F. Santos, John F. Santos, Frank F. Santos, Rose S. Amell, Mary S. Ringevitch, Helen S. Hall, Githerrina G. Santos).

1946

Successor trustees convey the property to Mary, Peter and Chung Oh for \$10.00 [Liber 758/114-116].

1958

Chung Oh conveys her 1/3 share to Mary and Ester Oh for \$1.00 and Love [Liber 351/350].

Present

The property is held by Mary M. I. Oh, et al. She resides at 1310 Heulu Street and, presumably, rents the property to an unknown party (or parties).

Description - 1475-A Punchbowl Street (Front House)

Architectural Style: Craftsmen/Vernacular

Date of Construction: ca. 1915/1947. The Department of Taxation, Residential Appraisal Form indicates that Dwelling 1 (the main structure) was constructed ca. 1915, and received major repairs in 1947. The Sanborn Fire Insurance Map for 1914 shows an outline floor plan matching the one shown on the current Department of Taxation documents.

Condition of Building: Good

Architect: Unknown

Builder, contractor, suppliers: Unknown

Original plans and construction: None.

Major alterations and additions: Repairs to dwelling in 1938 (Building Permit No. 11841), 1947 (Building Permit No. 64317), and 1956 (Building Permit No. 125965).

Exterior:

Overall dimensions: 58 feet x 48 feet; 1,153 square feet, excluding the enclosed porch.

Punchbowl Street Improvement Project

3

Historic Inventory Survey

Foundations: Wood post and beam on concrete footings. A diagonal lath skirt conceals the crawl space at the front of the structure; the skirt at the remainder of the building is vertical lath.

Exterior Siding and Structural System: Vertical tongue-and-groove board single-wall construction with an interior girt. A flat apron, without a sill, runs along the perimeter of the base of the building.

Roof and Roofing: Hip roof with a gabled dormer over the front bay; roofed with asphalt shingles. The overhanging roof eaves are exposed and feature decorative bracketing. A metal canopy extends over the entry stair; this appears to be a later addition.

Porch and Steps: Stairs at the front and rear entries have lava rock sidewalls topped with concrete; the steps are constructed of reinforced concrete. The front porch, located on the right side of the facade, has been enclosed with plywood. The paneled handrail and decorative columns are still visible at the exterior.

Doorways and Doors: The entry consists of a five-panel glazed door with glazed sidelights. The side door is a flush panel; this appears to be a replacement.

Windows: Many of the original two-over-two double-hung windows remain. The window frame boxes project outward from the face of the exterior wall boards, making them flush with the interior wall surface. Several of the windows have been replaced with jalousies or are infilled with solid plywood panels.

Interior: The following information was obtained from the Department of Taxation, Residential Appraisal Card prepared in 1947. The interior of the building was not accessible at the time of our survey.

Floor Plan: The building is roughly rectangular in plan with a projecting bay on the front elevation, and an inset wrap-around front porch. The interior of the house consists of two bedrooms, one bath, a kitchen, a dining room, and a living room.

Flooring: Wood (pine) strip flooring.

Wall and Ceiling Finish: Wood (pine) tongue and groove boards.

Interior Doorways and Doors: Wood panel doors.

Mechanical Equipment:

HVAC: Window air conditioners are installed in several rooms.

Lighting: Unknown.

Plumbing: One bathroom. The materials and their condition were not assessed at the time of our survey.

Punchbowl Street Improvement Project

4

Historic Inventory Survey

Description - 1475 B Punchbowl Street (Rear House)

Architectural Style: Craftsmen/Vernacular

Date of Construction: ca. 1928/1947. The Department of Taxation Residential Appraisal Form indicates that Dwelling 3 (the rear structure) was constructed ca. 1928, and received an addition in 1947. The Sanborn Fire Insurance Map for 1927 shows an outline floor plan matching the one shown on the current Department of Taxation documents.

Condition of Building: Good

Architect: Unknown

Builder, contractor, suppliers: Unknown

Original plans and construction: None.

Major alterations and additions: Addition in 1947 (Building Permit No. 64433).

Exterior:

Overall dimensions: 24 feet x 36 feet with a 12 foot x 14 foot addition; 915 square feet.

Foundations: Wood post and beam on concrete footings. A diagonal lath skirt conceals the crawl space beneath the structure.

Exterior Siding and Structural System: Vertical tongue-and-groove board single-wall construction with an exterior girt. A flat apron with a simple drip cap runs along the perimeter of the base of the building.

Roof and Roofing: Hip roof with a low-slope pent roof over the front porch; both are roofed with asphalt shingles. The overhanging roof eaves are exposed; the porch roof has decorative rafter tails.

Porch and Steps: The front porch is located on the right side of the facade. The stairs at the front entry has lava rock sidewalls topped with concrete; the steps are constructed of concrete.

Doorways and Doors: The entry consists of a five-panel glazed door with glazed sidelights. The side door is a flush panel; this appears to be a later addition.

Windows: Many of the original two-over-two double-hung windows remain. The window frame boxes project outward from the face of the single wall material, making them flush with the interior wall surface.

Interior: The following information was obtained from the Department of Taxation, Residential Appraisal Card prepared in 1965. The interior of the building was not accessible at the time of our survey.

Punchbowl Street Improvement Project

5

Historic Inventory Survey

Floor Plan: The building is rectangular in plan with an inset front porch. The interior of the house consisted of two bedrooms, one bath, a kitchen, and a living room.

Flooring: Wood (pine) strip flooring.

Wall and Ceiling Finish: Wood (pine) tongue and groove boards.

Interior Doorways and Doors: Wood panel doors.

Mechanical Equipment:

HVAC: Window air conditioners are installed in several rooms.

Lighting: Unknown.

Plumbing: One bathroom. The materials and their condition were not assessed at the time of our survey.

PROPERTY B: 1481 PUNCHBOWL STREET (TMK 2-1-22:14)

Identification

Common Name: None

Historic Name: Lot 9, Punchbowl Street

Street Address: 1481 Punchbowl Street (originally 1471 Punchbowl) – the street numbers changed after Vineyard Boulevard was rerouted during the construction of the H-1 Freeway) and 1481 A&B Punchbowl Street, Honolulu, Hawaii.

Lot Area: 6,852 square feet.

Original Owners: Evelina and Bernardo Camara (see below for subsequent owners).

Original and Present Use: Residence

Historic Context

ca. 1895 A map at the State Survey office indicates a roughly triangular parcel of land located between Punchbowl, Vineyard and Lusitania Streets containing approximately twenty structures. The lots are owned by various people, including Queen Liliuokalani.

1902 The tract of land referred to as "Auwaiohimu" was granted to David Kawananakoa and Jonah Kūhiō Kalanianoʻle by the Territory of Hawaii in 1902 [Land Grant Patent 4636]. The royal Princes Kawananakoa and Kalanianoʻle were brothers, cousins of King Kalakaua and Queen Liliuokalani. They held the land until Kawananakoa's death in 1908.

1908 The property is sub-divided (reference is made in conveyance documents to a map by M.D. Monsarrat, dated April 20, 1908 - however the map has not been found) and

various individual parcels are conveyed to Elia A. C. Long [Liber 302/465, Liber 247/121-27].

1908 Long transfers Parcel 9 (TMK 2-1-22:14) to Manuel J. Silva for \$646.20 [Liber 305/328-29].

1910 Silva conveys Parcel 9 to Mrs. Evelina Camara for \$650.00 in "gold coin" [Liber 326/245]. She obtains an additional mortgage from Mrs. J. N. Oliveira for \$450.00 [Liber 325/286-288]. She and her husband Bernardo Camara, a salesman for Lewers and Cooke [Polk-Husted Directory for Honolulu, 1910], build the main house.

1910-39 The Camaras and their children live in the property at 1471 Punchbowl Street.

1914-27 The Sanborn Fire Insurance Map for these years show the footprint of a structure that is identical to the building presently occupying the lot (Figure 5).

1927 The Sanborn Fire Insurance Map for this year shows the lath house at the rear of the property is gone; the small garage structure on the makai side of the house also shows up on the map at this time (Figure 6).

1933 The Camaras obtain an additional mortgage from the Union Trust Company for \$1700.00 [Liber 1203/105-08].

ca. 1939 Evelina Camara Estate is established after her death. The property is left to six successor trustees (Elton Camara, Hilde Camara Baptist, Agnes Camara Mitholick, Raymond Serrao, Olympia Serrao Coffey, and Vasco G Serrao).

1940 Successor trustees convey the property to Bong Kwan Chung and wife, Chai Bok Chung for \$9250.00 [Liber 1584/372].

1941-42 A second structure, a duplex, is built at the rear of the property.

1951 The Sanborn Fire Insurance Map for this year indicates the second dwelling to the rear of the existing home (Figure 7).

1951 Bong Kwan Chung and Chai Bok Chung convey the property to Ok Yee Noh Chung (widow) and Moses Chung (unmarried, possibly her son) for \$10.00 and the payment of the outstanding mortgage of \$9374.94 [Liber 2506/167].

1967-68 Ok Yee Noh Chung dies, and Moses Chung and wife, Anne Youn Sheen Chung become "tenants in the entirety" holding the property jointly [Liber 6168/171].

1971 Moses and Anne Chung draft an agreement of sale of the property with William L. Pak, Charles Y. C. Pak, Grace Y. E. P. Seo, You Pyung Pak, and We Chun Kim Pak for \$72,000.00 [Liber 7645/174].

1976 Moses and Anne Chung deed the property to You Pyung Pak and We Chun Kim Pak, husband and wife [Liber 11624/130].

1978 You Pyung Pak and We Chun Kim Pak convey the property, for the sum of \$1.00, to Charles Y.C. Pak and wife, Jane Riechers Pak (presumably their son and daughter-in-law) [Liber 13096/350].

1993 Charles Yong Chul Pak and Jane Riechers Pak, Laura Kim Pak, Gregory Pyung Won Pak, and Marjorie Pak create the PakFam Partnership, Ltd. which currently holds the property [Instrument No. 04-00049049].

Description - 1481 Punchbowl Street (Front House)

Architectural Style: Craftsman/Bungalow

Date of Construction: ca. 1910

Condition of Building: Extremely poor.

Punchbowl Street Improvement Project

6

Historic Inventory Survey

Punchbowl Street Improvement Project

7

Historic Inventory Survey

Architect: Unknown

Builder, contractor, suppliers: Unknown (possibly Lewers and Cooke).

Original plans and construction: No drawings were found for this work.

Major alterations and additions: Front porch enclosed at unknown date. Repairs to dwelling in 1965 (Building Permit No. 19229)

Exterior:

Overall dimensions: 59 feet x 26 feet; 1,391 square feet with a 608 square foot basement.

Foundations: Wood post and beam on concrete footings. Lava rock piers frame the corners of the front elevation. A vertical wood slat skirt conceals the crawl space beneath the front and sides of the structure. A partially sunken basement, with a concrete slab-on-grade, is located at the rear of the building.

Exterior Siding and Structural System: Horizontal wood drop siding on wood stud framing. A walerable and lath skirt run along the perimeter of the base of the building.

Roof and Roofing: Hip roof with two gabled attic dormers; roofed with asphalt shingles. The roof eaves are typically soffitied. A short pent roof with exposed rafters extends over the *makai* side stairway; this appears to be a later addition.

Porch and Steps: Stairs at the front and rear entries have lava rock sidewalls topped with concrete; the steps are constructed of concrete. The stair at the *makai* side is wood framed, with a 2 x 4 wood handrail. The front porch, located on the right side of the facade, has been enclosed with aluminum frame windows and plywood scrap material. The handrail is still visible at the exterior.

Doorways and Doors: The entry doors are not visible due to the front porch enclosure.

Windows: Many of the original two-over-two double-hung windows remain.

Interior: The following information was obtained from the Department of Taxation, Residential Appraisal Card prepared in 1965. The interior of the building was not accessible at the time of our survey.

Floor Plan: The building is roughly rectangular in plan with a shallow bay on the *makai* side and a slightly projecting front porch. The interior of the house consisted of three bedrooms, two baths, a kitchen and a living room.

Flooring: Wood (pine) strip flooring.

Wall and Ceiling Finish: Wood (pine) tongue and groove boards.

Interior Doorways and Doors: Wood panel doors.

Punchbowl Street Improvement Project

8

Historic Inventory Survey

Mechanical Equipment:

HVAC: Window air conditioners are installed in several rooms.

Lighting: Unknown.

Plumbing: Two bathrooms which were not assessed at the time of our survey.

Description - 1481 A & B Punchbowl Street (Rear House)

Architectural Style: Plantation/Vernacular duplex structure.

Date of Construction: 1941-42

Condition of Building: Poor.

Architect: Unknown

Builder, contractor, suppliers: Unknown (possibly Lewers and Cooke).

Original plans and construction: No drawings were found for this work.

Major alterations and additions: None.

Exterior:

Overall dimensions: 26 x 42 feet; 1,114 square feet.

Foundations: Concrete perimeter foundation; wood post and beam on concrete footings at interior.

Exterior Siding and Structural System: Single-wall construction consisting of vertical tongue and groove boards and an exterior gir.

Roof and Roofing: Hip roof with asphalt roll roofing over asphalt shingles. The overhanging roof eaves have exposed rafters.

Porch and Steps: Concrete steps and landings with metal handrails.

Doorways and Doors: The original entry doors have been replaced with newer flush wood doors.

Windows: The structure retains many of its original double-hung windows and wood screens. The window frame boxes project outward from the exterior face of the single wall material, making them flush with the interior wall surface.

Punchbowl Street Improvement Project

9

Historic Inventory Survey

Interior: The following information was obtained from the Department of Taxation, Residential Appraisal Card prepared in 1965. The interior of the building was not accessible at the time of our survey.

Floor Plan: The building is rectangular in plan and contains two living units (one in the front and one to the rear). Each unit consists of two bedrooms, a bath, a kitchen and a living room.

Flooring: Wood (pine) strip floors.

Wall and Ceiling Finish: Wood (pine) tongue and groove boards.

Interior Doorways and Doors: Wood panel doors.

Mechanical Equipment:

HVAC: Window air conditioners are installed in several rooms.

Lighting: Unknown.

Plumbing: Two bathrooms which were not assessed at the time of our survey.

ASSESSMENT OF SIGNIFICANCE

National Register of Historic Places Criteria

The National Register of Historic Places (NRHP), in title 36, part 60 of the Code of Federal Regulations (referred to as 36 CFR 60), defines the criteria for legally evaluating the significance of cultural resources as "the quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association", and:

- A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B) that are associated with the lives of persons significant in our past; or
- C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D) that have yielded, or may be likely to yield, information important in prehistory or history (U.S. Dept. of Interior, 1991: p. 37).

The National Register also includes a section called "Criteria Considerations" which explains that ordinarily properties that are less than fifty years old will not "be considered eligible for the National Register" unless they are "of exceptional importance." The Hawai'i State Register of Historic Places utilizes the same criteria as the National Register. Properties listed on the Hawai'i Register are afforded the same protection as those listed on the National Register.

Punchbowl Street Improvement Project

10

Historic Inventory Survey

Integrity Criteria

The National Register Bulletin 15: *How to Apply the National Register Criteria for Evaluation* defines integrity as "the ability of a property to convey its significance." (U.S. Dept. of Int., 44). To be listed in the National Register of Historic Places, a property must not only be shown to be significant under the National Register criteria, but it also must retain its historic integrity. There are seven qualities or aspects of integrity mentioned in the National Register criteria: location, design, setting, materials, workmanship, feeling, and association. Many of these have to do with the physical characteristics of a historic resource. There is usually a close relationship between the physical features of an historic property and the significance of that resource. The evaluation of integrity is sometimes a subjective judgment, but it must always be grounded in an understanding of a property's physical features and how they relate to its significance.

Historic properties either retain integrity (that is, convey their significance) or they do not. To retain historic integrity a property will always possess several, and usually most, of the aspects. The retention of specific aspects of integrity is paramount for a property to convey its significance. Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant. The following sections define the seven aspects and explain how they combine to produce integrity.

Location is the place where the historic property was constructed or the place where the historic event occurred. The relationship between the property and its location is often important to understanding why the property was created or why something happened. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons. Except in rare cases, the relationship between a property and its historic associations is destroyed if the property is moved.

Design is the combination of elements that create the form, plan, space, structure, and style of a property. It results from conscious decisions made during the original conception and planning of a property (or its significant alteration) and applies to activities as diverse as community planning, engineering, architecture, and landscape architecture. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

A property's design reflects historic functions and technologies as well as aesthetics. It includes such considerations as the structural system; massing; arrangement of spaces; pattern of fenestration; textures and colors of surface materials; type, amount, and style of ornamental detailing; and arrangement and type of plantings in a designed landscape.

Setting is the physical environment of a historic property. Whereas location refers to the specific place where a property was built or an event occurred, setting refers to the character of the place in which the property played its historical role. It involves how, not just where, the property is situated and its relationship to surrounding features and open space.

Setting often reflects the basic physical conditions under which a property was built and the functions it was intended to serve. In addition, the way in which a property is positioned in its environment can reflect the designer's concept of nature and aesthetic preferences.

Punchbowl Street Improvement Project

11

Historic Inventory Survey

The physical features that constitute the setting of a historic property can be either natural or manmade, including such elements as topographic features (a gorge or the crest of a hill), vegetation, simple manmade features (paths or fences), and relationships between buildings and other features or open space.

These features and their relationships should be examined not only within the exact boundaries of the property, but also between the property and its surroundings. This is particularly important for districts.

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. The choice and combination of materials reveals the preferences of those who created the property and indicate the availability of particular types of materials and technologies. Indigenous materials are often the focus of regional building traditions and thereby help define an area's sense of time and place.

A property must retain the key exterior materials dating from the period of its historic significance. If the property has been rehabilitated, the historic materials and significant features must have been preserved. The property must also be an actual historic resource, not a recreation; a recent structure fabricated to look historic is not eligible. Likewise, a property whose historic features and materials have been lost and then reconstructed is usually not eligible.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of artisans' labor and skill in constructing or altering a building, structure, object, or site. Workmanship can apply to the property as a whole or to its individual components. It can be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing. It can be based on common traditions or innovative period techniques.

Workmanship is important because it can furnish evidence of the technology of a craft, illustrate the aesthetic principles of a historic or prehistoric period, and reveal individual, local, regional, or national applications of both technological practices and aesthetic principles. Examples of workmanship in historic buildings include tooling, carving, painting, turning, and joinery.

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. For example, a rural historic district retaining original design, materials, workmanship, and setting will relate the feeling of agricultural life in the 19th century. A grouping of prehistoric petroglyphs, unmarred by graffiti and intrusions and located on its original isolated bluff, can evoke a sense of tribal spiritual life.

Association is the direct link between an important historic event or person and a historic property. A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. For example, a Revolutionary War battlefield whose natural and manmade elements have remained intact since the 18th century will retain its quality of association with the battle. Because feeling and association depend on individual perceptions, their retention alone is never sufficient to support eligibility of a property for the National Register.

Punchbowl Street Improvement Project

12

Historic Inventory Survey

SUMMARY FINDINGS AND RECOMMENDATIONS

Architectural Survey Results

The field checks confirmed that the buildings were most likely built between 1910 and 1941. The buildings have received alterations and additions since they were originally constructed; these changes are described in an earlier section of this report. The adjacent properties were also briefly examined and evaluated against the National Register of Historic Places criteria. Other than the two structures included in this survey and the residence at 1459 Punchbowl Street, none of the adjacent structures appear to meet the 50-year age criterion of the NRHP, and do not appear to possess "exceptional importance" required for properties less than 50 years of age.

Statement of Significance

The residences included in this study meet the National Register of Historic Places "Criterion A" for their association with the "broad patterns of our history", as remainders of a once thriving Portuguese residential neighborhood on the northwest flank and foot of Punchbowl Crater. The majority of the lots in this subdivision were purchased by Portuguese immigrants, such as the Santos and the Camara families. Perhaps, in part, to be close to the Portuguese Evangelica Church, which was located on the corner of Punchbowl and Miller Streets. The street names in this area reflect the dominance of Portuguese culture. Lusitania Street was named for the Portuguese Welfare Society whose members were largely immigrants from the Azores who arrived in Hawaii in 1883. Lusitania is the ancient name of West Hispania, and now a poetic name for Portugal (Pukui, et al. 1974). Other nearby street names include Magellan Avenue, and Madena, Azores, and Concordia Streets.

The buildings also meet the National Register of Historic Places "Criterion C" since they "embody architectural elements, such as decorative bracketing and rafters, ornamental windows, and lava rock piers and wood columns, make these homes more distinctive than many other structures of the period. Furthermore, three of the four structures are significant as good examples of single-wall construction, a distinctive building type in Hawaii.

Assessment of Integrity

Location: The structures at 1475 and 1481 Punchbowl Street retain their integrity of location, since there is no evidence that the buildings have been moved. Although the original drawings have not been found, the Sanborn Map for 1914-27 indicates two structures with identical footprints to the buildings presently located on the site.

Design: The structures retain their integrity of design, since the "structural system; massing; arrangement of spaces; pattern of fenestration; textures and colors of surface materials; and type, amount, and style of ornamental detailing" remain evident. Several changes in design, such the enclosure of the porches, the use of asphalt roof roofing, and the addition of window air conditioning units, are reversible and therefore do not detract from the integrity of design criterion.

Setting: Due to rapid urbanization and the relocation of Vineyard Street during the construction of the H-1 Freeway in the 1960s, the buildings' setting has changed drastically. Once located in a

Punchbowl Street Improvement Project

13

Historic Inventory Survey

primarily residential neighborhood, the three houses at 1459, 1475, and 1481 Punchbowl Street are now surrounded by low-rise apartment buildings and commercial enterprises, and are bordered by a very busy Freeway on/off ramp.

Materials: Generally, the buildings retain their key exterior materials dating from the period of significance (1910 to 1941). These significant materials include the exterior siding and trim, double-hung windows, and ornamental bracketing/rafters. Although the main house at 1481 Punchbowl is in seriously deteriorated condition, it nonetheless retains enough of its original fabric to meet the integrity of materials criterion.

Workmanship: The structures retain their integrity of workmanship, since the methods of construction and level of ornamental detailing remain apparent. The houses at 1475 and 1481 Punchbowl Street feature Craftsman-style architectural elements, such as decorative bracketing and rafters, ornamental windows, and lava rock piers and wood columns, which make these homes more distinctive than many other structures of the period.

Feeling: Despite the drastic changes to their setting, the three homes remaining on this section of Punchbowl Street somewhat manage to convey the feeling of an older residential neighborhood. One senses that this was once a respectable middle-class neighborhood with homes of charm and distinction.

Association: The structures' association with the Portuguese community are diminished due to the urbanization of this neighborhood. The Portuguese church is no longer extant, and there is little evidence of Portuguese culture in the area.

Recommendations

The following are the opinions of the architectural historians who surveyed the architectural resources on the project site, and who are familiar with the history and context of the buildings. The consultation between the C&C of Honolulu and the SHPD, if they agree, will ultimately determine the effect of the undertaking on the historic properties, if any, in the project area.

As discussed in an earlier section, the homes at 1475 and 1481 Punchbowl Street meet the National Registers of Historic Places Criteria A and C. With the exception of integrity of setting and association, the buildings appear to retain sufficient integrity to convey their historic significance. Thus, the properties appear to be eligible for the National and/or Hawaii Registers of Historic Places.

Other than the loss of the garage building, a minor ancillary structure constructed ca. 1921, and the relocation of the sidewalk and street ten feet closer to the buildings (in the current parking area), the project will not adversely affect the homes at 1475 Punchbowl Street. However, the demolition of the structures at 1481 Punchbowl Street will contribute further to the loss of setting and association with historic events.

To mitigate the proposed demolition of the garage building at 1475 Punchbowl Street and the two homes at 1481 Punchbowl Street, we recommend that all the structures on these two parcels be documented prior to their demolition. The appropriate level of documentation should be determined by the SHPD.

Punchbowl Street Improvement Project

14

Historic Inventory Survey

Punchbowl Street Improvement Project

15

Historic Inventory Survey

Figure 1: 1475 Punchbowl Street (Front House); top.
Figure 2: 1475 Punchbowl Street (Rear House); bottom.

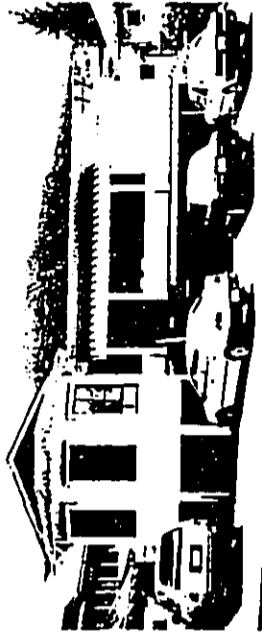


Figure 3: 1481 Punchbowl Street (Front House); top.
Figure 4: 1481 Punchbowl Street (Rear House); bottom.

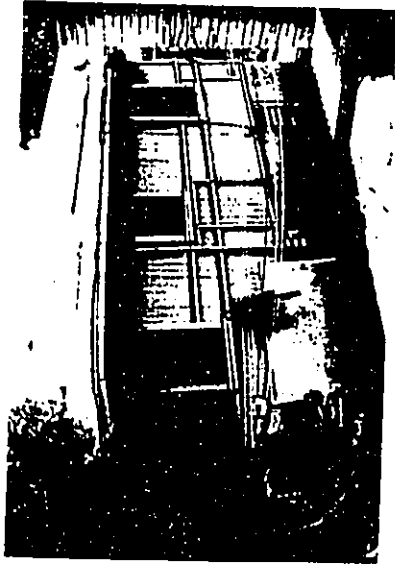
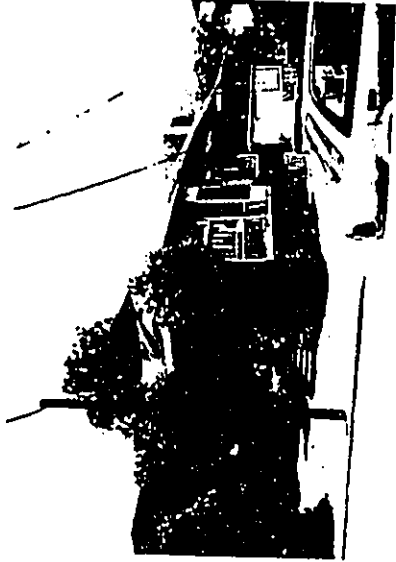
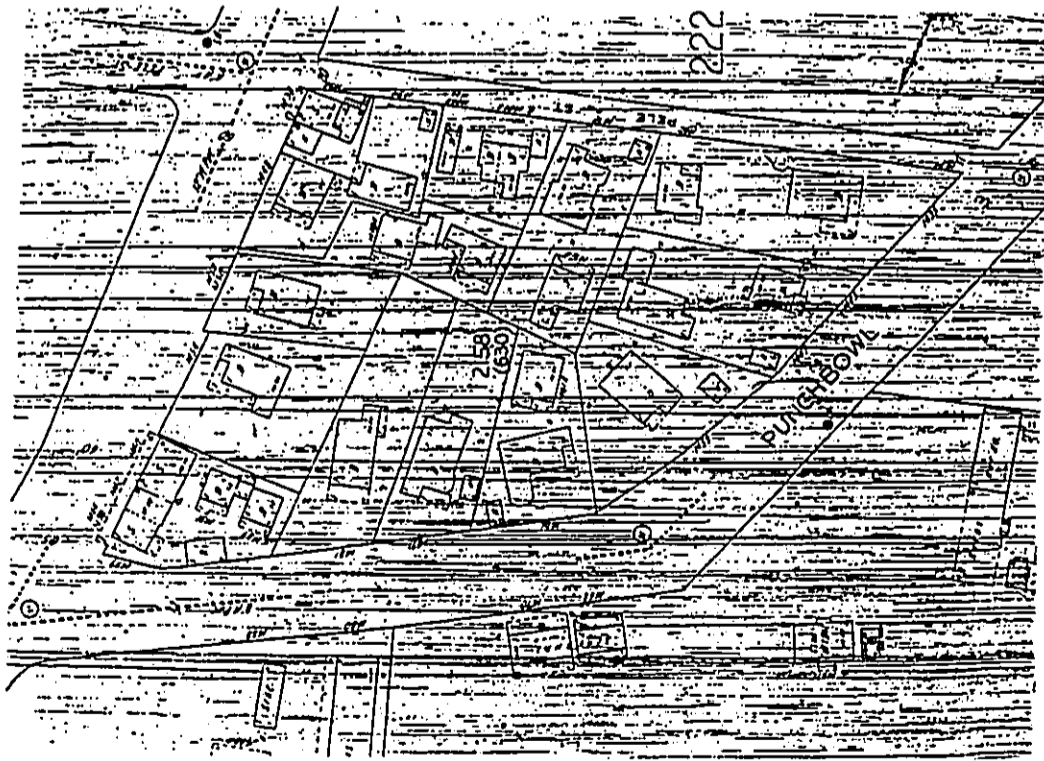


Figure 5: Sanborn Fire Insurance Map, 1914-27



Figure 6: Sanborn Fire Insurance Map, 1927

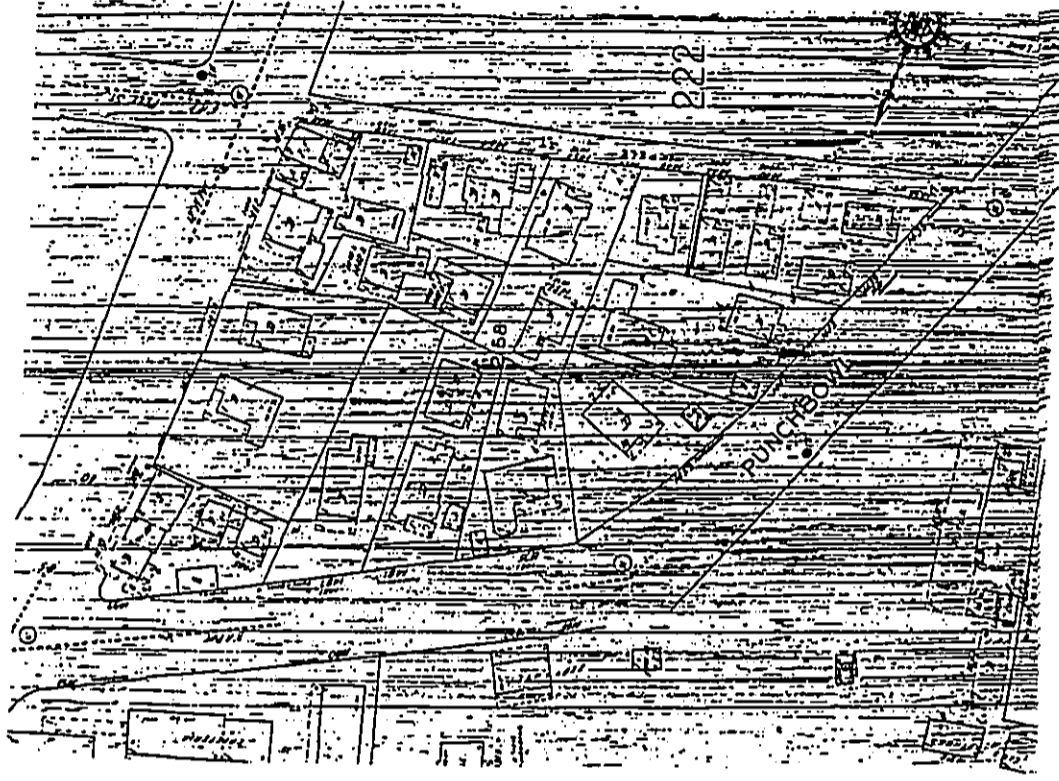


Punchbowl Street Improvement Project

18

Historic Inventory Survey

Figure 7: Sanborn Fire Insurance Map, 1951



Punchbowl Street Improvement Project

19

Historic Inventory Survey

BIBLIOGRAPHY

- Hawaii, State, Bureau of Conveyances, *Grantor and Grantee Indices*, various dates.
Honolulu, City and County, Department of Taxation. *Residential Appraisal Forms*, various dates.
Polk-Husted Directory for Honolulu, various dates.
Pukui, Mary, S. H. Elbert, E.T. Mookini. *Place Names of Hawaii*. University of Hawaii Press, Honolulu, 1974.
Sanborn Fire Insurance Maps for 1914, 1927 and 1951.
United States, Department of the Interior, National Park Service. *Federal Historic Preservation Laws*. Cultural Resources Programs, Washington D.C., 1993.
_____. *Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Interagency Resources Division, Washington D.C., 1991.