
ENVIRONMENTAL ASSESSMENT

Moanalua Shopping Center Redevelopment

O'ahu, Hawai'i



Commander Navy Region Hawaii

August 2004

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

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1. REPORT DATE (DD-MM-YYYY) xx-08-2004		2. REPORT TYPE Final Environmental Assessment		3. DATES COVERED (From - To) Mar 2003 - Aug 2004	
4. TITLE AND SUBTITLE ENVIRONMENTAL ASSESSMENT Moanalua Shopping Center Redevelopment Oahu, Hawaii				5a. CONTRACT NUMBER N62742-02-D-1802 AMDT 0001,000101,000102	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Pingree, Ryan Halperin, William				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) The Environmental Company, Inc. 1001 Bishop Street, Suite 1240 Pauahi Tower Honolulu, HI 96813				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Commander Naval Facilities Engineering Command, Pacific 258 Makalapa Dr, Suite 100 Pearl Harbor, Hawaii 96860-3134				10. SPONSOR/MONITOR'S ACRONYM(S) NAVFAC PAC or NAVFAC Pacific	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT A - Approved for public release; distribution unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT The Department of the Navy has prepared an Environmental Assessment (EA) and determined that an Environmental Impact Statement is not required for the redevelopment of the Moanalua Shopping Center (MSC), Oahu, Hawaii. Based on information gathered during preparation of the EA, the Department of the Navy finds that the proposed redevelopment of the Moanalua Shopping Center, Oahu, Hawaii will not significantly impact human health or the environment. The Proposed Action is to establish a Navy Community Support Center by redeveloping the MSC site. A private developer would redevelop the approximately 15-acre MSC site as in-kind consideration for the fair market rent which would be due under a 40-year lease of the properties pursuant to 10 USC Section 2667. The Navy would be provided with up to 55,000 square feet (ft ²) of Navy administrative space. The Proposed Action would also provide up to 15,000 ft ² of new commercial retail space and up to 15,000 ft ² of new Quick Service Restaurant space. The Proposed Action would have an adverse effect on the MSC and a potential adverse affect to the Moanalua Community Church. The Navy complied with the National Historic Preservation Act (NHPA) Section 106 requirements by consulting with the State Historic Preservation Officer (SHPO) and affording the Advisory Council on Historic Preservation (ACHP), and other consulting parties the opportunity to comment, and executed a Memorandum of Agreement with the SHPO and ACHP. Under the Proposed Action, significant impacts to traffic would occur at two intersections: Valkenburgh Street at Warden Avenue and Valkenburgh Street at Nimitz Highway. <u>With the implementation of traffic mitigation measures, no significant impacts to traffic would occur under the Proposed Action.</u>					
15. SUBJECT TERMS Environmental Assessment, Moanalua Shopping Center Redevelopment, Oahu, Hawaii					
16. SECURITY CLASSIFICATION OF: U - Unclassified			17. LIMITATION OF ABSTRACT UU (Unclassified Unlimited)	18. NUMBER OF PAGES 78	19a. NAME OF RESPONSIBLE PERSON Audrey Uyema Pak
a. REPORT U	b. ABSTRACT U	c. THIS PAGE U			19b. TELEPHONE NUMBER (include area code) 808-472-1448

**DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR ENVIRONMENTAL ASSESSMENT
(EA) FOR MOANALUA SHOPPING CENTER (MSC) REDEVELOPMENT, OAHU, HAWAII**

Pursuant to the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508) implementing the National Environmental Policy Act (NEPA), and Chief of Naval Operations Instruction 5090.1B, the Department of the Navy (Navy) gives notice that an EA has been prepared and an Environmental Impact Statement (EIS) is not required for the Redevelopment of the Moanalua Shopping Center, Oahu, Hawaii.

Proposed Action: Commander Navy Region (COMNAVREG) Hawaii proposes to establish a Navy Community Support Center (NCSC) by redeveloping the MSC site. Under the Proposed Action, a private developer would redevelop the approximately 15-acre (6-hectare) MSC site as in-kind consideration for the fair market rent which would be due under a 40-year lease of the properties pursuant to 10 USC § 2667. The Proposed Action would provide the Navy with up to 55,000 square feet (ft²) (5,110 square meters [m²]) of Navy administrative space. The Proposed Action would also provide up to 15,000 ft² (1,394 m²) of new commercial retail space and up to 15,000 ft² (1,394 m²) of new Quick Service Restaurant (QSR) space.

Existing Conditions: Currently, the various Navy service agencies are dispersed and not consolidated in a central location. The purpose of the Proposed Action is to provide COMNAVREG Hawaii with a NCSC that would allow clustering of compatible and similar Navy service agencies. The Proposed Action is needed to maximize efficient delivery of support services, in an accessible location, outside the confines of the Pearl Harbor Naval Complex, to the Navy community.

Alternatives Analyzed: Alternatives considered included renovating the existing MSC site for adaptive reuse (the Adaptive Reuse Alternative) and the No-Action Alternative. The Adaptive Reuse Alternative would result in extensive renovation and infrastructure upgrades including the construction of attached or detached single-story building additions. Although this alternative would still accomplish the project objectives, it would significantly alter the MSC's character and would not be as efficient in maximizing efficient delivery of support services to the Navy community as the Proposed Action. Therefore, the Adaptive Reuse Alternative was not selected. The No-Action Alternative was not selected because it would not achieve project objectives.

Environmental Effects: While a private developer has been selected for exclusive negotiations with the Navy, the final redevelopment plan of the site is pending and is not expected to result in impacts to environmental resources greater than those evaluated in this EA. However, should the final redevelopment plan exceed the proposed redevelopment actions described in this EA, the developer shall complete a separate NEPA document. The separate NEPA document shall analyze any environmental impacts exceeding those that were analyzed in this EA.

The Proposed Action would have an adverse effect on the MSC (an historic property eligible for inclusion in the National Register of Historic Places (NRHP)) and a potential adverse affect to the Moanalua

Community Church (MCC) (a historic property listed on the Hawaii Register of Historic Places). The Navy complied with the National Historic Preservation Act (NHPA) Section 106 requirements by consulting with the State Historic Preservation Officer (SHPO) and affording the Advisory Council on Historic Preservation (ACHP), and other consulting parties the opportunity to comment. The Navy, ACHP, and the SHPO executed a Memorandum of Agreement (MOA) satisfactorily concluding consultations pursuant to the NHPA's implementing regulations, 36 CFR Part 800.

If the private developer proposes to relocate the MCC, COMNAVREG Hawaii shall initiate consultations with the parties to the MOA to determine the suitability of the relocation site, review the techniques and safeguards utilized to relocate the church structure, and determine that relocation does not adversely affect other historic properties at the new site.

Under the Proposed Action, significant impacts to traffic would occur at two intersections: Valkenburgh Street at Warden Avenue and Valkenburgh Street at Nimitz Highway. At each intersection stated below, the following mitigation measure would reduce traffic impacts to a less than significant level:

- converting the Valkenburgh Street at Warden Avenue intersection to a "right in/right out" only intersection;
- adding a Northbound through/optional left turn lane to Valkenburgh Street between Eastbound and Westbound Nimitz Highway.

With the implementation of these mitigation measures, no significant impacts to traffic would occur under the Proposed Action. However, should the final redevelopment plan exceed the proposed redevelopment actions described in this EA, the developer shall complete a separate NEPA document. The separate NEPA document shall analyze the traffic impacts exceeding those impacts that were analyzed in this EA.

Contamination issues such as the presence of an electrical transformer, and potential presence of asbestos-containing materials (ACM) and lead-based paint (LBP) would be investigated for possible contamination prior to redevelopment and any necessary remedial activities identified. If required, the Proposed Action would include proper procedures for removal and disposal of ACMs and LBP during demolition and would be in accordance with appropriate federal, state, and local laws and regulations.

The private developer would be required to prepare a Best Management Plan (BMP) to address protection of water resources during demolition and construction. This BMP would be required to obtain the NPDES General Permit from the DOH should there be any storm water discharges.

The Proposed Action would not result in significant impacts on the following resource areas: land use; socioeconomics; public facilities, services, and recreation; utilities and infrastructure; hazardous/regulated materials; topography and soils; water quality and resources; air quality; noise; biological resources; and views. Because the Proposed Action would not result in adverse effects on the resource areas described above, it is not expected to contribute to cumulative impacts on those resource areas, when evaluated in conjunction with other past, present, and reasonably foreseeable government and private actions. The Proposed Action would not create environmental health and safety risks that may disproportionately affect children and minority or disadvantaged populations.

The Navy has determined that the Proposed Action would not have reasonably foreseeable direct or indirect effects on any coastal use or resource of the State's coastal zone.

Finding: Based on information gathered during preparation of the EA, the Navy finds that the proposed Redevelopment of the Moanalua Shopping Center, Oahu, Hawaii will not significantly impact human health or the environment.

The EA prepared by the Navy addressing this Proposed Action is on file and interested parties may obtain a copy from: Naval Facilities Engineering Command, Pacific, 58 Makalapa Drive, Suite 100, Pearl Harbor, Hawaii 96860-3134 (Attention: Ms. Audrey Uyema Pak, ENV1831AUP), telephone (808) 472-1448. A limited number of copies on compact disk are available to fill single copy requests.

8 Aug 04
Date


C. E. WEAVER
Rear Admiral, U. S. Navy
Commander, Navy Installations Command

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ENVIRONMENTAL ASSESSMENT
Moanalua Shopping Center Redevelopment
O'ahu, Hawai'i

Commander Navy Region Hawaii
August 2004

COVER SHEET

Proposed Action	The Proposed Action is to issue a lease to establish a Navy Community Support Center by redeveloping the Moanalua Shopping Center site, O'ahu, Hawai'i.
Type of Document	Environmental Assessment
Lead Agency	Commander Navy Region Hawaii
For Further Information	Ms. Audrey Uyema Pak, ENV1831AUP Environmental Planning Division Naval Facilities Engineering Command, Pacific (NAVFAC Pacific) 258 Makalapa Drive, Suite 100, Pearl Harbor, HI 96860-3134 Telephone: (808) 471-9338

Summary

This Environmental Assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] § 4321 *et seq.*), as implemented by Council on Environmental Quality (CEQ) regulations (Title 40 Code of Federal Regulations [CFR] Parts 1500-1508) and Chief of Naval Operations Instruction (OPNAVINST) 5090.1B, *Environmental and Natural Resources Program Manual* of June 4, 2003.

Commander Navy Region (COMNAVREG) Hawaii proposes to establish a Navy Community Support Center (NCSC) by redeveloping the Moanalua Shopping Center (MSC) site. Under the Proposed Action, a private developer would redevelop the existing approximately 15-acre (6-hectare) MSC site as in-kind consideration for the fair market rent which would be due under a 40-year lease of the properties pursuant to 10 USC § 2667. The Proposed Action would provide the Navy with up to 55,000 square feet (ft²) (5,110 square meters [m²]) of Navy administrative spaces. The Proposed Action would also provide up to 15,000 ft² (1,394 m²) of new commercial retail space and up to 15,000 ft² (1,394 m²) of new Quick Service Restaurant (QSR) space.

The purpose of the Proposed Action is to provide COMNAVREG Hawaii with a NCSC that would allow clustering of compatible and similar Navy service agencies. The Proposed Action is needed to maximize efficient delivery of support services, in an accessible location outside the confines of the Pearl Harbor Naval Complex, to the Navy community.

Alternatives considered include: renovating the existing MSC site for adaptive reuse and No-Action.

The Proposed Action would not result in significant impacts on the following resource areas: land use; socioeconomics; public facilities, services, and recreation; utilities and infrastructure; hazardous/regulated materials; topography and soils; water quality and resources; air quality; noise; biological resources; and views. In addition, no significant impacts to traffic would occur with the application of potential mitigation measures. The Proposed Action would not create environmental health and safety risks that may disproportionately affect children or minority or disadvantaged populations, nor would any direct or indirect effects on any coastal use or resource of the State's coastal zone occur. In addition, no significant cumulative impacts have been identified.

The Proposed Action would have an adverse effect on the MSC (an historic property eligible for inclusion in the National Register of Historic Places) and a potential adverse effect on the Moanalua Community Church (an historic property listed on the Hawai'i Register of Historic Places). The Navy has complied with Section 106 of the National Historic Preservation Act (NHPA) by consulting with the State Historic Preservation Officer (SHPO) and affording the Advisory Council on Historic Preservation (ACHP), and other parties the opportunity to comment. The Navy, SHPO, and ACHP executed a Memorandum of Agreement to conclude consultations pursuant to the NHPA's implementing regulations, 36 CFR Part 800.

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**ENVIRONMENTAL ASSESSMENT
MOANALUA SHOPPING CENTER REDEVELOPMENT
O’AHU, HAWAI’I**

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Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COMNAVREG	Commander Navy Region
dBA	A-weighted decibel
DOH	Department of Health (State of Hawai'i)
DOT	Department of Transportation (State of Hawai'i)
EA	environmental assessment
EB	eastbound
EO	Executive Order
ft	feet/foot
ft ²	square feet/foot
FIRM	Flood Insurance Rate Map
HECO	Hawaiian Electric Company
HRHP	Hawai'i Register of Historic Places
IRP	Installation Restoration Program
ITS	Institute of Transportation Engineers
LBP	lead-based paint
LOS	level-of-service
km	kilometer(s)
m ²	square meter(s)
MCC	Moanalua Community Church
MOA	Memorandum of Agreement
mph	miles per hour
MSC	Moanalua Shopping Center
NAAQS	National Ambient Air Quality Standards
NAC	Navy Aloha Center
NB	northbound
NCSC	Navy Community Support Center
NEX	Navy Exchange
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OPNAVINST	Chief of Naval Operations Instruction
PCB	polychlorinated biphenyl
PHNC	Pearl Harbor Naval Complex
PWC	Public Works Center
RFP	request for proposals
QSR	Quick Service Restaurant
SHPO	State Historic Preservation Officer
TEC	The Environmental Company, Inc.
TRB	Transportation Research Board
UBC	Uniform Building Code
USC	U.S. Code
USGS	U.S. Geological Survey
UST	underground storage tank
V/C	volume-to-capacity
WB	westbound

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 SUMMARY OF THE PROPOSED ACTION

Commander Navy Region (COMNAVREG) Hawaii proposes to issue a lease to establish a Navy Community Support Center (NCSC) by redeveloping the Moanalua Shopping Center (MSC) site. The approximately 15-acre (6-hectare) MSC site is located on Navy land just east of the H-1 Freeway and the Pearl Harbor Naval Complex (PHNC) (Figure 1-1). Under the Proposed Action, a private developer would redevelop the existing MSC site as in-kind consideration for the fair market rent which would be due under a 40-year lease of the properties pursuant to 10 USC § 2667.

1.2 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to provide COMNAVREG Hawaii with a NCSC that would allow clustering of compatible and similar Navy service agencies. The Proposed Action is needed to maximize efficient delivery of support services, in an accessible location outside the confines of the Pearl Harbor Naval Complex, to the Navy community.

The Proposed Action would satisfy the Navy's need for up to 55,000 square feet (ft²) (5,110 square meters [m²]) of administrative spaces in an accessible location outside the confines of the PHNC. The Proposed Action would also include developing and managing up to 15,000 ft² (1,394 m²) of new commercial retail property and up to 15,000 ft² (1,394 m²) of new Quick Service Restaurant (QSR) spaces at the MSC site, and completing repairs and renovations to the existing Navy Aloha Center (NAC) and to the MSC site infrastructure, including roadway improvements.

1.3 REGULATORY OVERVIEW

The following is a discussion of the federal laws and permits that may be relevant in implementing the Proposed Action or alternatives.

1.3.1 National Environmental Policy Act

This environmental assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 USC §4321), as implemented by the Council on Environmental Quality (CEQ) regulations (Title 40, Code of Federal Regulations [CFR] Parts 1500-1508) and Chief of Naval Operations Instruction (OPNAVINST) 5090.1B CH-4, *Environmental and Natural Resources Program Manual*, of June 4, 2003 (Navy 2003a). This EA analyzes the potential impacts of the Proposed Action and reasonable alternatives and is intended to provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

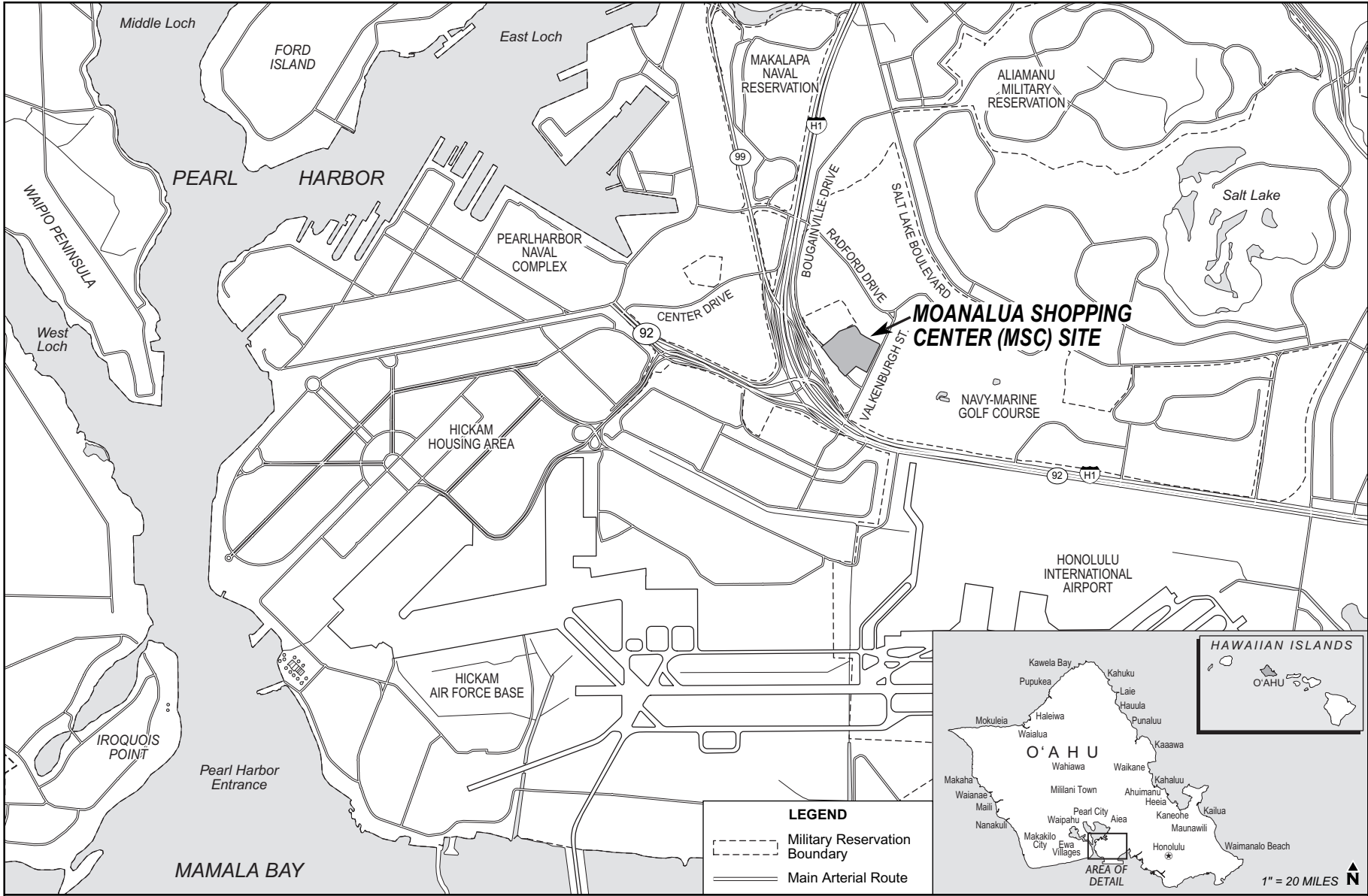


Figure 1-1
 Regional Location Map
 Moanalua Shopping Center Redevelopment



1.3.2 National Historic Preservation Act, Section 106

The National Historic Preservation Act (NHPA) of 1966 (as amended) (16 USC §470) recognizes the Nation's historic heritage and establishes a national policy for the preservation of historic properties. The NHPA established the National Register of Historic Places (NRHP). Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties, such as the U.S. Naval Base, Pearl Harbor National Historic Landmark, and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. The Section 106 process, as defined in 36 CFR Part 800, provides for the identification and evaluation of historic properties, for determining the effects of undertakings on such properties, and for developing ways to resolve adverse effects in consultation with consulting parties.

1.3.3 National Pollutant Discharge Elimination System

Discharge of pollutants from point sources into surface waters of the U.S. is regulated under the National Pollutant Discharge Elimination System (NPDES) program pursuant to Section 402 of the Clean Water Act. The State of Hawai'i Department of Health (DOH) administers the NPDES program under Title 11, Chapter 55, Hawai'i Administrative Rules.

1.3.4 Coastal Zone Management Act

The purpose of the Coastal Zone Management Act (CZMA) is to encourage states to manage and conserve coastal areas as a unique, irreplaceable resource. The CZMA states that land subject solely to the discretion of the Federal government, such as Federally owned or leased property, is excluded from the State's coastal zone. However, Federal activities that directly affect the coastal zone are to be conducted in a manner consistent with the enforceable policies of Federally-approved state programs to the maximum extent practicable. The proponent of the Navy action must determine whether the action will affect any coastal use or resource in a coastal state.

1.3.5 Clean Air Act

The Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for sulfur dioxide, carbon monoxide, particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns, nitrogen dioxide, lead, and ozone. The CAA regulates construction and operation of new stationary sources and modifications of existing stationary sources in its New Source Review program. This program is divided further into nonattainment and attainment area permitting requirements. Nonattainment areas require the permitting of all major pollution sources. Attainment areas require the installation of the best available control technology for all major sources and must fall within the next increment of degradation. Major pollution sources require an air quality permit before construction. The project area is within an attainment area.

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2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1.1 Proposed Action

Under the Proposed Action, a private developer would redevelop the existing approximately 15 acre (6-hectare) MSC site (Figure 2-1) as in-kind consideration for the fair market rent which would be due under a 40-year lease of the properties pursuant to 10 USC § 2667. The Proposed Action would satisfy the Navy's need for up to 55,000 ft² (5,110 m²) of administrative spaces in an accessible location outside the confines of the PHNC, and would provide up to 15,000 ft² (1,394 m²) of new commercial retail property and up to 15,000 ft² (1,394 m²) of new Quick Service Restaurant (QSR) spaces at the MSC site. The following sections provide specific details of the actions associated with the Proposed Action.

2.1.1.1 Proposed Redevelopment Actions

While a private developer has been selected for exclusive negotiations with the Navy, the redevelopment plan for the MSC site has not been finalized. The developer (in conjunction with the Navy) would redevelop the MSC area to contain the NCSC, commercial retail/medical facilities, and QSRs. Figure 2-2 depicts the area in which these buildings would be constructed; the final redevelopment plan of the area is pending and is not expected to result in impacts greater than those evaluated in this EA for impacts to environmental resources. However, should the final redevelopment plan exceed the proposed redevelopment actions described in this EA, the developer shall complete a separate NEPA document. The separate NEPA document shall analyze the environmental impacts exceeding the impacts that are analyzed in this EA. Figures 2-1 and 2-2 reflect known or anticipated actions at the time of the EA preparation and may not reflect the final redevelopment plan; to the extent possible, a description of the Proposed Action is provided below. Under the Proposed Action, the following actions would occur:

- The small building housing the MSC management office and the Crab Tank would be demolished (Figure 2-1);
- The developer would not be permitted to demolish the Moanalua Community Church (MCC); however, the developer may relocate it to another area of the MSC site, sublease it for religious purposes, or propose another use for it;
- The existing MSC building would be demolished;
- A NCSC of up to 55,000 ft² (5,110 m²) and up to 15,000 ft² (1,394 m²) of commercial retail space would be constructed. The proposed NCSC would be no more than three stories high;
- Up to 15,000 ft² (1,394 m²) of new QSR spaces would be constructed;
- Various repairs and renovations to the existing NAC and MSC site infrastructure, including widening a portion of Bougainville Drive between Valkenburgh and Spence Streets would be completed;
- DeHaven Street, Henley Street, and the MCC parking lot are anticipated to be repaved;
- A traffic signal at the intersection of Valkenburgh Street and Bougainville Drive (Figure 2-2) would be installed;

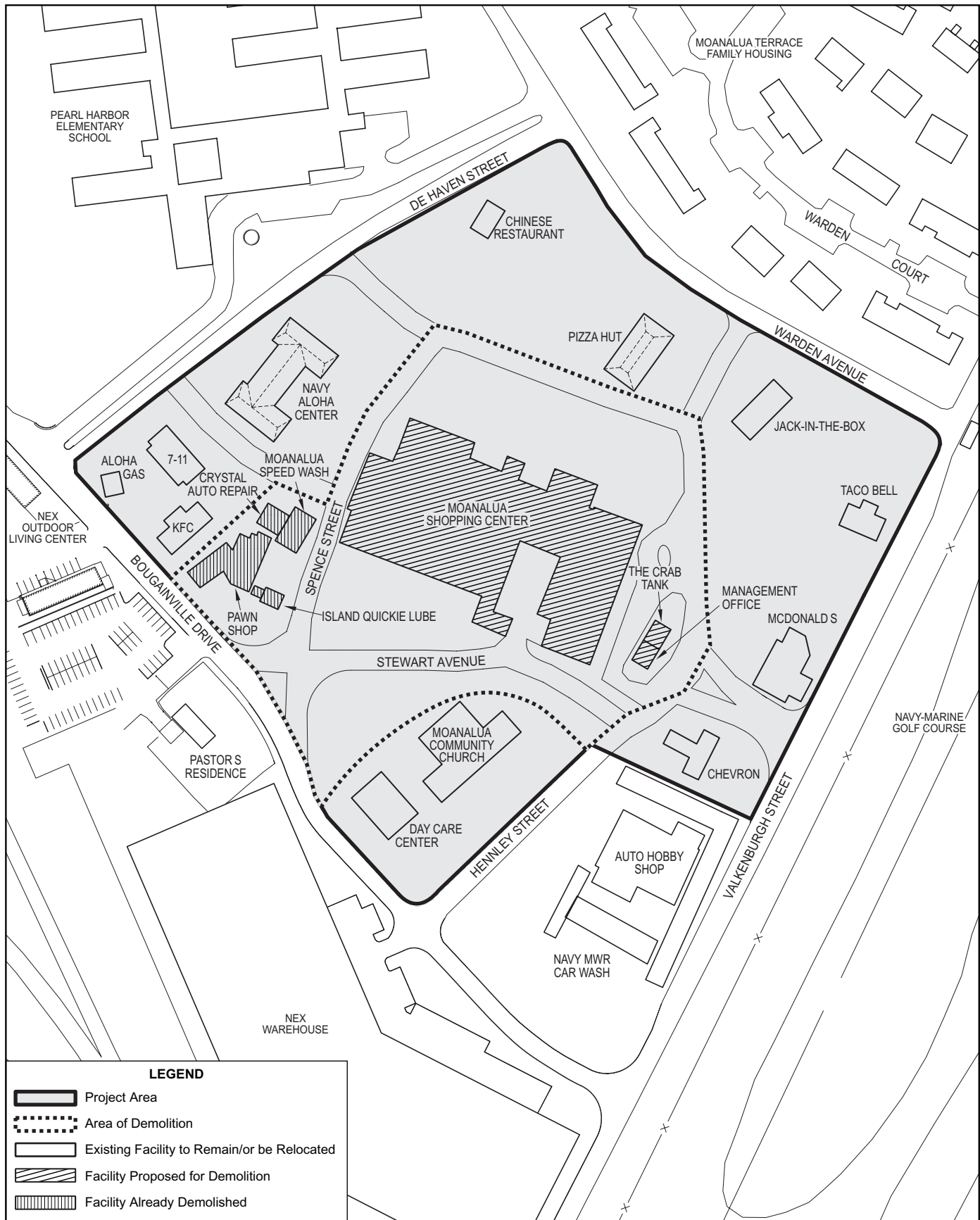


Figure 2-1
 Moanalua Shopping Center Redevelopment —
 Demolition Plan



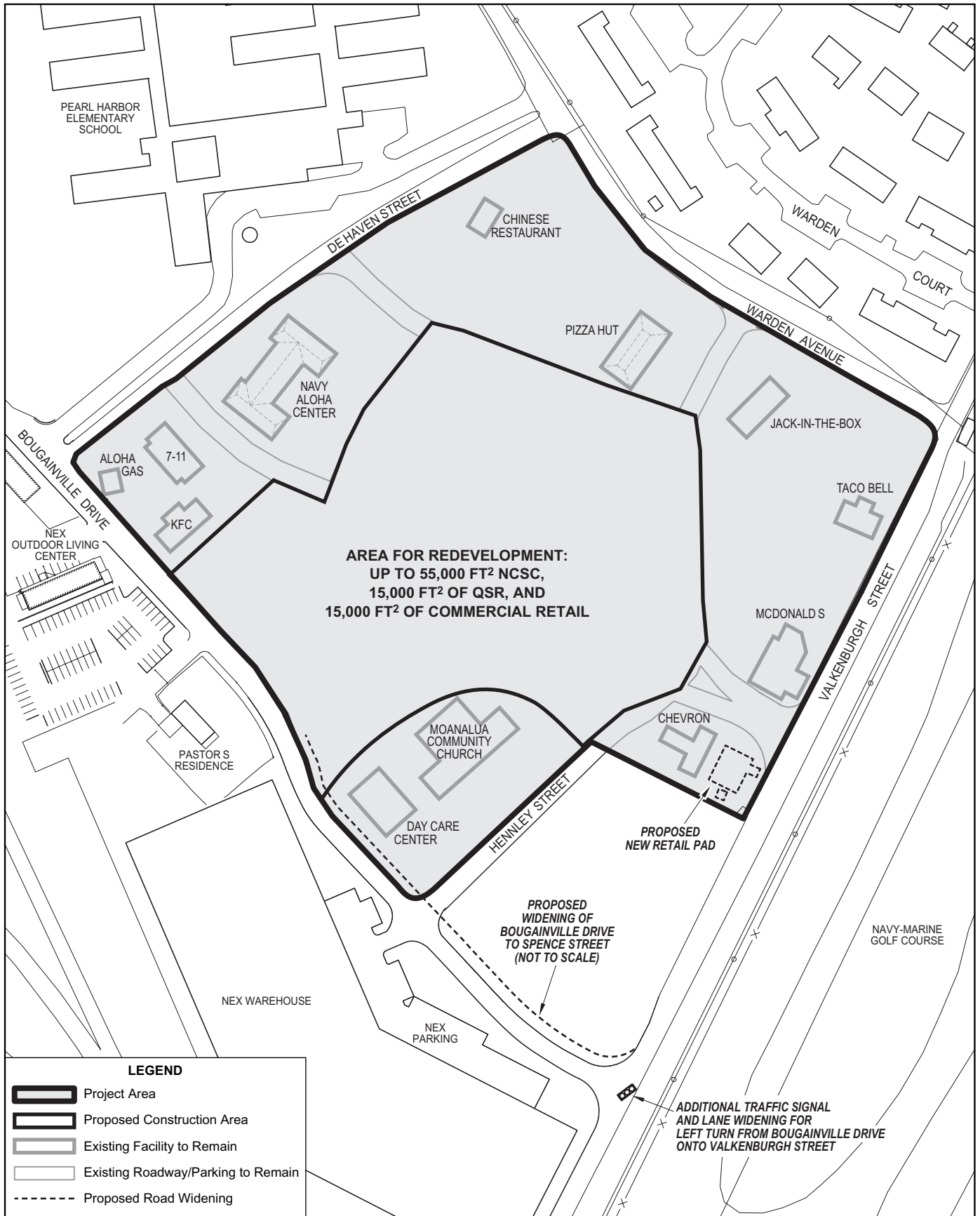


Figure 2-2
Moanalua Shopping Center Redevelopment —
Conceptual Redevelopment Plan



- As determined by the final redevelopment plan, the developer may demolish and relocate other non-historic buildings/functions within the project area to enhance redevelopment. The demolition and relocation would maintain the original square footage and function of the buildings;
- General site improvements such as area lighting, landscaping, electrical and mechanical systems, fire suppression, heating, ventilation and air conditioning, infrastructure improvements, and energy management control systems would occur; and
- As the NCSC would be considered a primary gathering structure based on the expected building occupancy, buffer-zone requirements in accordance with Anti-terrorism/Force Protection would be implemented.

2.1.2 Potential Tenants and Lessee Management

Potential tenants of the new NCSC would include the Human Resources Service Center Pacific currently located in Waipahu; Morale, Welfare, and Recreation (MWR) Child Care Programs; Fleet and Family Support Center; and the Family Advocacy Program. The Family Housing Assignment Office is the potential tenant for the NAC.

The lessee would have the right to manage the existing and new commercial enterprises on the leased premises, which may include retail outlets, professional spaces, and QSRs. In addition, the lessee would own, operate, manage, and maintain all new commercial facilities, including certain streets and selected infrastructure. The new commercial activities would be limited to businesses that do not generate or store hazardous substances unless approved in advance by the Navy. All existing sub-leases would be terminated when the master lease with the current sub-lessee is terminated, and the selected developer would determine which of the existing tenants would remain on site as sub-lessees.

2.1.3 Alternatives

Alternatives to the Proposed Action must be considered in accordance with NEPA, CEQ regulations for implementing NEPA, and OPNAVINST 5090.1B. However, only those alternatives determined to be reasonable relative to their ability to fulfill the purpose of and need for the Proposed Action require detailed analysis. The only alternative identified that satisfies the purpose of and need for the Proposed Action is the Adaptive Reuse Alternative. The No-Action Alternative was carried forward in the analysis as a benchmark to compare the magnitude of environmental effects of the alternatives including the Proposed Action.

2.1.3.1 Adaptive Reuse Alternative

The Adaptive Reuse Alternative would preserve the structure of the existing MSC; however, extensive renovation and infrastructure upgrades to accomplish the project objectives would occur. The developer (in conjunction with the Navy) would renovate the MSC area to contain the NCSC, commercial retail/medical facilities, and QSRs. The Adaptive Reuse Alternative would also be funded by 10 USC § 2667 outlease authority.

The Adaptive Reuse Alternative would involve the same actions as the Proposed Action except for the following modification:

- A NCSC of up to 55,000 ft² (5,110 m²) and up to 15,000 ft² (1,394 m²) of commercial retail space would be provided in the renovated MSC. Renovation may include attached

or detached single-story building additions to the existing MSC to meet the objectives of the project and overcome the structural deficiencies of the existing MSC.

2.1.3.2 No-Action Alternative

Under the No-Action Alternative, redevelopment activities at the MSC site described under the Proposed Action would not occur. Specifically, all the demolition and construction actions described under the Proposed Action would not occur. However, given the deteriorated, obsolete, high-maintenance, and energy inefficient condition of the main shopping center structures, it is likely that they would be abandoned upon the termination of the existing sublease for the MSC and eventually demolished.

2.2 ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION AND ALTERNATIVES

Table 2-1 summarizes the potential environmental effects and the mitigation measures associated with the Proposed Action and alternatives. The information presented is summarized from Chapter 4.0, Environmental Consequences.

Table 2-1. Summary of Environmental Effects of the Proposed Action and Alternatives

Environmental Resource(s)	Proposed Action	Adaptive Reuse Alternative	No-Action Alternative
Cultural Resources	<p>Potentially significant impacts without mitigation. Adverse impacts - demolition of MSC and adaptive reuse or relocation of the MCC.</p> <p><u>Mitigation:</u> The Navy concluded Section 106 consultations in accordance with 36 CFR Part 800 by executing a Memorandum of Agreement (MOA) with the State Historic Preservation Officer (SHPO) and ACHP that stipulates ways to resolve or mitigate the adverse effects on historic properties (see Appendix A).</p>	<p>Potentially significant impacts without mitigation.</p> <p><u>Mitigation:</u> Prior to implementation of the Adaptive Reuse Alternative, the Navy shall initiate a separate consultation in accordance with 36 CFR Part 800 that stipulates ways to resolve or mitigate the adverse effects on historic properties.</p>	No impacts.
Traffic	<p>Potentially significant impacts without mitigation.</p> <p><u>Mitigation:</u> The Navy has identified the following mitigation measures for traffic impacts: Converting the Valkenburgh Street at Warden Avenue intersection to a “right in/right out” only intersection.</p> <p><i>Note:</i> While this EA identifies specific potential mitigation measures for each intersection, the developer (in conjunction with the Navy and following final site planning and associated additional analysis) may propose other mitigation actions to reduce potentially significant traffic impacts to a less than significant level.</p>	<p>Potentially significant impacts without mitigation.</p> <p><u>Mitigation:</u> Same as Proposed Action.</p>	No impacts.
Land Use; Socioeconomics; Public Facilities, Services and Recreation; Utilities and Infrastructure; Hazardous/Regulated Materials; Topography and Soils; Water Quality and Resources; Air Quality; Noise; Biological Resources; and Views.	No long-term significant impacts. Temporary impacts related only to redevelopment activities (e.g., noise and particulate matter) during construction.	Same as Proposed Action.	No impacts.

3.0 AFFECTED ENVIRONMENT

This chapter describes the environmental setting of the Proposed Action and alternatives, and the environmental resources within the area of potential effect. The project is located on O‘ahu, City and County of Honolulu, Hawai‘i.

3.1 LAND USE

Land use information for the MSC site and surrounding parcels was obtained from the City and County of Honolulu (City and County of Honolulu, 2003) and from Navy information.

3.1.1 MSC Site

The existing MSC has a floor area of 69,400 ft² (6,447 m²), and sits on three contiguous parcels of land identified as TMK 1-1-10:22, 23, and 34. Federal lands are not subject to local zoning ordinances and land use restrictions. The City and County of Honolulu classifies military and federal property as Zone F-1. The project site is not within any of the City’s Special Districts. The MSC site is inland of the coastal Special Management Area and Shoreline Setback. Although construction on Federal property is not subject to local codes, the Navy would require the developer to comply with the City and County of Honolulu’s building codes and governmental laws, codes, rules and regulations, as applicable, in accordance with Federal State, and City codes, rules, and regulations (Navy, 2003b).

3.1.2 Surrounding Land Use

Surrounding land use is depicted on Figure 2-1. Immediately south of the MSC site, across Bougainville Drive, is the Navy Exchange (NEX) Warehouse, the MCC Pastor’s residence, and the NEX Outdoor Living Center. Beyond those structures is a complex of highways, the elevated H-1 Freeway viaduct, and a number of on-ramps and off-ramps. To the northwest is Pearl Harbor Elementary School, a State of Hawai‘i public school which sits on land owned by the City and County of Honolulu. Across Valkenburgh Street to the east is the Navy-Marine Golf Course, and to the northeast is the Moanalua Terrace Navy Family Housing area.

3.2 CULTURAL RESOURCES

3.2.1 Historic Properties in the Project Area

U.S. Naval Base Pearl Harbor was designated a National Historic Landmark (NHL) in 1964. Although the NHL boundary encompasses much of the area within and around Pearl Harbor, the MSC site lies outside and to the east of the NHL boundary.

3.2.1.1 Historic Resources

In an evaluation of the significance of buildings at the MSC site, Mason Architects (2003) found that the MCC and the MSC met the eligibility criteria for listing on the NRHP. Built in 1958, the MCC was determined eligible for the NRHP because the large, stained-glass window on its southeastern façade “embodies the distinctive characteristics of a type and period of stained-glass art design” and “possesses high artistic value” (Mason Architects, 2003). In addition, the A-frame construction of the MCC is representative of the distinctive characteristics of a type and period of construction and is listed on the Hawai‘i Register of Historic Places (HRHP) (Figure 3-1).



Figure 3-1 Moanalua Community Church

Built in 1954, the MSC was also determined eligible for listing on the NRHP because it exemplifies an early example of a Hawaiian shopping mall that was oriented to the new culture of the automobile, wherein the automobile began to shape numerous aspects of American culture from architecture to leisure time to the development of suburbs (see cover). Blending lava rock and the International Style of architecture, the MSC is also eligible because it reflects a period of design and construction leading up to Hawai'i's statehood in 1959 wherein Hawaiian architects used styles popular on the mainland even as they attempted to retain Hawaiian influences. In addition, the MSC is eligible for the NRHP because its open, pedestrian mall configuration is representative of typical shopping center designs of the period (Mason Architects, 2003).

3.2.1.2 Archaeological Resources

There are no archaeological resources located within the project area. The MSC has undergone extensive ground disturbance from the construction of the MSC and surrounding buildings, as well as World War II and post-war military activities.

3.3 TRAFFIC

As part of this EA, a traffic study was completed to assess current as well as future conditions at eight intersections around the MSC site (Phillip Rowell and Associates, 2004) (Figure 3-2). Please refer to Appendix B for a detailed description of methodologies and assumptions used in the analysis. The study consisted of a roadway condition assessment, traffic counts, and analyses of the level-of-service (LOS) for each turning movement at each intersection in 2003 (“current” conditions) and in 2006 (which includes additional traffic volumes due to projected regional growth rates). 2003 traffic data is presented here; projected 2006 traffic volumes are used in Chapter 4 as a baseline from which to evaluate potential impacts.

3.3.1 LOS Concept

LOS is a qualitative measure of combinations of traffic operating conditions that may occur on a given lane or roadway when it is subjected to various traffic volumes. There are six LOS, A through F, which relate to the driving conditions from best to worst, respectively. In general, LOS A represents free-flow conditions and LOS F represents severe congestion with stop-and-go conditions; LOS D is typically considered acceptable for peak-hour conditions in urban areas. The peak-hour A.M. and P.M. conditions correspond to 6:00 A.M. to 8:30 A.M. and 3:00 P.M. to 5:00 P.M., respectively. The characteristics of traffic operations for each LOS (A – F) at signalized intersections are summarized in Table 3-1. Corresponding to each LOS shown in the table is a volume-to-capacity (V/C) ratio. This is the ratio of either existing or projected traffic volumes to the capacity of the intersection. Capacity is defined as the maximum number of vehicles that can be accommodated by the roadway during a specified period of time.

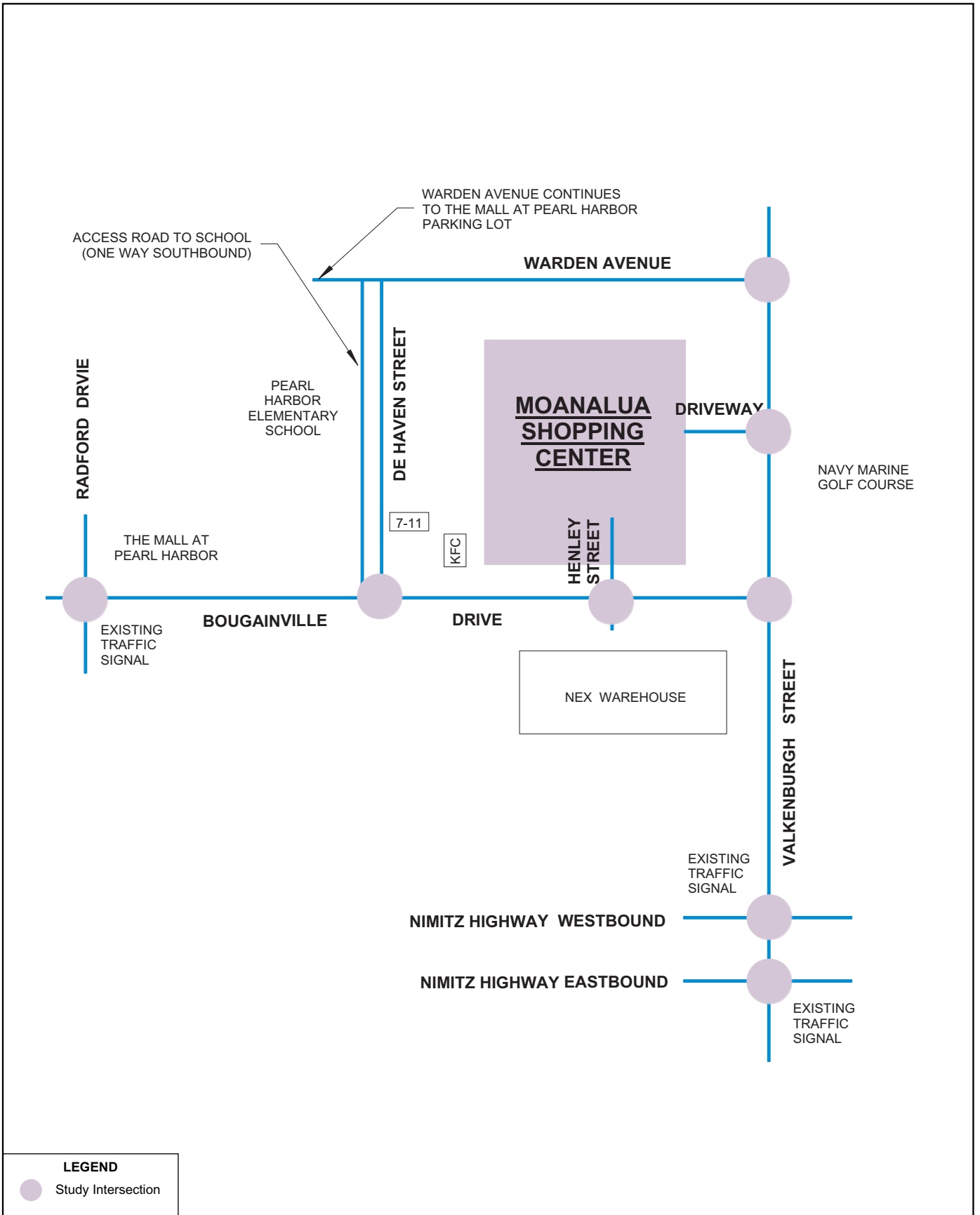
Table 3-1. Level-of-Service Definitions for Signalized Intersections

LOS	V/C Ratio*	Stopped Delay (seconds)
A	≤ 0.6	< 10.0
B	0.601 – 0.700	10.1 - 20.0
C	0.701 - 0.800	20.1 - 35.0
D	0.801 - 0.900	35.1 – 55.0
E	0.901 - 1.000	55.1 - 80.0
F	>1.001	>80.0

Notes: *This is the ratio of the calculated critical volume to LOS E capacity

Source: Transportation Research Board (TRB), 2000.

Like signalized intersections, the operating conditions of intersections controlled by stop signs can be classified by a LOS from A to F. The method for determining LOS for unsignalized intersections is based on the use of gaps in traffic along the major street by vehicles crossing or turning through that stream. Specifically, the capacity of the controlled legs of an intersection is based on two factors: 1) the distribution of gaps in the major street traffic stream, and 2) driver judgment in selecting gaps through which to execute a desired maneuver. The criteria for LOS at an unsignalized intersection are therefore based on delay of each turning movement. Table 3-2 summarizes the definitions for LOS and the corresponding delays at unsignalized intersections. Table 3-3 presents 2003 LOS and associated V/C ratios at the intersections in the vicinity of the MSC site.



Not to Scale

Figure 3-2
Schematic of Project Location and
Adjacent Street Network



Table 3-2. Level-of-Service Definitions for Unsignalized Intersections

LOS	Expected Delay to Minor Street Traffic	Delay (seconds)
A	Little or no delay	< 10.0
B	Short traffic delays	10.1-15.0
C	Average traffic delays	15.1-25.0
D	Long traffic delays	25.1-35.0
E	Very long traffic delays	35.1-50.0
F	When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing that may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement of the intersection.	>50.1

Source: TRB, 2000.

Table 3-3. 2003 Peak-Hour Level-of-Service and V/C Ratios

Intersection and Movement	2003 LOS		2003 V/C	
	AM	PM	AM	PM
Bougainville Drive at Valkenburgh Street¹				
Northbound (NB) Left & Thru	A	A	NA	NA
Eastbound (EB) Left and Right	B	E	NA	NA
Valkenburgh Street at MSC Driveway¹				
NB Left & Thru	A	A	NA	NA
EB Left and Right	B	C	NA	NA
Valkenburgh Street at Warden Avenue¹				
NB Left & Thru	A	A	NA	NA
EB Left and Right	C	F	NA	NA
Bougainville Drive at DeHaven Street¹				
EB Left and Thru	A	A	NA	NA
Southbound (SB) Left & Right	B	B	NA	NA
Bougainville Drive at Radford Drive²				
Intersection	D	E	0.75	0.927
Bougainville Drive at Henley Street¹				
EB left, Thru & Right	A	A	NA	NA
Westbound (WB) Left, Thru & Right	A	A	NA	NA
NB Left, Thru & Right	B	C	NA	NA
SB Left Thru & Right	B	B	NA	NA
Valkenburgh Street at Nimitz Highway WB²				
Intersection	B	E	0.52	1.27
Valkenburgh Street at Nimitz Highway EB²				
Intersection	B	B	0.52	0.66

Notes: ¹ Unsignalized intersection; movement LOS presented.

² Signalized intersection; intersection LOS presented. LOS based on delay.

NA = Not applicable for unsignalized intersections.

Source: Phillip Rowell and Associates, 2004.

3.4 SOCIOECONOMICS

In 2000, the population of the City and County of Honolulu was 876,156. In 2002, there were 412,450 nonagricultural jobs in the City and County of Honolulu, 8,654 active-duty shore-based Navy personnel, 14,030 Navy family members, and 8,025 direct hire Navy civilian jobs in Hawai'i (State of Hawai'i, 2002). The leased premises consist of mixed uses including the NAC, MSC, and other outparcel tenants. The public has convenient and open access to the MSC.

3.5 PUBLIC FACILITIES, SERVICES, AND RECREATION

The MSC site is located in the Central School District. Pearl Harbor Elementary School is immediately northwest of the MSC with 3 other public schools located in the vicinity: Mokulele Elementary School, Pearl Harbor Kai Elementary School, and Nimitz Elementary School. In addition, there is a cluster of private schools located near Nimitz Elementary School.

The PHNC Military Police have concurrent law enforcement jurisdiction with the Honolulu Police Department at the MSC site. There are 4 fire stations that respond to emergencies in the project area: Fire Station 1 and Fire Station 2, which are Federally-operated and located on PHNC, and Fire Station 30 and Mokulele Fire Station, which are operated by the City and County of Honolulu. The latter is also the location of the Thurston Fire Training Facility. There is a “mutual aid agreement” between the Honolulu Fire Department and the Federal Fire Department to permit the closest facility to respond to an emergency; the Mokulele Fire Station is closest to the MSC and is the first responder for the area.

The nearest military recreational areas are located on PHNC and include: Bloch Arena (gymnasium); Ward, Millican, and Quick Fields; and Scotts, Grenfell, and Lockwood Pools (swimming pools). Although the Moanalua Terrace Navy Family Housing area has many small park type settings, the closest public parks are Hoaloha Park, located off Salt Lake Boulevard to the east and Makalapa Park, located off Makalapa Drive to the west. The Navy-Marine Golf Course is located off-base, directly east of the MSC site (Figure 1-1), and the Commissary and NEX are located to the northwest of the MSC site. These facilities are for military personnel and their families and are not open to the general public. Other recreational facilities located in the surrounding area include Aloha Stadium to the north and the USS Arizona Memorial Museum and Bowfin Park Pacific Submarine Museum to the west.

3.6 UTILITIES AND INFRASTRUCTURE

The Navy owns and maintains the roadways within and immediately surrounding the MSC site, except for the intersection of Nimitz Highway and Valkenburgh Street. The Navy Public Works Center (PWC) provides potable water to the MSC site. As a back-up to this system, there is an interconnection with the City and County of Honolulu Board of Water Supply system in the Radford Terrace housing area.

The Navy Public Works Center (PWC) owns and operates the existing sewage system at the MSC site. The MSC site has a 12-inch (30.5-cm) line to the main facilities, as well as a 16-inch (40.6-cm) collection line which traverses the MSC site from the housing area to the north (Figure 2-1). Wastewater treatment and disposal take place at the Wastewater Treatment Plant at Fort Kamehameha. Most of the surface storm water runoff flows from the MSC site to a storm drainage system via Bougainville Drive. A pump house associated with the Navy-Marine Golf Course is located east of Warden Drive at the Valkenburgh Street intersection (Figure 3-3).



Figure 3-3 Pump House Located East of Warden Ave. at Valkenburgh St. Intersection

Electrical power to the NAC is provided by the Hawaiian Electric Company (HECO) and is billed through the Navy PWC. The remaining structures at the MSC site receive power directly from HECO via overhead lines located on Bougainville Drive. Verizon Hawai'i provides telephone service. Solid waste disposal services for the MSC site are provided by a local commercial operator. Solid waste from the NAC is also serviced by a local commercial operator, contracted through the Navy PWC.

As part of the master plan developed for the area (Helber Hastert & Fee, 1998), a structural survey of the MSC buildings concluded that, "While the vertical load capacity of the MSC buildings is probably adequate, the lateral load resisting capacity is likely grossly inadequate. Should continued use of the buildings be desired, extreme repairs and strengthening of the structure would be required" (Martin & Bravo, Inc., 1998). These structural retrofits would significantly change the character of the existing MSC site. In addition, because the MSC is nearing 50 years old, it is expected that the structures would continue to deteriorate, resulting in increasing expenditures for repairs and maintenance.

3.7 HAZARDOUS/REGULATED MATERIALS

A Pre-Final Environmental Baseline Survey (EBS) for the MSC site was completed (Masa Fujioka & Associates, 2003). The EBS documents the environmental condition of the property prior to leasing. The study included records review, interviews, visual inspection, soil sampling, and laboratory analyses of soil samples. Environmental conditions investigated included asbestos-containing materials (ACMs), cultural resources, hazardous materials/hazardous wastes, Installation Restoration Program (IRP) sites, landfills, lead-based paint (LBP), medical wastes/biohazardous wastes, heavy metals, natural resources, operationally contaminated sites, ordnance, pesticides, petroleum products (including aboveground storage tanks [ASTs], underground storage tank [USTs], and pipelines), polychlorinated biphenyls (PCBs), radioactive wastes/mixed wastes, radon, wastewater treatment and distribution, and potable water (Masa Fujioka & Associates, 2003). Several environmental conditions of concern were identified:

- Release of transformer oil at Transformer NH-b (response actions completed);
- Release of gasoline, benzene, toluene, ethylbenzene, and xylenes at former UST-2647a, UST-2647b, and UST 2647c at Moanalua 7-Eleven (response actions completed);
- Four former Shell USTs (UST 2604a, UST 2604b, UST 2604c, and UST-2604d) were removed in October 2003 (WMF Hawaii, 2003). The tanks were not breached; however, soil contamination has been reported at the former tank fill pipe and at the edge of the concrete foundation of the former Crystal Auto Body Shop (remedial action is underway);
- Releases of petroleum products and potentially hazardous wastes at the Crystal Auto Repair facility due to poor housekeeping practices. Sampling indicated no contaminant concentrations of concern; response actions completed;
- Release of transformer oil containing PCBs at Transformer NH-f (prior to redevelopment, site would be evaluated and remediated as required);
- Release of creosote from utility pole 11 to soil (remedial action underway);
- Presence of transformers at V0309A and V0309C (sample results of February 2004 tested non-detect for PCBs; response actions completed);
- Presence of transformers at V0309B (pending resolution; prior to redevelopment, site would be evaluated and remediated as required); and
- Potential presence of ACM and LBP in structures throughout the property (Masa Fujioka & Associates, 2003).

3.8 TOPOGRAPHY AND SOILS

The MSC site is relatively flat and located between 40 and 55 feet (ft) (12 and 17 meters [m]) above mean sea level according to the U.S. Geological Survey (USGS) Pearl Harbor quadrangle map. On the MSC site, there is a very gentle slope from the northwest corner towards the southeast corner. Elevations of the surrounding topography (1-mile [1.6-km] radius) vary by direction. Elevation gradually declines to sea level to the west (Pearl Harbor) and south (Pacific Ocean). The Ko'olau Range, stretching from north to east of the site, reaches a maximum elevation of 3,150 (960 m), approximately 10 miles (16 km) east of the site.

The Soil Conservation Service classifies the soils at the MSC site as "MdB": Makalapa Clay, 2-6 percent slopes. This soil type formed in volcanic tuff is moderately deep, well-drained, and occurs on gently sloping uplands. The surface layer is clay and the subsoil is clay to silty clay

loam. Weathered volcanic tuff occurs at depths between 27 and 49 inches (68 and 124 cm). The clays are very sticky and very plastic and crack widely upon drying. The shrink-swell potential is high. The soil is mildly alkaline in the surface layer and mildly alkaline to moderately alkaline in the subsoil. Permeability and runoff are slow and the erosion hazard is low (U.S. Department of Agriculture, 1972).

3.9 WATER QUALITY AND RESOURCES

There are no wetlands or other surface water resources at the project site. The project area lies over the Moanalua groundwater aquifer system. Groundwater under the site is unconfined basal water on the flank of the Ko'olau Range. The Moanalua groundwater aquifer system is fresh, currently developed for drinking purposes, irreplaceable and highly vulnerable to contamination (Mink and Lau, 1990). Groundwater flows from the north, originating in recharge zones located in the Ko'olau Range. Groundwater flowing from the site is restricted by coastal plain caprock, which acts as an overlying confining layer to the south and west.

The MSC site is located within the Federal Emergency Management Agency Zone D, which is defined as an "area in which flood hazards are undetermined" (Hawai'i Statewide GIS Program, 2004).

3.10 AIR QUALITY

Based on air quality data collected and published by the DOH, Hawai'i complies with the standards of the CAA of 1970 and its subsequent amendments, including the NAAQS and State Ambient Air Quality Standards. The air in Hawai'i is clean and low in pollutants, as O'ahu is in attainment of all air quality standards (U.S. Environmental Protection Agency [USEPA], 2004).

3.11 NOISE

Vehicular traffic is the dominant noise source in the vicinity of the project area. Other background noise sources include aircraft operations at Honolulu International Airport and Hickam Air Force Base. The State of Hawai'i has adopted standards to limit noise from stationary noise sources (DOH, 2003). The maximum permissible sound levels for stationary noise sources are summarized in Table 3-4. The sound levels are measured at any point at or beyond the property line of the noise source. According to these standards, the noise level shall not exceed the maximum permissible sound level for more than 10 percent of the time within any 20-minute period. The MSC is in zoning district Class B where the permissible noise levels are 60 A-weighted decibels (dBA) during the day and 50 dBA at night.

Table 3-4. State of Hawaii Maximum Permissible Sound Levels

Zoning District*	Daytime (7:00 AM to 10:00 PM)	Nighttime (10:00 PM to 7:00 AM)
Class A	55 dBA	45 dBA
Class B	60 dBA	50 dBA
Class C	70 dBA	70 dBA

Notes: * Class A: Includes all areas equivalent to lands zoned residential.

Class B: Includes all areas equivalent to lands zoned for multi-family dwellings, apartments, businesses, commercial, or similar type.

Class C: Includes all areas equivalent to lands zoned agriculture, country, industrial, or similar type.

Source: DOH, 2003.

No specific sound level limit has been established for construction activities, but working hours are restricted by DOH standards. Construction activity is permitted between the hours of 7:00 A.M. and 6:00 P.M. Monday through Friday and 9:00 A.M. and 6:00 P.M. on Saturday. The project area is within a Noise Abatement Area for aircraft using Honolulu International Airport (State of Hawai'i Department of Transportation [DOT], 2000). Sensitive receptors in the vicinity of the MSC site include the Pearl Harbor Elementary School and nearby residences (Figure 2-1).

3.12 BIOLOGICAL RESOURCES

The MSC site is in a developed urban area that is used for commercial, retail purposes, recreational, residential, transportation, and commercial/light industrial. Fauna at the MSC site include typical urban avifauna, rodents, reptiles, and insects. Flora consists of invasive weeds and species used in commercial landscaping. There have been no sightings of threatened or endangered species of flora or fauna at the MSC site. No critical habitat for listed species has been designated in the vicinity. The project site and surrounding areas, which are almost all paved, are not considered biologically sensitive areas (U.S. Fish and Wildlife Service, 2003).

3.13 VIEWS

From surrounding properties the MSC site is visually undistinguished, consisting mostly of older buildings, parking areas, and QSRs. A prominent landmark is the large "M" aerial sign at the east end of the MSC (see cover). The most notable view at the MSC site is of the stained glass façade of the MCC. Looking off-site, views are of housing units to the northeast, school buildings to the northwest, warehouses and roadways to the southwest, and the Navy-Marine Golf Course to the southeast.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 OVERVIEW

This chapter evaluates the potential environmental consequences associated with the Proposed Action, Adaptive Reuse Alternative, and No-Action Alternative at the MSC site. Cumulative impacts on environmental resources result from the incremental effects of redevelopment and other actions when evaluated in conjunction with other government and past, present, and “reasonably foreseeable future actions.” There are no past, present, or future projects that have been identified for the project area. An analysis of a wide range of resources indicated that the Proposed Action or alternatives would be unlikely to affect or be affected by the following environmental resources; therefore, they are not analyzed in detail in this chapter.

While a private developer has been selected for exclusive negotiations with the Navy, the redevelopment plan for the MSC site has not been finalized. The final redevelopment plan of the site is pending and is not expected to result in impacts greater than those evaluated in this EA for impacts to environmental resources. However, should the final redevelopment plan exceed the proposed redevelopment actions described in this EA, the developer shall complete a separate NEPA document. The separate NEPA document shall analyze the environmental impacts exceeding the impacts that are analyzed in this EA.

4.1.1 Proposed Action

4.1.1.1 Land Use

The Proposed Action would not change the land use designation of the properties or their use. The Navy would continue to own and use the properties and lease portions of it to a private developer. Land use would continue to be a mix of retail, professional offices, and Navy family support facilities. The Proposed Action would change the configuration of facilities, the terms of the lease, and would probably result in a different mix of tenants (sub-lessees). Land use would continue to be compatible with surrounding land uses. Therefore, the Proposed Action would have no significant impacts on land use.

4.1.1.2 Socioeconomics

The Proposed Action would not impact the overall population or employment levels in the City and County of Honolulu or the State of Hawai‘i. The Proposed Action would enhance the availability and convenience of social services to Navy families. Providing enhanced retail, QSR, and restaurant services could also result in positive socioeconomic impacts as more retail outlets would be available to shoppers.

4.1.1.3 Public Facilities, Services, and Recreation

Because redevelopment and reuse of the MSC site would not induce population growth or redistribution of residents, the demands for public facilities, services, and recreational resources would not be affected. Under the Proposed Action, the availability of support services to Navy families would be enhanced by the consolidation of related services associated with the proposed NCSC. Therefore, the Proposed Action would have no significant impacts on public facilities, services, or recreation.

4.1.1.4 Utilities and Infrastructure

All on-site infrastructure would be constructed by the private developer in accordance with Navy design standards. The developer would be responsible for utilities upgrades required to support increased demands of the proposed project. New mechanical and electrical systems would likely be more energy efficient than their predecessors. The proposed NCSC would be connected into the Federal government's telephone system. The new Navy/Marine Corps Internet service would also be installed in the proposed NCSC. Existing service providers (Navy PWC, HECO, etc.) have sufficient capacity to accommodate proposed redevelopment activities for utility services at the MSC site. Therefore, the Proposed Action would have no significant impacts on utilities and infrastructure.

4.1.1.5 Hazardous/Regulated Materials

Under the Proposed Action, contamination concerns at the MSC site would be addressed during site redevelopment, thereby minimizing potential risks to human health or ecological receptors. Outstanding issues include the presence of an electrical transformer, ACMs, and LBP. Investigation of possible contamination would be done prior to redevelopment and any necessary remedial activities identified. If required, the Proposed Action would include proper procedures for removal and disposal of ACMs and LBP during demolition and would be in accordance with applicable Federal, State, and local laws and regulations. During the term of the lease, the use, storage, and generation of hazardous substances will be strictly limited and lessees and sublessees shall be prohibited from causing or permitting the use, storage, treatment, disposal, handling, discharge, or release of any hazardous/regulated materials in, at, or upon the leased premises in violation of applicable Federal, State, and local laws and regulations. Therefore, the Proposed Action would have no significant impacts associated with hazardous/regulated materials within the MSC site.

4.1.1.6 Topography and Soils

The Proposed Action would not require extensive grading or changes to existing topography or soils at the MSC site. The private developer would be required to apply standard soil erosion control procedures during construction. Therefore, the Proposed Action would have no significant impacts on topography and soils.

4.1.1.7 Water Quality and Resources

There are no surface waters or wetlands at the MSC site. There is, however, potable groundwater beneath the project area. As there may be storm water runoff and other discharges of water during demolition and construction of the proposed facilities, the private developer would be required to prepare a Best Management Plan (BMP) to address protection of water resources during demolition and construction. This BMP would be required to obtain the NPDES General Permit from the DOH. Therefore, the Proposed Action would have no significant impacts on water quality and resources.

4.1.1.8 Air Quality

Construction activities associated with the Proposed Action would produce air pollutants mainly from two sources: exhaust emissions from construction associated vehicles and fugitive dust emissions due to earth movement. There would be short-term, temporary air quality impacts

associated with demolition and construction. No significant long-term impacts to air quality are expected. Therefore, the Proposed Action would have no significant impacts on air quality.

4.1.1.9 Noise

Proposed demolition and construction activities would result in a short-term, temporary increase in the ambient noise level in the vicinity of the MSC site. Noise would result from the operation of construction equipment and, to a lesser degree, by vehicles traveling to and from the construction area. Generally, the average instantaneous sound level produced by general construction equipment (loaders, trucks, backhoes, water trucks, and other vehicles and equipment typically associated with demolition and construction activities) is approximately 85 dBA at a distance of 50 ft (15 m) (USEPA, 1971).

Potential noise-control measures would include appropriate scheduling of demolition and construction activities, maintenance of vehicles and equipment to minimize noise emissions, and erection of noise barriers where necessary (such as next to the school). The use of back-up alarms may be minimized by instituting appropriate traffic flow patterns through the site. Therefore, the Proposed Action would have no significant impacts on the noise environment.

4.1.1.10 Biological Resources

There are no significant biological resources (listed species or critical habitats) at the primarily paved MSC site. There are no projects in the vicinity that would have a cumulative effect on biological resources. The Navy would provide guidelines on landscaping including keeping or relocating existing trees and the coordination required between the private developer's certified arborist and COMNAVREG Hawaii. Therefore, the Proposed Action would have no significant impacts on biological resources.

4.1.1.11 Views

City and state governments have policies to protect important public views, view planes, and viewsheds. Important views include those of the Wai'anāe and Ko'olau Mountains, the coastline, and the Pacific Ocean. According to these policies, views of these resources from public places, including major roadways, should be preserved; new development should seek to minimize impacts on these scenic resources.

The MSC site is inland of a complex of roadways, the H-1 Freeway viaduct and on- and off-ramps, and views toward the ocean are obscured by these structures. Behind the site, the elevation gradually rises, so that adjacent residences have a view over the shopping center. The proposed NCSC would be two to three stories high and would not obscure ocean views. Views toward the mountains from the adjacent elevated roadways would not be obscured by the proposed NCSC. There are currently no plans for developments in the vicinity that would further obstruct or improve important views. Therefore, the Proposed Action would have no significant impacts on views. Aesthetically, the new facilities and landscaping would represent an improvement over the existing structures and surroundings. The Proposed Action would substantially improve the aesthetic character of the MSC site (e.g., via landscaping), making it more compatible with the existing NEX and the adjacent Navy housing area.

4.1.2 Adaptive Reuse Alternative

Under the Adaptive Reuse Alternative, potential environmental impacts would be similar to those described under the Proposed Action. Therefore, the Adaptive Reuse Alternative would

not result in significant impacts to land use; socioeconomics; public facilities, services, and recreation; utilities and infrastructure; hazardous/regulated materials; topography and soils; water quality and resources; air quality; noise; biological resources; and views.

4.1.3 No-Action Alternative

Under the No-Action Alternative, existing conditions as described in Chapter 3 would remain unchanged. Therefore, the No-Action Alternative would not result in significant impacts to land use; socioeconomics; public facilities, services, and recreation; utilities and infrastructure; hazardous/regulated materials; topography and soils; water quality and resources; air quality; noise; biological resources; and views.

4.1.4 Cumulative Impacts

Since the Proposed Action would not result in adverse effects on the resource areas described above, it is not expected to contribute to cumulative impacts on those resources areas, when evaluated in conjunction with other government and private past, present and “reasonably foreseeable future actions.” Specifically, the Proposed Action would not change existing topography; impact potable water aquifers; or adversely affect any biological resources of concern. It would not result in a net increase in utility demand. The Proposed Action would not increase risks to human health and safety or impact long term population and employment levels in the City and County of Honolulu or the State of Hawai‘i. The Proposed Action would not disproportionately affect children or minority or disadvantaged populations. Since it does not represent a change in land use in the project area, the Proposed Action will not have a cumulative effect on land use compatibility. In addition, no past, present, or future projects have been identified for the project area. Therefore, no cumulative impacts to land use; socioeconomics; public facilities, services, and recreation; utilities and infrastructure; hazardous/regulated materials; topography and soils; water quality and resources; air quality; noise; biological resources; and views would occur.

4.2 CULTURAL RESOURCES

For the purposes of this analysis, significant cultural resources are “historic properties” (i.e., those properties listed or eligible for listing in the NRHP). Significant impacts to cultural resources are defined here as “adverse effects” to historic properties that cannot be resolved or mitigated.

As defined in the implementing regulations for Section 106 of the NHPA, the effects of a Federal undertaking are considered adverse if they “...alter, directly or indirectly, any of the characteristics of an historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association” (36 CFR Part 800.5[a][1]). Examples of adverse effects include, but are not limited to, the following:

- Physical destruction, damage, or alteration of all or part of the property;
- Isolation of the property from, or alteration of the character of, the property’s setting when that character contributes to the property’s qualification for listing on the NRHP;
- Introduction of visual, audible, or atmospheric elements that are out of character with the property, or alter its setting;
- Neglect of a property resulting in its deterioration or destruction; and
- Transfer, lease, or sale of the property (36 CFR Part 800.5[a][2]).

4.2.1 Proposed Action

The Proposed Action includes the demolition of the current MSC, which is an historic property eligible for inclusion in the NRHP. Because the demolition of this structure would result in the physical destruction of the building, the Proposed Action would have adverse effects on this historic property. The Proposed Action may also result in adverse effects to the MCC, which is an historic property listed on the HRHP and deemed eligible for listing on the NRHP. Relocation of the MCC to another site or reuse for another purpose may result in adverse effects such as damage or alteration to the A-frame structure and/or stained glass window. There would be no impacts to archaeological resources at the MSC site.

In accordance with 36 CFR Part 800, the Navy has consulted with the following parties on the significance evaluation, the determination of the areas of potential effect, and the assessment of adverse effects:

- SHPO;
- ACHP;
- Historic Hawai'i Foundation;
- Hawai'i Conference Foundation;
- O'ahu Council of Hawaiian Civic Clubs;
- National Trust for Historic Preservation; and
- Office of Hawaiian Affairs.

The Navy concluded Section 106 consultation by executing a MOA with the SHPO and the ACHP that identifies ways to resolve or mitigate the potential adverse effects on historic properties. The full text of the executed MOA is included as Appendix A. A summary of the stipulations to minimize and mitigate adverse effects is presented below:

1. The Request for Proposals (RFP) for the developers will state the NRHP eligibility determination of both the MSC and the MCC and will identify the MCC as being listed in the HRHP and require the offerors to provide, in their master plans, for preservation of the A-frame structure and stained glass window of the MCC either by continuation of their present use for religious purposes by the current or new congregations, by adaptive reuse for any other purpose permitted by the lease, or by removing the structure for use at a different location. Should the offeror propose moving the A-frame structure and stained glass window of the MCC for use at a different location, the offeror shall specify the means by which the offeror will ensure that the architectural and artistic integrity will be preserved during and after relocation.
2. Personnel who meet the Secretary of the Interior's Professional Qualifications for Historical Architect under the Secretary of the Interior's Historic Preservation Professional Qualification Standards will be included as one or more of the advisers in the technical evaluation of the proposals submitted under the RFP.
3. If an offeror that proposes to relocate the MCC is selected for exclusive negotiations, COMNAVREG Hawaii shall initiate consultations with the parties to the MOA to determine the suitability of the relocation site, review the techniques and safeguards utilized to relocate the church structure, and that relocation does not adversely affect other historic properties at the new site.
4. Prior to relocation, COMNAVREG Hawaii shall ensure that the A-frame structure and stained glass window of the MCC are documented in its existing setting and context, and

in accordance with the Historic American Buildings Survey (HABS) standards and specifications by or under the direction of an architectural historian or historical architect who meets the professional qualifications for Architectural Historian or Historical Architect under the Secretary of the Interior's Historic Preservation Professional Qualification Standards.

5. Within 90 days after the MCC is moved to another location, COMNAVREG Hawaii and the SHPO will re-evaluate eligibility for inclusion in the NRHP in accordance with the applicable criteria of 36 CFR Part 60 and applicable National Park Service guidelines.
6. The parties to the MOA will be afforded the opportunity to review the proposed design for all construction, repair, modifications, alterations, additions, or change in use or character of the MCC structure.
7. COMNAVREG Hawaii will submit through the Navy chain of command a NRHP Nomination Form for listing of the MCC in the NRHP within 2 years of the execution of the MOA, if it is preserved in place for continuing or adaptive reuse or, if moved, it is determined to be still NRHP-eligible after its re-evaluation.
8. COMNAVREG Hawaii will complete a photo documentation of the MSC in accordance with HABS standards and specifications. The report will be kept at COMNAVREG Hawaii and copies will be provided to the SHPO and any requesting consulting party.
9. A static visual interpretation of MSC's history and significance consisting of graphics, photographs, and news stories will be displayed in a common space within the new commercial facility. The proposed design, materials and text will be submitted to the signatories of the MOA.

4.2.2 Adaptive Reuse Alternative

The Adaptive Reuse Alternative would preserve the structure of the MSC, but the extensive renovations and additions required to meet the objectives of the project and overcome the structural deficiencies of the MSC would significantly alter its character. Even if the redeveloped MSC incorporated the International Style of architecture and the lava rock treatments present in the original building, the integrity of the structure and its historic context would be lost, resulting in an adverse effect. Prior to implementation of the Adaptive Reuse Alternative, the Navy shall initiate a separate consultation in accordance with 36 CFR Part 800 that stipulates ways to resolve or mitigate the adverse effects on historic properties. The effects on the MCC would be the same as under the Proposed Action; as such, the same mitigation as described in the MOA would be implemented.

4.2.3 No-Action Alternative

Because there would be no Federal action or undertaking under the No-Action Alternative, there would be no effect on historic properties under this alternative. Existing activities at the MSC site would continue under the No-Action Alternative.

4.2.4 Cumulative Impacts

There are no past, present, or reasonably foreseeable projects that when added to the Proposed Action or Adaptive Reuse Alternative, would result in cumulative effects on cultural resources. The identified cultural resources within the project area would be managed in a manner consistent with the findings of the MOA, and no other cultural resources have been identified in the areas immediately adjacent to the project area. No significant cumulative

cultural resource impacts are expected. Therefore, no cumulative impacts to cultural resources would occur.

4.3 TRAFFIC

The following traffic impact analysis is based on conclusions in the *Revised Draft Traffic Impact Analysis Report for Moanalua Shopping Center Redevelopment* (hereafter Phillip Rowell and Associates, 2004). In the following sections, the traffic impact assessment methodology is summarized and potential impacts and associated proposed mitigation requirements are presented for those intersections subject to mitigation measures. Prior to implementation, the proposed mitigation requirements would be reviewed, approved, and coordinated with the DOT. For details on those intersections not potentially subject to significant impacts, please refer to Phillip Rowell and Associates (2004). In addition, for further detail on the mitigation measures summarized here, please refer to Appendix B, Evaluation of Traffic Impact Mitigation Measures.

4.3.1 Traffic Impact Assessment Criteria

As there are no locally-accepted criteria for defining significant traffic impacts at signalized intersections, the following criteria from the Los Angeles County Congestion Management Program were used as they have a precedent for use in O'ahu projects:

“A project would not be considered to have a regionally significant impact if the intersection is operating at LOS E (based on the V/C ratio) or better after addition of project traffic. However, if the intersection is operating at LOS F (based on the V/C ratio) with project traffic and the incremental change in the V/C ratio caused by the project is 0.02 or greater, the project would be considered to have a significant effect” (Los Angeles County Metropolitan Transportation Authority, 2002).

This criteria evaluates potential traffic impacts from the perspective of the whole intersection, as opposed to evaluating individual movements within the intersection for potentially significant impacts. As there are no criteria for unsignalized intersections, impacts to unsignalized intersections were evaluated in terms of delay time and LOS for each unsignalized intersection.

4.3.2 Proposed Action

The following sections provide detail on only those intersections potentially subject to impacts; therefore, for intersection-specific results, please refer to Phillip Rowell and Associates (2004).

4.3.2.1 Potentially Significant Traffic Impacts

Under the Proposed Action, significant impacts to traffic would occur at two intersections: Valkenburgh Street at Warden Avenue and Valkenburgh Street at Nimitz Highway. No other intersections were identified as having significant impacts under the Proposed Action (Phillip Rowell and Associates, 2004).

4.3.2.1.1 Summary of Traffic Mitigation Measures under the Proposed Action

Table 4-1 presents the potential mitigation measures by intersection with associated V/C ratios and LOS values at baseline (2006), post-project, and post-implementation of mitigation measures. While this EA identifies specific potential mitigation measures for each intersection, the developer (in conjunction with the Navy and following final site planning and associated additional analysis) may propose other mitigation actions (for examples, refer to Appendix B) to reduce potentially significant traffic impacts to a less than significant level. At each intersection

stated below, the following is one example of a potential mitigation measure that would reduce traffic impacts to a less than significant level:

- converting the Valkenburgh Street at Warden Avenue intersection to a “right in/right out” only intersection (Figure 4-1); and
- adding a NB through/optional left turn lane to Valkenburgh Street between EB and WB Nimitz Highway (Figure 4-2).

With the implementation of these mitigation measures, no significant impacts to traffic would occur under the Proposed Action.

Table 4-1. Summary of Potential Mitigation Measures under the Proposed Action

Intersection	2006 Conditions without Proposed Project			Conditions with Proposed Project Before Mitigation			Mitigation Measure	Conditions with Proposed Project After Mitigation		
	V/C	Delay	LOS	V/C	Delay	LOS		V/C	Delay	LOS
Valkenburgh St. at Warden Ave.	NA	93.2	F	NA	404.8	F	Convert to right in, right out only	NA	< 10	A
Valkenburgh St. at Nimitz Hwy. WB	1.270	60.8	E	1.350	73.9	E	Add NB through/optional left turn lane to Valkenburgh St. between EB and WB Nimitz Hwy	1.020	32.4	C

Note: LOS based on delay; delay is in seconds per vehicle.

Source: Phillip Rowell and Associates, 2004.

Should the final redevelopment plan result in reduced square footage for the NCSC, commercial, retail, or QSR space than that analyzed under the Proposed Action, the developer may conduct additional traffic analysis to support mitigation actions less than described in this EA. The additional analysis may determine that the reduced development density results in less than significant traffic impacts and no mitigation is required. The additional analysis may also result in other mitigation measures that reduce potentially significant traffic impacts to a less than significant level. The final redevelopment plan is not expected to result in impacts greater than those evaluated in this EA for impacts to traffic. However, should the final redevelopment plan exceed the proposed redevelopment actions described in this EA, the developer shall complete a separate NEPA document. The separate NEPA document shall analyze the traffic impacts exceeding the impacts that are analyzed in this EA.

4.3.3 Adaptive Reuse Alternative

The Adaptive Reuse Alternative would differ only in the internal configuration of the MSC site, not the potential volume of traffic that would be generated. Therefore, the impacts and appropriate mitigation measures would be the same as for the Proposed Action.

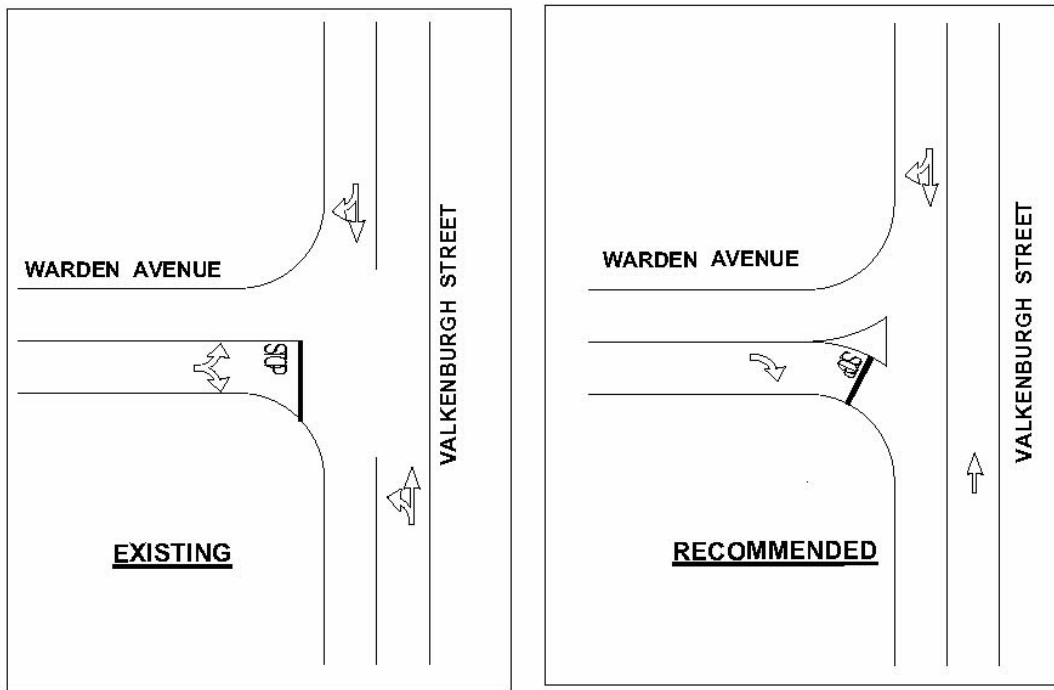


Figure 4-1 Proposed Mitigation Schematic for Warden Avenue at Valkenburgh Street

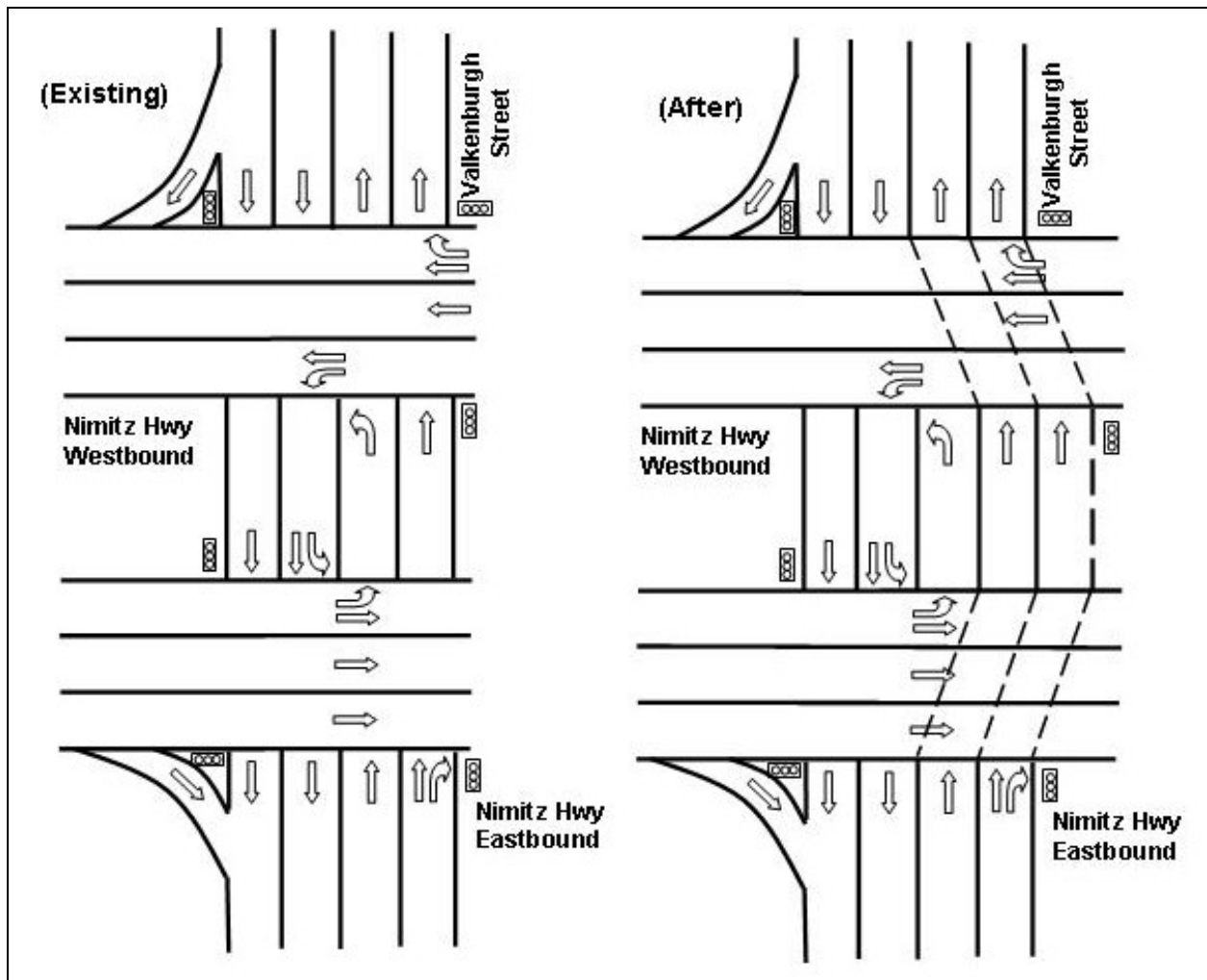


Figure 4-2 Proposed Mitigation Schematic for Valkenburgh Street at Nimitz Highway

4.3.4 No-Action Alternative

The No-Action Alternative is represented by the current (2003) and projected 2006 traffic conditions. Three of the eight intersections (Bougainville Drive at Valkenburgh Street, Valkenburgh Street at Warden Avenue, and Bougainville Drive at Radford Drive) modeled would continue to have some movements with unacceptable LOS without redevelopment of the MSC site (refer to Table 3-3). In particular, the intersection of Bougainville Drive and Radford Drive is already marginally unacceptable, and in 2006, nearly all movements are projected to operate at unacceptable levels. In addition, the afternoon EB movements at the intersection of Valkenburgh Street with Warden Avenue operate at unacceptable LOS now, and delays will increase with time unless action is taken to improve the intersection.

4.3.5 Cumulative Impacts

Cumulative impacts were factored into the above analyses. There are no other planned major developments in the vicinity that would significantly affect traffic conditions at the modeled intersections. However, the identified traffic improvement related actions would serve to reduce project, as well as cumulative-related increases in area traffic volumes. No significant cumulative traffic impacts are expected. Therefore, no cumulative impacts to traffic would occur.

4.4 POSSIBLE CONFLICTS BETWEEN THE PROPOSED ACTION AND THE OBJECTIVES OF FEDERAL LAND USE POLICIES, PLANS, AND CONTROLS

The Proposed Action or Adaptive Reuse Alternative would complement the completed redevelopment of the new NEX and Commissary facilities for Navy personnel and their families and complete the redevelopment of the Moanalua mini-region according to the approved master plan (Helber Hastert & Fee, 1998).

4.4.1 Coastal Zone Management Act

The Navy has determined that the Proposed Action or Adaptive Reuse Alternative would not have reasonably foreseeable direct or indirect effects on any coastal use or resource of the State's coastal zone; therefore, no documentation is required to be submitted to the Hawai'i Coastal Zone Management Program Office.

4.5 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment, and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one redevelopment option reduces future flexibility in pursuing other options, or that giving over a parcel of land or other resource to a certain use often eliminates the possibility of other uses being performed at that site.

Under the Proposed Action and alternatives, short-term effects would be primarily related to demolition and redevelopment activities and the use of associated vehicles and equipment that are currently used for other purposes. In the long-term, the redevelopment of the MSC site would provide Navy families convenient access to services, as well as retail and food service outlets to the public. In addition, short-term beneficial impacts to socioeconomic resources as a

result of construction jobs and increased tax and lease revenues would occur. Other than potential long-term cultural resource impacts on the MSC and MCC, which have been addressed through a MOA with the SHPO and ACHP, and traffic impacts which would be mitigated, no long-term impacts to any other resource area have been identified. Therefore, the Proposed Action or alternatives would not result in any impacts that would reduce environmental productivity or narrow the range of beneficial uses of the environment.

In summary, the benefits to be realized from the project include:

- Cost-avoidance benefits as approximately 60,000 ft² (5,574 m²) of existing deteriorated, obsolete, high-maintenance, and energy inefficient space would be demolished;
- Consolidation of Navy family support services in a central and accessible location;
- Reduction of traffic into the PHNC;
- Expanded availability of commercial, retail, and/or private administrative space at the MSC site; and
- Stimulation of the local economy by redevelopment and operation of the new facilities through outlease of property and facilities for 40 years.

4.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel. These resources are irretrievable in that they would be used for a project when they could have been used for other purposes. Human labor is also considered an irretrievable resource. In addition, the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment is also considered an irreversible commitment of resources.

The Proposed Action or alternatives would require the consumption of materials typically associated with construction activities (e.g., concrete, asphalt, and wood). In addition, the use of vehicles would result in the consumption of fuel, oil, and lubricants. An undetermined amount of human energy to redevelop the MSC site would also be expended and irreversibly lost. However, the Proposed Action or alternatives would not result in significant irreversible or irretrievable commitment of resources.

4.7 COMPLIANCE WITH EXECUTIVE ORDERS (EOs)

4.7.1 EO 12898: Environmental Justice in Minority Populations and Low-Income Populations

The purposes of this EO are to: 1) focus the attention of Federal agencies on the human health and environmental conditions in minority communities and low-income communities with the goal of achieving environmental justice; 2) foster non-discrimination in Federal programs that substantially affect human health or the environment; and 3) give minority communities and low-income communities greater opportunities for public participation in, and access to public information on, matters relating to human health and the environment.

Neither the Proposed Action nor the Adaptive Reuse Alternative would substantially affect human health or the environment. There would be no displacement of or disproportionate impact to minority or low-income populations.

4.7.2 EO 13045: Protection of Children from Environmental Health Risks and Safety Risks

This EO responded to research that showed that children, because their bodies are still developing, suffer disproportionately from environmental health and safety risks. Children's size and weight may diminish their protection from standard safety features and their behavior patterns may make them more susceptible to accidents. To address these problems, the EO directs each agency to "...ensure that its policies, programs, activities and standards address disproportionate risks to children...."

The Proposed Action and the Adaptive Reuse Alternative would involve redevelopment of a site next to an elementary school. Demolition and construction activities would create some noise, dust, and exhaust emissions in the area. There may also be safety hazards on the site. Best Management Practices would be employed to minimize disruption of surrounding activities, including school functions, due to noise, dust, or other air emissions. The demolition and construction areas would be fenced to prevent access by unauthorized persons, including children. The Navy would require that the private developer prepare and submit a safety plan for approval.

4.7.3 EO 13101: Greening the Government through Waste Prevention, Recycling and Federal Acquisition

This EO states that each executive agency shall incorporate waste prevention and recycling into the agency's daily operations and requires them to increase and expand markets for recovered materials through greater Federal Government preference and demand. Pollution is to be prevented and when it cannot be prevented, recycling should occur, making disposal of materials a last resort.

The Navy has responded to passage of several federal laws and EOs, notably the Hazardous and Solid Waste Amendments of 1984; the Pollution Prevention Act of 1990; and EO 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*. Every facility is required to develop Pollution Prevention Plans, reduce the quantity of toxic pollutants disposed of or transferred offsite, reduce the amount of hazardous material used and hazardous waste generated, institute a Consolidated Hazardous Material Reutilization and Inventory Management Program, limit the use of hazardous materials, develop and incorporate new technology or materials which have a reduced impact on the environment, and incorporate pollution prevention into the design of new and modifications to current weapons, support systems, and facilities. The Navy would mandate recycling by the developer.

4.7.4 EO 13123: Greening the Government through Efficient Energy Management

This EO states that the Federal Government shall significantly improve its energy management in order to save taxpayer dollars and to reduce emissions that contribute to air pollution and global climate change. The Federal Government should promote energy efficiency, water

conservation, decreased petroleum dependency and use of renewable energy products to help foster markets for emerging technologies.

The proposed project would replace an older, inefficient MSC with a new NCSC having more energy efficient and water conserving infrastructure. The developer would be required to employ energy efficient and utility conservation practices in design and construction of the new facilities, and provide a statement of compliance with the U.S. Department of Energy's "Energy Star" program recommendations.

4.7.5 EO 13148: Greening the Government through Leadership in Environmental Management

This EO directs each Federal agency to implement formal environmental management systems of their own design or based on International Organization for Standardization (ISO) 14001, and to use Life Cycle Assessment as a guide to decision-making. It also requires the reduction of use of selected toxic chemicals, hazardous substances and pollutants, including Class-I ozone depleting substances (ODS). It further mandates the implementation of cost-effective, environmentally-sound landscaping practices and programs to reduce adverse impacts to the natural environment.

The facilities proposed to be constructed at the MSC site are primarily offices and retail establishments, the latter mix to be determined by the selected developer. The use, storage, and risk of a potential release of toxic substances are expected to be minimal. The new and renovated facilities would be centrally air conditioned, with these systems in many cases replacing window-mounted air conditioners that may be using older ozone-depleting refrigerants. Potential releases of these substances would be reduced. The Navy would prohibit the use of Class I ODS.

Landscaping at the redeveloped MSC site would be cost-effective and appropriate to the function of the facilities. The MSC site has been completely modified from its natural state; therefore no further impacts to the natural environment would occur. It is likely that landscaping accompanying the redevelopment would provide more shade and more habitat for wildlife, as well as reduce the level of fugitive dust on the MSC site. The Navy would require the developer to minimize the use of fertilizers and pesticides and implement water-efficient practices.

5.0 LIST OF AGENCIES CONSULTED

Federal Agencies

Advisory Council on Historic Preservation

State of Hawai'i Agencies

Department of Health

Department of Land and Natural Resources

State Historic Preservation Division

Department of Transportation

City and County Agency

City and County of Honolulu, Department of Transportation Services

Non-Government Agencies

Hawai'i Natural Heritage Program

Hawai'i Conference Foundation

Historic Hawai'i Foundation

National Trust for Historic Preservation

O'ahu Council of Hawaiian Civic Clubs

Office of Hawaiian Affairs

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APPENDIX A

MEMORANDUM OF AGREEMENT

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**MEMORANDUM OF AGREEMENT (MOA)
AMONG
THE COMMANDER NAVY REGION HAWAII
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
AND
THE HAWAII STATE HISTORIC PRESERVATION OFFICER
REGARDING THE
MOANALUA SHOPPING CENTER LEASE AND COMMUNITY SUPPORT FACILITY
CONSTRUCTION
PEARL HARBOR, HAWAII**

WHEREAS, under the authority of Title 10 U.S.C. 2667, Commander Navy Region (COMNAVREG) Hawaii proposes to carry out the project entitled "Moanalua Shopping Center Lease and Community Support Facility" at the Pearl Harbor Naval Complex, Hawaii (hereafter the Undertaking); and

WHEREAS, this Undertaking will involve the demolition of a portion of the Moanalua Shopping Center (MSC) for the construction of a new Navy community support facility and a commercial facility for the private developer, interior renovations of the existing Navy Aloha Center, various infrastructure and site improvements, and compliance with anti-terrorism and force protection requirements; and

WHEREAS, COMNAVREG Hawaii intends to solicit proposals from qualified private entities and select a developer/lessee with whom to enter into a long-term lease of up to 40 years of approximately 14.5 acres at Moanalua Shopping Center and approximately 8.35 acres at Personnel Support Detachment for commercial development in exchange for in-kind consideration consisting in whole or part of construction of facilities for Navy use; and

WHEREAS, COMNAVREG Hawaii has established the Undertaking's area of potential effects (APE) defined at 36 CFR § 800.16(d), to be the entire leased area (Attachment A); and

WHEREAS, COMNAVREG Hawaii has determined that the Undertaking will have adverse effects on certain original structures of the Moanalua Shopping Center, a property deemed eligible for listing in the National Register of Historic Places, and the proposed lease may have an adverse effect on the Moanalua Community Church, a property listed in the Hawaii Register of Historic Places and deemed eligible for listing in the National Register; and

WHEREAS, COMNAVREG Hawaii has consulted with the Advisory Council on Historic Preservation (ACHP), the Hawaii State Historic Preservation Officer (SHPO), the Hawaii Conference Foundation (HCF), the Historic Hawaii Foundation (HHF), the National Trust for Historic Preservation (NTHP), the Office of Hawaiian Affairs, and the Oahu Council of the Hawaiian Civic Clubs; and

WHEREAS, pursuant to 36 CFR § 800.6(c)(3) of the regulations, 36 CFR Part 800, that implement the National Historic Preservation Act (NHPA), 16 U.S.C. 470f, Section 106, the entities listed above have been invited to concur in this MOA; and

NOW, THEREFORE, COMNAVREG Hawaii, the ACHP and the SHPO agree that upon COMNAVREG Hawaii's decision to proceed with the Undertaking, COMNAVREG Hawaii shall ensure that the following stipulations are implemented in order to satisfy COMNAVREG Hawaii's responsibilities under Section 106 of the NHPA.

STIPULATIONS

COMNAVREG Hawaii shall ensure that the following measures are carried out:

I. REQUEST FOR PROPOSALS (RFP)

A. The RFP will state the National Register eligibility determination of both the Moanalua Shopping Center and the Moanalua Community Church. Further, the RFP will also identify the Moanalua Community Church as being listed in the Hawaii Register of Historic Places.

B. In addition, the RFP will require the offerors to provide, in their master plans, for preservation of the A-frame structure and stained glass window of the Moanalua Community Church either by continuation of their present use for religious purposes by the current or new congregations, by adaptive reuse for any other purpose permitted by the lease, or by removing the structure for use at a different location.

C. Should the offeror propose moving the A-frame structure and stained glass window of the Moanalua Community Church for use at a different location, the offeror shall specify the means by which the offeror will ensure that the architectural and artistic integrity will be preserved during and after relocation. Such relocation will be in accordance with the approaches recommended in *Moving Historic Buildings* (John Obed Curtis, reprinted 1991, International Association of Structural Movers). The RFP shall be amended to include this reference for offerors to use, if needed, in preparing their proposals.

D. Personnel who meet the Secretary of the Interior's Professional Qualifications for Historical Architect under the Secretary of the Interior's Historic Preservation Professional Qualification Standards (Federal Register Vol. 62, No. 119, p. 33719, 1997) will be included as one or more of the advisers in the technical evaluation of the proposals submitted under the RFP.

II. MOANALUA COMMUNITY CHURCH

A. If an offeror that proposes to relocate the Moanalua Community Church is selected for exclusive negotiations, COMNAVREG Hawaii shall initiate consultations with the parties to this MOA to determine the suitability of the relocation site, review the techniques and safeguards utilized to relocate the church structure, and that relocation does not adversely affect other historic properties at the new site.

B. Within 90 days after the Moanalua Community Church is moved to another location, COMNAVREG Hawaii and the SHPO will re-evaluate eligibility for inclusion in the National Register in accordance with the applicable criteria of 36 CFR Part 60 and applicable National Park Service guidelines.

C. COMNAVREG Hawaii shall complete a photo documentation of the A-frame structure and stained glass window of the Moanalua Community Church in its existing setting and context, and in accordance with the Historic American Buildings Survey (HABS) standards and specifications (<http://www.cr.nps.gov/habs/haer/habs/habsstan.htm>). The HABS shall be carried out by or under the direction of an architectural historian or historical architect who meets the professional qualifications for Architectural Historian or Historical Architect under the Secretary of the Interior's Historic Preservation Professional Qualification Standards (Federal Register Vol. 62, No. 119, p. 33713-33714, 33719, 1997). The recordation shall include available existing drawings including elevations, plans, sections, significant building details, building description and its historical context, and large-format photography producing archivally stable, perspective corrected, black and white photographs of overall views and details of important interior and exterior features of the structure. SHPO will have fourteen calendar days from date of receipt to review the draft HABS submittal. The original report will be kept at COMNAVREG Hawaii. Copies of the report will be provided to the SHPO and any requesting consulting party.

D. The parties to this MOA will be afforded the opportunity to review the proposed design for all construction, repair, modifications, alterations, additions, or change in use or character of the Moanalua Community Church structure. Within fourteen calendar days of distributing the design plans and, if requested by the SHPO, COMNAVREG Hawaii will convene a videoconference among interested consulting parties or meet with local parties to discuss review comments. The consulting parties will have fourteen calendar days from the date of the videoconference or local meeting to submit additional comments to COMNAVREG Hawaii. COMNAVREG Hawaii will respond in writing to any such comments before finalizing any procurement documents relating to the project. The long-term lease shall include the provisions set out in Attachment B.

E. COMNAVREG Hawaii will submit through the Navy chain of command a National Register Nomination Form for listing of the Moanalua Community Church in the National Register of Historic Places within two years of the execution of this agreement, if it is preserved in place for continuing or adaptive reuse or, if moved, it is determined to be still National Register-eligible after its re-evaluation under Stipulation II.D.

III. MOANALUA SHOPPING CENTER - DOCUMENTATION AND INTERPRETATION

A. COMNAVREG Hawaii shall complete a photo documentation of the Moanalua Shopping Center, in accordance with the Historic American Buildings Survey (HABS) standards and specifications (<http://www.cr.nps.gov/habs/haer/habs/habsstan.htm>). The HABS shall be carried out by or under the direction of an architectural historian or historical architect who meets the professional qualifications for Architectural Historian or Historical Architect under the Secretary of the Interior's Historic Preservation Professional Qualification Standards (Federal Register Vol. 62, No. 119, p. 33713-33714, 33719, 1997). The recordation shall include available existing drawings including elevations, plans, sections, significant building details, building description and its historical context, and large-format photography producing archivally stable, perspective corrected, black and white photographs of overall views and details of important interior and exterior features of the structure. SHPO will have fourteen calendar days from date of receipt to review the draft HABS submittal. The original report will be kept at COMNAVREG Hawaii. Copies of the report will be provided to the SHPO and any requesting consulting party.

B. A static visual interpretation of Moanalua Shopping Center's history and significance consisting of graphics, photographs, and news stories will be displayed in a common space within the new commercial facility. The proposed design, materials and text will be submitted to the signatories of this MOA for a 30-day review and comment period. COMNAVREG Hawaii will consider comments received during this review period before it finalizes the display.

IV. RESOLVING OBJECTIONS

A. Should any Signatory or Concurring Party to this MOA object in writing to COMNAVREG Hawaii regarding how the proposed Undertaking is carried out or the manner in which the terms of this MOA are carried out, COMNAVREG Hawaii shall consult with SHPO to resolve the objection. If COMNAVREG Hawaii determines that the objection cannot be resolved, COMNAVREG Hawaii shall forward all documentation relevant to the dispute to the ACHP, including COMNAVREG Hawaii's proposed response to the objection. Within thirty days after receipt of all pertinent documentation, the ACHP will:

1. Advise COMNAVREG Hawaii that it concurs with COMNAVREG Hawaii's proposed response, whereupon COMNAVREG Hawaii shall respond to the objection accordingly; or
2. Provide COMNAVREG Hawaii with recommendations pursuant to 36 CFR § 800.2 (b)(2) which COMNAVREG Hawaii shall take into account in reaching a final decision regarding the dispute; or

3. Notify COMNAVREG Hawaii that it will comment pursuant to 36 CFR § 800.7(c) and proceed to comment on the subject in dispute.

B. Should the ACHP not exercise one of the above options within thirty days after receipt of all pertinent documentation, COMNAVREG Hawaii may assume that the ACHP concurs in the proposed response to the objection.

C. COMNAVREG Hawaii shall take into account the ACHP's recommendation or comment provided in accordance with this stipulation with reference only to the subject objection. COMNAVREG Hawaii's responsibility to carry out all actions under this MOA that are not the subject of the objection shall remain unchanged.

V. DURATION

A. This MOA shall become effective upon execution of COMNAVREG Hawaii, the ACHP and the SHPO, and shall terminate at the completion of all mitigation commitments stipulated to in this MOA, or until terminated under either Stipulation V.B. or Stipulation IX. COMNAVREG Hawaii will notify all parties to the MOA in writing when its actions have been completed and that the MOA has been terminated.

B. This MOA shall terminate if no long-term lease for this Undertaking is executed with a private entity or individual within two years of signing of this MOA or if construction work has not started within five years of the execution of a long-term lease. COMNAVREG Hawaii will notify all consulting parties in writing at least 30 days prior to termination for reconsideration of the terms of this MOA.

VI. DISCOVERIES

A. If during the performance of the Undertaking, previously unidentified historic properties are discovered, or previously unanticipated effects occur to known historic properties, COMNAVREG Hawaii shall make reasonable efforts to avoid, minimize or mitigate adverse effects to such properties. COMNAVREG Hawaii shall determine actions that can be taken to resolve adverse effects, and notify the SHPO and any Native Hawaiian organization that has requested to be notified within 48 hours of the discovery by telephone, followed by written notification to be sent by facsimile. The notification shall include an assessment of National Register eligibility and proposed actions to resolve potential adverse effects.

B. The SHPO and Native Hawaiian organizations shall respond within 48 hours of the notification. All access by representatives of these organizations will be subject to reasonable requirements for identification, escorts (if necessary), safety, and other administrative and security procedures.

C. COMNAVREG Hawaii will take into account recommendations regarding National Register eligibility and proposed actions, and then carry out appropriate actions.

Should such actions include archaeological investigations, these actions will be carried out by or under the direct supervision of a person or persons meeting, at the minimum, the Secretary of the Interior's Professional Qualification Standards (Federal Register, Vol. 62, No. 119, page 33712, June 20, 1997) for Archaeologists. COMNAVREG Hawaii shall provide the SHPO, Native Hawaiian organizations and the ACHP a report of the actions when they are completed.

VIII. AMENDMENTS

Any Signatory to this MOA may propose to COMNAVREG Hawaii that it be amended, whereupon COMNAVREG Hawaii shall consult with the other Signatories and concurring parties to this MOA to consider such an amendment. 36 CFR § 800.6(c)(7) shall govern the execution of any such amendment.

IX. TERMINATION

If any Signatory determines that the terms of this MOA cannot be or are not being carried out, the Signatories shall consult to seek amendment of this MOA. If this MOA is not amended, any Signatory may terminate it. COMNAVREG Hawaii shall either execute an MOA with Signatories under 36 CFR § 800.6(c)(1) or request comments from the ACHP under 36 CFR § 800.7(a).

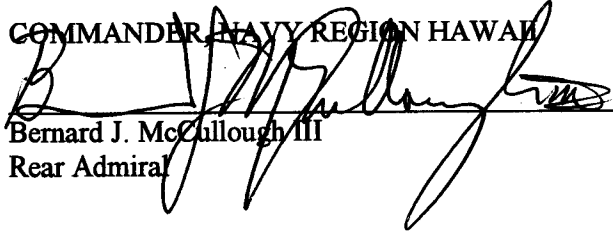
X. ANTI-DEFICIENCY

The Anti-Deficiency Act, 31 USC 1341, prohibits federal agencies from incurring an obligation of funds in advance of or in excess of available appropriations. Accordingly, the parties agree that any requirements for the obligation of funds arising from the terms of this agreement shall be subject to the availability of appropriated funds for that purpose, and that this agreement shall not be interpreted to require the obligation or expenditure of funds in violation of the Anti-Deficiency Act.

Execution of this MOA by COMNAVREG Hawaii, the ACHP and the Hawaii SHPO, and implementation of its terms evidences that COMNAVREG Hawaii has afforded the ACHP an opportunity to comment on the Undertaking and its potential effects on historic properties, and that COMNAVREG Hawaii has taken into account the effects of the Undertaking on historic properties.

SIGNATORIES:

COMMANDER, NAVY REGION HAWAII



Bernard J. McCullough III
Rear Admiral

4 March 04

Date

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Moanalua Shopping Center MOA

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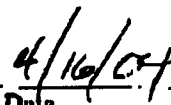
02/25/04

SIGNATORIES:

ADVISORY COUNCIL ON HISTORIC PRESERVATION



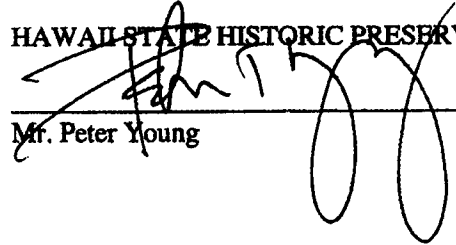
Mr. John M. Fowler



Date

SIGNATORIES:

HAWAII STATE HISTORIC PRESERVATION OFFICER

A handwritten signature in black ink, appearing to read 'Peter Young', is written over a horizontal line. The signature is stylized and extends above the line.

FEB 25 2004

Mr. Peter Young

Date

CONCURRING PARTIES:

Hawai'i Conference Foundation

Mr. John Derby, Sr.

Date

CONCURRING PARTIES:

NATIONAL TRUST FOR HISTORIC PRESERVATION

Mr. Paul Edmondson

Date

CONCURRING PARTIES:

HISTORIC HAWAII FOUNDATION

Mr. David Scott

Date

CONCURRING PARTIES:

OAHU COUNCIL OF HAWAIIAN CIVIC CLUBS

Shad Kane

Date

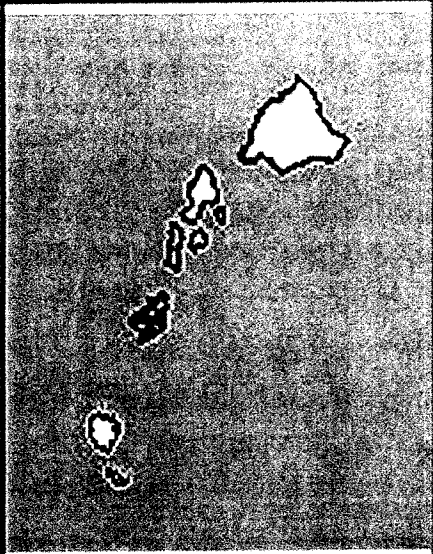
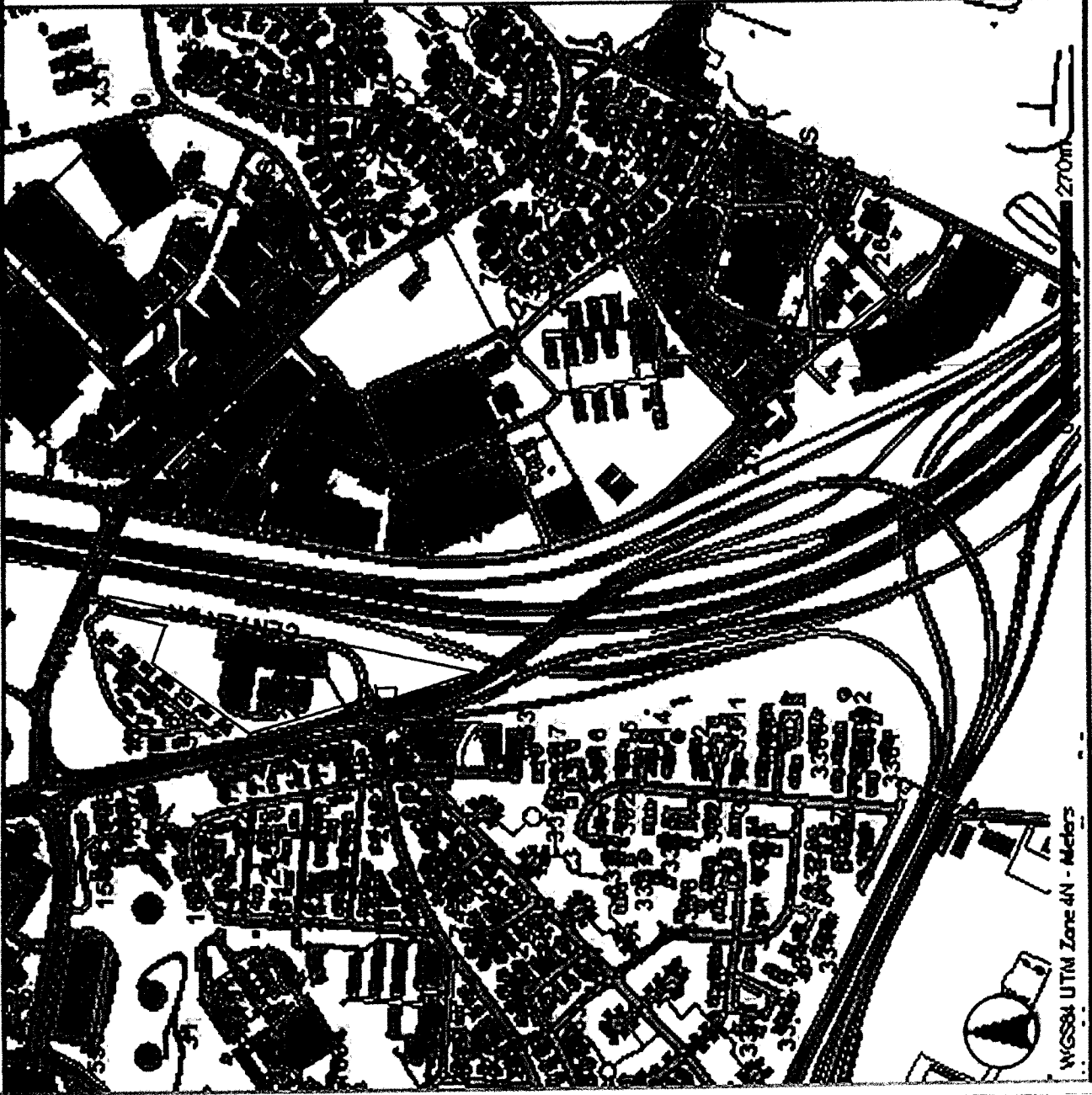
CONCURRING PARTIES:

OFFICE OF HAWAIIAN AFFAIRS









Pua Aiu

Date

Moanalua Shopping Center Development



Legend

-  Facilities
-  Roads
-  Roads
-  Road Names
-  Driveways
-  Parking
-  Land
-  MSC Lease Areas

ATTACHMENT B

TERMS AND CONDITIONS REGARDING THE TREATMENT OF THE A-FRAME STRUCTURE AND STAINED GLASS WINDOW OF THE MOANALUA COMMUNITY CHURCH TO BE INCORPORATED INTO THE LONG-TERM LEASE

1. Lessee acknowledges that the Moanalua Community Church (A-frame structure and stained glass window) is listed in the Hawaii Register of Historic Places and has been determined eligible for listing in the National Register of Historic Places. Therefore Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) and its implementing regulations (36 CFR Part 800), may be applicable to proposed undertakings.
2. Lessee shall not materially modify or change the historically significant features or character of the Moanalua Community Church during the term of this Lease without prior written approval of the Government. Unless otherwise approved, any plans and specifications for any construction, repair, modification, alterations, installations or additions by the Lessee or sublessee should be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, and shall be provided to the Government sufficiently in advance of such work so as to allow the Government time to review and approve such plans and specifications.
3. Government review prior to approval will include consultations with the Hawaii State Historic Preservation Officer, the Advisory Council on Historic Preservation, and other parties who concurred in the Memorandum of Agreement dated _____.
4. Lessee shall ensure that the following information be provided to the Government to permit adequate review and consultation:
 - a. A detailed description of the proposed project with photographs and plan drawings.
 - b. Description of the features of the Moanalua Community Church that will be affected by the proposed project.
 - c. Identification of specific actions being taken should be consistent with The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings (1997). Proposed actions not in conformance with the Secretary's Standards will require an explanation including discussion of options that would have resulted in conformance. These determinations are subject to SHPO and consulting party review.

APPENDIX B

EVALUATION OF TRAFFIC IMPACT MITIGATION MEASURES

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POTENTIAL TRAFFIC IMPACT MITIGATION MEASURES

The purpose of this appendix is to first present the methods and assumptions of the traffic study, and then to summarize the mitigation analysis and potential mitigation measures associated with the Proposed Action. For details on those intersections not potentially subject to significant impacts, please consult the *Revised Draft Traffic Impact Analysis Report for Moanalua Shopping Center Redevelopment* (Phillip Rowell and Associates, 2004).

B.1 TRAFFIC STUDY METHODOLOGY AND ASSUMPTIONS

The following methods and assumptions were used in the traffic analysis contained in the traffic study prepared in support of this EA.

B.1.1 Traffic Study Methodology

1. A site reconnaissance was performed to identify existing roadway cross-sections, intersection lane configurations, traffic control devices, and surrounding land uses.
2. Traffic counts were performed to determine existing weekday peak-hour traffic volumes for the study intersections. As traffic is less during weekends, weekend traffic volumes were not used in this study.
3. Existing levels-of-service (LOS) of the study intersections were determined using the methodology described in the *Highway Capacity Manual* (Transportation Research Board [TRB] 2000).
4. Future (2006) background traffic volumes at the study intersections without traffic generated by the study project were estimated.
5. Peak-hour traffic generated by the existing MSC facilities was estimated and subtracted from the existing peak-hour traffic volumes. The result was an estimate of future (2006) background traffic volumes without the existing MSC.
6. Peak-hour traffic volumes associated with the proposed project were estimated using trip generation analysis procedures recommended by the Institute of Transportation Engineers.
7. A LOS analysis for future traffic conditions with traffic generated by the proposed project was performed.
8. The impacts of traffic generated by the proposed project at the study intersections were quantified and summarized.
9. Locations where project-generated traffic would have potential significant impacts to traffic conditions were identified.
10. Recommendations, improvements or modifications necessary to mitigate the traffic impacts of the project and to provide adequate access to and egress from the site were developed.

B.1.2 Background Traffic Growth

As the proposed project would not be completed until 2006, traffic volumes for 2006 were first estimated to determine the background traffic levels from which to determine potential traffic volume increases. Background traffic growth was estimated from data provided by the 2020 Oahu Regional Transportation Plan (Kaku Associates, Inc. 1995).

Travel estimates from the plan concluded that traffic would increase an average of 1.6% per year until the year 2020. Therefore, the growth rate from 2003 to 2006 (F) was calculated using the following formula for compounded interest:

$$F = (1 + i)^n$$

where i = average annual growth rate (1.6) and n = years (3). This growth rate was applied to all traffic movements at the study intersections.

B.1.3 ASSUMPTIONS

- It was assumed that the NCSC area would be divided 80%/20% between Navy offices and classroom space.
- The average area of classroom per student was estimated to be 126 ft².
- The commercial/retail square footage would be equally divided among retail space, medical/dental office space and QSR space.
- Because the latest land use plan provided a specific floor area for the QSR, the 15,000 ft² was divided equally between retail space and medical/dental office space.

B.1.4 PROJECT TRIP GENERATION

Future traffic volumes generated by the project were estimated using the procedures described in the *Trip Generation Handbook* (Institute of Transportation Engineers [ITE] 1998). This method uses trip generation rates to estimate the number of trips that a proposed project would generate during the peak hours.

- The Navy office space housed in the NCSC would have associated traffic characteristics comparable to a corporate office building as defined by ITE (1998). A corporate office building is defined as, "...a single tenant office building that houses the corporate headquarters of a company or organization, which generally consists of offices, meeting rooms, space for storage and data processing, a restaurant or cafeteria, and other service functions."
- Trips generated by classroom users were estimated assuming that all students would arrive within one hour before classes start and would depart within one hour after the end of class, that 10% of the students would be dropped off, that the average vehicle occupancy would be 1.25 persons per vehicle, and that 12% of the trips would occur during the peak hour. Typically, 8 to 12% of the daily trips would occur during the peak hour; the use of 12% in this study results in a conservative estimate.
- The retail portion of the commercial/retail development, the medical/dental office building, and QSR areas would have traffic characteristics comparable to the corresponding respective areas as defined by ITE (1998). In addition, the percentage of pass-by trips was estimated from data provided by ITE (1998).

B.1.5 TRIP DISTRIBUTION AND ASSIGNMENTS

The project-related trips were distributed and assigned along the anticipated approach routes to and departure routes from the project site. Separate distributions were used for the AM and PM peak hours.

The following assumptions were used for the LOS analysis of future conditions:

- For all intersections, the existing lane configurations are maintained except for the intersection of Valkenburgh Street at Bougainville Drive.
- Signalization of the intersection of Bougainville Drive at Valkenburgh Street is part of the proposed project. This intersection was analyzed for both unsignalized conditions and signalized conditions to determine if signalization is warranted. For signalized

conditions, it was assumed that the NB left and thru lane would be converted to a left turn only lane.

B.1.6 TRAFFIC IMPACT ASSESSMENT CRITERIA

As there are no locally-accepted criteria for defining significant traffic impacts at signalized intersections, the following criteria from the Los Angeles County Congestion Management Program were used as they have a precedent for use in O'ahu projects:

“A project would not be considered to have a regionally significant impact if the intersection is operating at LOS E (V/C ratio) or better after addition of project traffic. However, if the intersection is operating at LOS F (V/C ratio) with project traffic and the incremental change in the V/C ratio caused by the project is 0.02 or greater, the project would be considered to have a significant effect” (Los Angeles County Metropolitan Transportation Authority, 2002).

This criteria evaluates potential traffic impacts from the perspective of the whole intersection, as opposed to evaluating individual movements within the intersection for potentially significant impacts. As there are no similar criteria for unsignalized intersections, impacts to unsignalized intersections were evaluated in terms of delay time and LOS for each unsignalized intersection.

B.2 LOS ANALYSIS OF 2006 CONDITIONS

The LOS analysis was performed for 2006 cumulative and cumulative plus project conditions to quantify the impacts of the project and to identify locations where mitigation measures should be investigated. The following assumptions were used for the LOS analysis of future conditions:

1. For all intersections, the existing lane configurations are maintained except for the intersection of Valkenburgh Street at Bougainville Drive (which would be improved with a signal).
2. Signalization of the intersection of Bougainville Drive at Valkenburgh Street is part of the proposed project.

B.3 TRAFFIC RESULTS

Table B-1 presents a summary of the peak-hour trips generated by the 2006 baseline levels and the proposed action. “Pass-by trips” are made by traffic already using the adjacent roadway and enter the site as an intermediate stop on the way to or from another destination (an “intervening opportunity” stop). The trip may not necessarily be “generated” by the land use under study, and thus, not a new trip added to the transportation system. The percentage of pass-by trips varies by land use. Also shown is the total trips, which represent 2006 baseline levels, proposed action-related traffic, and pass by trips. The total trip numbers were assigned to the adjacent street network to assess the traffic impacts of the project. Net new trips represent additional trips due to the proposed action.

Table B-1. Summary of Traffic Generated by the Proposed Action

Time Period & Direction	Project Generated Trips				
	MSC Trips	Pass By Trips	Total Trips	Net New Trips	
AM Peak Hour	Inbound	657	202	859	764
	Outbound	436	201	637	579
	Total	1,003	403	1,406	1,253
PM Peak Hour	Inbound	442	221	663	297
	Outbound	515	220	735	354
	Total	957	441	1,398	651

Source: Phillip Rowell & Associates, 2004

B.3.1 MITIGATION ANALYSIS FOR THE PROPOSED ACTION

Valkenburgh Street at Warden Avenue

The traffic analysis evaluated eight different types of potential mitigation actions for this intersection (e.g., signalization, 3-way stop, etc.) to identify the best potential mitigation measure to improve traffic flow through the intersection. For example, creating a 3-way stop would change the LOS for NB Valkenburgh from A to C, the LOS for SB Valkenburgh from A to C, and the LOS for Warden F to C, resulting in an overall decrease in intersection efficiency. In addition, installing a signal was evaluated; however the change in LOS as well as costs associated with this potential mitigation measure (\$300,000 - \$400,000) were not considered the best option.

The recommended potential mitigation action identified for the intersection of Valkenburgh Street at Warden Avenue is to create “right in/right out” only movements (Table B-2). By converting the intersection to a “right in/right out” and thereby eliminating left turns across traffic, there would be no delay, resulting in LOS A. Existing traffic that makes left turns from Warden to Valkenburgh would have other options under the Proposed Action to go NB on Valkenburgh, as most of the NEX/Commissary traffic flows to Bougainville and traffic from the MSC would probably take advantage of the new signalized intersection at Valkenburgh/Bougainville.

Table B-2. Mitigation Analysis: Valkenburgh Street at Warden Avenue

<i>PM Peak Hour</i>	<i>Background</i>		<i>Proposed Action Without Mitigation</i>		<i>Proposed Action with Mitigation</i>	
	<i>Delay</i>	<i>LOS</i>	<i>Delay</i>	<i>LOS</i>	<i>Delay</i>	<i>LOS</i>
EB Left & Right	93.2	F	404.8	F	< 10	A

Notes: Delay is in seconds per vehicle. LOS calculated using the operations method described in TRB (2000). LOS is based on delay.

Valkenburgh Street at Nimitz Highway WB

Table B-3 presents the recommended potential mitigation action for the intersection with Nimitz Highway WB. Due to intersection characteristics/constraints, no other potential mitigation measures were considered to be reasonably feasible (e.g., other options would include building ramps). Therefore, to mitigate the potential impacts to the WB intersection of this divided highway and Valkenburgh Street to less than a significant level, the creation of an additional NB through/optional left turn lane is the identified potential mitigation measure.

Table B-3. Mitigation Analysis: Valkenburgh Street at Nimitz Highway WB

<i>PM Peak Hour</i>	<i>Background</i>			<i>Proposed Action without Mitigation</i>			<i>Proposed Action with Mitigation</i>		
	<i>V/C</i>	<i>Delay</i>	<i>LOS</i>	<i>V/C</i>	<i>Delay</i>	<i>LOS</i>	<i>V/C</i>	<i>Delay</i>	<i>LOS</i>
PM Peak Hour	1.270	60.8	E	1.350	73.9	E	1.020	32.4	C

Notes: Delay is in seconds per vehicle. LOS calculated using the operations method described in TRB (2000). LOS is based on delay.