VICTORY HOMES DEMOLITION AND REPLACEMENT

Environmental Assessment

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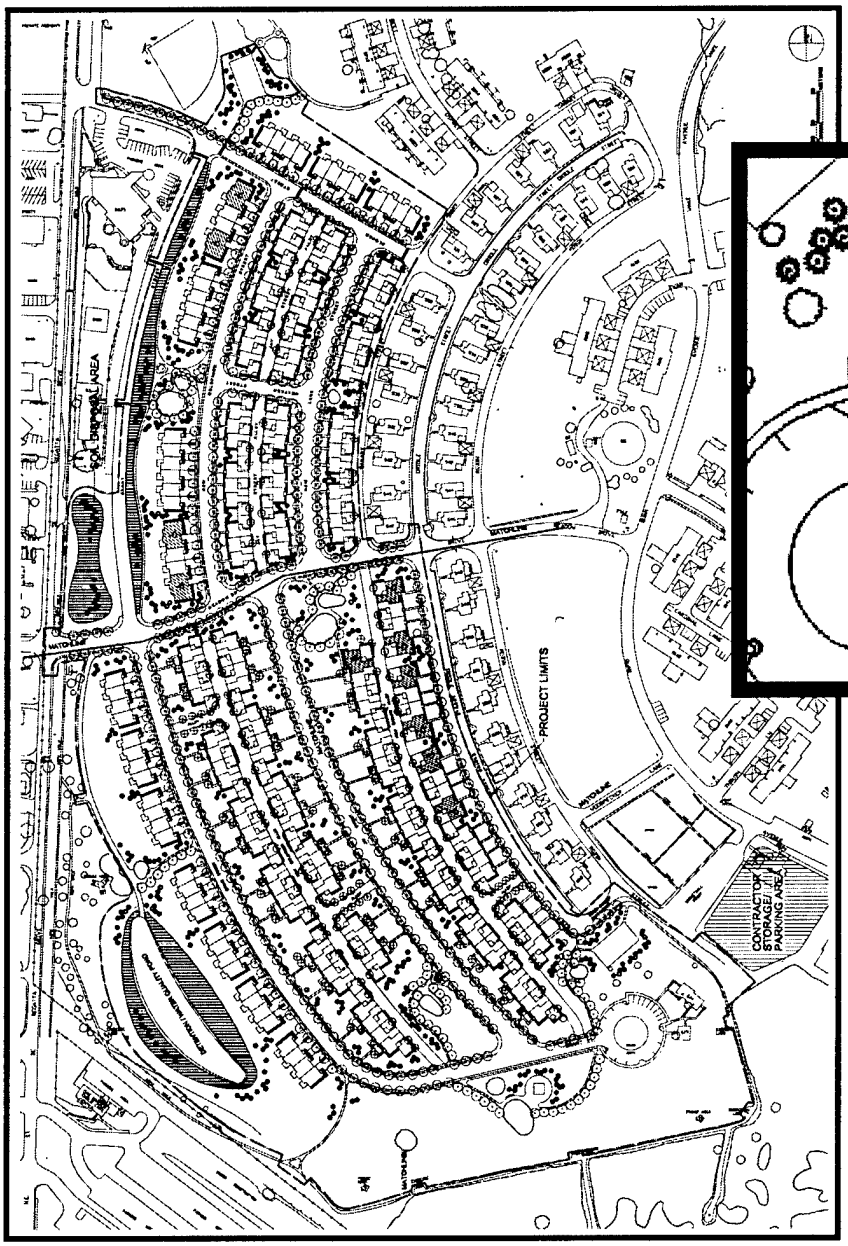

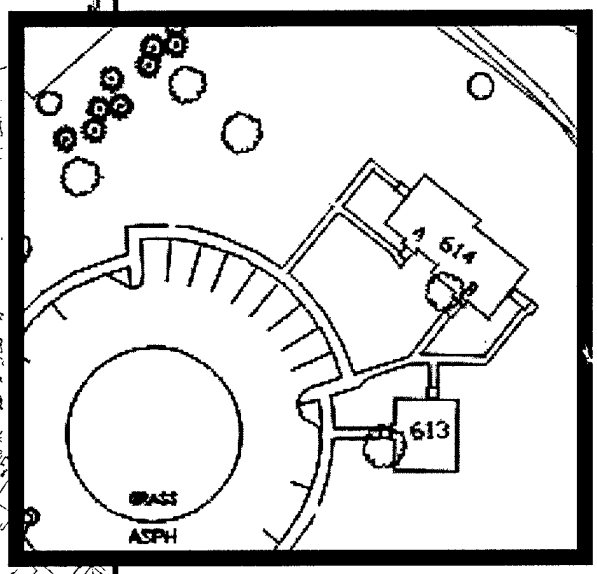

Prepared for:

NAVAL AIR STATION,
WHIDBEY ISLAND,
OAK HARBOR, WA,
DEPARTMENT OF THE NAVY

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June 2001

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHWEST
NAVAL FACILITIES ENGINEERING COMMAND
19917 7TH AVENUE N.E.
POULSBO, WASHINGTON 98370-7570

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AUG 02 2001

Dear Interested Party:

Subject: AVAILABILITY OF ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The enclosed Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) is forwarded for your information. The EA addresses the Victory Homes Demolition and Replacement at Naval Air Station Whidbey Island (NASWI), Seaplane Base, Oak Harbor, Washington. The FONSI is a determination that this project will not significantly impact human health and environment; therefore, an Environmental Impact Statement is not required. Copies of the EA and FONSI are being distributed to potentially interested elected officials, agencies, Native American tribes, and the Oak Harbor Library. Additionally, a public notice of availability was published in the Whidbey News-Times on June 23, 30, and July 7, 2001.

The coordination and review effort of all who participated in the development of this EA is appreciated. If desired, additional copies of this EA may be obtained by calling Ms. Kimberly Kler at Engineering Field Activity, Northwest in Poulsbo, Washington at (360) 396-0927.

Sincerely,

KIMBERLY H. KLER
Environmental Planner

Enclosures:
(1) EA for Victory Homes Demolition and Replacement at Seaplane Base, NASWI
(2) FONSI for the Victory Homes Demolition and Replacement at Naval Air Station Whidbey Island, Oak Harbor, Washington

ABSTRACT

The Department of the Navy (Navy) has prepared this Environmental Assessment (EA) to evaluate potential environmental effects associated with the proposed removal of 198 units of enlisted family housing at the Seaplane Base, Naval Air Station, Whidbey Island (NASWI). The project is located at the Victory Homes site on the western flank of Eerkes Hill near the northwest corner of the Seaplane Base, NASWI, Oak Harbor, Island County, Washington. One hundred ninety-five of the existing housing units are proposed for demolition, and three housing units (one duplex building and one single-family unit) would be preserved to mitigate adverse effects to historic resources and be re-used for non-residential purposes. This action is subject to the requirements of the National Environmental Policy Act (NEPA) and has been determined to be an undertaking under the National Historic Preservation Act (NHPA) as defined in 36 CFR § 800.16(y) and meeting the adverse effect criteria of 36 CFR § 800.5(a). This EA combines both the NEPA and NHPA processes into a single, integrated analysis and joint action.

The new housing is needed to meet Navy requirements (per NAVFACINST 11101.85H) for sufficient and adequate housing, supporting infrastructure, and amenities for enlisted personnel (E1-E6) and their families in order to support the quality of life and retention goals of the Navy. The existing Victory Housing units are deficient in size, lack amenities, are unsafe for pedestrians, have high maintenance costs, and are not readily adaptable to Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Uniform Federal Accessibility Standards (UFAS). Most of the replacement homes would be two-story attached townhouses with garages. When fully built out, the replacement housing is expected to house approximately 314 more individuals than the existing units.

Demolition would begin in June of 2001, and new construction would be complete 24 months later. All but one of the existing buildings and supporting infrastructure on the project site would be removed or abandoned in place. Of the 107 buildings slated for demolition, 85 are located within a proposed historic district. To mitigate adverse impacts to historic resources, one of the duplexes located in the historic district (Building #614) will be retained.

This EA analyzes two Action Alternatives and a No Action Alternative. The Action Alternatives consist of two design alternatives. Both Action Alternatives would demolish the Victory Homes and construct housing on the same site. The first alternative, which is referred to in this document as the "Street-Accessed Alternative," is so-named since vehicular access to the homes is from the street-side of each building, while the "Alley-Accessed Alternative" would rely on alleys for vehicular access. Both alternatives would reuse portions of the existing street alignment and construct new streets. The "Alley-Accessed Alternative" is the Navy's Preferred Alternative.

A No Action Alternative is also analyzed in accordance with NEPA. For the purposes of this EA, the No Action Alternative would consist of no change to the Victory Homes and no construction of new housing.

Principal areas of concern addressed in this EA include potential effects to historical resources, land use and policy consistency, utilities, school capacity, air and water quality, geology, vegetation and wildlife (including threatened and endangered species), recreation, noise, aesthetics, transportation, public services, socioeconomics, public health and safety (including for children), and environmental justice.

All of the alternatives analyzed in this EA were found to have no significant impacts to the quality of the natural and human environment provided that the proposed mitigation measures are implemented. As a result, a Finding of No Significant Impact (FONSI) is recommended and the preparation of an Environmental Impact Statement (EIS) is not required.

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CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

TABLES

FIGURES

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
ACHP	Advisory Council on Historic Preservation
ACM	asbestos containing material
ADAAG	Americans with Disabilities Act Accessibility Guidelines
BEMP	Bald Eagle Management Plan
BMPs	Best Management Practices
BOSC	Base Operating Support Contractor
BR	bedroom
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cm	centimeter
CO	carbon monoxide
CPR	Cardio-pulminary resuscitation
dB	decibels
dBA	decibels-A weighted
DCA	Department Consulting Archaeologist
DD	Defense Department
DoD	Department of Defense
DOH	Department of Health
DU	dwelling unit
EA	Environmental Assessment
ECAP	Early Childhood Educational Assistance Program
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
FEMA	Federal Emergency Management Area
FONSI	Finding of No Significant Impact
fps	feet per second
FR	Federal Register
FY	Fiscal Year
GPD	gallons per day
GPM	gallons per minute
ha	hectare
HABS	Historic American Buildings Survey
HARP	Historical and Archaeological Protection
HH	Household
HUD	Housing and Urban Development
HVAC	heating/ventilation/air conditioning
ICGWMP	Island County Groundwater Management Program
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
ITE	Institute of Transportation Engineers

ACRONYMS AND ABBREVIATIONS (continued)

km	kilometer
l	liter
Ldn	day-night sound level
LOS	level of service
m	meter
MFH	Multi-Family Housing
MGPD	million gallons per day
MGPY	million gallons per year
MLLW	mean low low water
MOA	Memorandum of Agreement
mph	miles per hour
msl	Mean Sea Level
MTCA	Model Toxics Control Act
MTMC	Military Traffic Management Command
MWR	Morale, Welfare, and Recreation
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	Naval Air Station
NASWI	Naval Air Station, Whidbey Island
Navy	Department of the Navy
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places, or National Register
NWAPA	Northwest Air Pollution Authority
O_3	ozone
OAHP	Office of Archaeology and Historic Preservation
OFM	Office of Finance and Management
OS	Open Space (land use designation)
Pb	lead
PL	Public Law
PM	particulate matter
ppm	parts per million
psi	pounds per square inch
QOL	Quality of Life
QT	Quarters
ROC	Record of Communication
ROD	Record of Decision
RSIP	Regional Shore Infrastructure Plan
RV	recreation vehicle

ACRONYMS AND ABBREVIATIONS (continued)

SAP	Sampling and Analysis Plan
SHPO	State Historic Preservation Officer
SIG	signal
SOP	Standard Operating Procedures
SO_x	sulfur dioxides
SR	State Route
SVC	Skagit Valley College
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Officer
TSP	total suspended particulates
TWSC	two-way stop controlled
UFAS	Uniform Federal Accessibility Standards
UGA	Urban Growth Area
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WDOE	Washington State Department of Ecology
WSDOT	Washington State Department of Transportation
WWII	World War II

1.0 INTRODUCTION

The Department of the Navy (Navy) has prepared this Environmental Assessment (EA) to evaluate potential environmental effects associated with the proposed removal of 198 units of enlisted family housing at the Seaplane Base, Naval Air Station, Whidbey Island (NASWI). One hundred ninety-five of the existing housing units are proposed for demolition, and three housing units (one duplex and one single-family unit) would be preserved to mitigate adverse effects on historic resources and be re-used for non-residential purposes. The Navy intends to replace the existing 198 units of substandard housing with 200 new units that meet current Navy housing standards. The potential environmental effects are addressed pursuant to the requirements of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321 to 4370e and subsequent implementing regulations issued by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The existing Victory Homes were built during the World War II (WWII) era and may be eligible for listing on the National Register of Historic Place (NRHP) as an historic district. This action has been determined to be an "undertaking" meeting the adverse effect criteria of the National Historic Preservation Act (NHPA); it is also subject to compliance with Section 106 of NHPA. This EA integrates and combines the environmental review processes of both NEPA and NHPA.

1.1 AUTHORITY AND JURISDICTION

This document is intended to meet the statutory requirements of NEPA. Conformance with this law is being carried out under the provisions of the Department of the Navy's *Environmental and Natural Resources Program Manual* (OPNAVINST – 5090.1B, CH-2, September 9, 1999). As stated in OPNAVINST – 5090. 1B – Chapter 2-5.3.1:

> An EA is an analysis of the potential environmental impact of a proposed action. Action proponents must prepare an EA when they do not know beforehand whether or not the proposed action will significantly affect the human environment or be controversial regarding environmental effects. An EA will either result in a Finding of No Significant Impact (FONSI), or, if a significant impact is expected, preparation of an Environmental Impact Statement (EIS).

Section 1506.6(b) of the CEQ regulations require public and government agency involvement in the preparation of both EAs and FONSIs. Agencies must also notify the public of the availability of these documents.

The Navy must evaluate the Proposed Action (as described in detail in Section 2.1) to determine the significance of potential effects and the adequacy of proposed mitigation measures. Since the Proposed Action is also considered an undertaking under the provisions of the NHPA, this EA combines the NEPA and NHPA procedures into a single integrated process and joint action as explained in Section 1.2 below.

1.2 COMBINED NEPA/NHPA PROCESS

On June 17, 1999, regulations revising Section 106 of the National Historic Preservation Act (NHPA) became effective. The revised regulations replaced the 1986 procedures and significantly modified the Section 106 review process. In addition to streamlining the historic review process, the 1999 regulations encourage agencies such as the Navy to integrate Section 106 review with reviews required under the National Environmental Policy Act (NEPA) and related laws. These regulations were reissued as guidelines on September 15, 2000 and were superceded by new revisions that became effective on January 11, 2001. The regulations/guidelines encourage agencies to consider their Section 106 responsibilities as early as possible in the NEPA process, and plan their public participation, analysis, and review to meet the purposes and requirements of both statutes in a timely and efficient manner (36 CFR § 800.8). Specific provisions that make identification and evaluation, public participation, and documentation requirements more flexible also allow agencies to use the information and analyses prepared to meet the requirements of both laws. As a result, the Navy is authorized to use the preparation of this Environmental Assessment (under NEPA) to meet the requirements of Section 106 of the NHPA. Combining these processes is intended to simplify concurrent reviews, reduce costs to applicants, and avoid redundant paperwork.

An Agency Official may use the process and documentation required for the preparation of an EA/FONSI or an EIS/Record of Decision (ROD) to comply with Section 106 in lieu of the procedures set forth in Sections 800.3 through 800.6 provided that the Agency Official notifies the State Historic Preservation Officer (SHPO)/ Tribal Historic Preservation Officer (THPO) and the Advisory Council on Historic Preservation (ACHP) and that and the standards listed in 36 CFR § 800.8(3) (c) are met. These parties have been notified as required subsequent to the initiation of this environmental assessment, and have been notified that the regulations have been reissued as guidelines.

1.3 PROJECT BACKGROUND

The Victory Homes comprise a 41-acre Navy housing district consisting of 86 small cottages and duplexes and 22 row houses (Building #s 571-688). Construction of the Victory Homes began in 1942, as the Naval Air Station (NAS) expanded rapidly after the outbreak of World War II. The Navy is proposing to demolish all but one of the 108 buildings and supporting infrastructure and replace the existing housing units with new housing which meets current Navy housing requirements. To mitigate adverse effects to historic resources, one duplex (Building #614) and one single-family unit (Building # 613) will be retained and reused for non-residential purposes; therefore; only 106 buildings containing 195 housing units would be demolished. In total, 200 new housing units would be built on the Victory Homes site in 48 buildings. Most of the site would be re-graded in preparation for new construction. Existing utilities would either be removed or capped and abandoned in place. The new housing units, tri- to six-plex townhouse style, would provide larger homes with attached garages and second stories.

The southern portion of the Victory Homes site comprises a district that is potentially eligible for listing on the National Register of Historic Places for the buildings' historical significance. The buildings, a collection of modest one- and two-family cottages and narrow single-story row-houses, were hurriedly constructed at the beginning of World War II using simple materials. The lack of architectural detail or style of the buildings themselves demonstrates the wartime conditions characterized by scarce building supplies and little time or labor able to design and build more elaborate structures. The curvilinear site plan and a modified street grid conforms to the natural hillside topography. The site's layout is also historically significant by reflecting the "Garden City" movement popular in pre-war military base and civilian residential design, conveying their specific time and culture.

1.4 PURPOSE AND NEED

1.4.1 Purpose

The Navy has immediate and long-term needs for providing housing for enlisted personnel (E1-E6) and their families at NASWI. The purpose of the Proposed Action is to meet these needs through construction of permanent family housing which meets current Navy housing standards (as defined in NAVFACINST 11101.85H). This includes adequately sized floor plans, sufficient number of bedrooms, and appropriate amenities to meet the spatial and lifestyle requirements of Navy families. New housing will also meet current site plan standards, energy efficiency, and lifecycle cost criteria.

The Navy considers housing a premier Quality of Life (QOL) issue. It is the policy of the Navy to provide housing which enhances the QOL of its members and their families. Recognizing the importance of members' and their families' QOL, the Navy will take action to provide quality military housing and secure housing in the civilian community meeting this standard (OPNAVINST 11101.13J).

It is Department of Defense (DoD) policy to rely on the local civilian housing market in communities near military installations as the primary source of housing for military families. Multi-Family Housing (MFH) is constructed or leased only in those locations where the civilian housing market cannot meet the needs of the local military community, where available housing in the community has been determined to be unacceptable, or where personnel must reside on the military installation for reasons of military necessity. Assignment procedures and utilization criteria have been developed from DoD policy to provide the greatest opportunity for occupancy, by the greatest number of eligible personnel (OPNAVINST 11101.13J).

1.4.2 Need

Existing Victory Housing units are deficient in size, lack amenities and facilities for pedestrians, have high maintenance costs, and are not readily adaptable to Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Uniform Federal Accessibility Standards (UFAS).

Based on the results of a detailed economic analysis of potential housing options, the Navy determined that the existing Victory Homes could not meet Navy housing standards. These houses are significantly undersized by a factor of approximately 50 percent. There are no dining rooms, the bedrooms are extremely undersized, and there is no storage other than undersized closets. The lack of off-street parking not only fails to meet standards, but hinders effective vehicle and pedestrian circulation on the narrow streets which lack sidewalks, curbs, or underground storm drainage (Niehaus 1996).

Depending on the floor plan (note: there are several floor plans with different sizes), existing housing units range in size from a 357 square foot 1-bedroom unit to 635 square feet for a 3-bedroom unit. The limited floor space requires an occupant to choose between having a washer/dryer set and having a kitchen table since none of the units have either dining or utility rooms (Niehaus 1996). The units have no foundations and are built over unheated crawl spaces. Siding is painted asbestos shingle. Utilities (overhead electric and telecommunications and underground gas and sanitary sewer) are old and experience a high rate of failure. Major systems such as roofing, electrical, plumbing, heating, structural supports, etc. are also failing. The site layout, especially around the four-unit rowhouses located on the northern half of the site, is characterized by narrow streets with no sidewalks or curbs, minimal landscaping, and inadequate parking.

Previous analysis determined that these homes could not be revitalized to meet current Navy standards in a cost-effective manner (Niehaus 1996). Additional housing is needed by enlisted Navy families due to the housing deficit in Island County. According to Navy data, "the Oak Harbor area has been operating with less than a 3% vacancy rate to support our Navy families"(DD form 1391c). As illustrated in Chapter 2.0, Figure 2.1-5, other Navy-owned sites are less suitable for housing construction due to topographical, environmental, or noise volume concerns. In summary, the existing Victory Homes have outlived their useful life span and need to be replaced with housing that meets current standards.

1.5 PUBLIC INVOLVEMENT PROCESS

Public notification efforts are intended to comply with NHPA, which requires consideration of the views of the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties, the likely interest of the public in the effects on historic properties, confidentiality concerns of private individuals and businesses, and the relationship of the federal involvement to the undertaking (36 CFR § 800.2(d)). The Navy is required to provide the public with information about an undertaking and its effects on historic properties and seek public comment and input. The Navy is allowed to use procedures for public involvement under NEPA if there are adequate opportunities for public involvement.

Accordingly, the Navy has notified the public and potentially interested parties and invited public input through the following means:

1. *Newspaper Advertisements* -- The Navy published display advertisements in the January 19 and 22, 2000 issues of the local newspaper, the *Whidbey News-Times*. The advertisement explained the basics of the undertaking and included the name, address, phone, fax, and e-mail address of a Navy contact person.

2. *Direct Mail* -- Detailed notices were mailed in March 2000 directly to interested agencies and organizations. The mailer consisted of a page-long text notice explaining the Proposed Action and comment procedure, a vicinity map showing the project site, and a sheet of photos of the Victory Homes and examples of replacement housing with explanatory text.

A public involvement 30-day comment period was announced in both the newspaper advertisement and via direct mail. The *Whidbey News-Times* published an editorial on February 2, 2000 and a column on February 5 in support of historic preservation efforts for the Victory Homes. The editorial and column both advocated saving one or two of the houses and moving the retained units to a site where local Naval history could be honored. Copies of published public involvement pieces are provided in Appendix A.

Two letters, both sent by electronic mail, were received by the Navy during the official public comment period. One letter submitted by the Mayor of the City of Oak Harbor echoed the newspaper pieces supporting historic recognition of the Victory Homes and preservation of at least one unit:

> "The City of Oak Harbor encourages recognition of Victory Homes as having historical significance and placing the area on the National Register of Historic Places. The architectural style reminiscent of the 1940s and the area's role in World War II, is an important element of our history (which) should be preserved in some degree for future generations...We encourage the preservation of at least one housing unit to be used as a museum site honoring the NAS Whidbey mission of the 1940s and its history in Oak Harbor. We would propose the museum be located in the Brier Circle Drive area." (Cohen, 3/6/00)

The second letter was written by the wife of a Navy veteran in support of the replacement of the Victory Homes, describing them as "tired" and "an eyesore."

The Draft Environmental Assessment was distributed to appropriate public agencies and interested members of the public for review. Only one comment was received (Appendix F).

If the Navy determines that a FONSI is warranted based on the analysis presented in this EA, public notification of the FONSI will consist of: (1) local newspaper publication of a summary of the FONSI; and (2) direct mailing of the full FONSI and the completed EA to interested parties such as regulatory/resource agencies, libraries, elected officials, and others identified during preparation of the EA. The FONSI notice shall run in consecutive Wednesday, Saturday, and Wednesday editions of the "Public Notices" section of the *Whidbey News-Times*.

2.0 PROPOSED ACTION AND ALTERNATIVES

This EA evaluates two Action Alternatives and a No Action Alternative as required by NEPA. Either of the two Action Alternatives would achieve the stated purpose by replacing 198 units of substandard housing with 200 units of housing which meet Navy requirements. The Proposed Action and the No Action Alternative are discussed in Sections 2.1 and 2.2. An evaluation of three options eliminated from detailed analysis in this EA is presented in Section 2.1.1.

2.1 DESCRIPTION OF PROPOSED ACTION

The Navy proposes to demolish 195 existing housing units at the Victory Homes site, and will retain three units for historic, cultural, and recreation purposes. In their place, the Navy proposes to build 200 new housing units at the Victory Homes site, on the Seaplane Base, NASWI, Oak Harbor, Island County, Washington (Figures 2.1-1 through 2.1-4). This will include demolition of buildings, streets, landscaping, utilities, and other supporting infrastructure and moderate re-grading of the site prior to reconstruction.

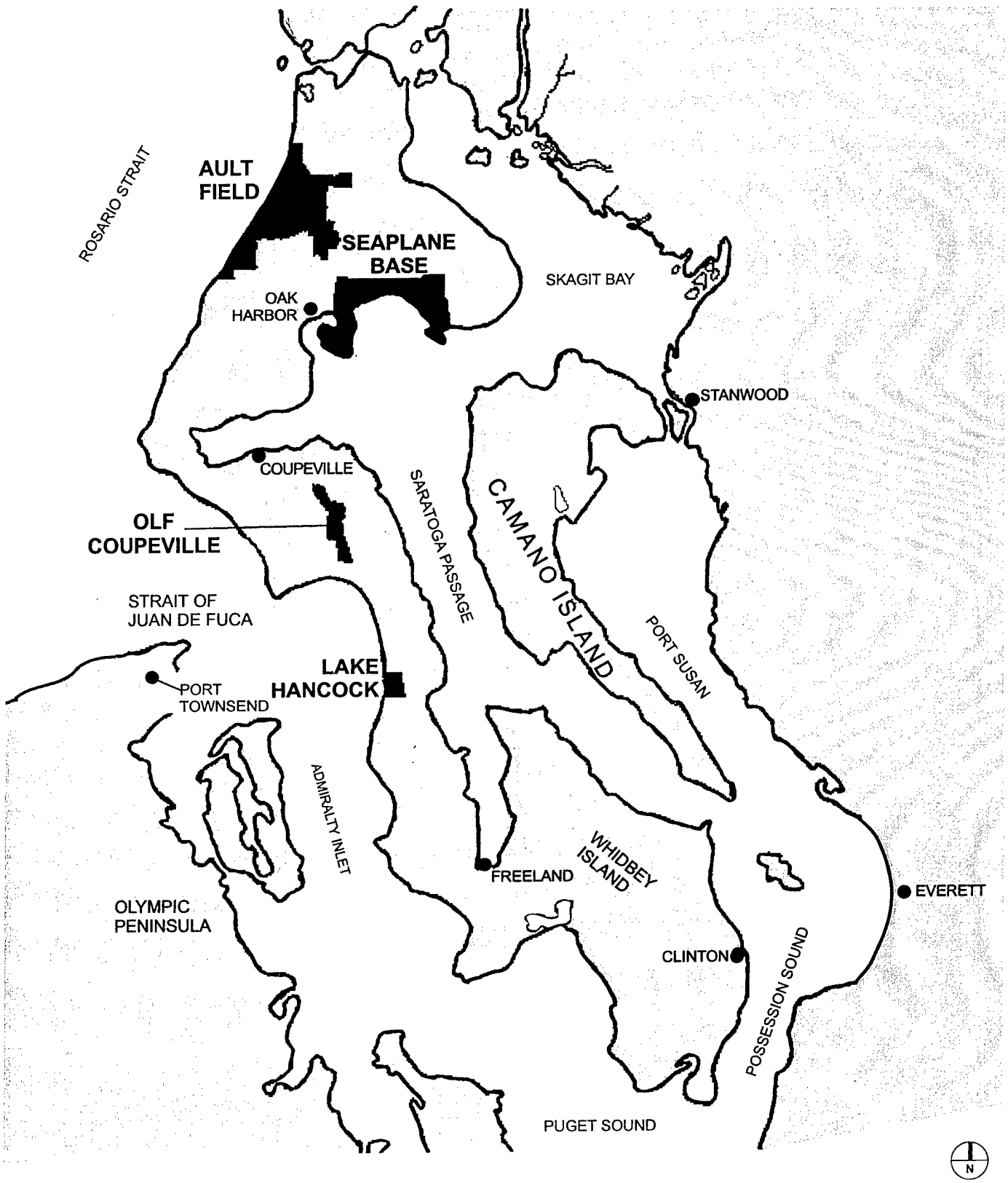
To mitigate adverse effects to historic resources resulting from either Action Alternative, the Briar Court cul-de-sac would remain along with Building #614 (a duplex) and Building # 613 (a single-family unit). These two buildings and the land around them will serve historic, cultural, and recreational purposes. None of the housing units in these two buildings would be occupied by residents.

Following demolition of the existing Victory Homes, replacement construction will include new site utilities, site improvements, landscaping, new building construction, mechanical systems, electrical systems, and incidental related work. At build-out, the completed project would consist of twenty 2-bedroom housing units, 152 units with 3 bedrooms, and 28 units with 4-bedrooms, as summarized in Table 2.1-1. All units would be attached townhouse style housing units (three to six-plex) built of wood or metal frame and/or masonry with vinyl siding.

Table 2.1-1: Number and Size of Proposed Housing Units to be Replaced.

Unit type: # Bedrooms	Number of Units		Approximate Net Floor Area[1]	
	Removed from Housing[2]	Replaced	Removed from Housing[2]	Replaced
1	45	0	17,820 ft^2 (1,655 m^2)	N/A
2	134	20	66,732 ft^2 (6,199 m^2)	18,940 ft^2 (1,759 m^2)
3	19	152	10,887 ft^2 (1,011 m^2)	181,488 ft^2 (16,860 m^2)
4	0	28	N/A	37,660 ft^2 (3,498 m^2)
Total	198	200	95,439 ft^2 (8,866 m^2)	238,088 ft^2 (22,119 m^2)

Source: Provided by EDAW 2000.
[1] Average Net Floor Area reported in square footage of livable space excluding garage, storage, and utility space per federal requirements.
[2] Existing housing units to be removed from housing include 195 units slated for demolition and three units to be preserved for historic mitigation purposes.

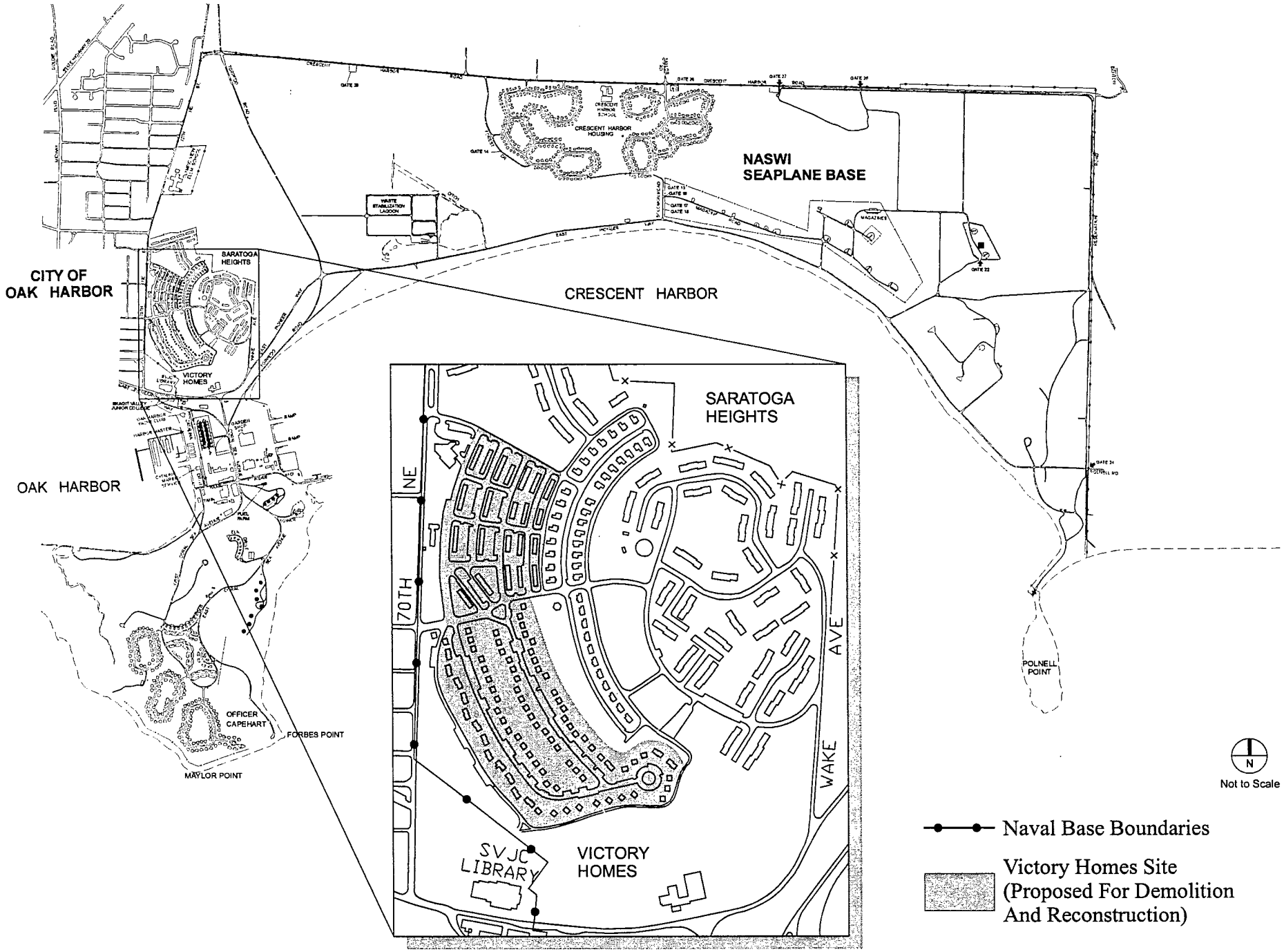


Source: Department of the Navy 1988

Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

NASWI Facility Locations on Whidbey Island

Figure 2.1-1



Vicinity Map **Figure 2.1-2**

Source: Department of the Navy 1988

Source: Department of the Navy, 1987
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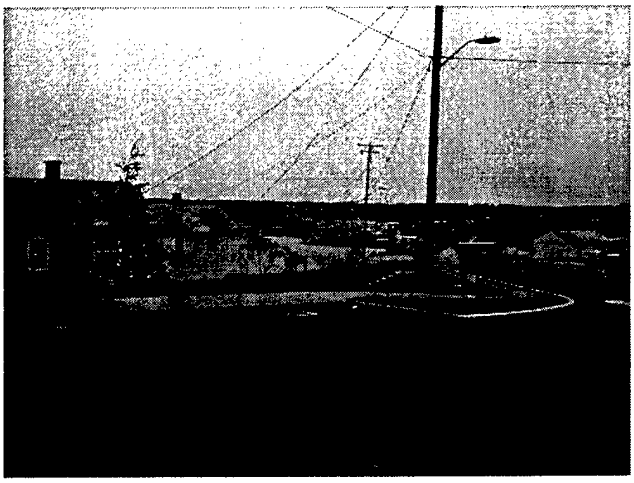
Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Existing Victory Homes and Adjacent Naval Housing

Figure 2.1-3

Single-family houses on Jay Street, typical of older (1942) Victory Homes.

Single-family and duplex units on Briar Court



Looking west from Briar Court with Oak Harbor in background

Multi-unit row houses line both sides of Lark Street in newer (1944) Victory Homes

Source: EDAW, 2000
P:\9e80006\Graphics\Fig2-1-4.cdr

Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Photos-Existing Victory Homes

Figure 2.1-4

Most of the new housing units would consist of two-story attached townhouses. The design would include some single-story units compliant with Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Uniform Federal Accessibility Standards (UFAS).

Each unit would have fire sprinklers and new underground utilities. Amenities would include attached parking garages, covered patios, privacy fencing, exterior storage, and recreational facilities. In addition, community recreational facilities and expanded common open space including tot lots, trails, covered picnic areas, and play courts and fields would reflect the Navy's Neighborhoods of Excellence concept (DD form 1391c).

The Victory Homes demolition and replacement project has been funded for fiscal year (FY) 2001. Demolition is scheduled to commence in June 2001, with construction and full occupancy planned to be complete by September 2003. Work would occur in two phases. Phase 1 consists of demolition of the necessary units and related site work and the construction of 102 units, and related site work and utilities. Phase 2 consists of the demolition of the remaining units and related site work and the construction of 98 units and related site work and utilities (Wisbeck and Fraser construction specification as revised: 7/22/00).

The new housing units would be considerably larger than the units being replaced. Not only will individual rooms be more generously proportioned, but the full development would provide a net increase of 238 bedrooms, 164 percent over the current 370 bedrooms. More bedrooms and more spacious dwelling units would serve families with more children, facilitating demographics similar to the residents of Saratoga Heights and Rockhill Terrace. As a result, the new Victory Homes site is expected to increase the population of the Seaplane Base by 314 occupants as shown in Table 2.1-2.

Table 2.1-2: Current and Anticipated Residents.

	Existing	Proposed
Enlisted Members	198	200
Dependants	271	583
Total	469	783

Source: EDAW 2000.

The majority of this population increase would be school-age children; thus, the Proposed Action is expected to increase demands to some degree on locals schools, roads, recreation facilities, public services, and utilities.

When the new units are available for occupancy, the housing assignment system for enlisted families at NASWI would be modified. Currently, the Victory Homes is the only on-base family housing available to the lowest pay grades (E1-E3). Following replacement of the Victory Homes, all enlisted family housing at the Seaplane Base including the Victory Homes will be available to pay grades E1-E6 provided that they qualify for the appropriate bedroom entitlements (Record of Communication [ROC], Rodgers, 4/17/00).

The Navy is considering two site design concepts as alternatives for the purpose of NEPA compliance for implementing the Proposed Action. Both alternatives would provide 200 units of Navy housing, but they are distinguished by different site layouts and building designs. Both alternatives would provide the same number of units, bedrooms, and occupants; however, the physical layout of the units on the site would differ in design. The two alternatives are summarized in Subsections 2.1.2 and 2.1.3.

2.1.1 Options Eliminated from Further Analysis in the EA

Prior to selection of the Victory Homes site, the Navy's site selection process considered the full range of potential housing sites on the Seaplane Base. As shown on Figure 2.1-5, the Seaplane Base contains no other large parcels of land suitable for 200 units of family housing. Most of the base is already occupied by operational uses for munitions and fuel storage, training, housing, and other mission and support functions. Environmental constraints such as steep slopes, wetlands, ponds, and natural habitat areas limit housing siting opportunities on the remaining portions of the base.

The following three potential housing options at NASWI were initially considered but eliminated from further analysis in this EA after being determined to be infeasible.

2.1.1.1 Revitalization Option

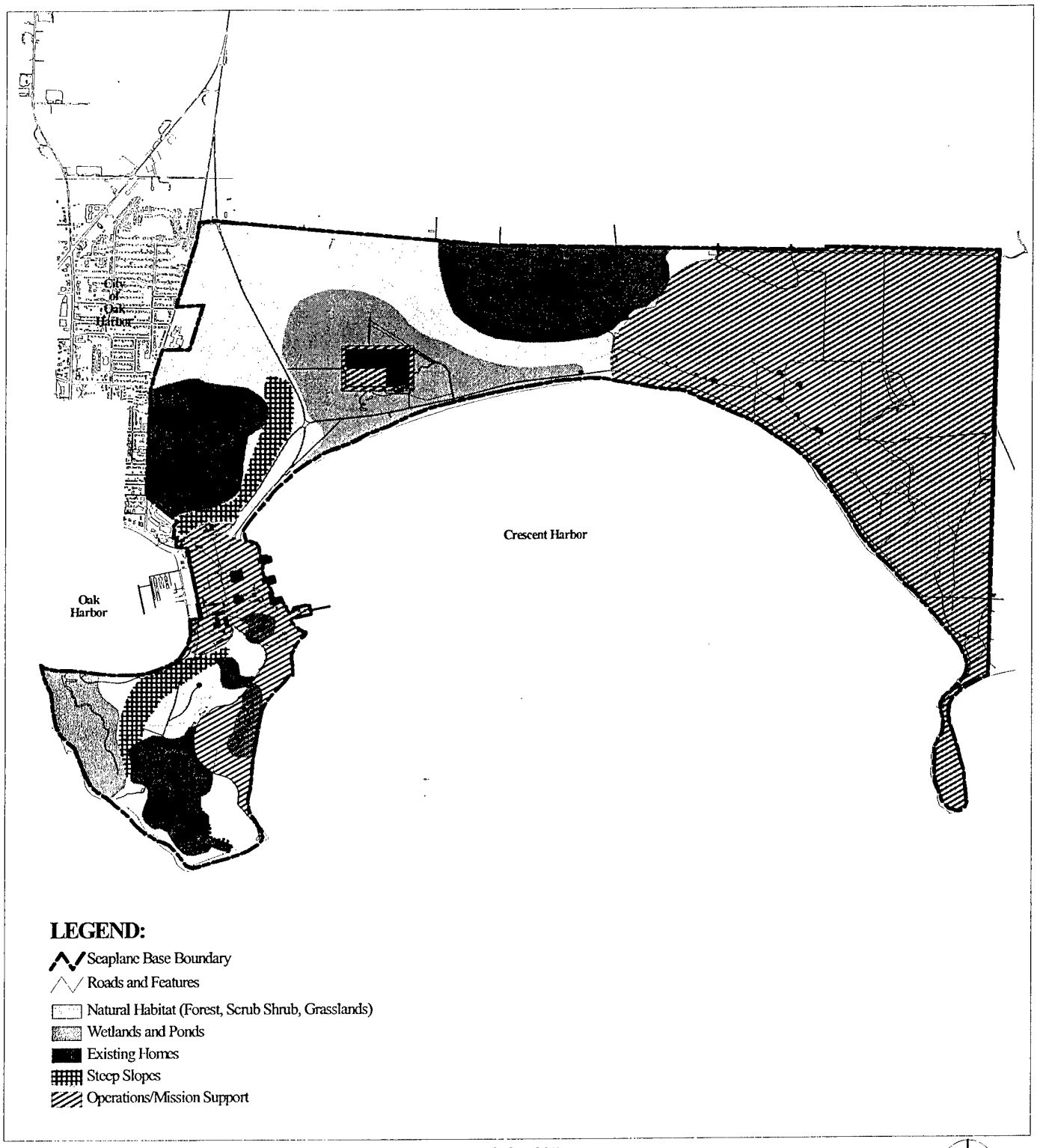
Renovating the existing Victory Homes was not considered for NEPA analysis because it was determined that it would not meet NAVFAC requirements and would be cost-prohibitive. Previous analysis (Niehaus 1996 and Otak 1995) determined that required renovations would exceed cost thresholds established by the Navy and that unit size standards could not be achieved in more than half of the existing housing units. Thus, even after substantial investment, most of the housing units would still be too small and lacking in facilities to comply with Navy housing regulations.

2.1.1.2 Rockhill Terrace Option

An alternative development scenario was considered that would have demolished the Victory Homes and sited new housing construction on the far side of existing Navy housing to the northeast of the Victory Homes site, on an area known as the Rockhill Terrace site. This site was not determined to be appropriate because part of the potential housing site is wooded and was set aside as mitigation during NEPA review of another recent Navy housing project. In addition, a portion of the site was determined through geotechnical analysis to be unsuitable for construction.

2.1.1.3 East Slope Option

Housing construction on the hillside east of Wake Avenue was initially considered but rejected due to the steeply sloping topography of the site.



Source: Department of the Navy, NAS Whidbey Island Public Works GIS, 1997.
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Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Generalized Constraints for Navy Housing Seaplane Base NASWI

Figure 2.1-5

2.1.2 Alternative 1: Street-Accessed Alternative

The Street-Accessed Alternative is intended to be a conventional townhouse complex design, most similar to Saratoga Heights. Except for wheelchair accessible housing, all housing units are of a similar architectural style and design to create equitable housing, uniform street appearance, and a cost-effective project for all residents and the Navy. Most buildings would contain four housing units, along with a small number of six-plex buildings.

Pedestrians and vehicles would access all 200 housing units to be developed under this alternative from the streets. Meadow Drive would remain in its current alignment and continue to divide the Victory Homes site into north and south portions. As shown on Table 2.1-3, 16 buildings providing 72 dwelling units would be located on the northern portion of the site, while 32 buildings with 128 housing units would be south of Meadow Drive.

Housing on the northern part of the site would line both sides of Goldfinch Street and the south side of New Lark Street. Two four-plexes would also be located along the north side of Clover Street, which would no longer connect through to Oriole Street.

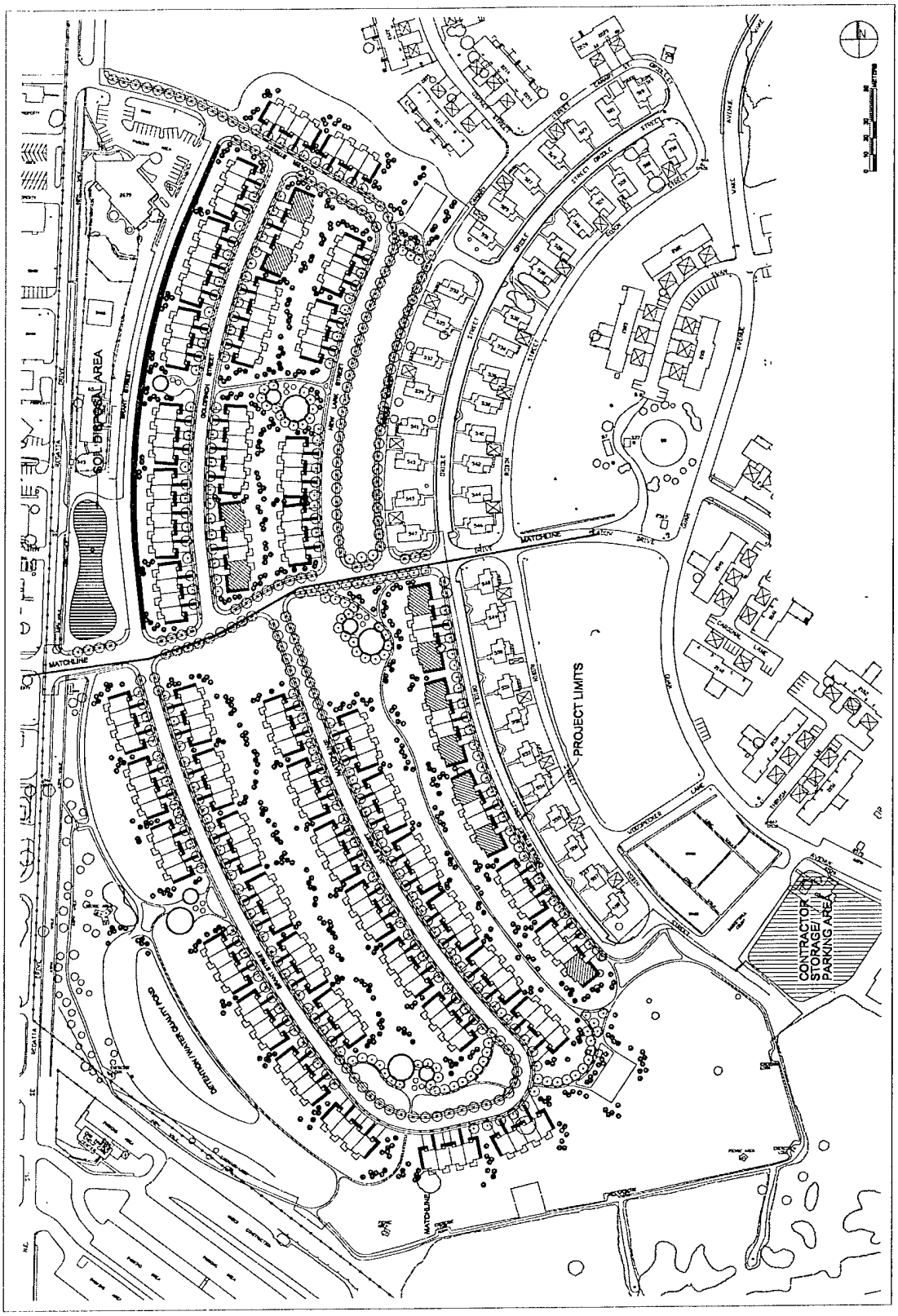
On the southern part of the site, the Street-Accessed Alternative would utilize much of the existing street layout except that the southern end of Brant Street would no longer serve housing units due to steep grades. New two-story homes, consisting mostly of four-plexes, would line both sides of both streets as well as the west side of Oriole Street.

Common amenities would include generous interconnected green belts, pedestrian trails, tot lots, basketball courts, and tree plantings. In the southwestern corner of the site, a detention/water quality pond and a generously landscaped earthen mound comprised of excess soil from excavation would provide a buffer between the housing and adjacent arterial street to the west. The general arrangement of this alternative is illustrated in Figure 2.1-6.

Table 2.1-3: Street-Accessed Alternative Housing Types.

South Portion			**North Portion**			**TOTAL**	
Units per Building	Buildings	Total Housing Units	Units per Building	Buildings	Total Housing Units	Buildings	Total Housing Units
3	0	0	3	0	0	0	0
4	32	128	4	12	48	44	176
6	0	0	6	4	24	4	24
Total	32	128	Total	16	72	48	200

Source: Wisbeck & Fraser Victory Homes Contract Specifications, 8/2/00



Source: Department of the Navy 2000
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Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Conceptual Site Plan
Street-Accessed Alternative

Figure 2.1-6

2.1.3 Alternative 2: Alley-Accessed Alternative

The Alley-Accessed Alternative incorporates attached garages that would be accessed from alleys rather than from the streets. Four rows of new split-level housing units would step down the hill. These homes would front the streets while the garages and driveways would back-up onto alleys. This design would contribute to better site circulation, as well as improved aesthetics. Because this alternative was considered by the Navy to have superior design attributes in comparison to Alternative 1, it is considered the Preferred Alternative for purposes of this EA. The general arrangement of this alternative is illustrated in Figure 2.1-7.

Under this alternative, Meadow Drive would continue to divide the Victory Homes site into north and south portions. The Alley-Accessed Alternative would be occupied with a total of 52 individual buildings with a variety of 3-, 4-, and 6-unit buildings each. The north half of the site would include 23 buildings comprised of a mix of building configurations while twenty-nine 4-plex units would occupy the southern half (see Table 2.1-4).

Table 2.1-4: Alley-Accessed Alternative Housing Types.

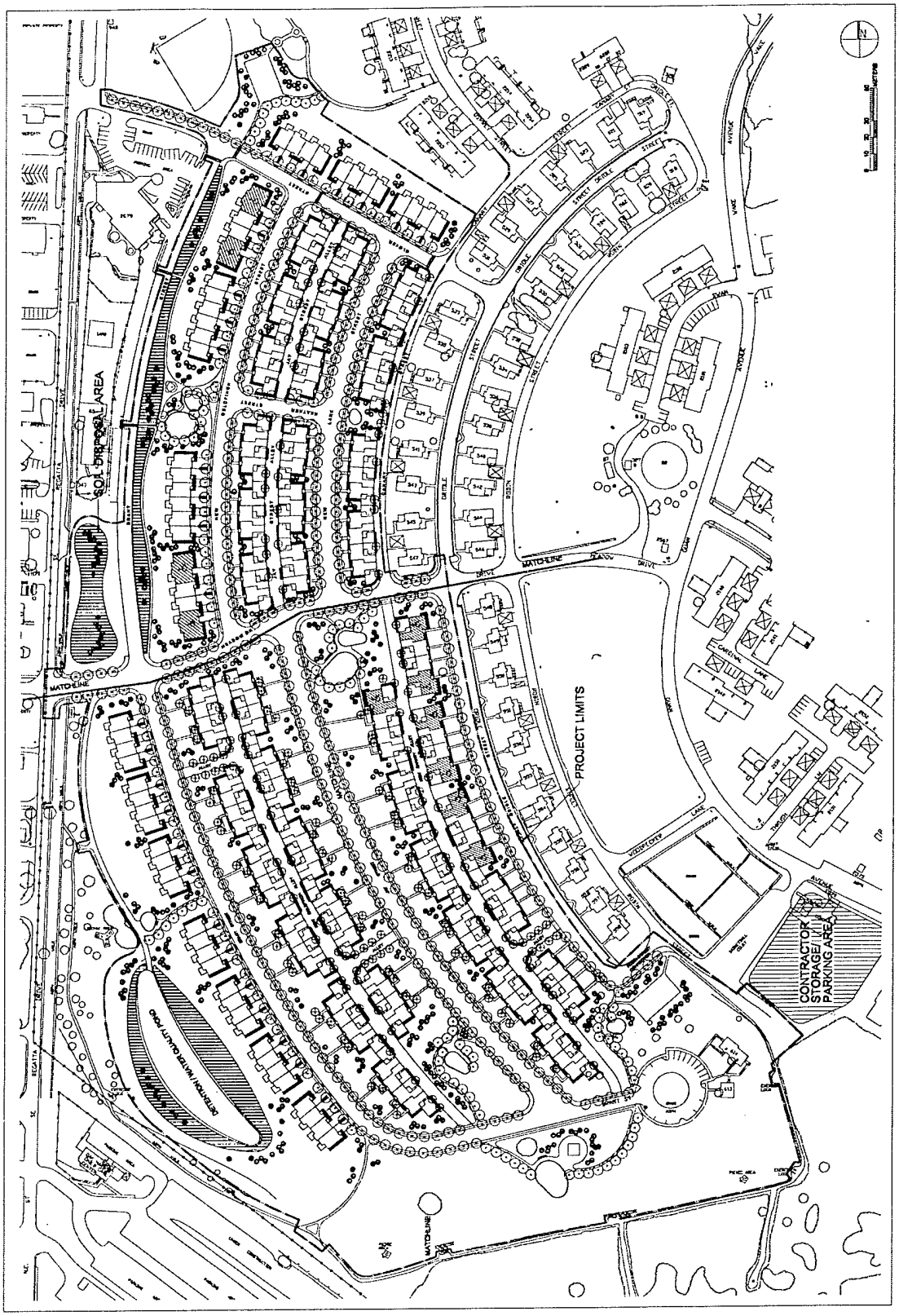
South Portion			North Portion			TOTAL	
Units per Building	Buildings	Total Housing Units	Units per Building	Buildings	Total Housing Units	Buildings	Total Housing Units
3	0	0	3	12	36	12	36
4	29	116	4	9	36	38	152
6	0	0	6	2	12	2	12
Total	29	116	Total	23	84	52	200

Source: Wisbeck & Fraser Victory Homes Contract Specifications, 8/2/00

In the north portion, the street configuration is generally "H" shaped, with Goldfinch and Lark Streets forming the two sides of the "H" connected in the middle by Heather Street.

Four rows of attached housing units front onto both sides of Goldfinch and Lark Streets. An additional three buildings, containing a total of 12 housing units, are located on the north side of Clover Street. An alley following the alignment of Jay Street provides access to garages and driveways of the homes between Goldfinch and Lark. This alley can be accessed from the two arterials serving the site, Meadow Drive and Clover Street, as well as by Heather Street. Garage access for houses on the east side of Lark Street would be provided by Canary Street, which would remain unchanged. Goldfinch Street would provide both auto and pedestrian access for homes on the west side of that street.

Under this alternative, most of the north portion of the site would be covered by development. Due to the relatively narrow blocks, setbacks would be limited to 20 feet (6.1 m) between the curb and the front of each of the alley-accessed buildings. Although providing less general open space than the Street-Accessed Alternative, the Alley-Accessed Alternative provides considerably more usable open space than the Victory



Source: Department of the Navy 2000
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Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Conceptual Site Plan
Alley-Accessed Alternative

Figure 2.1-7

Homes' existing configuration by creating small parks at either end of Heather Street and a basketball court on the north side of Clover Street. In addition, a relatively broad swath of open space 65 to 98 feet (20 to 30 m) in width with a pedestrian trail and natural landscaping along the west side of Brant Street would provide the site with a noise and visual buffer from non-residential land uses to the west.

The south portion of the site is generally defined by Regatta Drive on the west, Oriole and Robin Streets on the east, Meadow Drive on the north, and Brant Street on the south. It would consist of four rows of alley-accessed housing units and one row of street-accessed housing units with both garage and pedestrian access from Brant Street. A double row of alley-accessed housing units would be sited between Brant Street and Jay Street, along new Goldfinch Alley. Another double row of alley-accessed housing units would also be sited between Jay Street and Oriole Street, along a new Canary Alley.

Most of the grass slope south and west of Brant Street would be preserved as open space, although some of this area would be used for a detention basin.

2.2 NO ACTION ALTERNATIVE

As required by NEPA, the No Action Alternative is considered in this EA, against which the effects of the "action" alternatives can be evaluated. For the purpose of this EA, the No Action Alternative consists of retaining the existing housing units at Victory Homes, with no new housing constructed. The existing Victory Homes would continue to be occupied by low-ranking enlisted personnel and their dependants. The demographic profile of the occupants would not be expected to change significantly from the present since the limited accommodations are unsuitable for larger families and older children.

2.3 SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

2.3.1 Comparison of Proposed Action and No Action Alternative

The potential environmental effects and proposed mitigation measures are summarized below and in Table 2.3-1. The information presented in this section is based on the full analysis presented in Sections 3.0 and 4.0.

Table 2.3-1: Summary of Significant Environmental Effects and Mitigation Measures for the Proposed Action and the No Action Alternative.

AFFECTED ENVIRONMENT	PROPOSED ACTION		NO ACTION ALTERNATIVE
	Street-Accessed Alternative	Alley-Accessed Alternative	
Land Use			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects; however, housing does not meet current Navy housing standards.
Mitigation Measures	None required	None required	None required
Air Quality			
Environmental Effects	No significant adverse effects. Impacts limited to minor construction emissions and long-term increases related to occupancy increases.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Geology and Soils			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Water Quality/Runoff			
Environmental Effects	No significant adverse effects. New storm drainage facilities would improve water quality.	Same as Street-Accessed Alternative, except slight increase in impervious surface.	Lack of storm drainage facilities would remain.
Mitigation Measures	None required	None required	None required
Vegetation and Plants			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Wildlife, Habitat, and Wetlands			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Threatened and Endangered Species			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required

Table 2.3-1: Summary of Significant Environmental Effects and Mitigation Measures for the Proposed Action and the No Action Alternative.

AFFECTED ENVIRONMENT	PROPOSED ACTION		NO ACTION ALTERNATIVE
	Street-Accessed Alternative	Alley-Accessed Alternative	
Cultural Resources			
Environmental Effects	Demolition of the Victory Homes Historic District will have an adverse effect on cultural resources and may also disturb shallow archaeological resources, particularly in the area of possible use by hunter-fisher-gatherers.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	Site-specific measures to protect archaeological resources, as well as provide for documentation, interpretation, retention, and design review to protect historic resources (See Section 3.8.3)	Same as Street-Accessed Alternative (See Section 3.8.3)	None required
Recreation Resources			
Environmental Effects	No significant adverse effects. The Proposed Action is expected to result in overall improvements to recreation although Navy recreation design objectives are not fully met.	Same as Street-Accessed Alternative, except less available open space.	Existing on-site recreation limitations for such recreation facilities as tot lots, tennis courts, and play lots would remain.
Mitigation Measures	None required	None required	None required
Noise			
Environmental Effects	No significant adverse effects.	No significant adverse effects.	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Aesthetic/Visual Resources			
Environmental Effects	No significant adverse effects. More compatible building design and landscaping would generally improve aesthetics.	Same as Street-Accessed Alternative	Existing unfavorable aesthetic qualities would likely remain.
Mitigation Measures	None required	None required	None required
Transportation and Circulation			
Environmental Effects	Minor traffic increases not expected to result in significant adverse effects.	Same as Street-Accessed Alternative	Lack of sidewalks, frequent intersections, and minimal setbacks make walking difficult and unsafe.
Mitigation Measures	None required	None required	None required

Table 2.3-1: Summary of Significant Environmental Effects and Mitigation Measures for the Proposed Action and the No Action Alternative.

AFFECTED ENVIRONMENT	PROPOSED ACTION		NO ACTION ALTERNATIVE
	Street-Accessed Alternative	Alley-Accessed Alternative	
Public Services			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Utilities			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Socioeconomics			
Environmental Effects	No significant adverse effects. The Proposed Action would add approximately 312 additional Navy dependants.	Same as Street-Accessed Alternative	Continued use of the existing Victory Homes would not meet current Navy housing requirements for the needs of enlisted personnel (E1-E6) and their families, would not address safety concerns for pedestrians, would continue high maintenance costs, and not comply with ADAAG and UFAS.
Mitigation Measures	None required	None required	None required
School Capacity			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Public Health and Safety			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Children's Health and Safety			
Environmental Effects	No significant adverse effects.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required
Environmental Justice			
Environmental Effects	No significant adverse effects. Newer housing will improve conditions for Navy families from lower pay grades.	Same as Street-Accessed Alternative	No significant adverse effects.
Mitigation Measures	None required	None required	None required

2.3.2 Proposed Mitigation Measures

Below is a complete listing of the proposed mitigation measures identified in this EA for the Proposed Action. These mitigation measures are included as stipulations in a Memorandum of Agreement (MOA) between the Navy and SHPO (Appendix D).

Cultural Resources

1. **Archaeology** - In the case of the discovery of significant archaeological evidence of previous human occupation (including the discovery of human remains) during construction or any other activity, the Navy will follow these procedures:

   - Stop work in the area of discovery to maintain integrity of the archaeological deposits or human remains and protect discovery from potential damage. Any human remains should be left undisturbed to ensure consistency with NAGPRA.

   - Consult with the Swinomish Tribal Community, and Samish Tribe; the State Historic Preservation Officer (SHPO) at the Office of Archaeology and Historic Preservation (OAHP); and the Navy to determine appropriate treatment of archaeological deposits and/or human remains.

   - Notify the National Park Service, Department Consulting Archaeologist (DCA) at (907) 257-2436. The DCA will, in most situations, arrange for a local professional archaeologist to visit the site, usually within 48 hours of notification, to make a determination of whether the discovered material is significant.

   - If the DCA's representative determines that the discovery has no significant archaeological value (i.e., it is not likely to yield information important in prehistory or history), the SHPO must be notified in writing and given 30 days to comment. Upon receipt of SHPO concurrence, work in the area may proceed.

   - If the DCA's representative determines that the discovered archaeological resource is significant (i.e., it is likely to yield information important in prehistory or history of the area), the DCA will consult with the Navy and the SHPO to determine appropriate treatment for the discovered resources.

   - Prior to beginning the data recovery work, notify the SHPO of the discovery, its significance, and planned data recovery work and allow the SHPO 30 days to comment. The SHPO should also be involved in the discussions with the DCA. Upon completion of data recovery

work, the Navy or other owner should provide the Advisory Council on Historic Preservation (ACHP) with a report on the work.

2. **Documentation** - The Navy shall document the design of each unit type to be demolished and provide the site plans for the demolition area to Historic American Buildings Survey (HABS) Level II standards. This shall include recording photographs of the exteriors of the representative building types, including at least one single-family home, one duplex, and one multi-unit row house present at the Victory Homes. Further details on the types of photographic materials and their distribution is included in the MOA (Appendix D).

3. **Interpretation** - The Navy shall prepare and install a permanently mounted interpretive display panel in an appropriate, publicly accessible location associated with the retained Buildings #613 and #614 on the Victory Homes site. The interpretive display shall contain brief text descriptions and graphical images describing the historic and architectural significance of the Victory Homes Historic District and its role in the history of the Seaplane Base, with particular emphasis on the period of historical significance. The OAHP shall assist in determining the scope of work for the development of the interpretive display and shall approve the final plans.

   The Navy shall also prepare a multi-media presentation depicting the history and construction of Victory Homes. The presentation shall be provided to the SHPO and be retained by the Navy. Multi-media shall include video and CD-ROM for distribution to interested parties and for website display. This product will be provided to OAHP and retained by the Navy, as well as being made available to local schools, libraries, and historic organizations.

4. **Retention** - The Navy shall retain one duplex (Building #614) and one single-family unit (Building #613) which are to be rehabilitated consistent with the Secretary of Interior Standards for Historic Buildings and approved by the OAHP. The Navy shall make every reasonable effort to accomplish the rehabilitation of the retained units within three years of construction start. The Navy shall maintain the units to avoid deterioration as discussed in the Integrated Cultural Resources Management Plan (ICRMP) and in accordance with the Historic Structures Preservation Manual (Department of the Navy 1991).

5. **Design Review** - The selected proposal was provided to the OAHP for review and comment. Based on that review that concluded on December 18, 2000, the Navy has agreed to the following changes: (a) delete proposed decorative shutters, (b) replace proposed hexagonal attic vents

with rectangular vents, (c) replace proposed small pane window inserts with plain windows, (d) apply siding on porch and roof columns in a vertical manner, (e) retain the overall gradual sloping character of the existing site with no use of decorative berms, (f) use muted colors on vinyl siding and trim, (g) metal door selection shall be approved by OAHP, and (h) only one accessible unit shall have a slanted entry. The OAHP shall review the final plans for design elements identified above.

There are no identified significant impacts to other resource areas; therefore, no other mitigation measures are proposed or necessary for land use; air quality; geology and soils; water quality/runoff; vegetation/plants; wildlife, habitat, and wetlands; threatened and endangered species; recreation resources; noise; aesthetic/visual resources; transportation and circulation; public services; utilities; socioeconomics; school capacity; public health and safety; children's health and safety; or environmental justice.

2.4 FONSI OR EIS RECOMMENDATION

Based on the analysis presented in Chapter 3.0, the Department of the Navy's Proposed Action is not expected to result in significant impacts to the environment, provided appropriate mitigation measures are implemented. Therefore, assuming mitigation measures specified in this EA are implemented by the Navy prior to development and during construction and operation, a Finding of No Significant Impact (FONSI) is recommended. The preparation of an Environmental Impact Statement (EIS) is not recommended or warranted because all impacts of the Proposed Action will be mitigated below a level of significance.

3.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

Chapter 3.0 discusses the affected environment, environmental consequences, and mitigation measures for effects associated with alternatives under consideration in this EA, by resource area. Potential effects were analyzed for the Proposed Action consisting of demolition of 196 units of housing and associated infrastructure and construction and operation of 200 units of replacement housing and associated infrastructure on the same site within the Seaplane Base, NASWI. A No Action Alternative consisting of continued use of the existing Victory Homes with no new construction is also addressed.

The discussion of *affected environment* presents the relevant conditions on and in the vicinity (general area affected by the Proposed Action, both on and off of the Seaplane Base) of the Victory Homes site at the time this analysis was prepared or available data were reported. The discussion on *environmental consequences* is comprised of an analysis of how each relevant element of the environment would be affected by each of the alternatives. For some issues, this discussion also includes recommended measures to avoid adverse impacts. In cases where the Proposed Action has been determined to cause adverse impacts, *mitigation measures* are presented. These are methods to be taken by the Navy or the project developer to lessen the severity or compensate for these impacts. Mitigation measures are included in sections of this document where impacts warrant.

Two separate alternatives comprise the Proposed Action (see Chapter 2.0). The alternatives differ from one another in terms of design, but both would include the same amount of demolition and reconstruction and would provide housing for the same number of occupants. As a result, impacts of the two alternatives are analyzed separately only for resources topics which are design-dependant and thus impacted differently by the two alternatives. These include the following:

- Water Quality/Runoff
- Cultural Resources
- Recreation Resources
- Aesthetic/Visual Resources
- Transportation and Circulation
- Public Services
- Children's Health and Safety

For other issues, the impacts are dependant upon the overall number of units and are expected to be the same for both alternatives; thus, the environmental analysis addresses both alternatives together for the following resources topics:

- Land Use
- Air Quality
- Geology and Soils
- Vegetation/Plants

- Wildlife, Habitat, and Wetlands
- Threatened and Endangered Species
- Noise
- Utilities
- Socioeconomics
- School Capacity
- Public Health and Safety
- Environmental Justice

3.1 Land Use

This section addresses compatibility of the proposed housing with local land use patterns and consistency with applicable land use plans and regulations.

3.1.1 Affected Environment

The Victory Homes site is a neighborhood of small residential cottages, duplexes, and row houses located on Eerkes Hill within the boundaries of Naval Air Station Whidbey Island in Township 32N, Range 2E, Section 4 within Island County, as shown on Figure 2.1-2. The Victory Homes have been inhabited by Navy personnel and their families since the houses were constructed for the Navy on former farmland during World War II.

The Victory Homes site is convenient to many parts of the Seaplane Base, especially the area used during World War II for seaplane operations on the isthmus between Eerkes Hill and Maylor Point. The Victory Homes are also convenient to downtown Oak Harbor, as well as several public schools, Skagit Valley College, and the local public library.

The Victory Homes comprise a district that may be eligible for listing on the National Register of Historic Places. Built in 1942, this neighborhood of modest single-story dwellings retains much of its World War II character, illustrating the emergency military housing program at the outset of the war. The buildings themselves (#571-656) and their physical arrangement on the site represent a particular style and type of structure that convey their specific time and culture. Issues of historic significance are discussed further in Section 3.8 of this document.

3.1.1.1 Navy Land Use

The Seaplane Base serves as a support installation for NASWI. The Seaplane Base totals 2,795 acres (1,131 ha) of which 1,750 acres (708 ha) are undeveloped including forest or acreage leased for agriculture. Most of this land is constrained from development by natural conditions or operational restrictions. Development on the Seaplane Base consists mostly of housing, Naval support services, ordnance storage, and training areas. Naval development is concentrated in four locations: Crescent Harbor housing located north of the central portion of Crescent Harbor; Capehart Officer housing on the Maylor and Forbes Point peninsula; the Naval Exchange/Commissary complex on the isthmus between Oak and Crescent Harbors; and 4 other housing developments (Saratoga Heights, Rockhill Terrace, Oriole Street Housing, and the project site, Victory Homes), directly to the north of the isthmus. The Navy's wastewater treatment lagoon is located in a marshy area northwest of Crescent Harbor. The Base's 10.1 miles (16.3 km) of shoreline extend from the east side of Polnell Point along the entire length of Crescent Harbor to Oak Harbor. These sites are shown in Section 2.1 (Figure 2.1-2).

The Navy operates two facilities directly west of the project site: the Child Development Center located in Building 2679 near the intersection of Regatta Drive and Clover Street, and the Youth Activities in Building 65, next door.

The Child Development Center cares for children from Navy families, age 8 weeks up to entering kindergarten during weekdays from 6:30 a.m. to 5:30 p.m. (Source: MWR website). The Youth Center offers recreational after-school activities for children in grades 1-8 and trips and events for those in grades 1-12, as well as summer day camps and overnight lock-ins (supervised parties) (Source: MWR website).

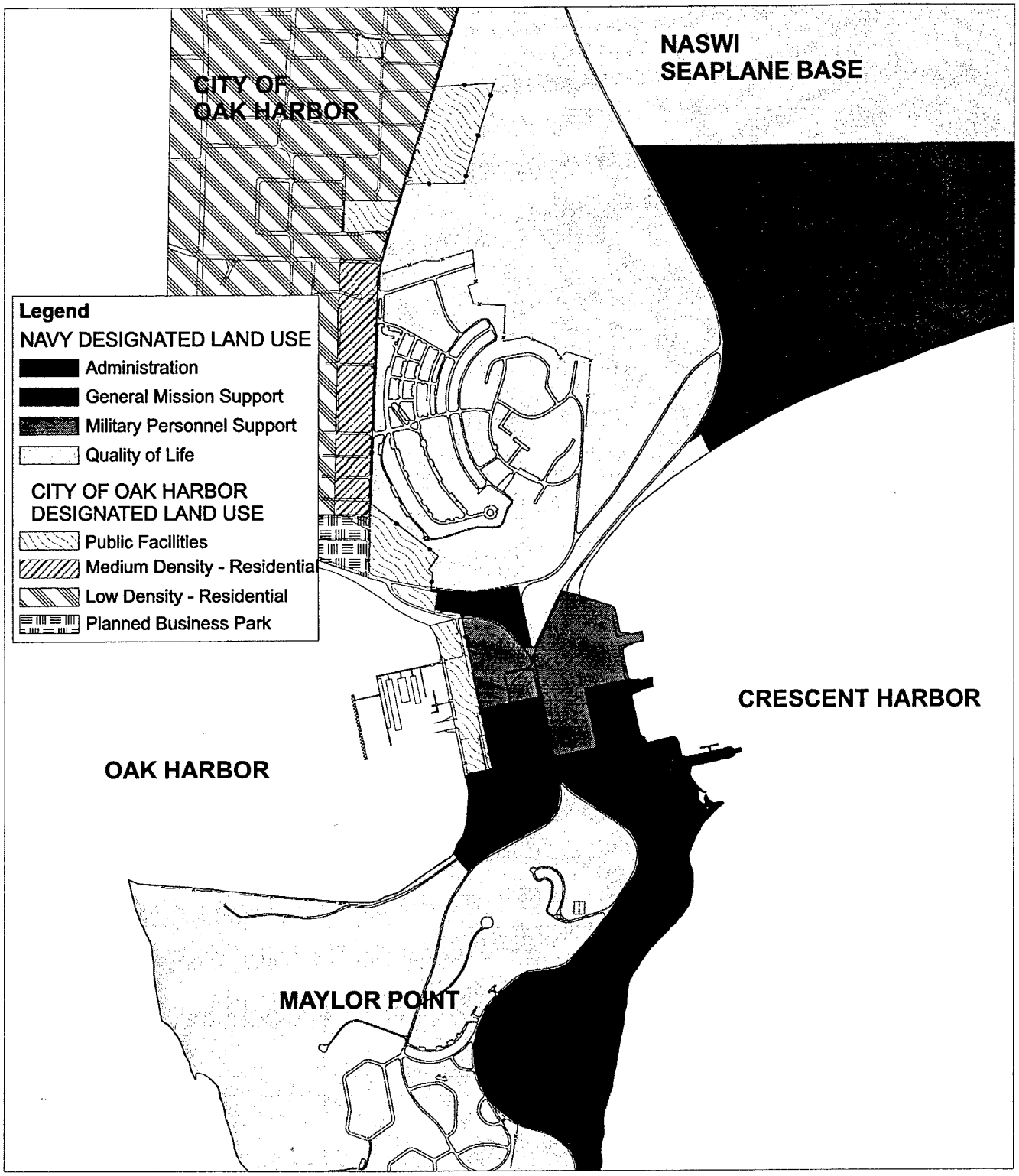
For the last decade, planning and development at NASWI have been guided by the 1988 NASWI Master Plan Update (Department of the Navy 1988). The Master Plan Update designated land use in the immediate vicinity of the project site as Quarters (QT).

Beginning in 1999, proposed land use at NASWI must be consistent with the Regional Shore Infrastructure Plan (RSIP) (Department of the Navy 1999). RSIP is a new regional planning effort applicable to all regional Naval shore facilities under the command of the Commander, Navy Region Northwest. RSIP is intended to identify appropriate land uses at each installation on a region-wide basis. RSIP recommendations will eventually be incorporated into each base master plan in the Puget Sound Region. The RSIP designates the project site as Quality of Life, as presented in Figure 3.1-1. This includes functions that provide community support services primarily to military families and personnel, including housing, recreation, and other personnel support functions. These functions indirectly support the operational mission, yet have flexibility in siting and no proximity requirements to mission and direct mission support functions (Department of the Navy 1999).

3.1.1.2 City of Oak Harbor Land Use

The City of Oak Harbor's jurisdictional boundaries include the Seaplane Base which is zoned R-2; however, the City does not generally have land use authority over federal property. Nevertheless, a working relationship exists between the City of Oak Harbor and the Navy to achieve land use compatibility.

The closest civilian land use near Victory Homes is the Harbor View neighborhood, located on the far side of Regatta Drive from the Victory Homes, approximately 100 feet (30 m) or more to the west. The eastern edge of this predominantly residential neighborhood fronting on Regatta Drive is designated Medium Density Residential by the City's Comprehensive Plan. The underlying zoning for this area is Limited Multiple Family Residential (R-2). This zone permits single-family, duplex, triplex, and four-plex housing and planned unit developments at densities up to 9 dwelling units (du) per acre. Immediately west of this zone lies land zoned Single Family with individual residences at densities up to 6 dwelling units per acre, plus a number of conditional uses. The City of Oak Harbor Comprehensive Plan (City of Oak Harbor 1998) designates this area Low Density Residential.



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Scale: 1"=1,500'

Source: Department of the Navy 1999

Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Designated Land Use

Figure 3.1-1

Other nearby civilian neighbors include the Toddler Learning Center, a private non-profit program for special needs of children located southeast of the project site in an area designated by the City of Oak Harbor Comprehensive Plan as Public Facilities, as well as the Skagit Valley College and Sno-Isle/Oak Harbor Public Library.

3.1.2 Environmental Consequences

The following sections describe the potential effects of the Proposed Action and No Action alternatives on land use. As the two Proposed Action alternatives include the same number of units and occur on the same site, environmental consequences are not analyzed separately. The distinction between short-term and long-term does not apply to land use impacts.

3.1.2.1 Proposed Action

Family housing at this location would be consistent with the 1988 NASWI Master Plan Update's QT designation. This land use would also be consistent with the 1999 RSIP's Quality of Life classification; thus, the Proposed Action complies with the both the 1988 NASWI Master Plan Update and RSIP land use designation (Department of the Navy 1988, 1999). In addition, the low density multi-family housing proposed for the site (approximately 5 dwelling units per acre) would be consistent with adjacent civilian land uses, which consist of housing at similar densities and other compatible uses.

3.1.2.2 No Action Alternative

The No Action Alternative would not alter land use. Under the No Action Alternative, the Navy would continue to use the site as family housing, consistent with Navy planning and adjacent land uses. Continued use of the existing Victory Homes would not comply, however, with current Navy regulations, as discussed in Section 3.15 (Socioeconomics).

3.1.3 Mitigation Measures

As no land use impacts are anticipated, no mitigation measures are required.

3.2 Air Quality

3.2.1 Affected Environment

The Whidbey Island air basin is considered to be an air quality attainment area and is regulated by the U.S. Environmental Protection Agency (EPA), Washington Department of Ecology (WDOE), and the Northwest Air Pollution Authority (NWAPA). NWAPA is the local air pollution control agency serving Island, Skagit, and Whatcom counties. The EPA has established National Ambient Air Quality Standards (NAAQS) to protect the health and welfare of the public. WDOE and NWAPA have established standards which, for the most part, parallel the NAAQS, except for more stringent sulfur dioxide ambient air quality standards (Table 3.2-1).

Table 3.2-1: Ambient Air Quality Standards.

POLLUTANT	NATIONAL Primary	NATIONAL Secondary	WASHINGTON STATE	NWAPA
Carbon Monoxide (CO)				
8-Hour Average 1-Hour Average	9 ppm 35 ppm	None	9 ppm 35 ppm	9 ppm 35 ppm
Particulate Matter (PM_{10})				
Annual Arithmetic Average 24-Hour Average	50 $\mu g/m^3$ 150 $\mu g/m^3$	50 $\mu g/m^3$ 150 $\mu g/m^3$	50 $\mu g/m^3$ 150 $\mu g/m^3$	50 $\mu g/m^3$ 150 $\mu g/m^3$
Particulate Matter ($PM_{2.5}$)				
Annual Arithmetic Average 24-Hour Average	15 $\mu g/m^3$ 65 $\mu g/m^3$	15 $\mu g/m^3$ 65 $\mu g/m^3$	--	--
Ozone (O_3)				
1-Hour Average	0.12 ppm	0.12 ppm	0.12 ppm	0.12 ppm
8-Hour Average	0.08 ppm	0.12 ppm	--	--
Sulfur Dioxide (SO_2)				
Annual Average 24-Hour Average 3-Hour Average 1-Hour Average[b] 1 Hour Average 5-Minute Average[c]	0.03 ppm 0.14 ppm	0.50 ppm	0.02 ppm 0.10 ppm 0.25 ppm 0.40 ppm	0.02 ppm 0.10 ppm[a] 0.25 ppm 0.40 ppm 0.80 ppm
Lead (Pb)				
Calendar Quarter Average	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$
Nitrogen Dioxide (NO_2)				
Annual Average	0.05 ppm	0.05 ppm	0.05 ppm	0.05 ppm

ppm = parts per million (volumetric)
$\mu g/m^3$ = micrograms per cubic meter

a Sulfur dioxide short-term standard never to be exceeded.
b Not to be exceeded more than twice in 7 days.
c Not to be exceeded more than once in 8 hours.

Source: 40 CFR 50 (Federal); WAC 173-475 (State); NWAPA Regulations, Section 400 (local)

Monitoring of ambient air quality on Whidbey Island is limited because of the good air quality. NWAPA operated a total suspended particulates (TSP) monitoring station in the City of Oak Harbor, but it was discontinued after documenting several years of low TSP levels. The other NWAPA air quality monitoring network is associated with an industrial complex near Anacortes. Carbon monoxide (CO), oxides of nitrogen (NO_x), and ozone (O_3) are not measured on Whidbey Island. However, due to the low levels of pollutants emitted locally, emissions of these criteria pollutants are generally not considered to be a problem in the Oak Harbor area, and future changes in the air quality attainment status of the Whidbey Island air basin are not anticipated (Department of the Navy 1999). NASWI is the only major source of emissions in the Oak Harbor area. In 1997, NASWI emissions included the following levels of criteria pollutants:

- 67 tons (60,782 kg) of volatile organic compounds (VOCs),
- 34 tons (30,845 kg) of particulate matter (PM_{10}),
- 30 tons (27,216 kg) of NO_x,
- 8 tons (7,258 kg) of sulfur dioxides (SO_x), and
- 31 tons (28,123 kg) of CO.

3.2.2 Environmental Consequences

The short-term and long-term environmental consequences of the Proposed Action and No Action Alternative on air quality are discussed separately in the following sections. As construction and operation would occur on the same site for the two Proposed Action alternatives, impacts are not evaluated separately.

3.2.2.1 Proposed Action

Air quality impacts resulting from the Proposed Action would primarily result from short-term emissions associated with construction activity. Since the Proposed Action would not substantially alter the number of residential housing units, no significant change in residential emissions (from natural gas heating and appliances) is anticipated. Navy regulations prohibit fireplaces and wood stoves, both of which are major sources of stationary emissions (NAVFAC INST.11101.85H). Automobile trips are expected to increase (see Section 3.12), resulting in minor additional mobile source emissions.

Short-Term Impacts

Short-term air quality impacts would occur during construction activities associated with the Proposed Action. Emissions produced during construction would vary daily depending on the type and duration of construction activity. The basic construction activities associated with the Proposed Action would be demolition, site preparation, utility installation, and building construction. At this time, the specific types of equipment to be used for construction have not been identified. However, construction activities would normally involve the use of bulldozers, scrapers, backhoes, and trucks during demolition, as well as concrete mixers, backhoes, and trucks during building and utility replacement.

The operation of heavy equipment and construction worker commute trips during removal of the existing facilities and construction of the proposed residential housing facilities would generate vehicle exhaust emissions, primarily VOCs, NO_x, and CO. The application of architectural coatings and asphalt paving materials would also result in minor emissions of VOCs. Demolition and construction activities would also generate locally elevated levels of particulate matter in the form of fugitive dust. These amounts may be higher during peak demolition activities. However, such activities would be temporary and are not expected to significantly affect air quality with implementation of the Navy's development requirements (listed below).

The estimated emissions of air pollutants associated with demolition and construction activities are presented in Table 3.2-2. This table shows that short-term demolition and construction-generated emissions would be well below the significance levels used for this analysis. Coupled with implementation of the proposed development requirements, these emissions are not anticipated to significantly affect air quality.

Table 3.2-2: Short-term Construction Emissions.

	Estimated Annual Emissions (tons/year)			
Sources	**VOC**	**NO_x**	**PM_{10}**	**CO**
On-site Equipment	0.7	10.8	0.8	6.6
Off-site Mobile Sources	0.8	1.4	neg	7.8
Fugitive Dust	-	-	0.7	-
Architectural & Asphalt Coatings	6.5	-	-	-
Total Emissions	**8.0**	**12.2**	**1.5**	**14.4**
Significance Levels	100	100	100	100

Based on construction of 200 units; 41 developed acres. Assumes that site preparation and building construction activities could occur simultaneously. Based on the following assumptions:

On-site equipment: *1 off-highway truck, 1 tracked loader, 1 scraper, 1 dozer, 1 backhoe, and 1 grader operating 6 hours per day (EPA 1971).*

Off-site Mobile Sources: *Based on an estimated 250-day annual construction period. Assumes 200 daily employee trips and 20 heavy duty truck trips with average trip lengths of 10 miles each.*

Fugitive Dust: *Based on estimated project site developed acreage.*

Architectural & Asphalt Coatings: *Based on total number of proposed units, assumes 7.3 acres paved/site.* (ROC, Paranjpye, 2000)

Source: Provided by EDAW, Inc. 2000

Although the Proposed Action would disturb existing building materials containing asbestos and lead, demolition contractors are required to comply with all federal, state, and local codes and regulations intended to limit these materials from becoming airborne. The project specifications require engineering controls designed to limit the quantity of airborne asbestos fibers and lead dust to safe levels. As a result, airborne hazardous materials from implementation of the Proposed Action are not expected to create a health hazard (Wisbeck and Frazer, 2000, Project Specifications, Hazardous Waste Remediation, Section 2.4 G1040).

Long-Term Impacts

Long-term air quality impacts would be generated by both stationary and mobile sources, as described below for both regional and local impacts.

Stationary Source Emissions – Stationary source emissions refer to emissions generated by heating and cooling systems. In comparison to existing conditions, the Proposed Action would not significantly increase the number of residential units (i.e., 198 vs. 200). However, the proposed residential dwellings to be developed would be larger in size and, consequently, may result in a minor increase of stationary source emissions associated with electricity and natural gas consumption. Navy Family Housing Project Standards and energy conservation measures required by Executive Order 13123 include sustainable design principles and energy efficiency requirements for all building system components and appliances. Thus, technology improvements in heating/cooling systems and federal requirements for energy conservation are expected to result in increased energy efficiency, offsetting minor increases in stationary source emissions associated with servicing the larger residential structures. Emissions generated by stationary sources would have a less-than-significant impact on regional air quality.

Mobile Source Emissions - Mobile source emissions refer to emissions generated primarily by motor vehicle use, including tailpipe and evaporative emissions. Depending upon the pollutant of concern, the potential air quality impacts associated with mobile source emissions may be of either regional or local concern. For example, NO_x and VOCs are typically considered pollutants of regional concern. NO_x and VOCs react with sunlight to form ozone or photochemical smog. However, CO tends to be a localized pollutant and disperses rapidly at the source.

Regional Air Quality Impacts - Regional emissions generated by the Proposed Action were assessed using emission factors obtained from the EPA-approved MOBILE5b model. The assumptions used to calculate regional mobile source emissions are presented in Appendix B and summarized in Table 3.2-3. Based on an estimated increase of approximately 1,030 trips per day and assuming an average trip length of approximately 13 miles (21 km) (Department of the Navy 1999), development

Table 3.2-3: Increased Long-term Operational Emissions.

	Annual Emissions [1] (tons/year)		
SOURCE[1]	**VOC**	**NO_x**	**CO**
Mobile Sources	3.7	6.3	35.2
Significance Levels	100	100	100

[1] Mobile source emissions are based on MOBILE5B emission factors and the trip generation rates obtained from the traffic analysis prepared for this project. Assumes an average of 45 mph/trip and an average trip length of 13 miles. Average daily traffic generation assumes 10x peak hour trips.

Source: Provided by EDAW, Inc. 2000

of the Proposed Action would generate additional emissions of approximately 4 tons (3.7 metric tons) per year of VOC and 6 tons (5.4 metric tons) per year of NO_x. Because the region is currently designated a federal attainment area for ozone, projected increases in regional emissions of VOC and NO_x generated by mobile sources would have a less-than-significant impact on regional air quality.

Local Air Quality Impacts - As previously mentioned, the primary mobile source pollutant of local concern is CO. Localized CO concentrations are a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to a congested roadway or intersection may reach unhealthy levels, affecting nearby sensitive receptors (e.g., residents, school children, hospital patients, the elderly, etc.). Typically, areas of high CO concentrations, or "hot spots," are associated with roadway intersections that are located within an area of high ambient background CO concentration and operating at unacceptable levels of service (Level of Service [LOS] E or worse).

As presented in Section 3.12 of this EA, implementation of the Proposed Action would not reduce the level of service at affected roadway intersections. Due to the relatively low background CO concentrations expected in the project area, the rapid dissipation of gases in the air, as well as the distance to the nearest sensitive receptors, the potential impacts associated with localized concentrations of CO would be considered less than significant.

In addition, implementation of the practices listed below would further reduce short-term air quality impacts associated with the Proposed Action.

Construction activities associated with the Proposed Action will comply with NWAPA Regulations, Section 550, Preventing Particulate Matter From Becoming Airborne. The following actions have been developed in consultation with the NWAPA for the control of fugitive dust generated during construction (NWAPA 1998; Department of the Navy 1999):

- During all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities, fugitive dust emissions will be effectively controlled by watering or soaking;

- All disturbed areas, including storage piles, that are not being actively utilized for construction purposes will be effectively stabilized of dust emissions by applying water, chemical stabilizers/suppressant, or vegetative ground cover;

- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles will be effectively stabilized of fugitive dust emissions by utilizing sufficient water or chemical stabilizer/suppressant;

- Traffic speed on any unpaved areas and roadways will be limited to 15 mph (24 km/hr);
- Vegetation will be replanted in disturbed areas as quickly as possible;
- When materials are transported off site, all material will be covered or effectively wetted to limit visible dust emissions; or sufficient freeboard space from the top of the bed will be provided to effectively limit dust emissions during transport (typically, 1 foot (0.3 m) of freeboard space is sufficient for controlling dust emissions);
- Ground-disturbing activities will be suspended during high wind conditions (25 mph [40 km/hr] or greater); and
- All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent roadways by appropriate means as noted below. The accumulation of mud and dirt on roadways can be limited by paving or surfacing exit aprons with quarry spalls (i.e., riprap) and by brushing or washing of wheels, wheel wells, running boards, and tailgates prior to exiting. Adjacent roadways can be sprayed with water and/or swept as needed for the removal of mud and dirt (the use of dry rotary brushes for the removal of material from adjacent roadways is not recommended except where preceded or accompanied by sufficient wetting to limit the visible dust emissions; use of blower devices is also not recommended).

The application of any cutback asphalt paving material during construction of any roadway or parking areas associated with the Proposed Action will comply with NWAPA Regulations, Section 580.7, Cutback Asphalt Paving. NWAPA defines cutback asphalt as "an asphalt that has been blended with more than seven percent petroleum distillates by weight" and limits the application of cutback asphalt as follows:

> Application of cutback asphalt in paving is prohibited during the months of June, July, August, and September, except when: (1) used as a penetrating prime coat on aggregate bases prior to paving, (2) the manufacture of patching mixes used exclusively for pavement maintenance and needed to be stockpiled for times longer than one month, and (3) the temperature during application is below 50° Fahrenheit (10°C) (NWAPA 1998).

3.2.2.2 No Action Alternative

Under the No Action Alternative, the existing residential housing units would be retained. This would result in no short-term air quality impacts since demolition or construction activities would not occur and no change in long-term air quality impacts over existing levels. However, these houses are inefficient to heat by current standards and thus generate unnecessary levels of emissions. Impacts resulting from vehicle emissions would remain at current levels.

3.2.3 Mitigation Measures

As no significant air quality impacts are anticipated, no mitigation measures are required or proposed.

3.3 Geology and Soils

3.3.1 Affected Environment

3.3.1.1 Geology

The Victory Homes site is located in the Puget Sound lowland section of the Puget-Willamette lowland physiographic province (Newcomb 1952). The surface geology of Whidbey Island is the result of glacial activity. It consists of Quaternary age deposits formed during the Vashon Period of the Fraser Glaciation that occurred about 20,000 years ago.

3.3.1.2 Soils

The soils on Whidbey Island, which were formed from weathering of glacial materials, are located on glacial moraines, terraces, and terrace escarpments. Twenty-three soil mapping units, comprising 14 soil series, occur at the Seaplane Base (Department of the Navy 2000a). Native soils in the area of the Proposed Action have predominantly been classified as a glacial upland soil type designated the Whidbey gravelly sandy loam, 5 to 15 percent slopes (USDA 1958). This soil series is one of the dominant soil types present on Whidbey Island. Soils in this series have been developed from a cemented gravelly till derived largely from granite, quartzite, schist, basalt, slate, and sandstone. The texture of the surface soil layer and subsoil varies from fine- to coarse-grained. Natural drainage is typically good for the soil; however, the underlying cemented gravel till (hardpan) can be poorly drained. During the rainy season, portions of the subsoil directly above the hardpan can remain saturated for long periods as moisture penetrates the hardpan very slowly. The Whidbey gravelly sandy loam typically ranges in natural thickness from 20 to 48 inches (0.51 to 1.2 m). In contrast, the soil depth over the hardpan is shallower in areas west of Oak Harbor (USDA 1958). As described later in this section, the Proposed Action development areas have previously been cleared, filled, and graded. As a result, little native soil remains over the glacial till.

A study conducted by GeoEngineers (2000) included excavation of test pits to depths ranging from 4.9 to 14.4 feet (1.5 to 4.4 m) at the Proposed Action site. The purpose of the study was to evaluate subsurface soil and groundwater conditions and provide geotechnical recommendations for development. In total, 12 test pits were excavated in the northern half of the Victory Homes site. All test pits encountered approximately 3 to 6 inches (8 to 15 cm) of sod and root mass, which was underlain by approximately 2.6 to 4.6 feet (0.8 to 1.4 m) of fill consisting of medium dense silty sand and sand. Dense to very dense silty sand with gravel (glacial till) was encountered in all of the test pits at depths ranging from 3.0 to 5.6 feet (0.9 to 1.7 m) below the ground surface. Small amounts of groundwater seepage were observed in several of the test pits. Although test

pits were not excavated in the southern half of the Victory Homes site, it is anticipated that soil conditions are similar to those encountered in the northern half.

3.3.1.3 Topography

The Victory Homes site is located on Eerkes Hill. Elevations range from approximately 180 feet (55 meters) above mean sea level (msl) to approximately 100 feet (30.5 m) msl. The Victory Homes housing site is currently developed with residential housing and streets. The area generally slopes gently to the west and southwest with a 9 to 10 percent slope.

3.3.1.4 Seismic

The Victory Homes site lies within the Seismic Zone 3 as defined in the Uniform Building Code (ICBO 1997). Zone 3 includes the Puget Sound region and represents an area susceptible to moderately high seismic activity. Since the 1850s, over 25 earthquakes of Magnitude 5.0 (Richter Scale) or greater have occurred in the Puget Sound and north-central Cascades region. Four events may have exceeded Magnitude 6.0. Geologic and geophysical evidence also indicates that large subduction zone earthquakes (Magnitude 8 to 9) can occur along the Washington coast. The paleoseismic record suggests five or six subduction zone events have occurred over the last 3,500 years (Atwater 1987). Tree ring data and Japanese historical records put the latest subduction zone earthquake in 1700 (Yamaguchi et al. 1997).

3.3.2 Environmental Consequences

The following sections discuss potential construction and operation impacts to geology and soils associated with the Street-Accessed Alternative, the Alley-Accessed Alternative, and No Action Alternative.

3.3.2.1 Proposed Action

Construction Impacts

As described in Section 2.0 (Proposed Actions and Alternatives), the Proposed Action includes demolition of all but two of the existing buildings in the Victory Homes housing area, site preparation, and construction of 200 new housing units. Demolition would include buildings, streets, landscaping, utilities, and other supporting infrastructure. Two construction alternatives have been proposed—the Street-Accessed Alternative and the Alley-Accessed Alternative. Construction impacts to geology and soil from both alternatives are expected to be similar and minimal since the native topsoil has previously been removed, fill has been placed, and the sites have been graded.

The on-site soils are moisture sensitive and could be difficult to work during extended periods of wet weather (GeoEngineers 2000). Excavations for footing and utility installations could be required. The exposed soils could result in increased potential for erosion and sedimentation. On-site use and maintenance of construction equipment, storage and use of chemical products, and on-site wastes generated by construction activities could produce pollutants that could impact soils, including petrochemicals (e.g., oils, gasoline, and degreasers), concrete products, sealers, and paints.

There would not be any significant difference in the environmental impacts from construction of either alternative on the soils and geology of the project site. The Victory Homes site was leveled, graded, and filled in the original development of this area in 1942 and 1944. The actions required to construct either the Street-Accessed or the Alley-Accessed Alternative are unlikely to further impact the soils and geology of this site.

Operations Impacts

Site re-development, particularly for the Alley-Accessed Alternative, is likely to result in an increase of impervious surfaces including rooftops, walkways, patios, and driveways. Impervious surfaces generate larger amounts of runoff and higher peak flows relative to pervious surfaces because they reduce infiltration potentials, which could result in increased potential for soil erosion and sedimentation.

By implementing the appropriate requirements, there should be no adverse impacts on geology and soils from construction and operation of the Proposed Action. During construction, soil erosion and sediment runoff are not likely to result in significant adverse impacts when federal, state, and local requirements for erosion and stormwater control are implemented by the site developer. These include development and implementation of an Erosion and Sediment Control Plan (ESCP). The ESCP would be prepared consistent with the requirements of the Washington Department of Ecology's (WDOE) Stormwater Management Manual for the Puget Sound Basin (WDOE 1992), Island County, and other applicable jurisdictions. Best Management Practices (BMPs) would be utilized to minimize erosion and sedimentation, as defined by WDOE and Island County and outlined in the NASWI Integrated Natural Resources Management Plan (INRMP) (Department of the Navy 1996). Stormwater-related impacts and developer requirements are discussed in Section 3.4.

Additional actions to reduce soil contamination, erosion, sedimentation, and other geological risks include the following items:

- Minimize the risk of soil contamination during construction by restricting fueling and equipment maintenance to a designated staging area with an impermeable surface and a spill containment and clean-up kit.

- Limit the disturbed areas and immediately stabilize by following the standard vegetation planting practices listed in the INRMP.

- Site preparation and earthwork should be completed during the normally dry season of the year (generally July through September) to minimize problems associated with the moisture-sensitive soils.

- Temporary excavation cut slopes in the dense to very dense glacial till should be graded no steeper than 1H:1V (horizontal to vertical) and no steeper than 1½ H:1V for excavations in the existing fill. Permanent cut and fill slopes should be inclined no steeper than 3H:1V, and the permanent slopes should be planted or hydroseeded as soon as practicable after grading (GeoEngineers 2000).

- Structures must be designed to meet Seismic Zone 3 design requirements (ICBO 1997).

3.3.2.2 No Action Alternative

Under the No Action Alternative, the existing geology and soils would remain undisturbed, and the site would continue to function as an adequately drained developed area. No other effects are expected under the No Action Alternative.

3.3.3 Mitigation Measures

No soils/geology mitigation measures will be required.

3.4 WATER QUALITY/RUNOFF

3.4.1 Affected Environment

3.4.1.1 Surface Water

There are no surface water bodies within the Proposed Action area. Review of U.S. Geological Survey (USGS) 7.5 Minute Quadrangle Topographic maps—Oak Harbor, Crescent Harbor, Coupeville, and Camano—indicated that several surface water bodies are present within a 5-mile (8 km) radius of the Victory Homes site, including Oak Harbor and Crescent Harbor (Table 3.4-1). Both of these harbors are on Saratoga Passage, located immediately north of Puget Sound, and are considered part of the Puget Sound Basin.

Table 3.4-1: Location and distance of surface water bodies within a 5-mile (8 km) radius of the Victory Homes site.

Surface Water Body Name	Approximate Distance and Direction
Crescent Harbor	0.4 mile (0.6 km) southeast
Oak Harbor	0.4 mile (0.6 km) southwest
Loers Pond	2.8 miles (4.5 km) southwest
Waterloo Marsh	3.2 miles (5.1 km) southwest
Hastie Lake	4.4 miles (7.1 km) southwest
Penn Cove	4.4 miles (7.1 km) south/southwest
Strait of Juan De Fuca	4.7 miles (7.6 km) west
Sewage Disposal Pond	0.9 miles (1.4 km) northeast
Silver Lake	4.8 miles (7.7 km) east

Source: Oak Harbor, Crescent Harbor, Coupeville, and Camano USGS 7.5 Minute Quadrangle Topographic maps

Northern Whidbey Island was selected in the Island County Watershed Ranking Report (Island County 1988) as the top priority regional watershed in the county. This rank is based on existing or potential contributions of nonpoint source pollution to Puget Sound and the sensitivity of the areas receiving discharges (e.g., shellfish beds). The three watersheds with the highest rankings are Oak Harbor/Crescent Harbor, Dugualla Creek, and Penn Cove, all three of which are located on the east side of Whidbey Island.

Surface water runoff on Whidbey Island typically occurs from precipitation on soils with low infiltration rates. The Victory Homes site contains residential housing that was constructed around 1942. The area generally slopes gently to the west and southwest. Most of the buildings do not have roof gutters except for a small area of roof above the entry stoops, and few of the buildings contain downspouts (Otak 1996). The soil conditions and topography are such that the ground may not be able to readily absorb roof runoff during a heavy prolonged rain event. Some homes have open ditches/swales in the back yards, and low spots on lawns may have standing water (Otak 1996). The

existing stormwater drainage system for the area is the same age as the housing. Vitrified clay tile was generally used for pipes 8 inches (20 cm) and smaller in diameter; other 8-inch, 10-inch, and 12-inch (20, 25, and 30 cm) pipes are concrete tile (Wisbeck & Fraser Architects 1999). This drainage system routes stormwater to the Regatta Drive storm drain that conveys runoff from Victory Homes to Oak Harbor. The existing Victory Homes storm drain system does not include any water quality treatment measures (ROC, Paranjpye, 3/18/00). The Regatta Drive storm drain consists of 12- and 15-inch (30 cm and 38 cm) concrete tile and appears to be located east of the roadway edge of pavement. South of 200th Avenue East, a parallel storm drain was added in 1992 to handle road runoff as part of street improvements to Regatta Drive. The old 15-inch (38 cm) storm main was connected to a new 18-inch (46 cm) storm drain at Pioneer Way, which discharges to Oak Harbor at an outfall south of the Regatta Drive/Pioneer Way intersection (Wisbeck & Fraser Architects 1999).

3.4.1.2 Floodplains

Based on review of the Federal Emergency Management Agency (FEMA) flood boundary and floodway map for Island County, Washington and Incorporated Areas (Panels 140 and 160 of 500), the Victory Homes site is not located within a designated 100-year flood boundary (FEMA 1995).

3.4.1.3 Groundwater

Groundwater is the primary source of drinking water on Whidbey Island. EPA has classified the groundwater of Whidbey Island as a sole source aquifer (47 FR 66, 6 April 1987). WDOE has designated Island County as a groundwater management area under WAC 173-100, ranking second in priority within the state. Island County has prepared a Groundwater Management Program (ICGWMP) to guide education, conservation, monitoring, regulation, and coordination efforts. Contamination of groundwater supplies is a major concern within Island County. No groundwater wells were identified within the Victory Homes site. The closest water supply well is approximately 0.5 mile (0.8 km) north of the Victory Homes site.

Recharge to the groundwater system of Whidbey Island is through infiltrating precipitation. Recharge is highest during the winter and spring when the region receives the majority of its precipitation. Natural discharge from the aquifer occurs year round as a result of groundwater outflow to the surrounding marine waters. Whidbey Island groundwater yields range between 50 and 350 gallons per minute (190 and 1,325 liters per minute), with most wells yielding less than 100 gallons per minute (380 liters per minute) (Department of the Navy 2000a). An average of approximately 6 percent of the precipitation percolates to recharge the aquifer, and aquifer recharge is the preferred method for surface water management such as retention basins within the ICGWMP. Water tables generally follow the topography, although perched water tables exist in some locations. During a study conducted by GeoEngineers (2000), small amounts of groundwater seepage were observed in several test pits excavated in the northern half of

the Victory Homes site. The depth of the groundwater seepage ranged from 0.9 to 4.6 feet (0.6 to 1.4 m) below ground surface (GeoEngineers 2000).

3.4.2 Environmental Consequences

The following sections discuss potential construction and operation impacts to water quality and runoff associated with the Proposed Action (both the Street-Accessed and Alley-Accessed Alternatives), and the No Action Alternative.

3.4.2.1 Proposed Action

Construction Impacts

The proposed work would include demolition, site preparation, and construction of new housing units for either the Street-Accessed or the Alley-Accessed Alternatives. Demolition would include buildings, streets, landscaping, utilities, and other supporting infrastructure.

Soil excavation, grading, and removal of vegetation during construction would expose soil that potentially could be eroded and transported with surface water runoff. Removal of topsoil and compaction could decrease stormwater interception and infiltration, which would increase rates of surface water runoff. On-site use and maintenance of construction equipment, storage and use of chemical products, and on-site wastes generated during construction activities could produce pollutants other than sediment, including petrochemicals (e.g., oils, gasoline, degreasers), concrete products, sealers, paints, and wash water associated with these products. If not properly mitigated, erosion and transport of sediment and other pollutants could impact downstream drainage ways. Construction-related impacts on water quality for both alternatives will be similar, and can be prevented by implementing the BMPs described below.

Operation Impacts

Potential operations impacts at the Victory Homes site include: (1) changes in peak runoff rates, (2) water quality impacts from stormwater runoff, and (3) off-site drainage impacts. Site development will result in an increase in impervious surfaces such as rooftops, walkways, patios, and driveways. Impervious surfaces generate larger amounts of runoff and higher peak flows than permeable surfaces because they reduce interception and infiltration potentials. Increased runoff volumes and velocities could increase soil erosion and transport of sediment, and could exacerbate downstream flooding. In addition to eroded sediments, potential stormwater pollution from a developed site could include oil and greases, nutrients (e.g., nitrogen and phosphorus), toxic organics (e.g., pesticides and polynuclear aromatic hydrocarbons), and/or metals. The collection of runoff from roofs, garages, and paved surfaces and the direction of this material to the improved stormwater system described below will result in minimal impact to water

quality in the vicinity of the Victory Homes site because of particulate matter, hydrocarbons, and other pollutants washed off these surfaces during storm events.

The distinguishing feature between the two alternatives is the amount of impervious surface created, with the Alley-Accessed Alternative creating more impervious surface than the Street-Accessed Alternative. However, because stormwater detention facilities and improved storm drain systems are included in both Proposed Action alternatives, the same basic environmental impact would result from either alternative.

Under either alternative, the Proposed Action would generally improve stormwater conditions relative to existing conditions. A new storm drain system would be installed at the Victory Homes site to replace the existing storm drain system. This system would be tied to the existing storm drain at Regatta Drive that discharges to Oak Harbor at an outfall south of the Regatta Drive/East Pioneer Way intersection (Wisbeck & Fraser Architects 1999). Existing peak flow discharge rates to the Regatta Drive storm drain would not be exceeded through the use of a detention pond and flow control structure, thus avoiding the need for improvements to the Regatta Drive storm drain (ROC, Paranjpye, 3/18/00). The detention pond will be designed to handle the remaining stormwater so as not to increase the amount of discharge into Oak Harbor.

Roof gutters and downspouts would be installed with the new housing, and all rooftop runoff would be tight-lined below ground surface to a new detention pond to be constructed in the southwestern portion of the Victory Homes site. The detention pond would include a control structure to monitor and direct flow as appropriate, and an emergency overflow bypass (ROC, Paranjpye, 3/18/00). The new storm drain system, detention pond, flow control structure, and any necessary water quality treatment measures would be designed, constructed, and maintained to meet the requirements of WDOE's Stormwater Management Manual for the Puget Sound Basin, Island County, and other applicable jurisdictions (ROC, Paranjpye, 3/18/00).

By implementing these measures, there should be no adverse impacts on water quality and hydrology from construction and operation of the Proposed Action.

The primary management goal for surface water at NASWI is to minimize the impacts of erosion, sedimentation, and point and non-point water pollution to bodies of water (Department of the Navy 2000a). The following actions will help the Navy achieve this goal during construction and occupancy of the Victory Homes.

During construction, soil erosion and sediment runoff are not likely to result in significant adverse impacts when federal, state, and local requirements for erosion and stormwater control are implemented by the site developer. These include development and implementation of an Erosion and Sediment Control Plan (ESCP). The ESCP is a narrative and illustrative document based on concise site information that describes the potential for erosion and sedimentation problems on a construction project and identifies the specific measures to be taken to control these problems. It would include BMPs to minimize erosion and sedimentation, and identify, reduce, or prevent pollution of

stormwater. The ESCP would be prepared consistent with the requirements of WDOE's Stormwater Management Manual for the Puget Sound Basin, Island County, and other applicable jurisdictions. BMPs would be utilized, as defined by WDOE and Island County and outlined in the NASWI INRMP.

The ESCP should include the following:

- Perform earthwork during the dry season.
- Limit the disturbed areas and immediately stabilize by following the standard vegetation planting practices listed in the INRMP.
- As necessary, install and maintain temporary measures such as silt fences and vegetative filter strips to collect and remove eroded sediments.
- All runoff onto the construction site from adjacent properties shall be included in storm drainage calculations.
- Place mulch in areas susceptible to erosion.
- Minimize the risk of soil contamination during construction by restricting fueling and equipment maintenance to a designated staging area with an impermeable surface and a spill containment and clean-up kit.
- Provide appropriate on-site storage and containment for fuels and chemicals.
- Provide appropriate disposal facilities for wastes generated during construction.

During operation of the project, potential surface water impacts at the developed site would be avoided by constructing appropriate stormwater management facilities and using BMPs to limit sources of pollution and treat stormwater runoff. BMPs would be utilized, as defined by WDOE and Island County and outlined in the NASWI INRMP.

The potential for shallow perched groundwater should be considered for all stormwater designs at the Victory Homes site. All stormwater management facilities and BMPs will receive regular maintenance throughout the lifetime of the operations.

In addition, the National Pollutant Discharge Elimination System (NPDES) discharge permit will be modified to accurately describe the upgrades made in the system.

3.4.3 Mitigation Measures

As no adverse impacts to water quality/runoff are anticipated, no mitigation measures are required or proposed.

3.5 Vegetation/Plants

This section addresses potential vegetation resource impacts associated with the Proposed Action and No Action Alternative. There is no anticipated difference that would affect vegetation resources between the two Proposed Action alternatives.

3.5.1 Affected Environment

The Victory Homes site currently contains a total of 198 housing units in 108 buildings, plus supporting infrastructure, and does not support native plant communities. Areas not occupied by structures are landscaped with lawns; a few widely scattered Douglas-fir (*Pseudotsuga menziesii*), Oregon white oak (*Quercus garryana*), and ornamental shrubs occur within the project site.

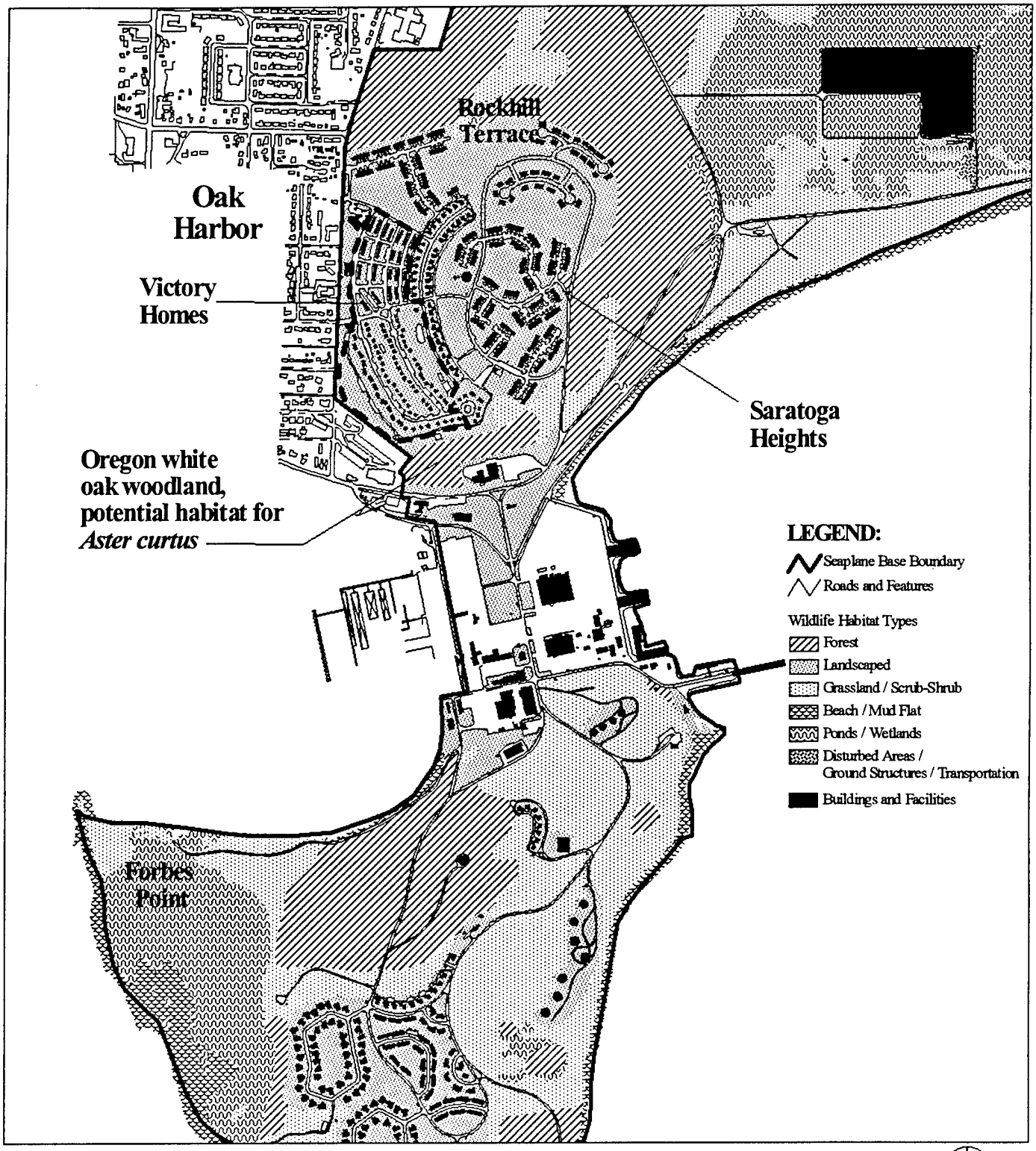
The entire site is surrounded by other developed lands, with the exception of a 9-acre (3.6-ha) Oregon white oak community on the south slope of the hill, immediately south of the Victory Homes site (Figure 3.5-1). The oak woodland, which is located on a south-facing slope, is dominated by scrub Oregon white oak, snowberry (*Symphoricarpos albus*), Nootka rose (*Rosa nutkana*), Oregon grape (*Berberis nervosa*), oceanspray (*Holidiscus discolor*), serviceberry (*Amelanchier alnifolia*), and various grasses (Department of the Navy 1996b). The community is somewhat degraded by invasion of non-native plant species and human impacts. Oregon white oak communities in western Washington are considered a Priority Habitat by the Washington Department of Fish and Wildlife (WDFW) (Larson and Morgan 1998). The WDFW recommends that oak woodlands be protected from land use impacts. Similarly, the Washington Department of Natural Resources (WDNR) considers the woodland near the project site to be of moderately high priority for protection because it represents one of only a few small relic groves found in the Puget Sound region and is the last undeveloped oak woodland on Whidbey Island (WDNR 1995).

3.5.2 Environmental Consequences

The following sections describe the potential effects of the Proposed Action and No Action alternatives. This analysis does not differentiate between short-term and long-term impacts since these issues do not apply to vegetation resources affected by the Proposed Action.

3.5.2.1 Proposed Action

The Proposed Action would include extensive areas of landscaping. Much of the surface area would be covered by irrigated lawn, both sodded and seeded, as well as ornamental



Source: Department of the Navy, NAS Whidbey Island Public Works GIS, 1997.
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Scale: 1"=1,500'

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Vegetation Communities and Significant Wildlife Habitats

Figure 3.5-1

shrubs and street trees. In addition, small areas labeled "native restoration areas" on Navy plans would be planted with native plant species. The Navy also plans to protect all existing Oregon white oak trees within the project site from loss or damage.

The Navy will utilize BMPs during demolition and construction to limit the area of disturbance and to minimize erosion and sedimentation, as defined by WDOE and Island County and outlined in the INRMP (Department of the Navy 1996).

Because the Proposed Action would occur in already developed areas, would not disturb the Oregon white oak woodlands or individual trees, and would follow BMPs, the demolition of existing houses in the Victory Home area and construction of 200 new units in the same area would have no adverse effect on native vegetation communities at NASWI.

This conclusion is based on the implementation of BMPs required by NAVFAC Regulation #1575 to prevent impacts to adjacent undisturbed areas. Demolition activities would remove existing houses and structures, as well as most roads and sidewalks. Building debris will be disposed of off-site. Asphalt debris may be recycled for construction of roads at the site. Demolished roadbeds would be ripped, scarified, and topsoiled. All disturbed areas would be seeded, sodded, or landscaped. A stormwater detention and water quality pond would be constructed in the southwest corner of the site to prevent erosion and sedimentation in downslope areas.

3.5.2.2 No Action Alternative

The No Action Alternative would cause no adverse effects to vegetation resources.

3.5.3 Mitigation Measures

As no impacts to vegetation are anticipated, no mitigation measures are required or proposed.

3.6 Wildlife, Habitat, and Wetlands

This section addresses potential impacts associated with the Proposed Action and No Action Alternative to wildlife habitat resources, including wetlands. There is no anticipated difference in terms of wildlife, habitats, or wetlands between the two Proposed Action alternatives

3.6.1 Affected Environment

The Proposed Action would occur in an area defined as "landscaped" wildlife habitat in the NASWI INRMP (Department of the Navy 1996b). A 9-acre (3.6 ha) Oregon oak woodland, a Washington State Priority Habitat, borders the Victory Homes site to the south (Figure 3.5-1). One regulated wetland was identified adjacent to the northern portion of the site, which was addressed in the Navy's Rockhill Terrace EA (Department of the Navy Undated). This wetland is located approximately 400 feet (122 m) from the northern boundary of the Victory Homes site and is located on a generally northerly slope (Harding Lawson Associates 2000).

Approximately 3 reptile, 41 bird, and 23 mammal species potentially use the landscaped habitats at NASWI (Department of the Navy 1996b). As many as 200 vertebrate species are known to use oak woodlands in western Washington (Larson and Morgan 1998). Introduced wildlife species are common at NASWI and may occur on the project site. The European starling (*Sturnus vulgaris*), brown-headed cowbird (*Molothrus ater*), pigeon (*Columba livia*), eastern cottontail rabbit (*Sylvilagus floridanus)*, European rabbit (*Oryctolagus cuniculus*), Norway rat (*Rattus norvegicus*), and feral cat (*Felis libyea domestica*) are the non-native species most likely to occur in the project area.

3.6.2 Environmental Consequences

The following sections describe the potential effects of the Proposed Action and No Action alternatives. Both short-term and long-term impacts are considered in the following analysis for each alternative.

3.6.2.1 Proposed Action

The demolition of existing houses and construction of 200 new units may temporarily displace wildlife from the area during construction activities. However, this would not be considered significant due to the lack of undeveloped wildlife habitat in the vicinity and the degree to which local wildlife are already habituated to human activity.

The only important habitats close to the site are the oak woodland and the wetland identified to the northeast of the Victory Homes site (Harding Lawson Associates 2000). The wetland is located over 400 feet (122 m) from the project site. This wetland does not

receive runoff from the site, since it is on the far side of Eerkes Hill from the Victory Homes site.

BMPs will be utilized during demolition and construction to limit the area of disturbance and to minimize erosion and sedimentation, as defined by WDOE and Island County and outlined in the NASWI INRMP (Department of the Navy 1996).

The Proposed Action will not disturb the Oregon oak woodland. In addition, BMPs during construction will prevent any possible habitat degradation that could result from erosion or increased runoff. There would be no impacts to significant wildlife habitats.

3.6.2.2 No Action Alternative

The No Action Alternative would not cause any adverse effects to wildlife, habitat, or wetlands.

3.6.3 Mitigation Measures

As no adverse impacts to wildlife, habitat, or wetlands are anticipated, no mitigation measures are required or proposed.

3.7 Threatened and Endangered Species

This section addresses potential threatened and endangered species impacts associated with the Proposed Action and No Action Alternative. In terms of threatened and endangered species habitat, there is no anticipated difference between the two Proposed Action alternatives.

3.7.1 Affected Environment

The bald eagle (*Haliaeetus leucocephalus*) and marbled murrelet (*Brachyramphus marmoratus*) are the only species protected under the Endangered Species Act (ESA) that are known to occur near the project site (letter from G. Jackson, U.S. Fish and Wildlife Service [USFWS], 4/24/00). A pair of eagles attempted to nest unsuccessfully in 1997 on Forbes Point, approximately 0.7 mile (1.1 km) south of the site. No nesting attempts have occurred in the vicinity since then, although eagles are commonly observed perched along the shorelines of Maylor and Forbes points throughout the year. The nearest active bald eagle nest is the Ice House territory, which is 1.3 miles (2.1 km) northeast of the Victory Homes site. No bald eagle habitat occurs immediately on the Victory Homes site. A small number of bald eagles winter in the Oak Harbor area and forage on fish along the shorelines of Maylor Point and Crescent Harbor. These foraging sites are 3,000 and 1,200 feet (914 and 366 m), respectively from the Victory Homes site. There are no winter communal bald eagle roost sites within several miles of the site.

Marbled murrelets can be found feeding in Puget Sound throughout the year, with larger concentrations during the fall and winter. These birds feed within 1.2 miles (1.9 km) of shore and dive for sand lances (*Ammodytes hexapterus*), sea perch (*Embiotoca lateralis*), other small schooling fish, and crustaceans. Open waters of entrance channels off rocky shores or over reefs are important feeding locations (Angell and Balcomb 1982). Small numbers of marbled murrelets are occasionally seen foraging in waters near the Seaplane Base, including areas near Polnell Point. There is no suitable nesting habitat in the vicinity of the Proposed Action.

The oak woodland southeast of the Victory Homes site represents potential habitat for the white-top aster (*Aster curtus*), which is a candidate for federal listing and a Washington state sensitive species. However, no asters have been found at the site to date.

Either Action Alternative would have the same effect on threatened and endangered species; they are therefore discussed together.

3.7.2 Environmental Consequences

The following sections describe the potential effects of the Proposed Action and No Action alternatives. Both short-term and long term impacts are considered in the following discussion.

3.7.2.1 Proposed Action

The demolition and construction associated with the Proposed Action would not result in any significant adverse effects to threatened and endangered species. No bald eagle nesting, roosting, perching, or foraging habitat would be affected. The NASWI Bald Eagle Management Plan (BEMP) limits loud and potentially disruptive activities within 1,213 feet (400 m) of active nests between January 1 and August 15 (Department of the Navy 1996c). The Victory Homes site is outside this zone for the Forbes Point and Ice House bald eagle territories by 2,000 and 8,000 feet (610 and 2,438 m), respectively. The BEMP also recommends that no perching and roosting habitat be eliminated. Since the Proposed Action will comply with the BEMP, bald eagle habitat would not be affected. The loud noises associated with equipment and vehicular traffic will not affect eagles near Forbes Point as most bald eagle foraging and perching occurs well over 1,000 feet (328 m) from the Victory Homes site. Since the Proposed Action will not disturb the Oregon oak woodland, there would be no impacts to potential white-top aster habitat.

3.7.2.2 No Action Alternative

The No Action Alternative would have no impacts on threatened and endangered species.

3.7.3 Mitigation Measures

No impacts to threatened or endangered species would result from either alternative; thus, no mitigation measures are required.

3.8 Cultural Resources

This section addresses potential cultural/historical resource impacts associated with the Proposed Action and No Action Alternative.

Three types of cultural resources may be potentially affected by the Proposed Action: (1) archaeological resources, which may include sites or objects that have yielded or are likely to yield information important in prehistory or history; (2) historic resources, which may include districts, sites, buildings, structures, or objects that relate or convey some aspect of American history, architecture, engineering, archaeology, and/or culture; and (3) traditional cultural properties (TCPs), which are districts, sites, buildings, structures, or objects that embody traditional cultural values and are historically and traditionally associated with those values.

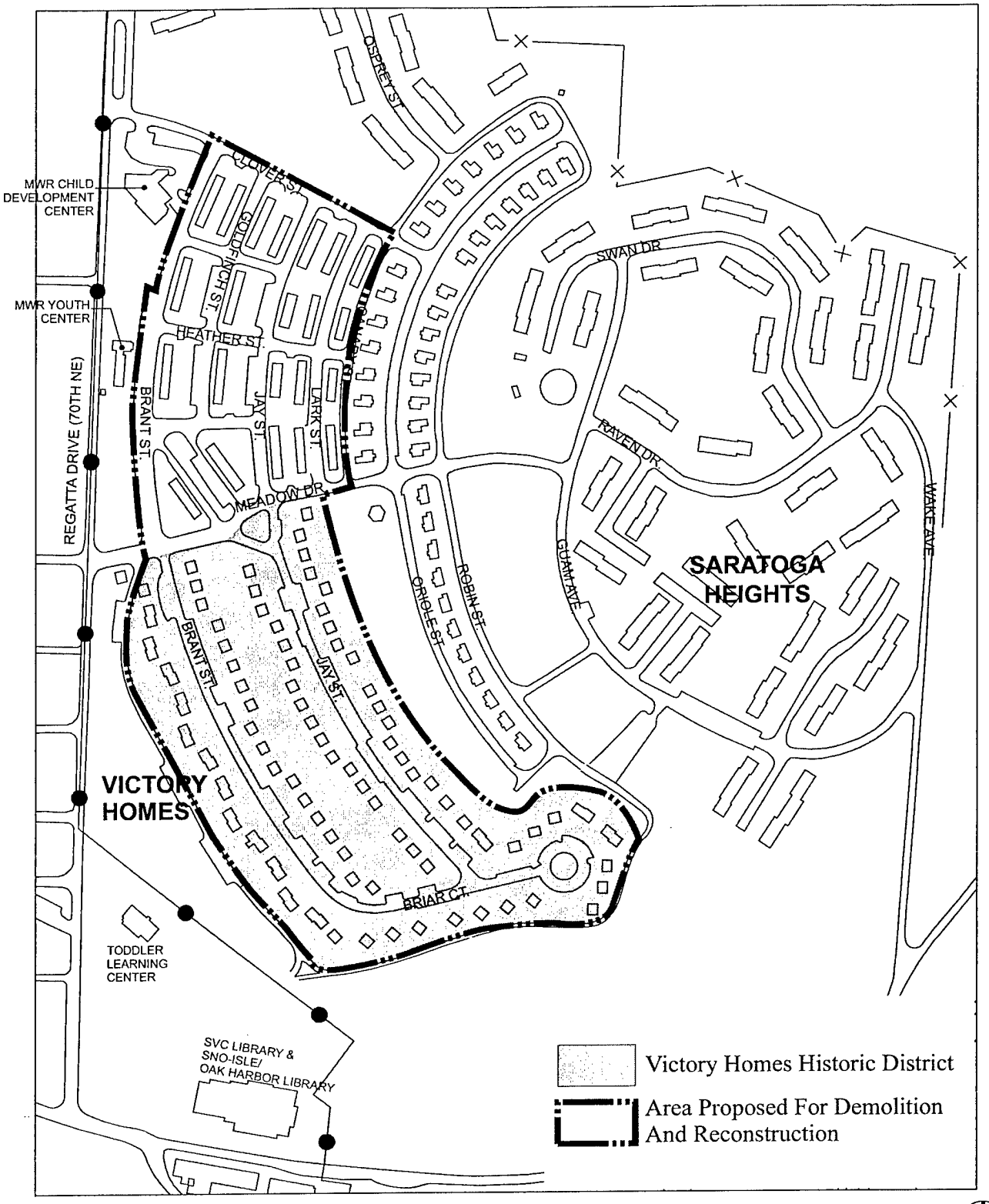
Activities that affect cultural resources are regulated by federal, state, and local laws. The primary law affecting cultural resources is the National Historic Preservation Act (NHPA) of 1966 (16 USC § 470), as amended. The NHPA establishes the National Register of Historic Places (National Register), which requires that federal agencies identify any effects their actions may have on cultural resources listed in or eligible for listing in the National Register. The protection of Native American graves and remains is addressed by the NHPA and the Native American Graves Protection and Repatriation Act (NAGPRA).

3.8.1 Affected Environment

3.8.1.1 Previous Cultural Resource Surveys

The Navy completed an historic resource survey of the Seaplane Base in 1997 that identified three individual buildings and two historic districts eligible for listing in the NRHP (Department of the Navy 1997a). These historic districts include: (1) the proposed Seaplane Base Historic District (including 16 contributing buildings and structures), and (2) the Victory Homes Historic District (including 86 contributing buildings; see Figure 3.8-1). These resources were determined eligible for listing in the National Register by the State Historic Preservation Officer (SHPO) in 1997 and described in the Draft NASWI Historic Resources Survey (Department of the Navy 1997a). SHPO concerns and comments have been addressed and were incorporated into a draft Integrated Cultural Resources Management Plan (ICRMP) for NASWI prepared in 1999 (Department of the Navy 1999b).

In February 2000, while reviewing the Victory Homes replacement proposal, SHPO staff reviewed the northern half of the Victory Homes site for possible inclusion into the Victory Homes Historic District. This part of the site includes 22 row house buildings built in 1944. In response to SHPO review, the Navy has agreed to provide Historic American Building Survey (HABS) documentation on the additional row houses, along



Source: Department of the Navy 1988

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Proposed Historic District

Figure 3.8-1

with HABS recording requested for the duplex and single-family units on the site (see Section 3.8.3).

An archaeological resources and traditional cultural properties overview prepared in conjunction with this Environmental Assessment identified no archaeological sites on the Victory Homes site. The overview identified nine hunter-fisher-gatherer archaeological sites on the littoral margins of Oak and Crescent Harbors, located to the south, southeast, and southwest of the Victory Homes site. These include four hunter-fisher-gatherer archaeological sites (45IS79, 45IS80, 45IS81, and 45IS204) on bluff margins above Oak Harbor on Maylor Point. Three designated sites (45IS45, 45IS46, and one undesignated site) are located on the north and west margins of Oak Harbor. The remaining two hunter-fisher-gatherer archaeological sites (45IS43 and 45IS82) were identified on Crescent Harbor, southeast of the Victory Homes site. No historic period archaeological sites are on file at the Washington Office of Archaeology and Historic Preservation (OAHP) from the project area; however, concrete foundations and sidewalks were found in a location north and east of project area, and an historic period archaeological site north of the Victory Homes site was identified (LAAS 2000).

No TCPs have been identified previously on NASWI.

3.8.1.2 Historical Overview of the Victory Homes

The Eerkes family purchased most of what is now the Seaplane Base in about 1900 and farmed the hillside from about 1925 until the government purchased the property in 1941. The Eerkes farm raised mainly dairy cows but also raised turkeys and farmed crops on the site. The farmhouse that was located near the site of the former Naval hospital (now Skagit Valley College) was moved to Maylor Point and is now occupied by the Commanding Officer of the Base (ROC, Eerkes, 4/7/00).

The original appropriations for NASWI did not include money for family housing units; however, the need to rapidly expand the base after the opening of World War II-related hostilities required the provision of housing, and the first family housing developments began in 1942 (Department of the Navy no date). This housing, collectively called "Victory Homes," appears to have been built with funding from the Navy-National Housing Agency Defense Housing Program. This program was established by Presidential Executive Order in early 1942 to consolidate and coordinate various federal housing programs and was administered by the National Housing Agency. New Navy housing administered through this agency was usually limited to geographically isolated areas where housing was limited (Dames and Moore 1994). Before World War II, Oak Harbor was an isolated rural community with a population of 375 and met that standard. The first units of the Victory Homes were authorized in January 1942 with an appropriation of $350,000 (Whidbey Island Centennial 1951). Designed and built by the Austin Company, the initial units of Victory Homes were built on a prominent hill formerly farmed by the Eerkes family overlooking Oak Harbor to the north of the central

operations area of Seaplane Base (Figure 3.8-2). Additional units were completed in 1944 (Department of the Navy no date).

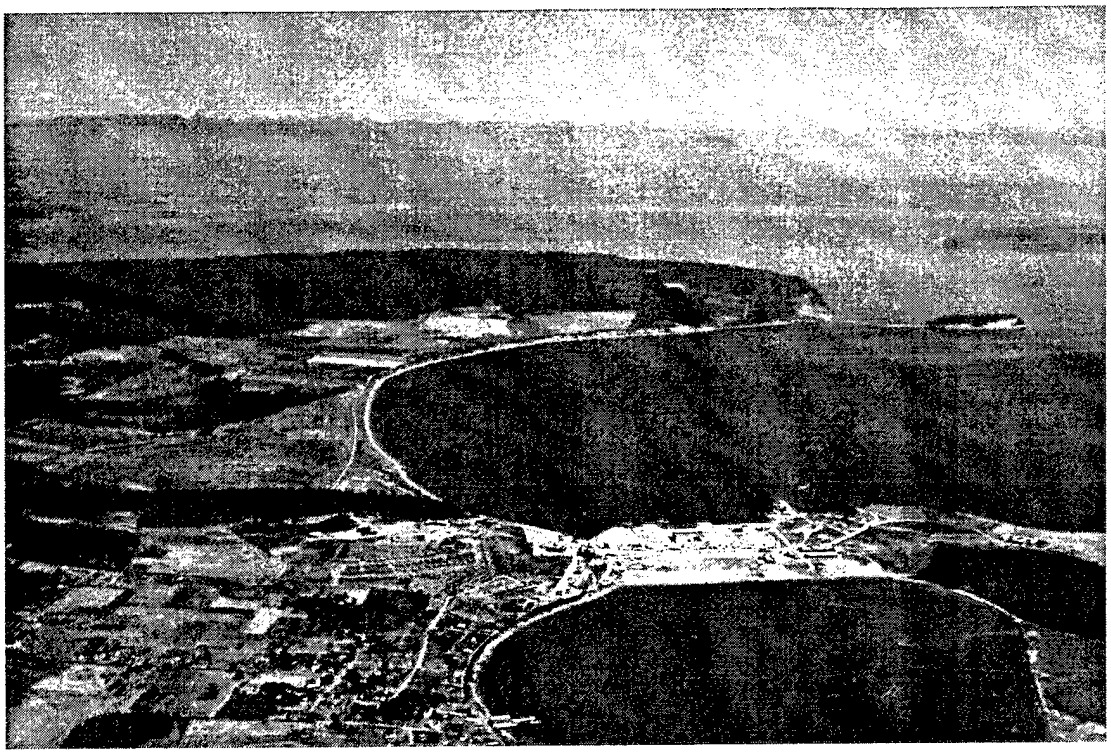
The Victory Homes area demonstrates an important shift in construction techniques associated with the war. The first buildings at Seaplane Base, and many early buildings at Ault Field, illustrate a much higher degree of architectural detail. Art Moderne architectural elements are present in many of the earlier buildings. However, the Victory Homes have virtually no detail or style. This lack of architectural distinction demonstrates the lack of time and scarcity of labor and materials to design and build more elaborate structures, during World War II. The Victory Homes are arranged along a system of curvilinear roads that conform to the natural topography. This layout reflects the "Garden City" movement popular in residential neighborhood development in the first half of the twentieth century that was often used in military base housing developments (U.S. Department of the Defense 1991), including the residential area at Manchester Fuel Department in Manchester, Washington, which was also designed by the Austin Company (Department of the Navy 1996).

3.8.1.3 Physical Description of the Victory Homes

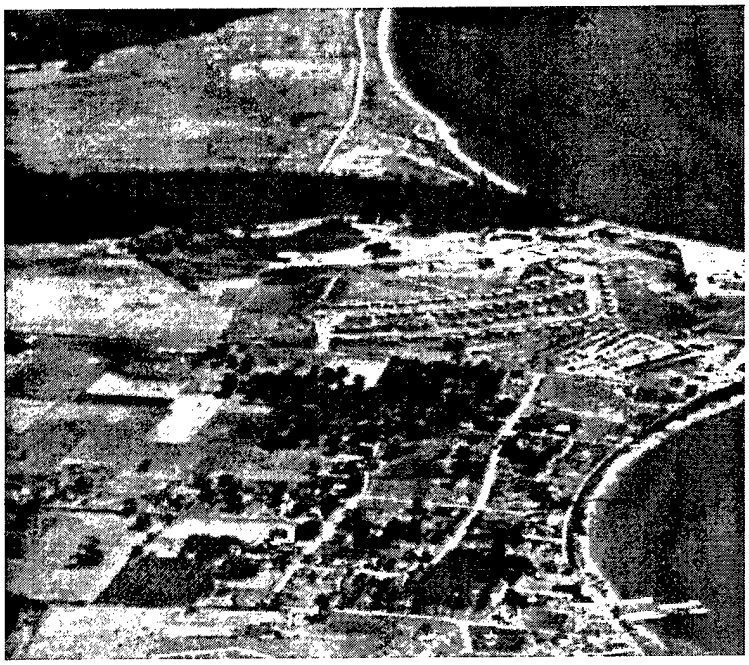
The southern portion of the Victory Homes (Quarters 571-656) was built in 1942, as the Naval Air Station expanded rapidly after the outbreak of World War II. This area contains 86 units of single-family and duplex houses built to common plans (Figure 3.8-3).

Quarters 571-656 are shown on an Austin Company storm-sewer plan dated 1942, updated in 1943, collectively labeled as "100-Family Housing Unit." The exteriors of these buildings and their setting are relatively unchanged. Modifications include the addition of asbestos siding in 1953 during the Korea War period, aluminum replacement windows, and relatively recent three-tab composition shingle roofs.

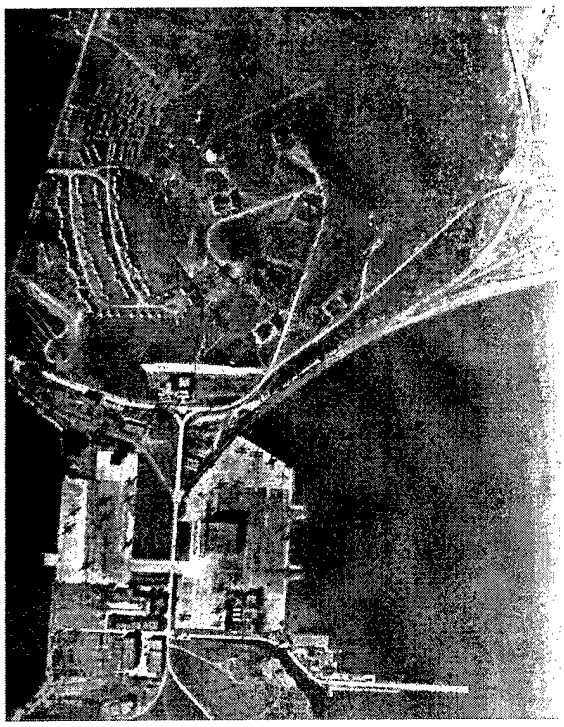
The single-family houses are organized in one-story, rectangular plans with the principal elevations generally facing to the west. The superstructure of each is stud-wall frame clad in asbestos shingles. Each house is supported by wooden posts mounted in poured concrete footing pads obscured by exterior skirting. The medium-pitched, side-gable roofs have open eaves with slight-to-moderate overhangs, exposed, vertical-cut rafter tails, close rakes, and rectangular ventilation louvers near the gable peaks. The gable pediments are articulated but are sided with asbestos shingles identical to those of the walls. Roofing is coursed composition shingles; flashing gives the appearance of eave and raking fascia trim. Open-raftered extensions of the roof planes shelter centered, panel entrance doors. Side entrances without porches are offset to the left of one gable end; the other end contains no doors or windows. Fenestration consists of one-over-one wooden double-hung sash in moderately proportioned, square-headed openings with board surrounds and non-original aluminum storm sash. A brick chimney penetrates the ridge, offset to one side of center. Plans are reversed so that the side entrances of most units face to the north or to the south. The duplex houses are built to the same plan as the



Aerial view of Seaplane Base looking east in 1942



Closeup of older section of Victory Homes, 1942



Aerial view of Victory Homes following completion at peak of Seaplane operations, 1944

Source: Department of the Navy, 1942, 1944

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Historical Aerial Photographs

Figure 3.8-2

Typical housing comprising southern portion of Victory Homes site (Historic District).

Typical housing comprising northern portion of Victory Homes site.

Source: EDAW, 2000
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Existing Housing
Victory Homes Site

Figure 3.8-3

single-family houses but are joined at the blank walls with the two volumes offset. These houses also face to the west (Department of the Navy 1999b).

Quarters 662-688, built in 1943, comprise the northern half of the Victory Homes site (Figure 3.8-4). These 22 four-plex and six-plex row houses are shown on an Austin Company storm-sewer plan of that year, collectively labeled as "125-Family Housing Unit." Exterior building modifications subsequent to construction include asbestos siding added in 1953 during the Korea War period, followed by newer front porch roofs, trim, foundation covers, and similar upgrades.

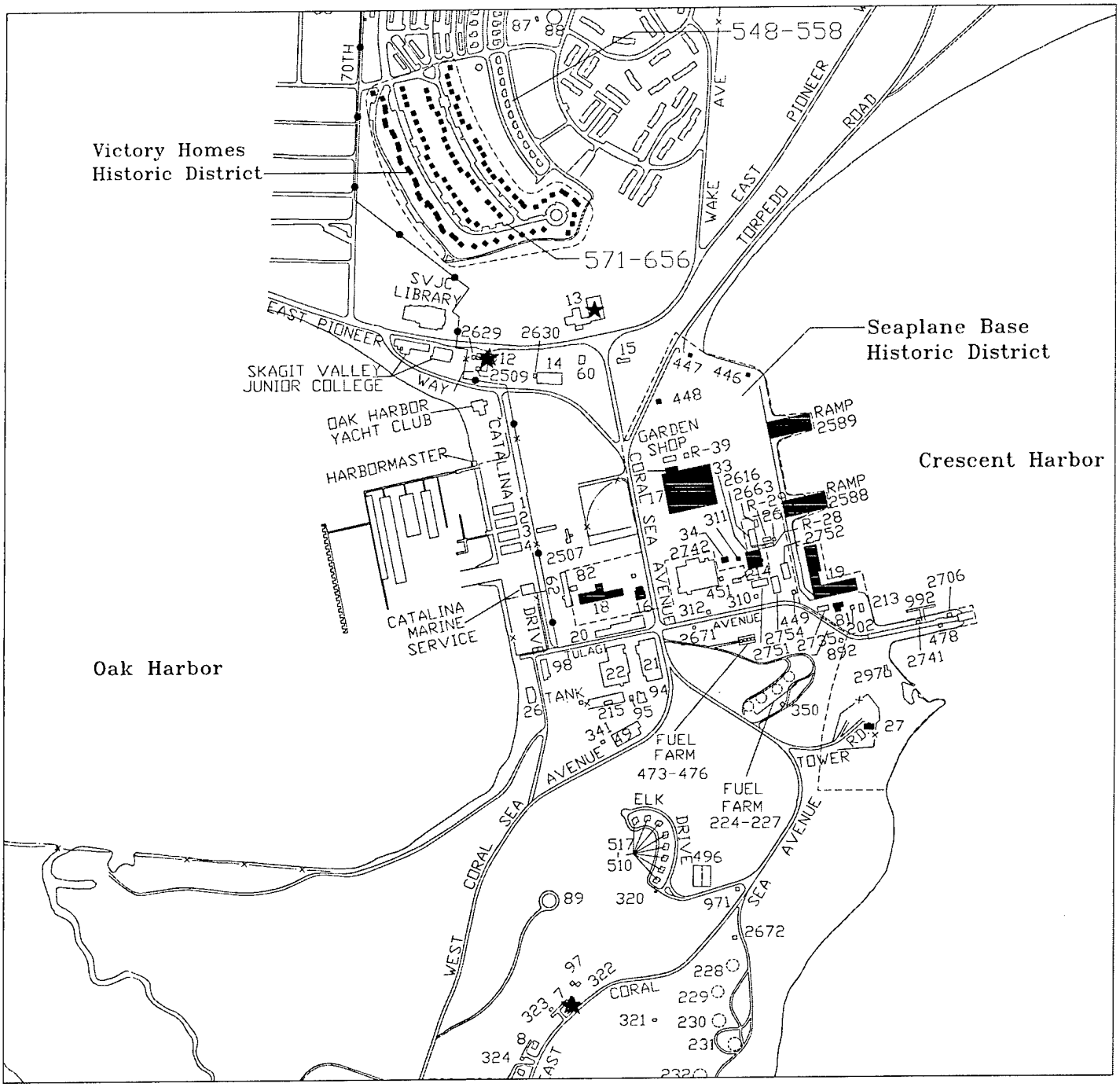
The four-plex and six-plex row houses are organized in long, rectangular volumes, being combinations of a standardized unit or plan which is reversed in various combinations. The primary elevations face generally to the east or to the west. The superstructure of each building is stud-wall frame clad in asbestos shingles supported by wooden posts mounted in poured concrete footing pads obscured by exterior skirting. The medium-pitched, side-gable roofs have slight eaves and close rakes with board fascia trim. Soffited extensions of the roof planes shelter panel entrance doors which are centered in each unit. A similar door is placed at one end of each unit on the rear elevation. Fenestration consists of one-over-one double-hung sash in moderate openings with simple board surrounds and non-original aluminum storm sash. These openings are paired on one side of each entrance door on the front elevations. The gable ends are unarticulated and have no openings. A brick chimney offset to one side of center penetrates the rear slope of each unit near the ridge (Department of the Navy 1999b).

3.8.1.4 Historical Significance of the Victory Homes

The lack of architectural detail or style demonstrates the scarcity of building supplies, time, and labor during war time to design and build more elaborate structures. Although not remarkable individually, collectively they convey an especially strong sense of "place and time" (Department of the Navy 1999b). The curvilinear site plan conforming to the natural topography is also historically significant by reflecting the "Garden City" movement based on Ebenezer Howard's concept for new cities which influenced pre-war military base and civilian residential design (Department of the Navy 1999b).

Built in 1942, the Victory Homes area, including Buildings 571-656, largely retains its World War II integrity, although some alterations have occurred. These buildings together are the most illustrative examples of World War II housing remaining at NASWI. The Victory Housing developments from later years on the northern portion of the site appear to have been modified to make them more livable for current Navy personnel.

This district is eligible for the National Register under Criterion A (association with events that have made a significant contribution to the broad patterns of our history) as it is associated with the history of World War II and the development of NASWI generally, and specifically associated with the history of the World War II emergency military housing programs. The district is also eligible under Criterion C (embody distinctive



Source: EDAW 1999
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Resources at Seaplane Base Recommended Eligible for the National Register

Figure 3.8-4

characteristics of type, period, method of construction... or represents a significant and distinguishable entity whose components may lack individual distinction) in that the minimalist style and small size of the buildings convey their specific time and place.

3.8.1.5 Archaeological Resources and Traditional Cultural Properties in the Vicinity of the Victory Homes

An archaeological resources and traditional cultural properties overview of the proposed Victory Homes Demolition and Replacement Project (Appendix C to the EA) was performed in early 2000 (LAAS 2000).

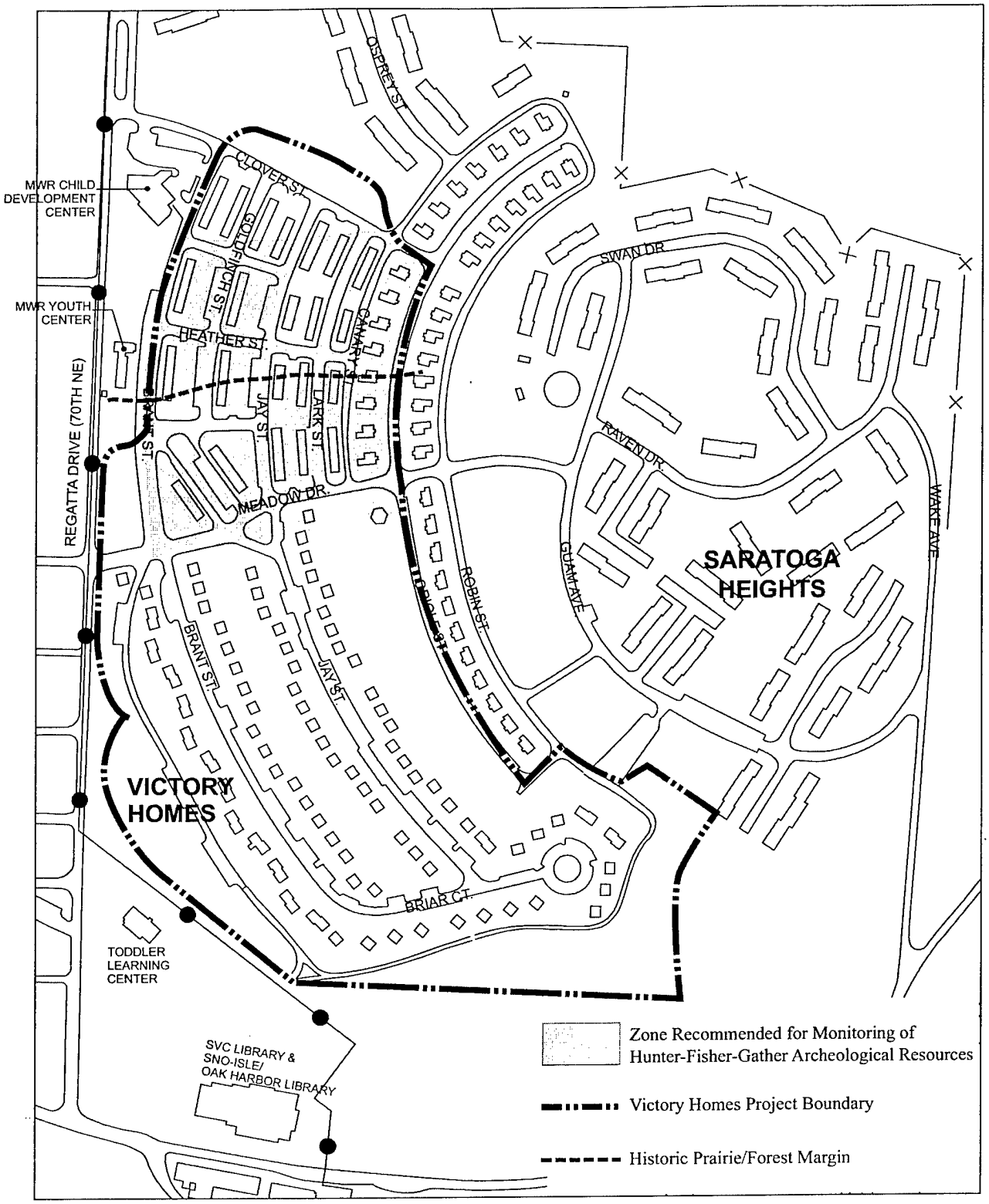
This study determined that portions the project site had been used by hunter-fisher-gatherers for approximately 6,000 years prior to the arrival of Euro-American settlers in the mid-nineteenth century. The portion of the Victory Homes site with the greatest likelihood of hunter-fisher-gatherer archaeological remains is the old prairie/forest margins in the project area. This is because prairie/forest margins were traditionally the preferred sites for plant gathering and hunting (LAAS 2000). As shown on Figure 3.8-5, this zone extends 400 feet (122 m) north and south of the historic margin that includes an area of possible prairie/forest boundary locations. Possible archaeological resources in this area would be associated with plant gathering and hunting, including lithic materials, fire hearths, and/or bone, and processing features. However, this same area was the site of historical activity such as road building, logging, historic farming activities, and construction of the Victory Homes and associated infrastructure which may have compromised any remaining hunter-fisher-gatherer archaeological deposits on the project site. Nevertheless, the historic prairie/forest ecotone in the north half of the Victory Homes site has a moderate to high probability for hunter-fisher-gatherer archaeological resources, depending on the amount of prior ground disturbance in the area.

Although hunter-fisher-gatherer archaeological sites were previously recorded south and east of the project area on the margins of Oak Harbor and Crescent Harbor, no previously identified hunter-fisher-gatherer archaeological sites, historic period archaeological sites, or traditional cultural properties have yet been identified within the project area.

The study also determined that there is a relatively low probability for intact historic period archaeological resources, other than refuse that may have been placed as secondary deposits from farming activities on the project site. Low density scatters of agricultural, structural, and/or domestic refuse may exist in the project area; however, such historic archaeological resources would probably not be significant (LAAS 2000).

3.8.1.6 Other Historical Resources at the Seaplane Base

The Victory Homes site is located in proximity to other NRHP-eligible historic resources (Figure 3.8-4), including the proposed Seaplane Base Historic District, Quarters A, the Public Works Administration Building, and the Community Assistance Center (previously referred to in Section 3.8.1.1).



Source: LAAS 2000
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Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Potential Archeological Resources within Victory Homes Site

Figure 3.8-5

3.8.2 Environmental Consequences

The following sections discuss potential effects on historic, cultural, and archaeological resources caused by the Proposed Action and the No Action Alternative. The analysis does not address short-term impacts separately since all impacts on cultural resources, even those which occur during the demolition and construction phase, are expected to have lasting long-term impacts.

3.8.2.1 Proposed Action

The Proposed Action includes the demolition of all but two buildings comprising the historic district and extensive site work within an area with a moderate to high probability for pre-historic and historic deposits located to the north of the historic district. Most of the existing Victory Homes site would be bulldozed; foundation piers, sidewalks, utility lines, and all or portions of roads would be removed in preparation for new construction. Excavation for new housing unit foundations and subsurface utility improvements would most likely penetrate old prairie/forest ecotone soils, which have a higher probability for prehistoric archaeological deposits. As a result, the Proposed Action may disturb shallow archaeological resources, particularly in the area of most likely possible use by hunter-fisher-gatherers (Figure 3.8-5).

Demolition of the Victory Homes would eliminate most of the historic character of this eligible historic district, which represents the station's first residential neighborhood. The Victory Homes would no longer convey a sense of time and place and would no longer relate to its historic World War II period. Such a major alteration would constitute an adverse effect on the Victory Homes Historic District.

Pursuant to Section 106 of the NHPA, the Navy has consulted with the SHPO regarding the Proposed Action and agreed that the action will have an adverse effect on the NRHP-eligible Victory Homes Historic District. The Navy and the SHPO have developed a Memorandum of Agreement (MOA) to address this adverse effect, thus concluding the Section 106 process. Key provisions of the MOA are summarized in Section 3.8.3 of this document, and the entire MOA is attached as Appendix D.

If unidentified sub-surface archaeological resources are present on portions of the Victory Homes site, utility demolition, grading, and other site work associated with construction of the Proposed Action could damage or disturb these resources, creating the possibility of an adverse impact to archaeological resources within the Victory Homes site.

Although either Action Alternative would have adverse impacts on the Victory Homes Historic District, the impacts would vary somewhat between the two Proposed Action alternatives, as described below.

Street-Accessed Alternative

This alternative would follow a conventional development pattern, typically used in townhouse developments. This layout would alter the northern portion of the site slightly

more than the other alternative, yet it would be more similar to the existing southern half of the site due to the lack of alleys. This design would include features such as development blocks and a green belt along the periphery of the site recalling the Garden City movement popular when the Victory Homes site was originally platted.

Alley-Accessed Alternative

The addition of alleys as proposed under this alternative would create a street grid reminiscent of pre-war development patterns contemporary with the site's original development maintaining some of the historical continuity of the site layout. This alternative would also incorporate features such as development blocks and a green belt along the periphery of the site that recall the Garden City movement which was popular when the Victory Homes was originally platted.

3.8.2.2 No Action Alternative

Under the No Action Alternative, no impacts to historical or archaeological resources are anticipated.

3.8.3 Mitigation Measures

Below is a complete listing of the proposed mitigation measures identified in this EA for the Proposed Action. These mitigation measures are included as stipulations in a Memorandum of Agreement (MOA) between the Navy and SHPO (Appendix D).

1. **Archaeology** - In the case of the discovery of significant archaeological evidence of previous human occupation (including the discovery of human remains) during construction or any other activity, the Navy will follow these procedures:

   - Stop work in the area of discovery to maintain integrity of the archaeological deposits or human remains and protect discovery from potential damage. Any human remains should be left undisturbed to ensure consistency with NAGPRA.

   - Consult with the Swinomish Tribal Community, and Samish Tribe; the State Historic Preservation Officer (SHPO) at OAHP; and the Navy to determine appropriate treatment of archaeological deposits and/or human remains.

   - Notify the National Park Service, Department Consulting Archaeologist (DCA) at (907) 257-2436. The DCA will, in most situations, arrange for a local professional archaeologist to visit the site, usually within 48 hours of notification, to make a determination of whether the discovered material is significant.

- If the DCA's representative determines that the discovery has no significant archaeological value (i.e., it is not likely to yield information important in prehistory or history), the SHPO must be notified in writing and given 30 days to comment. Upon receipt of SHPO concurrence, work in the area may proceed.

- If the DCA's representative determines that the discovered archaeological resource is significant (i.e., it is likely to yield information important in prehistory or history of the area), the DCA will consult with the Navy and the SHPO to determine appropriate treatment for the discovered resources.

- Prior to beginning the data recovery work, notify the SHPO of the discovery, its significance, and planned data recovery work and allow the SHPO 30 days to comment. The SHPO should also be involved in the discussions with the DCA. Upon completion of data recovery work, the Navy or other owner should provide the Advisory Council on Historic Preservation (ACHP) with a report on the work.

2. **Documentation** - The Navy shall document the design of each unit type to be demolished and provide the site plans for the demolition area to Historic American Buildings Survey (HABS) standards. This shall include recording photographs of the exteriors of the representative building types, including at least one single-family home, one duplex, and one multi-unit row house present at the Victory Homes. Further details on the types of photographic materials and their distribution is included in the MOA (Appendix D).

3. **Interpretation** - The Navy shall prepare and install a permanently mounted interpretive display panel in an appropriate, publicly accessible location associated with the retained Buildings #613 and #614 on the Victory Homes site. The interpretive display shall contain brief text descriptions and graphical images describing the historic and architectural significance of the Victory Homes Historic District and its role in the history of the Seaplane Base, with particular emphasis on the period of historical significance. The OAHP shall assist in determining the scope of work for the development of the interpretive display and shall approve the final plans. In addition:

- The Navy shall prepare a multi-media presentation depicting the history and construction of Victory Homes. The presentation shall be provided to the SHPO and be retained by the Navy. Multi-media shall include video and CD-ROM for distribution to interested parties and for website display. This product will be provided to OAHP and

retained by the Navy, as well as being made available to local schools, libraries, and historic organizations.

4. **Retention** - The Navy shall retain one duplex (Building #614) and one single family unit (Building #613) which are to be rehabilitated consistent with the Secretary of Interior Standards for Historic Buildings and approved by the OAHP. The Navy shall make every reasonable effort to accomplish the rehabilitation of the retained units within three years of construction start. The Navy shall maintain the units to avoid deterioration as discussed in the Integrated Cultural Resources Management Plan (ICRMP) and in accordance with the Historic Structures Preservation Manual (Navy 1991).

5. **Design Review** - The selected proposal was provided to the OAHP for review and comment. Based on that review, the Navy has agreed to the following changes: (a) delete proposed decorative shutters, (b) replace proposed hexagonal attic vents with rectangular vents, (c) replace proposed small pane window inserts with plain windows, (d) apply siding on porch and roof columns in a vertical manner, (e) retain the overall gradual sloping character of the existing site with no use of decorative berms, (f) use muted colors on vinyl siding and trim, (g) metal door selection shall be approved by OAHP, and (h) only one accessible unit shall have a slanted entry. The OAHP shall review the final plans for design elements identified above.

3.9 Recreation Resources

This section addresses potential recreation resource impacts associated with the Proposed Action and No Action Alternative.

3.9.1 Affected Environment

Recreation opportunities for Navy families living at Victory Homes are abundant, including Navy-owned recreation resources, State, City, and County-owned parks. However, on-site facilities at Victory Homes such as tot lots, tennis courts, and play lots do not meet the Navy's recreation design objectives as discussed below.

3.9.1.1 Navy-owned Recreation Resources

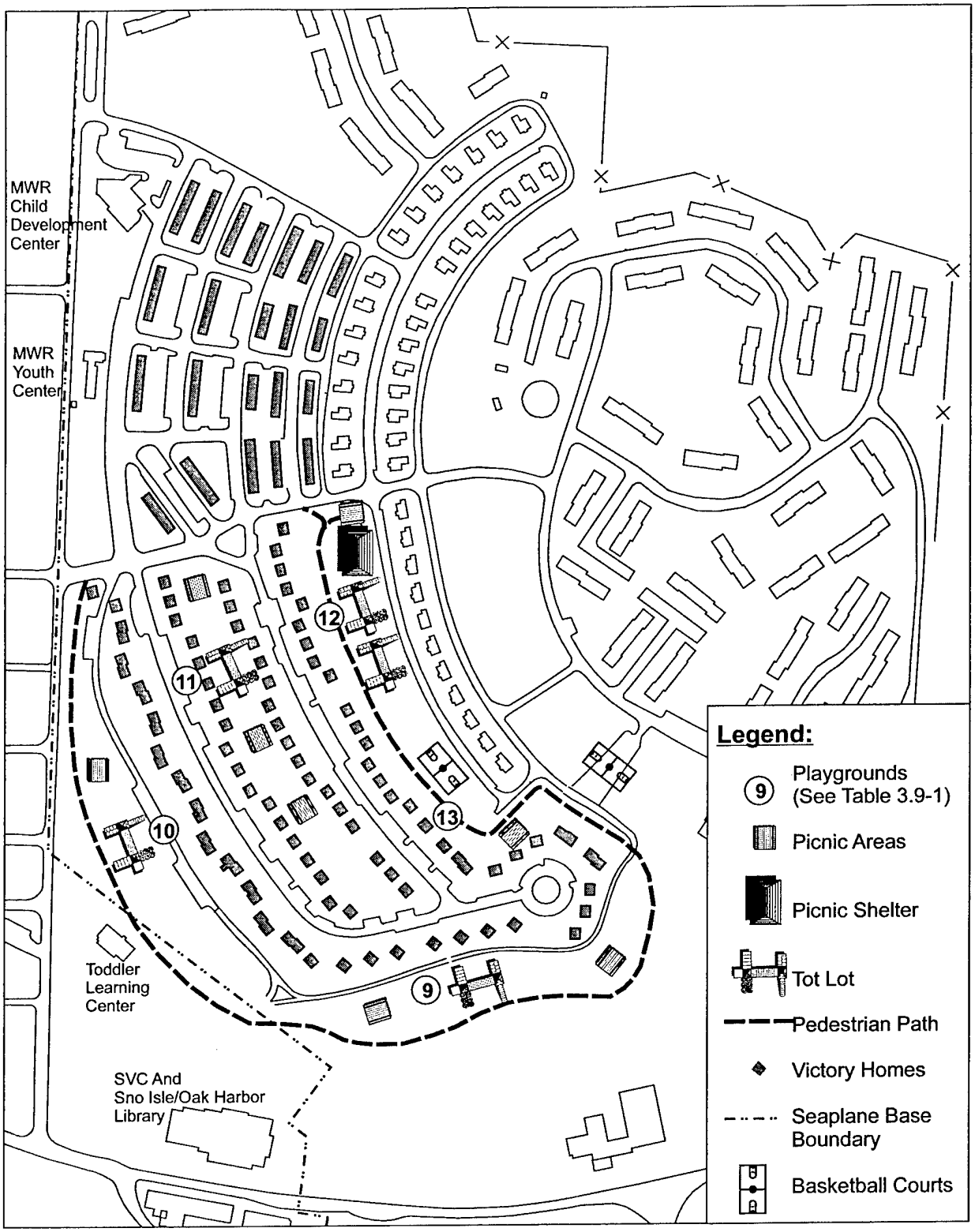
There are five major on-site recreation areas available at the Victory Homes site, as shown on Figure 3.9-1, along with an 18-station Dynatrack. All of these sites are located within the southern half of the Victory Home site. On-site recreation facilities are in fair to good condition and in appropriate locations except that some residents, including those from the nearby Oriole Street neighborhood, must cross major streets to reach a playground. Pathway connections are adequate, but irrigated grass and shade are deficient during the hotter parts of the year. According to an assessment contained in the Comprehensive Neighborhood Plan for Naval Air Station Whidbey Island prepared for the Navy in 1996, the existing playground equipment is reported to be ill-suited to the needs of very young children who constitute a large percentage of Navy dependants living in Victory Homes (Otak 1996).

On-site recreation facilities for children are listed in Table 3.9-1.

Table 3.9-1: Existing Victory Homes Playground Inventory.

EQUIPMENT INVENTORY	PLAYGROUNDS				
	#9	#10	#11	#12	#13
	(Number of Units)				
Benches	1	2			1
Spring-mounted jumping ramps	2				
Large play equipment (slides, bridges, tire swings, forts, etc.)	1	1		1	
Slide with platforms			1		
Swing set (3 swings)			1		
Horizontal climbing/monkey bar			1		
Basketball courts					2
Pickle ball court					1
Playmaker playset				1	
Refuse containers				1	
Discovery playset				1	
Covered picnic tables				1	

Source: Pers. Comm., Rodgers, 3/2/00.



Source: EDAW 2000

Not to scale

Environmental Assessment
Demolition and Replacement of Victory Homes
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Existing On Site Recreation Resources & Pedestrian Amenities

Figure 3.9-1

Residents of Victory Homes are also able to use the Navy's nearby recreation facilities managed by the Morale, Welfare, and Recreation (MWR) department including the child development center and youth center (both operated by MWR). These facilities are for use by the entire base and are located west of the northern portion of the Victory Homes site. As listed on NASWI's website homepage, other facilities include:

- An Activity Center;
- 32-lane bowling center with billiards, video games, and a pro shop;
- 18-hole course, two putting greens, and a chipping green;
- A full-service marina with moorage, transient slips, and boat rentals and repairs.
- Various multi-purpose indoor sport courts;
- Outdoor Recreation Center;
- Parks, recreation vehicle (RV) camping areas, and picnic facilities;
- Facilities for arts and crafts;
- A staffed and equipped auto-hobby shop;
- Tennis courts, baseball fields, basketball courts, softball fields, football and soccer fields, a children's play area, volleyball courts, and horseshoe pits;
- Gym and fitness center; and
- Theater.

3.9.1.2 Whidbey Island Public Recreational Resources

The City of Oak Harbor is the major provider of recreational services on North Whidbey Island commonly used by local residents, which include the most convenient civilian parks for Victory Homes residents. The City's 23 parks provide both passive and active recreational opportunities on over 60 acres (24 ha), including walking trails, picnic areas, and ball fields; neighborhood parks and playgrounds; a marina, senior center, and recreational vehicle park; and access to over one mile (1.6 km) of public shorelines. In addition, the North Whidbey Parks and Recreation District operates an indoor swimming center, and the Oak Harbor School District manages 85 acres (34 ha) of playgrounds and sports fields (Source: City of Oak Harbor website).

Whidbey Island is endowed with extensive public recreation facilities operated by local, state, and federal agencies. State Parks operates six parks emphasizing hiking, camping, and marine access. Significant State of Washington and City of Oak Harbor recreational facilities on Whidbey Island are summarized in Table 3.9-2.

Island County also operates a number of parks and other recreation facilities on Whidbey Island available to Navy families including Dan Porter Memorial Park, Dave Mackie County Park, Deer Lake Park, Freeland Park, Island County Fairgrounds, and Rhododendron County Park (Source: Island County website).

Table 3.9-2: Major Public Park and Recreation Opportunities on Whidbey Island.

FACILITY	OPERATOR	ACTIVITIES
Deception Pass State Park	State Parks	30 miles of hiking trails, 19 miles of saltwater shoreline, 3 freshwater lakes, 246 campsites. Scuba diving, saltwater and freshwater fishing. Spectacular views.
Fort Casey State Park	State Parks	Picnicking and kite flying. Hiking trails, surf-fishing, scuba diving, and 35 campsites.
Fort Ebey State Park	State Parks	3 miles of hiking trails - watch for bald eagles and submarines. 50 campsites, bass fishing, scuba diving.
Joseph Whidbey State Park	State Parks	Beachcombing, beautiful views of the Strait of Juan de Fuca. Day use only.
Rhododendron State Park	State Parks	6 campsites, hiking and picnicking.
South Whidbey State Park	State Parks	2 miles of saltwater shoreline, 3 1/2 miles of hiking trails, some through old-growth forest. 54 campsites, reservable group camp for up to 10 people and 26 picnic sites.
Oak Harbor Marina	City of Oak Harbor	420-boat facility with 169 open and 183 covered permanent slips and 96 dry storage garage type sheds accommodating boats to 24' in length. Guest moorage is available for boats to 50'.
Sumner Park	City of Oak Harbor	4-acre neighborhood and community park. Two covered tennis courts, picnic facilities, open space, and off-street parking. This park is adjacent to the Seaplane Base.
City Beach Park	City of Oak Harbor	28.5-acre waterfront community park. Baseball fields, tot-lot playground areas, shoreline picnic tables and barbecue pits, covered picnic facilities and kitchens for large groups, an exercise course, seasonal gardens, basketball court, tennis courts, volleyball courts, horseshoe pits, boat launch, 55 serviced RV stalls and 30 non-serviced spaces, a swimming lagoon with wading pools, waterfront trail, public rest rooms, gazebo, and covered outdoor barbecue pit.
Civic Center/Senior Center	City of Oak Harbor affiliated with the North Whidbey Parks and Recreation District	14-acre area containing the Oak Harbor Senior Center, John Vanderzicht Pool.
Volunteer Park	City of Oak Harbor	6-acre community park with three softball fields and a skateboard park.
Ebey's Landing Historical Reserve	National Park Service	25 square mile historical reserve encompassing a mixture of federal, state, county, and private property. Hiking, cycling, camping, sightseeing, and other outdoor recreation opportunities.

Source: Compiled by EDAW 2000.

3.9.2 Environmental Consequences

This section addresses the impacts to on-site, local, and regional recreation resources which are expected to result from the Proposed Action and No Action Alternative.

3.9.2.1 Proposed Action

Short-term impacts are not anticipated since the Victory Homes will not be occupied during construction. After construction, the Proposed Action would alter demand on recreation resources by increasing the number of children living on site. Over the long-term, the Navy will be providing better, upgraded facilities and additional open space for the community. The new equipment will be suitable for the age groups of children in the new Victory Homes (ROC, Kler, 9/11/00) and will not adversely impact recreation as discussed below.

Navy recreation design objectives intended to guide recreational facility development are summarized in Table 3.9-3. Demands on local and regional recreational resources may increase slightly as Navy-occupied civilian housing is filled by additional civilian population, but this increase is anticipated in local growth projections and is unlikely to result in significant impacts.

Table 3.9-3: Comparison of Proposed Action and No Action Alternative On-Site Recreation Facility Ratios with NAVFAC Recreation Design Objectives.

Recreation Facility	NAVFAC Design Objectives*	No Action	Proposed Action Alternatives	
		Facilities to DU	Alley-Accessed	Street-Accessed
Tot Lots	One Tot Lot per 30 units or less (1:30)	1:49.5	1:33.3	1:40
Play Lots	One Play Lot per 30 units or less (1:30)	1:39.6	1:66.6	1:50
Picnic Areas	One picnic area per 30 units or less (1:30)	1:24.75	1:28.5	1:66.6
Tennis Courts	One full court per 150 units or less (1:150)	None	None	None
Basketball Courts	One full court per 100 units, minimum; Add One-half court per 75 units (1:100)	1:99	1:100	1:100
Jogging Course	One per project.	One 18-station Dynatrack	One Dynatrack	One Dynatrack

*Note: Adjust ratios for "younger" or "older" families.
[1] NAVFACINST.11101.85H
DU = dwelling unit

Street-Accessed Alternative

This alternative would include two basketball courts, four play lots, and five tot lots, with the majority of these areas located in the southern part of the site. Other formal recreation amenities include a trail replacing an existing pathway between Oriole and Jay Streets

connecting the southeast corner of the site to Meadow Drive, and another trail linking Goldfinch and New Lark Streets following the alignment of Heather Street.

As shown in Table 3.9-3, several proposed on-site recreation facilities such as play lots, tennis courts, tot lots, and picnic areas under the Street-Accessed Alternative do not meet the Navy's design objectives and, in some cases, would be less than under existing conditions. However, the Navy's design objectives allow for these ratios to be adjusted to suit the age composition of the families.

This alternative would retain considerably more open space than the Alley-Accessed Alternative. For example, wide swaths of grassy open space would remain behind each building, and the entire block between New Lark Street and Oriole Street would remain open. In addition, Briar Court and the adjacent hillside would be preserved for recreational open space.

Alley-Accessed Alternative

Formal recreation facilities provided under this alternative would include two basketball courts, three play lots, and six tot lots evenly distributed throughout the site. There would also be a landscaped trail east of Brant Street and six picnic areas including one picnic shelter. In addition, Briar Court and the adjacent hillside would be preserved for recreational open space.

As shown in Table 3.9-3, the Alley-Accessed Alternative achieves or comes close to most on-site recreation facility ratios recommended by the Navy's design objectives including basketball courts, picnic areas, a jogging course, and tot lots. Other facilities such as tennis courts or play lots are insufficient or do not meet the Navy's design objectives; however, the Navy's design objectives allow for these ratios to be adjusted to suit the age composition of the families. Along with other amenities not addressed by the design objectives, recreation opportunities included under this alternative, such as open space east of Briar Court, are expected to be an improvement over existing conditions.

3.9.2.2 No Action Alternative

Under the No Action Alternative, recreational opportunities and demand for recreation facilities would remain unaffected; however, the existing on-site recreation limitations would remain. Significant deficiencies for such recreation facilities as tot lots, tennis courts, and play lots would also remain.

3.9.3 Mitigation Measures

No significant adverse impacts to recreational resources resulting from the Proposed Action have been identified; thus, no mitigation measures are proposed or required.

3.10 NOISE

This section addresses potential noise impacts associated with the Proposed Action and No Action Alternative.

3.10.1 Affected Environment

Several sound descriptors have been developed to summarize how people hear sound and to measure the effect of environmental noise on public health and welfare. The day-night sound level (Ldn) is the sound level for a 24-hour period with an additional 10 decibels (dBA) weighting imposed on the equivalent sound levels occurring during night-time hours (10 p.m. to 7 a.m.). The added sound level to this noise descriptor is used to account for the greater sensitivity of people to noise during these evening and night-time periods.

In general, humans can perceive noise level differences of about 3 dBA or greater; however, a change in the noise level of at least 5 dBA is required before any noticeable response is expected. A difference of 10 dBA is perceived as a doubling of loudness and would almost certainly cause an adverse change in community response.

The EPA suggests the use of the Ldn noise descriptor to relate noise in residential environments causing interference with speech, sleep, and other activities. EPA studies indicate that non-construction related levels of 55 Ldn or lower are acceptable, levels of 55 to 65 Ldn cause some effect, levels of 65 to 70 Ldn cause adverse effects, and levels of 70 Ldn or higher are unacceptable (EPA 1978).

The Washington State Department of Ecology (WDOE) also has established environmental noise limits defined in terms of an Environmental Designation for Noise Abatement, which considers the use of the property and adjacent lands for determination of applicable noise standards. WDOE regulates motor vehicle noise through implementation of WAC, Chapter 173-62, which limits the noise generated by motor vehicles at specified distances. WDOE considers noise generated at temporary construction sites as a result of construction activities (between the hours of 7 a.m. and 10 p.m.) to be exempt. The City of Oak Harbor regulates construction noise through its noise ordinance (Title 6.56 Oak Harbor Municipal Code), but also exempts construction noise between the hours of 7:00 a.m. and 9:00 p.m. However, the City's regulation prohibits loud construction noise after 9:00 p.m. and on weekends (ROC, Burdette, 2000).

The Victory Homes site is surrounded by noise-sensitive land uses. Navy housing abuts the Victory Homes site to the east and north, while civilian homes are located immediately west. To the south lies the Skagit Valley College and Sno-Isle/Oak Harbor Public Library. Distances from these neighboring uses range from less than 50 feet (15 m) to approximately 300 feet (91 m). Some parts of the Seaplane Base are adversely affected by noise generated by Naval flight operations at Ault Field. These areas are located within the 60 dBA Ldn

noise contour for Navy flights from Ault Field; however, the Victory Homes site is outside this area since average flight noise is below 60 dBA (Department of the Navy 1988).

3.10.2 Environmental Consequences

Environmental consequences for the Proposed Action and No Action Alternative are discussed below. This analysis does not differentiate between the two Proposed Action alternatives since both would have identical noise impacts.

3.10.2.1 Proposed Action

The Proposed Action would generate noise due primarily to short-term construction activities associated with the demolition of the existing housing units and supporting infrastructure, site preparation, and construction of the 200 housing units proposed for the same site. Long-term operational noise would be primarily associated with increased automobile traffic on nearby roadways. No major stationary noise sources are proposed as part of the Proposed Action.

Short-term Noise Impacts

In the short term, noise would be generated by demolition, site preparation, and construction activities. Noise from these sources would be temporary and would include noise from the use of heavy equipment such as trucks hauling material, generators, compressors, earth moving, equipment, and the like. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., demolition/land clearing, grading, excavation, and construction). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges would be similar for all construction phases, the initial site preparation phases tend to involve the most equipment. The EPA has found that the noisiest equipment types operating at construction sites typically range from 88 dBA to 91 dBA at 50 feet (15 m). Typical operating cycles may involve 2 minutes of full power, followed by 3 or 4 minutes at lower settings (EPA 1971a). Table 3.10-1 lists noise levels generated by typical construction equipment at a distance of 50 feet (15 m).

Noise from localized point sources (such as construction sites) typically decreases by about 6 dBA with each doubling of distance from source to receptor. Given this noise attenuation rate, when on-site construction-related noise levels exceed 91 dBA at the project site boundary, outdoor receptors could experience maximum instantaneous noise levels of greater than 65 dBA within approximately 1,000 feet (305 m) of construction sites (EPA 1971).

Table 3.10-1: Construction Equipment Noise Levels (dBA).

Equipment Type	Noise Level at 50 Feet (dBA)	
	Without Noise Control	With Feasible Noise Control[1]
Earthmoving		
Front Loaders	79	75
Backhoes	85	75
Dozers	80	75
Tractors	80	75
Scrapers	88	80
Graders	85	75
Truck	91	75
Pavers	89	80
Materials Handling		
Concrete Mixers	85	75
Concrete Pumps	82	75
Cranes	83	75
Derricks	88	75
Stationary		
Pumps	76	75
Generators	78	75
Compressors	81	75
Impact		
Pile Drivers	101	95
Jack Hammers	88	75
Pneumatic Tools	86	80
Other		
Saws	78	75
Vibrators	76	75

[1] Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost (e.g., mufflers and equipment enclosures).

Source: EPA 1971a.

Assuming no noise attenuation from existing physical features or structures, short-term noise levels generated during demolition and construction could reach maximum levels of approximately 91 dBA at the nearest Navy housing, 85 dBA at the nearest civilian receptor, and 75 dBA at the Skagit Valley College (SVC) library and Sno-Isle/Oak Harbor Public Library. Construction activities are anticipated to last approximately 730 days (ROC, Fogle, 8/10/00). As long as noise-generating construction activities occur during daytime hours, EPA and local noise standards are not likely to be violated since noise during these hours is exempt. Projected noise levels associated with the Proposed Action are summarized in Table 3.10-2. Although these receptors would be subject to volumes in excess of the "adverse effects" level of 65 dBA, no regulatory standards would be violated since the construction noise would be short-term, day time only occurrence.

Table 3.10-2: Projected Short-Term Noise Levels Associated with the Proposed Action.

Noise Receptor	Approximate Distance from Noise Source	Maximum Construction-Generated Intermittent Noise Levels (dBA)
Nearest Navy housing	<50 feet	91 dBA
Nearest civilian receptor	100 feet	85 dBA
SVC and Sno-Isle/Oak Harbor Public Library	300 feet	75 dBA
Toddler Learning Center	300 feet	75 dBA
MWR Youth Center	<100 feet	85 dBA
MWR Child Development Center	<100 feet	85 dBA

Source: EDAW 2000.

The Navy will minimize noise emissions during construction in compliance with the Navy Environmental and Natural Resources Manual (OPNAVINST 5090.lB) that requires maximum use of low noise emission products, as certified by EPA, for all Navy-related operations, as well as compliance with other federal and state regulations pertaining to construction-related noise generation. Measures to reduce construction noise will include: (1) limiting construction activities to normal daytime periods between 7 a.m. and 9 p.m. Monday through Friday, (2) using equipment with proper mufflers or noise control devices, and (3) situating noise-generating equipment near construction activities only.

Long-Term Noise Impacts

Noise generated by occupancy of the replacement Victory Homes, as proposed, would be primarily associated with vehicle traffic on nearby roadways. Traffic-generated noise impacts to sensitive receptors do not typically occur until several thousand vehicles per day are on a roadway (EPA 1978). Replacement of the Victory Housing units will add an estimated 314 occupants, representing a 67 percent population increase. Since the Proposed Action would not double vehicle traffic on area roadways, no significant increase in projected noise is expected to result from project-generated traffic.

3.10.2.2 No Action Alternative

Under the No Action Alternative, the existing Victory Homes would remain in use. This would result in no short-term noise impacts since there would be no demolition or construction. Since there would be no change in occupancy-derived traffic noise, no long-term noise impacts would result from this alternative.

3.10.3 Mitigation Measures

No noise mitigation measures will be required.

3.11 Aesthetic/Visual Resources

Potential effects of the Proposed Action and No Action Alternative on aesthetics/visual resources in the vicinity of the Seaplane Base are assessed in this section. This assessment was accomplished by considering the views from key viewing locations (i.e., residential areas, main roads, designated vista points or public open space, and the proposed Seaplane Base Historic District).

3.11.1 Affected Environment

The Victory Homes site is located on the southwestern flank of Eerkes Hill, one of Oak Harbor's most prominent landmarks. Eerkes Hill rises to an elevation of nearly 200 feet (61 m) above mean high water level. The hillside residential neighborhood, especially the cottages occupying the southern half of the site, can be seen from the south and west and is particularly visible from several streets and other public places in downtown Oak Harbor, as shown in Figure 3.11-1.

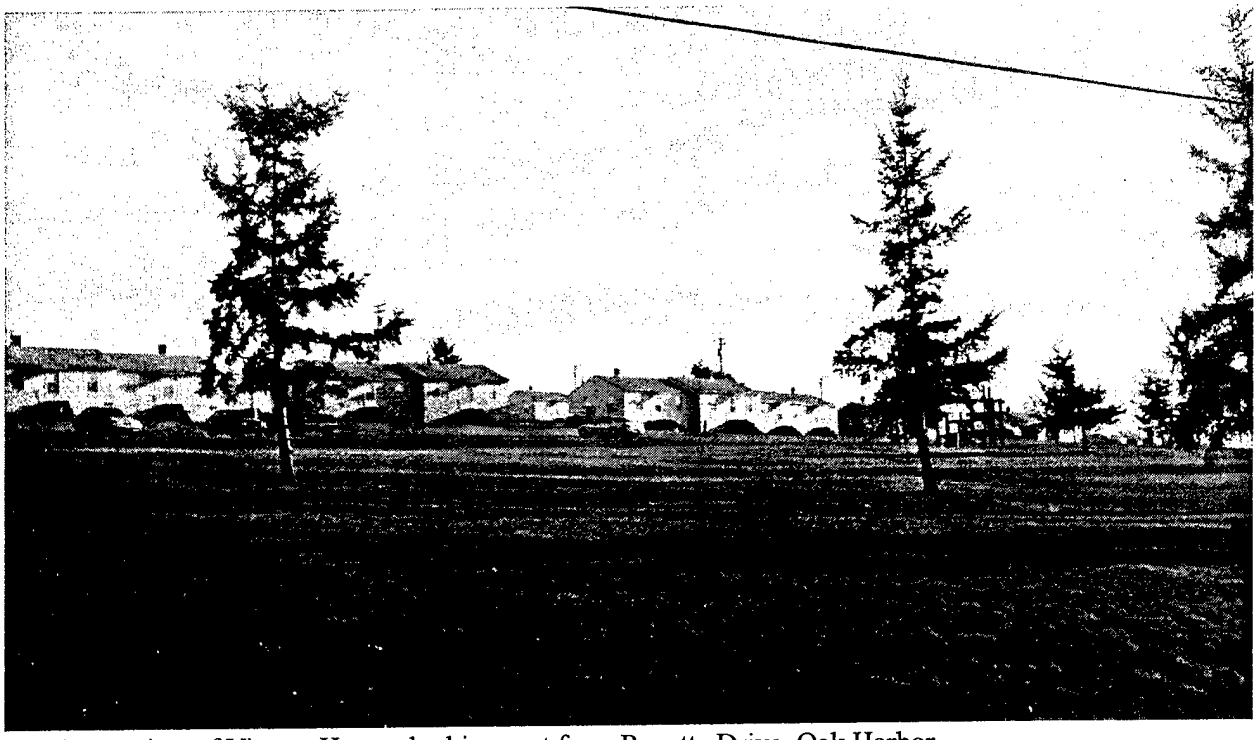
The southern portion of the Victory Homes site can also be seen from other parts of the Seaplane Base, including Maylor Point and the low-lying isthmus connecting Maylor Point to the mainland. In addition, the Victory Homes can be seen by boats in both Crescent or Oak Harbors.

Unlike nearby civilian neighborhoods or even adjacent Navy housing, the Victory Homes are visually distinct due to their institutional regularity and extreme aesthetic simplicity. The age and scale of the cottages and row houses create a cluttered and neglected appearance. This image is reinforced by the lack of trees and other green landscape features. Whether viewed from nearby or from farther away, as shown in Figure 3.11-1, the site resembles a military encampment more than a neighborhood.

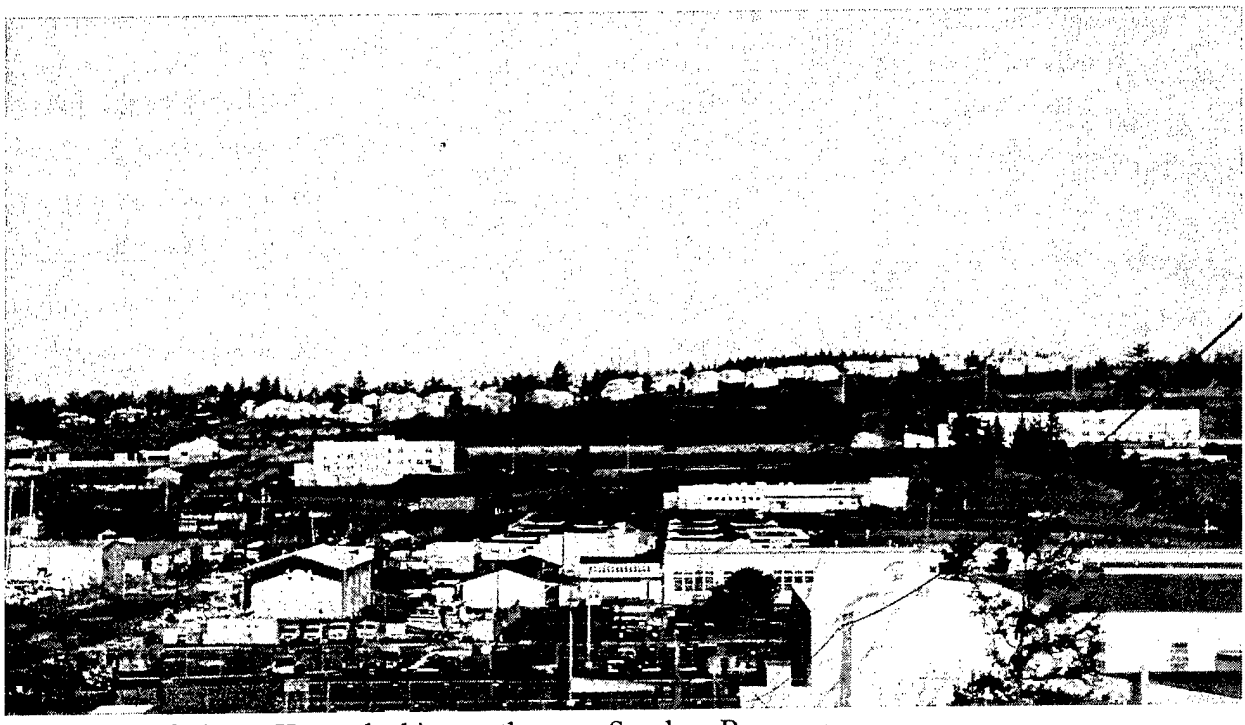
These characteristics, as well as conspicuous details like overhead utility lines, clothes lines, garbage cans, mail boxes, haphazardly parked cars, and other visual clutter, create an awkward contrast between the Victory Homes and the tree-lined and manicured civilian neighborhood on the opposite side of Regatta Drive.

3.11.2 Environmental Consequences

Consequences on views and aesthetics resulting from both Proposed Action and the No Action Alternative are discussed below.



Proximate view of Victory Homes looking east from Regatta Drive, Oak Harbor.



Distant view of Victory Homes looking north across Seaplane Base area.

Source: EDAW, 1999
P:\9e80006\Graphics\Fig3-11.cdr

Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Existing Views - Victory Homes Site

Figure 3.11-1

3.11.2.1 Proposed Action

Short-Term Impacts

During demolition, site preparation, and construction, equipment and trucks would be visible from various locations on the Seaplane Base and from the City of Oak Harbor. These effects are expected to occur over approximately a 24-month period. Due to the limited duration of these activities, visual impacts resulting from demolition, site preparation, and construction are not expected to be significant.

Long-Term Impacts

The Navy is considering two alternatives for the replacement of Victory Homes. Both would replace the existing homes with two-story townhouse-type structures similar to the nearby Rockhill Terrace housing. The main aesthetic differences are described below.

Street-Accessed Alternative: The Street-Accessed Alternatives would utilize much of the existing street layout on the south half of the site, except that additional housing would be built west of Oriole Street on the southern portion of the site. On the northern part of the site, the existing housing on the west flank of Oriole Street would not be replaced following demolition of the existing row-houses. Both Jay and Bryant Streets would extend into the north half of the site. New two-story attached townhouses, consisting mostly of four-plexes, would line both sides of the streets. The design would also include some six-plex units and some three-plex units to provide housing compliant with Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Uniform Federal Accessibility Standards (UFAS).

Common amenities would include generous interconnected green belts in several locations, along with tot lots, basketball courts, and a large detention pond in the southwestern corner of the site. The general arrangement of this alternative is illustrated in Figure 2.1-6. This alternative would retain slightly more un-paved open space than the other alternative and be more visually consistent with nearby Navy housing.

Alley-Accessed Alternative: The Alley-Accessed Alternative would occupy the same site as the first alternative. One major distinguishing feature is that due to the addition of alleys, the development density of the alley-accessed alternative appears to be greater. Four rows of new split-level housing units would step down the hill on the north part of the site and five rows of building on the south part. These homes would front the streets with garages facing the alleys. The general arrangement of this alternative is illustrated in Figure 2.1-7. This alternative would locate much of the parking in alleys generally hidden from view, benefiting the site's aesthetics by creating a less-cluttered street front. On street parking in front of the homes would be available for guests.

From a distance, both alternatives would appear similar. Both would add much larger structures than currently occupy the site. Most of the new homes would have larger first floor areas and stand two stories rather than one. The additional height could obstruct some views from existing Navy housing and open spaces on the site itself. Because of the change in building scale (size of the new units), the site's density would appear to increase even though the actual number of housing units on the Victory Homes site would increase by only two units. The new homes would be more aesthetically compatible with surrounding development. Visual clutter would also be reduced due to new underground utilities, attached garages, and dedicated parking stalls, as well as improved site furnishings.

In conclusion, both alternatives would result in positive aesthetic impacts. For either alternative, potential view blockage to surrounding housing, recreation sites, and public open space could be avoided by careful building siting. The application of standardized design guidelines such as those included in the Comprehensive Neighborhood Plan could improve the neighborhood's aesthetic qualities. Preservation of existing Oregon white oak trees and the implementation of landscaping features consistent with Section 2.6 of NAVFAC INST.11101.85H which provides guidance for trees, shrubs, flower beds will improve the aesthetics of the site's landscape.

3.11.2.2 No Action Alternative

The No Action Alternative would result in retention of the existing Victory Homes. Existing unfavorable aesthetic qualities would likely remain.

3.11.3 Mitigation Measures

As no adverse impacts to visual resources are anticipated, no mitigation measures are required or proposed.

3.12 Transportation and Circulation

This section addresses potential traffic and circulation impacts associated with the Proposed Action and No Action Alternative. It evaluates traffic impacts in accordance with Military Traffic Management Command (MTMC) guidelines, the Washington State Department of Transportation (WSDOT) 1989 Interlocal Guidelines for Coordination with the City of Oak Harbor for Mitigation of Development Impacts, and the 1996 Oak Harbor Transportation Concurrency Management Ordinance. Because the Proposed Action consists of two alternatives which would alter the site's street pattern, on-site vehicular and pedestrian circulation are addressed separately.

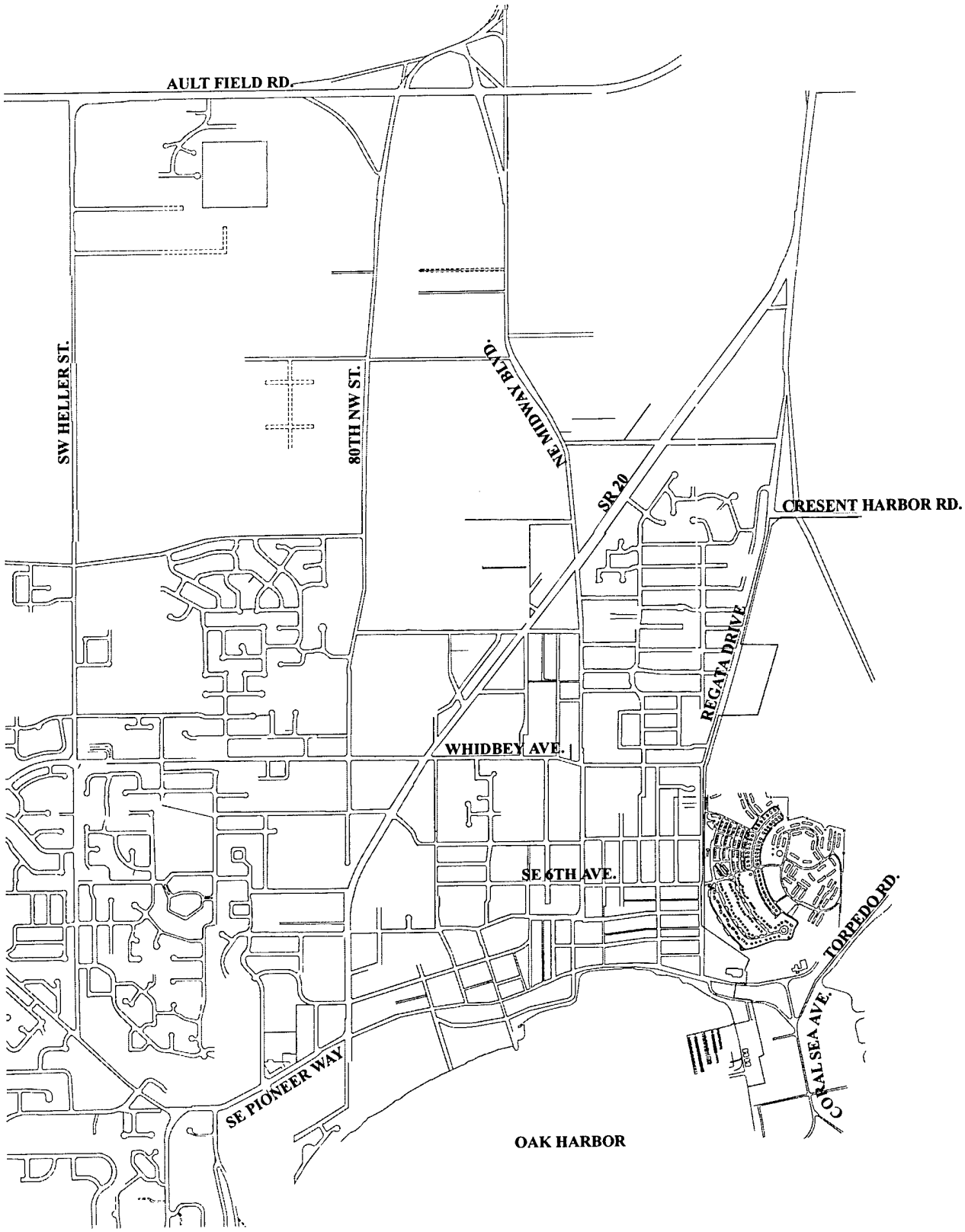
3.12.1 Affected Environment

The following briefly describes existing transportation and traffic conditions in the vicinity of the Victory Homes site. It includes descriptions and analyses of site access, circulation, parking, pedestrian/bicycle access, the roadway network, existing intersection levels of service (LOS), public transit services, and planned transportation improvements. The transportation study area is generally bounded by Ault Field Road to the north, State Route (SR) 20 to the west, Torpedo Road to the east, and East Coral Sea Avenue to the east and south (Figure 3.12-1).

3.12.1.1 Existing Site Access, Circulation, and Parking

The existing on-site circulation system consists of collectors, sub-collectors, minor streets, and sidewalks as shown on Figure 3.12-2. The main entrance to Victory Homes is Meadow Drive, a collector entering the base from Regatta Drive from the west. Meadow Drive currently bisects the Victory Homes, providing access to all the subcollectors including Brant and Jay Streets to the south as well as Brant, Goldfinch, Jay, Lark, and Canary Streets to the north. Meadow Drive also provides access to the site from the east, connecting to Rockhill Terrace. Clover Street, a subcollector at the north end of the site, also provides access to Navy housing from Regatta Drive.

The north end of the site has a modified street grid pattern with up to four row houses per block. Short side streets (Reed, Heather, and Field Streets) intersect the subcollectors creating frequent intersections. These streets are 21 to 23 feet (6.5 to 7 m) wide, and subcollectors are 26 feet (8 m) wide, but both are narrowed further by on-street parking flanking both sides of the street as shown in Figure 3.12-3. Off-street parking on this part of the site is limited to several un-striped pull-off areas, which are severely inadequate in relation to need. Although un-striped, the Navy estimates an existing ratio of one parking space per housing unit in this part of the site (ROC, Rodgers, 3/13/00).

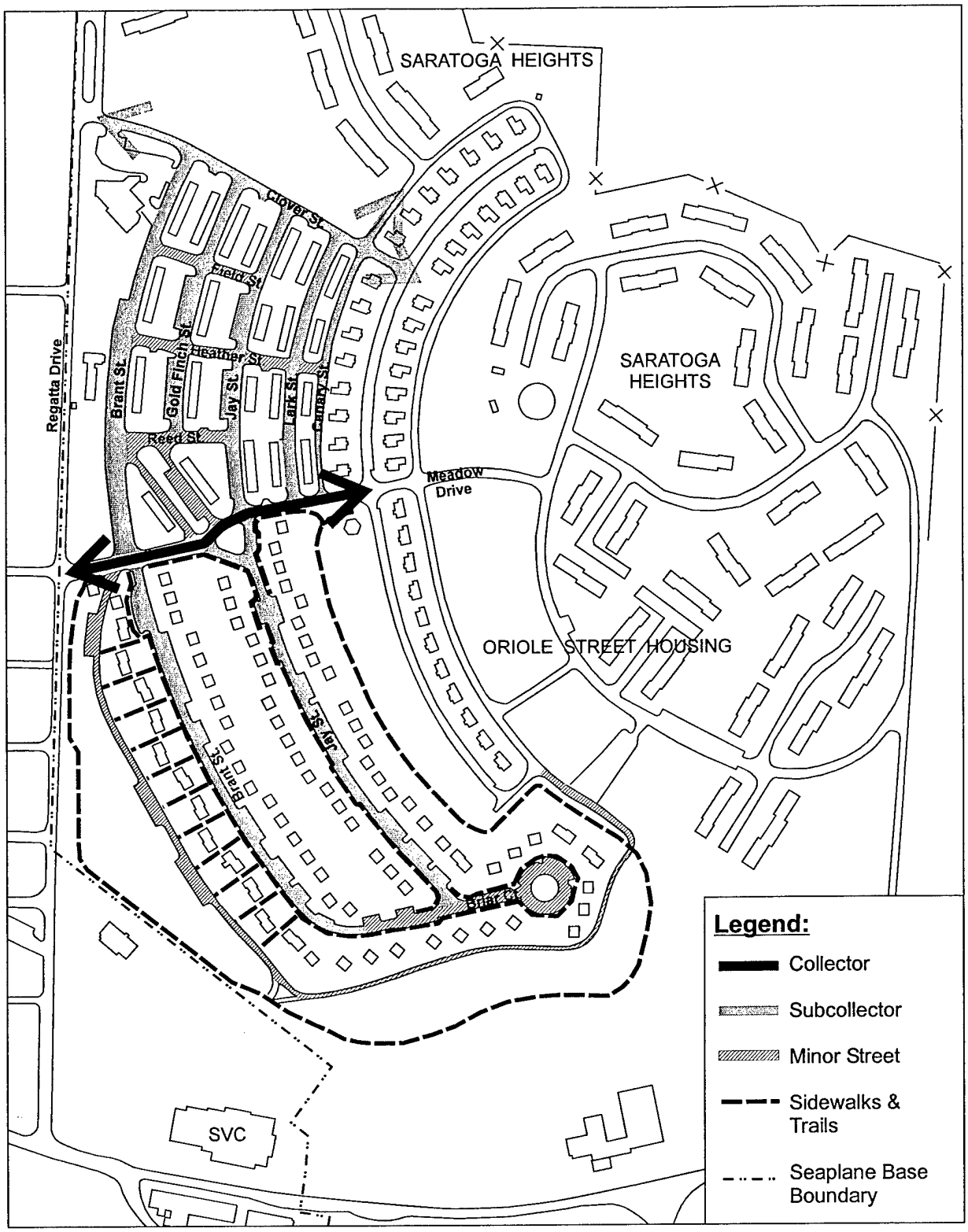


Source: Department of the Navy, 1987

Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

TRAFFIC STUDY AREA

Figure 3.12-1



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Source: EDAW 2000

Not to scale

Environmental Assessment
Demolition and Replacement of Victory Homes
Seaplane Base, NASWI

Existing Vehicular and Pedestrian Circulation at Victory Homes

Figure 3.12-2

Figure 3.12-3: Photograph of Lark Street, Victory Homes.

Typical of Victory Homes, Lark Street lacks off-street parking, forcing occupants to park on the shoulder of this narrow street. Lack of sidewalks, frequent intersections, and minimal setbacks make walking difficult and unsafe.

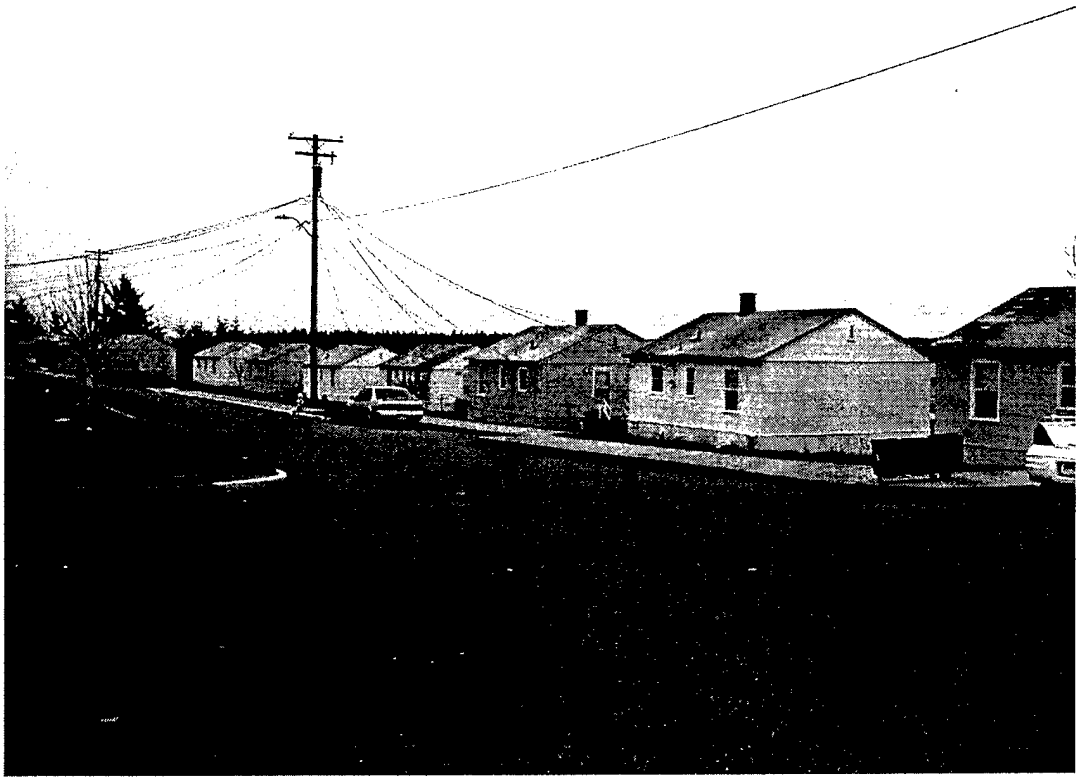
The south end of the site has two sub-collectors, Jay and Brant Streets, which generally parallel the topography. The two intersect one another east of a 60° bend in Brant Street. Brant Street ends in cul-de-sac called Briar Court. Both Jay and Brant Street have been widened in some locations to provide angle and parallel parking. In addition, 64 parking stalls serving some of the homes on the west side of Brant Street are provided by an alley near the southwestern corner of the site.

A typical street scene in the southern part of the site is shown in Figure 3.12-4.

3.12.1.2 Existing Pedestrian/Bicycle Access

The Victory Homes site is in walking or cycling distance of numerous destinations including nearby housing, the Olympic View Elementary School, the North Whidbey Middle School, downtown Oak Harbor, the Public Library, Skagit Valley College, the Navy Housing Office and Family Service Center, the Toddler Learning Center, Island Transit stops, MWR Youth Center and Daycare, the Navy Exchange, Commissary, marinas, and other attractions.

Figure 3.12-4: Jay Street, Victory Homes.



Staggered pullouts provide angle parking on one side of Jay Street and curb-side parking on the other. As a result, sidewalks are either not straight or are discontinuous.

On the north portion of the site, walkers and cyclists are limited to the streets, which can be dangerous, especially due to the visual obstruction of parked vehicles. The south portion of the site has continuous concrete sidewalks on the west side of both streets but only partial sidewalks on the east. These sidewalks are narrow (5 feet [1.5 m]) and lack planting strips, wheelchair ramps, street trees, and other pedestrian amenities. A grade-separated path shown in Figure 3.12-2 circles the entire southern portion of the site and connects to public sidewalks on Regatta Drive but does not connect to the library or other destinations south of the site. Sidewalks do not exist on all NASWI or nearby public streets, nor are all public sidewalks continuous such as the one on Regatta Drive.

3.12.1.3 Existing Public Roadway Conditions

Future occupants of the Victory Homes would continue to access the site as they do now. Two roads, Meadow Drive and Clover Street, access the site from east and west, providing connections through the site to the Oriole Street Housing and Saratoga Heights. Access to the Seaplane Base is provided via SR 20, a principal highway connecting Whidbey Island with the Interstate freeway system in Burlington to the north and south via Highway 525 to the Clinton Ferry Dock. The main connections between Victory Housing and SR 20

include Regatta Drive, Pioneer Way, and Whidbey Avenue as well as Torpedo Road (Figure 3.12-1). SR 20 is a 5-lane road through a majority of the Oak Harbor city limits. Speed limits on the roadway are posted at 35 mph (56 km/hr). Existing weekday daily traffic ranges between 18,000 and 25,000 daily vehicles on SR 20.

Pioneer Way is an east-west minor arterial through the heart of downtown Oak Harbor. It connects the Skagit Valley College campus, Oak Harbor Public Marina, and the NASWI Seaplane Base east of downtown with SR 20. Pioneer Way narrows from four lanes to two with on-street parking on both sides within the downtown core. Curbs, gutters, and sidewalks are provided on both sides of the street. The roadway is posted at 25 mph (40 km/hr) and carries nearly 10,000 daily vehicles near the downtown core.

Regatta Drive is a 2-lane rural minor arterial roadway with a posted speed limit that ranges between 35 mph (56 km/hr) outside city limits, and 25 mph (40 km/hr) inside the City of Oak Harbor. The most recent available weekday peak hour daily traffic data on this roadway between Pioneer Way and Crescent Harbor Road are shown in Table 3.12-1. No traffic counts were available on the Naval Station.

Table 3.12-1: Existing Average Weekday Peak Hour Traffic Volumes

Regatta Drive segment	AM Peak Hour		PM Peak Hour	
	Northbound	Southbound	Northbound	Southbound
Pioneer Way to 700 Regatta Drive	230	241	299	306
700 Regatta Drive to Crescent Harbor	161	224	253	270

Source: Traffic Count Consultants, Inc. 1998

3.12.1.4 Existing Intersection Levels of Service

Level of service (LOS) is an indicator of the quality of traffic flow at an intersection or roadway segment. The LOS grading ranges from A to F, with LOS A corresponding to no delays and low traffic volumes. LOS E, on the other hand, represents an "at capacity" condition under which no additional vehicles could be added to the intersection or road segment without a breakdown in traffic flow. LOS F is an unacceptable level of service and indicates long delays and/or forced traffic flow.

The methods used to calculate the LOS for traffic impact evaluation are described in the 1997 Highway Capacity Manual (Transportation Research Board 1997). The measure of effectiveness for signalized intersections is average stopped delay, defined as the total time vehicles are stopped at an intersection approach during a specified time period divided by the number of vehicles departing from the approach in the same time period. For un-signalized intersections, a LOS and estimate of average stopped delay are determined for the entire intersection as well as for each movement. The evaluation procedure is a sequential analysis based on gaps in the major traffic streams.

In accordance with WSDOT and the City of Oak Harbor traffic impact analysis guidelines, key intersections that would be affected by 10 or more p.m. peak hour trips from new development must be evaluated and mitigation measures developed to maintain acceptable operating levels of service. Key intersections relevant to this project include Regatta Drive with Pioneer Way, Whidbey Avenue, Crescent Harbor Road, and SR 20, as well as the intersection of Pioneer Way and SR 20 (ROC, Clements, 10/13/00). LOS standards have been established as LOS E on SR 20 under the 1989 Interlocal Agreement with WSDOT and LOS D for other streets within the City of Oak Harbor.

Recent traffic studies conducted for the Navy Lodge EA (Department of the Navy 1999) estimated levels of service for intersections near the Victory Homes site. Table 3.12-2 summarizes existing levels of service at critical intersections that would meet locally adopted evaluation criteria. Currently, two intersections (Ault Field Road at SR 20 and Pioneer Way at Regatta Drive) operate at LOS D.

Table 3.12-2: Estimated 2000 P.M. Peak Intersection Levels of Service.

Intersection	PM Peak Level of Service
Ault Field Road at SR 20	LOS D (SIG – 26 secs)
Pioneer Way at SR 20	LOS C (SIG – 25 secs)
Pioneer Way at Midway Boulevard	LOS B (SIG – 10 secs)
Pioneer Way at Regatta Drive	LOS D (TWSC – 20 secs)
LOS A–F – Average LOS for stop controlled and yield movements. (##) - Average delay per vehicle of stop controlled and yield movements (in seconds). Intersection Traffic Control Key SIG: Actuated signal. TWSC: Two-way stop controlled.	

Source: Department of the Navy 1999a.

3.12.1.5 Existing Public Transportation Services

Island Transit, the public transportation provider for Island County, currently provides a mixture of fixed route and demand responsive services for island residents from Deception Pass Bridge in north Whidbey to the WSDOT Clinton ferry terminal on south Whidbey Island. All of Island Transit's services are provided fare-free to its users. The system is funded by a 0.3 percent sales tax. Island Transit does not provide weekend service.

The focal point of Island Transit's fixed bus route service is the Harbor Station Transit Center in downtown Oak Harbor. The station is located one block south of Pioneer Way at the northwest corner of Dock Street and Bayshore Drive, approximately 1 mile (1.6 km) west of the Seaplane Base. All of Island Transit's service into the downtown core originates or terminates at Harbor Station and, as such, this location serves as the main transfer point for Island Transit's Whidbey Island service. Buses depart every hour for the Clinton ferry dock, Keystone ferry dock, Deception Pass, Crescent Harbor, and Ault Field. There is also a shuttle which circulates downtown Oak Harbor every half-hour.

The closest bus stop to the Victory Homes is a shelter built by the Navy adjacent to the site on the east side of Regatta Drive. This stop is served by route #3 providing connections to Crescent Harbor and beyond. Another nearby stop located at the Public Library directly south of the site is served by route #9 providing service around the city.

The Navy also provides shuttle or taxi service for personnel needing employment-related transportation on NASWI.

3.12.1.6 Planned Transportation Improvements

A review was conducted of the planned transportation improvements by the City of Oak Harbor, Island County, and WSDOT in the project vicinity. No capacity-related improvements at critical intersections or roadways in the site vicinity are programmed through the year 2000. The City of Oak Harbor will install a sidewalk on the west side of Regatta Drive between NE 1st Street and NE 5th Street across the street from the Olympic View Elementary School (ROC, Clements, 3/13/00). The NASWI Public Works Department has no plans for roadway improvements in the project vicinity.

3.12.2 Environmental Consequences

This section describes the potential impacts of the Proposed Action on the surrounding transportation system and on the Victory Homes site. The discussion addresses short-term impacts during demolition and construction, as well as long-term impacts during occupancy of the site. Specific traffic and circulation topics analyzed include trip generation, internal circulation, parking, and pedestrian and bicycle circulation for both Proposed Action alternatives and the No Action Alternative.

3.12.2.1 Proposed Action

Short-Term Impacts

Short-term traffic effects would be caused by vehicles transporting demolition debris from the base and construction materials onto the Seaplane Base and from workers traveling to and from the job site on a daily basis during the 24-month construction period. No hauling of fill material would be required. The arrival/departure rate of trucked materials would vary over the construction period, as would the number of daily construction workers on site. Flaggers would guide larger vehicles into and out of the site, as well as control traffic on Regatta Drive. Construction workers would likely arrive and leave during peak traffic periods (a.m. and p.m.), although typical construction activity would be spread beyond an 8-hour work period. Most workers would drive their own vehicles and park on Navy property at the construction site. Construction traffic and parking are not expected to significantly affect surrounding traffic. The contractor will be responsible for obtaining all permits and complying with the federal, state, Island County, and Oak Harbor regulatory requirements (Wisbeck and Fraser 2000).

Vehicular Trip Generation

Afternoon peak hour traffic volumes typically represent the highest hourly volumes of vehicles passing through an intersection during a weekday between 4:00 p.m. and 6:00 p.m. Since the p.m. peak volumes usually represent the highest volumes on the average day, these volumes were used to evaluate the worst-case scenario that would occur as a result of a Proposed Action on traffic operations.

The Proposed Action would replace 198 single-family and duplex homes with 200 units of multi-family housing. Although the number of units are nearly the same, the new units would provide an additional 238 bedrooms and could accommodate an additional 314 occupants. Calculating peak hour traffic associated with the additional occupants is difficult because standard transportation modeling data do not account for project demographics, but only consider land use categories and population levels.

The most comparable land use code for the Proposed Action recognized by the Institute of Transportation Engineers (ITE) (Trip Generation Manual, 6th Edition) would be low-rise apartments (ITE land use code 221). Accordingly, the addition of 314 occupants of low-rise apartments would generate approximately 103 additional trips p.m. peak period trips (63 percent entering and 37 percent exiting). Although the ITE method assumes that additional residents translate into additional automobile trips based on per person trip generation rates, no consideration is made for the fact that the vast majority of additional residents will be school-age and pre-school children too young to drive. While children certainly add to the number of vehicle trips, most children do not follow typical 9:00 a.m. to 5:00 p.m. work schedules, so the peak period (weekdays between 4:00 p.m. and 6:00 p.m.) would not directly apply.

Further, the Proposed Action includes trails and paths to adjacent uses of interest to families with children, including nearby schools and child care centers, which would facilitate non-motorized access. Thus, it is unlikely that the number of additional p.m. peak hour trips would exceed the WSDOT and City of Oak Harbor traffic impact analysis threshold of 10 peak hour trips at key intersections.

Site Access, Circulation, and Parking Impacts

Both Meadow Drive and Clover Street would continue to serve the site following the neighborhood's reconstruction, but internal circulation would depend on the alternative.

Street-Accessed Alternative: In this alternative, the five existing subcollectors would be consolidated into four, and Heather, Reed, and Field Streets would be removed completely at the north end of the site. In addition, Clover Street would become a residential street accessing 8 housing units and would no longer connect through to Canary and Oriole Streets but would merge into New Lark Street. In addition, Brant and Oriole Streets would no longer access homes in the site's northern portion and no housing would be built on New Lark Street's eastern side.

The southern portion of the site's circulation pattern would not be significantly altered under this alternative. Brant and Jay Streets would continue to form a continuous loop serving most housing units; however, the alley west of Brant Street would be removed and some new housing units would be served by Oriole Street. This would reduce the number of intersections, decreasing ease of access somewhat, but increasing safety in comparison to the narrow existing streets with on-street parking which creates numerous blind intersections.

The project specifications require 3 parking stalls per housing unit consisting of one garage stall, one off-street side stall, and one off-street tandem parking stall for guests (Wisbeck and Fraser 2000). This would result in a significant improvement in parking conditions.

Alley-Accessed Alternative: In this design, Reed and Field Streets would also be removed completely at the north end of the site, but the middle two blocks of Heather Street would remain. Both Jay and Canary Streets would be converted to alleys serving the garages of homes facing onto Goldfinch and Lark Streets. The Jay Street alley would be accessed from Meadow Drive, Heather Street, and Clover Street. Brant Street would continue to serve the Youth Center and Childhood Development Center, but not any housing units in the northern portion of the Victory Homes site.

Two new alleys would be added to the south part of the site under this alternative. New Goldfinch and Canary alleys would provide garage access to most homes on this part of the site. These alleys would each have three access points. Housing units on the west side of Brant Street would have garage and pedestrian access on Brant Street.

This design would also reduce the number of intersections, increasing safety in comparison to the existing cluttered, narrow streets with numerous blind intersections. The project specifications require 2.33 parking stalls per housing unit, including one alley-accessed garage stall, one off-street parallel parking stall for residents, and one shared on-street parallel parking stall for guests (Wisbeck and Fraser 2000).

Pedestrian/Bicycle Access Impacts

Both alternatives would have positive impacts for pedestrian and bicycle access throughout the site. Sidewalks and street trees would be added to both Clover Street and Meadow Drive, as well as to each of the block faces. Both alternatives would also provide sections of grade-separated trails, although neither would be continuous, limiting their utility for non-motorized transportation. The Alley-Accessed Alternative would maximize walking and bicycle opportunities through non-motorized use of the alleys themselves, and the Street-Accessed Alternative would provide additional grade-separated trails. Under either Action Alternative, sidewalks, walkways, crosswalks, and other pedestrian access features will be required to conform to Navy Housing Construction Program Specifications as well as Uniform Federal Accessibility Standards (UFAS) and Americans with Disabilities Act Guidelines (ADAAG).

3.12.2.2 No Action Alternative

Under the No Action Alternative, current parking deficiencies, narrow streets, and poor or inconsistent non-motorized transportation conditions would continue.

3.12.3 Mitigation Measures

As no specific impacts to transportation and circulation are anticipated, no mitigation measures are required.

3.13 PUBLIC SERVICES

Public services examined in this EA include law enforcement, fire protection, emergency medical service, and solid waste handling.

3.13.1 Affected Environment

This section describes existing public services used by residents of the Victory Homes site, provided by the Navy or local jurisdiction.

3.13.1.1 Police

The NASWI Security Police are responsible for all law enforcement on a 24-hour basis at NASWI, including the Victory Homes site. NASWI Security Police patrol housing at the Seaplane Base from a substation located in Building 22. Residents of Navy housing can also visit this substation between 8:00 a.m. and 4:00 p.m. to file reports or ask questions. The Security Police also operate a crime prevention division which maintains such crime prevention and personal safety programs as personal property engraving, a bicycle registration, child fingerprinting, and car seat safety checks (Source: NASWI Security Police website).

Law enforcement in the City of Oak Harbor is provided by the Oak Harbor Police Department. The Police Department is responsible for providing all of the law enforcement activities for Oak Harbor. Community safety programs operated by the Oak Harbor Police Department include the DARE Program, Community Block Watch Programs, and the Citizens on Patrol Program (Source: Oak Harbor Police Department website).

The North Precinct of the Island County Sheriff's Department, located at 6th and Main Streets in Coupeville, is responsible for law enforcement in unincorporated portions of Island County from south of Coupeville to Deception Pass. There are 35 Deputies and 1 Sheriff, or approximately 0.6 officer/1,000 residents in the Island County Sheriff's Department that patrol Whidbey and Camano islands. The Washington State Patrol is responsible for patrolling the SR 20 corridor.

3.13.1.2 Fire Protection

Fire protection and emergency medical services on Navy property are provided by the NASWI Fire Department from a station located just west of the Navy's MWR Marina near the intersection of Coral Sea Avenue and Tulage Avenue.

In the case of fire at Victory Homes, the Navy may be assisted by the City of Oak Harbor through a mutual aid agreement (Department of the Navy 2000a). The nearest non-military fire station is the Oak Harbor Fire Station, located at 855 East Whidbey Avenue. The Oak

Harbor Fire Department has 25 paid-on-call (volunteer) firefighters and a paid suppression staff of 10. Services include emergency responses, inspections, pre-incident plans, code enforcement, investigations, fire safety education, cardiopulmonary resuscitation (CPR) classes, emergency preparedness, and community services among others (Source: Oak Harbor Fire Department website). The Victory Homes site is served by 18 fire hydrants but no sprinklers.

3.13.1.3 Emergency Medical Service

Emergency medical services are provided jointly by NASWI Fire Department and the Naval Hospital. The Naval Hospital is located near Saratoga Street at Ault Field, approximately 4 miles (6 km) from the site. The Naval Hospital provides general clinical and hospitalization services for active duty military personnel, their dependents, and other authorized persons identified in current directives. The hospital has 35 inpatient beds and provides care to over 145,000 outpatients per year. Whidbey General Hospital provides ambulance service to the Seaplane Base (Department of the Navy 1999).

Whidbey General Hospital, 10 miles (16 km) south of the Victory Homes site in the town of Coupeville, is the nearest non-military emergency medical facility. The Oak Harbor Fire Department also provides emergency medical services to the base on an on-call basis.

The Navy maintains six ambulances, one of which is located on the Seaplane Base. The ambulances are dispatched by both NASWI Fire Department and the Hospital. Response times are approximately 7-8 minutes (ROC, Barry, 3/6/00).

3.13.1.4 Solid Waste Service

Solid waste management and recycling on the base are the responsibility of the Navy. Solid waste is collected at Victory Homes on a weekly basis. Solid waste is transported to a transfer station on Ault Field and then transported off the island to Roosevelt Regional Landfill located in Eastern Washington. Recyclables including glass, paper, and aluminum are collected by the Navy and sorted and sold to material salvaging companies.

Since 1993, the Navy Whidbey Recycle/Reutilization Program has provided curbside recycling to all housing with weekly pickup of recyclables. In FY 99, an average of 60 percent of the solid waste stream generated at NAS Whidbey Island was recycled through the Navy Whidbey Recycle/Reutilization Program (ROC, Ulmer, 4/5/00).

Through a cooperative solid waste management agreement with Island County, base housing residents are allowed to utilize the Island County Household Hazardous Waste Facility. The Navy pays a proportionate share of the annual cost of operating the Island County Household Hazardous Waste Facility (Department of the Navy Undated).

3.13.2 Environmental Consequences

This section discusses the impacts resulting from the Proposed Action and No Action Alternatives on public services. No significant difference is expected between the two alternatives.

3.13.2.1 Proposed Action

Police

According to Navy Security Police, crime has not been a significant problem in Navy Family Housing (ROC, Wernecke, 4/17/00). A review of crime statistics from the Victory Homes and Saratoga Heights does not reveal any noticeable differences between the two neighborhoods (ROC, Wernecke, 4/17/00); thus, while the population composition of the new Victory Homes will differ from the existing, no crime-related impacts are expected to result from the Proposed Action.

Fire Protection

Under the Proposed Action, fire hydrants would be replaced with hydrants meeting current NAVFAC standards. New construction would comply with Navy fire protection policies governing smoke detectors and automatic sprinkler systems. These modernization measures would decrease fire risk in the replaced Victory Homes. Site redevelopment will also include wider streets and larger turning radii, facilitating better access by fire response vehicles. There would be no increase in demands on Navy or civilian fire response systems or impacts to response times.

Emergency Medical Service

Emergency medical services have sufficient capacity to handle the projected increase in Navy dependants without affecting response times or medical care capacity; thus, no impacts are anticipated (ROC, Barry, 3/6/00).

Solid Waste Service

Disposal of solid waste generated as a result of major construction projects is the responsibility of the contractor. The project specifications require the development and implementation of a Waste Management Program emphasizing salvage and reuse of construction waste rather than recycling or disposal. Only waste materials that cannot be salvaged and reused and have recycle value may be recycled. Only trash may be disposed of through transport to a landfill or other means (Wisbeck and Fraser, 2000). These waste management practices will reduce the quantities to be disposed at Roosevelt Regional Landfill (Department of the Navy Undated).

Short-term demolition activities are expected to generate approximately 6400 cubic meters of general building as site debris. However, a very large portion of this will

consist of asphalt removed during demolition of road surfaces; thus, much of this material may be recycled or reused by the contractor (ROC, Fraser, 10/13/00).

In the long-term, there would be a marginal increase in solid waste production resulting from the increased population, but not enough to affect waste collection, transfer, or disposal capacity. Solid waste and recycling services would continue to be provided by the Navy and its contractors. Wider, reconfigured streets will also assist crews collecting solid waste and recyclables.

3.13.2.2 No Action Alternative

Under the No Action Alternative, the existing Navy and civilian public services would continue to be available to the Victory Homes. Poor access to individual buildings would remain, resulting in a continued challenge to fire fighting equipment and solid waste and recycling collection.

3.13.3 Mitigation Measures

No mitigation measures are required or proposed.

3.14 Utilities

3.14.1 Affected Environment

This section describes existing on-site and local conditions for each utility component, including water, sanitary sewer, storm sewer, electricity, gas, telephone, and cable TV.

3.14.1.1 Water

Local area water originates from the City of Anacortes' water plant on the Skagit River. The City of Oak Harbor, under contract with the City of Anacortes, is guaranteed a maximum of 9.0 million gallons per day (MGPD) and a commitment of 945 million gallons per year (MGPY) via a 24-inch and a 10-inch (61 and 25 cm) line from Sharps Corner. Water is supplied to the Navy under a Water Service (transmission) contract with the City of Oak Harbor. Contract N62474-77-C-a7O6 is a 50-year contract-providing NASWI with 4.5 MGPD of capacity to tank 197, Ault Field (Department of the Navy Undated). Navy usage during FY 99 was 325 MGPY, averaging 0.89 MGPD, with summer (September) peaks of 1.14 MGPD (ROC, Frederic, 3/7/00). The City of Oak Harbor experiences peak average water consumption of 1.6 MGPD (ROC, Styhouse, 4/18/00).

NASWI transmits water from Reservoir 388, a 3 million gallon (11.3 million liter) storage facility at Ault Field, through the City of Oak Harbor to the Seaplane Base via a single un-looped 12-inch (30 cm) line with some 10-inch (25 cm) sections. This pipeline is a limiting factor for additional growth on the Seaplane Base (ROC, Dlugosh, 3/6/00). The Seaplane Base water grid has two 1 million gallon (3.78 million liter) storage tanks and an elevated 200,000-gallon (757,082 liter) tank. Tank 88 located near the Saratoga site has an overflow elevation of 203 feet (62 m) mean low low water level (MLLW). This 1 million gallon (3.78 million liter) storage facility provides the limited head to the distribution system. Primary system pressure originates from the Ault Field reservoirs. There is an emergency pumping facility adjacent to Tank 88, which is designed to boost Seaplane Base system pressures should the transmission line from Ault Field be interrupted. Tank 89 located near the Maylor site is a 1 million gallon (3.78 million liter) standby storage facility with an adjacent pump to return water to Tank 88 (Department of the Navy Undated).

During the peak consumption days (summer), the Navy's transmission pumps operate up to 16 hours per day, supplying Seaplane Base with peaks of 2.5 MGPD. Normal winter season flows are 0.8 MGPD (Department of the Navy Undated).

The existing water distribution system servicing the Victory Homes site was constructed contemporaneously with the housing. The distribution mains are 6-inch (15 cm) cast iron and 6-inch (15 cm) asbestos concrete. A main in Meadow Drive between Canary Street

and Oriole Street is a 6-inch (15 cm) steel pipe. The condition of the interiors of the mains is unknown.

There are a total of 18 fire hydrants in the area of housing to be demolished. There is one pressure zone, designated Fire Zone 8; however, there is a pressure relief valve at the downhill end of the system which serves Skagit Valley Community College and Base facilities at the lower end of the hill, which is designated Fire Zone 7 (Wisbeck and Fraser 1999).

Domestic pressure in the existing system is inadequate through most of the Hilltop Housing Zone, including Victory Homes, but fire flow is sufficient to meet fire code requirements (Department of the Navy 1997). A booster pump located downstream of Water Tank 88 was installed to raise fire flow pressures, but a single pump does not meet Navy Design Guidelines requiring a triplex pump system (Wisbeck and Fraser 1999). Additional upgrades are proposed as part of a separate project to upgrade the water system from Regatta Drive to the stand pipe located on top of Eerkes Hill (ROC, Miller, 9/7/00).

3.14.1.2 Sanitary Sewer

Sewage generated by the Seaplane Base is treated at the Seaplane Base sewer plant, which is operated by Oak Harbor under a 50-year contract. The Navy owns a separate sewage treatment facility on Ault Field, which treats all of the sewage generated on Ault Field. The two sewage plants and collection systems are totally separate since it is not feasible to get Ault Field sewage to the Seaplane Base plant, which is about 5 miles (8 km) away.

Under the terms of its contract with the Navy, the City of Oak Harbor is obligated to provide treatment capacity of 850,000 gallons per day (GPD). Sewer meter readings for 1999 and the beginning of 2000 use averaged 395,000 GPD, which is 46 percent of the Base's reservation (ROC, Krause, 3/14/00).

Sewer mains serving the Victory Homes were rebuilt with PVC pipe, probably in the late 1980s, which would be reused for the replacement housing. Existing sewage flows are estimated to be 185 gallons per minute (GPM) from the south portion of the site and 200 GPM from the north portion (Wisbeck and Fraser 1999).

3.14.1.3 Storm Sewer

See Section 3.4 for a detailed analysis of drainage and storm sewer issues.

3.14.1.4 Electricity

The Victory Homes site is currently served by a Navy-owned primary power distribution system. The point of connection to the Puget Sound Energy grid is at a primary metering box near the intersection of Whidbey Avenue and Regatta Drive. Three-phase power is

then routed underground along Regatta Drive, then along Clover Street, finally rising up a pole near the Navy Daycare (Building 2679). The existing Victory Homes site is fed from a pole-mounted overhead 12.47 kV three-phase system (Wisbeck and Fraser 2000).

3.14.1.5 Gas

The Victory Homes site is currently served by a Navy-owned natural gas distribution system. The point of connection to the Cascade Natural Gas main is at a master meter near the intersection of Meadow and Regatta Drive. Gas piping is routed along Meadow Drive with supply lines branching to homes located to the east and west (Wisbeck and Fraser 2000).

3.14.1.6 Telephone

Existing telephone service is provided by GTE Northwest, with a point of connection at Regatta Drive and 500 Avenue East. From the point of connection, the service is distributed via pole-mounted wires owned by the Navy (Wisbeck and Fraser 1999).

3.14.1.7 Cable TV

The existing cable television service is provided by AT&T Cable Services, with point of connection at Regatta Drive and 500 Avenue East. From the point of connection, the service is distributed via pole-mounted wires owned by the Navy (Wisbeck and Fraser 1999).

3.14.2 Environmental Consequences

The following section describes the potential effects of the Proposed Action and No Action Alternative on utility service. As the two Proposed Action alternatives would serve the same number of occupants, environmental consequences would be the same and are not analyzed separately. Short-term utility impacts are limited to possible brief, temporary service interruptions during construction and other short-duration inconveniences to residents of the Victory Homes, which are not expected to be significant or affect other parts of NASWI; thus, only long-term utility impacts are addressed below.

3.14.2.1 Proposed Action

The future housing units proposed under either Proposed Action alternative would generally require the same types of utilities currently serving the site. In some cases, significant portions of existing systems can be reused, whereas others need to be replaced. Existing utility components requiring replacement would either be removed during the demolition phases of the project, or closed and abandoned in place. The

replacement homes would be larger but more efficient; thus, it is not anticipated that any long-term utility impacts would result from this project.

Water

The replacement units are estimated to add 314 occupants, which could increase water consumption by approximately 47,000 GPD for a total of 17 MGPY (ROC, Dugosh, 3/6/00). Increased water consumption could further diminish water pressure, especially during the summer months when more water is being used for landscape irrigation and recreation purposes (ROC, Dugosh, 3/6/00). Irrigation would be a new water use at the Victory Homes as the existing lawn areas have no irrigation. Irrigation of 269,098 square feet (25,500 m^2) is expected to consume an average of approximately 23,950 GPD[1] during the summer (ROC, Shkerich, 2000).

The existing Victory Homes have high volume flush tank toilets and bathtubs and sinks with corroded, leaky faucets (Otak 1996). The Navy Housing Construction Program requires that the replacement Victory Homes be equipped with low flow toilets (1.6 gallons (6 liters) per flush cycle) as well as water-conserving faucets and shower heads with flow control devices limited to 2.0 and 2.2 gallons (7.6 and 8.3 liters) per minute, respectively (Department of the Navy 2000). As a result, a portion of the additional water consumption resulting from the increase in occupancy is expected to be offset by water conserving plumbing.

As part of a separate action, the Navy plans to address potential pressure and supply deficiencies by adding a booster pump and a new water transmission line tying the housing site to an existing 1 million gallon (3.78 million liter) water tank. The water main project was awarded in September 2000 and is projected to be complete in April 2001 (ROC, Kler, 11/15/00). These improvements are expected to increase pressure by 55-60 pounds per square inch (psi) and improve access to water supplies (ROC, Krause, 3/7/00).

Due to the age of the distribution system, a 25-year remaining useful life cannot be ensured; thus, the entire system will most likely need replacement. The existing fire hydrants may also need to be replaced unless pitting and corrosion are minimal.

Demolition of the Victory Homes water system would require disconnection from the rest of the water distribution system at two locations in Clover Street, and abandonment of the 6-inch (15 cm) main from the fire flow booster pump at Tank 88. The existing connection to Zone 7 near Skagit Valley College would also be severed. To prevent inadequate flows to this area until a reconnection can be made and to ensure that no impacts to water service to Skagit Valley College occur during this work, the contractor will be required to take preventative measures. A pipe network model should be run showing this disconnection to assess whether adequate fire flows can be provided across Zone 7. If not, then a main may have to be constructed from the 10-inch (25 cm) main at Clover Street or elsewhere

[1] Assumes 1 inch (2.54 cm) irrigation per week.

to the West End of Zone 7 prior to demolition of the Victory Homes water system (Wisbeck and Fraser 1999).

Sanitary Sewer

Sewer mains serving the Victory Homes site were rebuilt with PVC pipe, probably in the late 1980s. The life expectancy of the PVC pipe should exceed 25 years and should be structurally suitable for the new housing. Whether the pipe is located to be functionally suitable for the new housing depends upon the proximity of the sewer mains to the specific locations of the new units. Depths of the existing PVC mains are generally between 7 and 14 feet (2 and 4 m), averaging about 9 feet (2.7 m) depth, which should be adequate for the new housing, even with expected regrading.

New mains serving the project would generally be 8-inch and 10-inch (20 and 25 cm) diameter to handle peak sewage flows for pipes flowing at minimum scour velocities of 3 feet per second (fps) (Wisbeck and Fraser 1999).

The projected sewage discharges from the future Victory Homes are expected to increase by 60 GPM in the north half of the site and by 135 GPM in the south half of the site to 260 and 320 GPM, respectively. Due to the condition of the existing system, there may be a significant amount of inflow/infiltration in the existing system, then the new development would decrease flows to the downstream sewer system. In any case, the gravity sewer mains downstream of Victory Homes should have adequate capacity to handle the effluent that would be added by replacement of the Victory Homes (Wisbeck and Fraser 1999).

As a result of the scale of the Proposed Action as well as water conservation measures discussed above, any increases to total sewage flows to the sewage treatment lagoons that serve NASWI are not expected to be significant. Likewise, effluent composition is not expected to change. As a result, no modifications to the sewage treatment lagoons will be required (Wisbeck and Fraser 1999). The Navy currently generates only about 50 to 60 percent of the 850,000 GPD sewage treatment contracted with the City of Oak Harbor. As a result, sufficient treatment capacity and entitlement exist under the existing treatment contract with the City of Oak Harbor to support any additional sewage flows if any were to result from the Proposed Action (ROC, Krause, 3/7/00).

Storm Sewer

See Section 3.4 for a detailed analysis of drainage and storm sewer issues.

Electricity

The Navy is evaluating whether to continue its ownership of the electrical system or contract with Puget Sound Energy for the on-site portion of the service. Either way, the electrical system would be fed from an existing underground service at the northwest corner of the site and distributed to the future Victory Homes through an underground distribution system. In the Street-Accessed Alternative, the power lines would follow the street alignment below grade; in the Alley-Accessed Alternative, the alleys would serve

the underground power lines. This system would also supply electricity through a separate meter to overhead 100 W sodium vapor lights. Puget Sound Energy has indicated that the system has capacity for the anticipated electrical load (Wisbeck and Fraser 1999).

Natural Gas

The Navy is also evaluating whether to continue its ownership of the gas system or contract with Cascade Natural Gas for the on-site portion of the service. Due to potential cost savings, it is likely that ownership will become the responsibility of Cascade Natural Gas. A new gas distribution system would be installed during construction with a new Navy-owned main in the street right-of-way feeding service lines to each dwelling unit.

The future homes would be more energy-efficient than the existing homes but would be larger and would use gas appliances, unlike the existing houses. Future gas consumption has been estimated by Cascade Natural Gas at 2.8 therms per square meter of living space, 270 annual therms per water heater, 120 annual therms per gas range, and 48 annual therms per clothes dryer (Wisbeck and Fraser 2000). This amount of gas consumption is not expected to impact local supplies or distribution capabilities (ROC, Kerry Karsh, Cascade Natural Gas, 2/23/00).

Telephone

At the time of site demolition, the telephone service will be removed back to the point of connection. The demolition will be phased and the existing aerial distribution system will be utilized to maintain service to occupied units.

Cable TV

At the time of site demolition, the telephone service will be removed back to the point of connection. The demolition will be phased, and the existing aerial distribution system will be utilized to maintain service to occupied units.

3.14.2.2 No Action Alternative

Under the No Action Alternative, the existing utility systems would continue to supply the Victory Homes with no additional impacts.

3.14.3 Mitigation Measures

No significant adverse environmental impacts to utility system components resulting from redevelopment of the Victory Homes are anticipated; thus, no mitigation measures are required or proposed.

3.15 Socioeconomics

This section addresses potential impacts on demographics, housing, and employment in the vicinity of the Victory Homes site.

3.15.1 Affected Environment

This section briefly summarizes the existing socioeconomic and housing conditions and trends in Island County Washington.

3.15.1.1 Overview

Island County's economy has gradually changed over the decades from the trading and fishing activities of the original Native American inhabitants to an economy dominated by the presence of NASWI. In between were Hudson's Bay Company fur trappers, as well as loggers, fishermen, and farmers (who still occupy a niche). Tourists and retirees play an increasingly significant role.

3.15.1.2 Population

The county has experienced rapid population growth in recent years, a trend which is expected to continue. Island County estimates the 1999 permanent population of Island County's north Whidbey Island planning unit, which encompasses most of NASWI and all of the Seaplane Base, to be 39,100 persons. The State Office of Financial Management's (OFM) projects this to rise to 57,500 by the year 2020 (City of Oak Harbor 1998). The greatest concentration of the population of this area lives in the City of Oak Harbor and in military housing at NASWI. OFM estimated the 1999 City of Oak Harbor population to be 12,830 persons (ROC, Burdette, 11/3/99). The NASWI population as of April 1996 was 5,051 (Department of the Navy 1999). Growth of the 65-and-older group has been extensive since 1970. Of this age group, 9,272 resided in the county as of 1994 (Source: LMEA website).

In 1993 in conjunction with the State Department of Community, Trade and Economic Development and the Island County Planning Department, the City of Oak Harbor developed low, medium, and high population projections for the 20-year period, as listed in Table 3.15-1.

The population predictions were made using a modified exponential forecast method. This method analyzed the compounded growth rate for the last 40 years in 5- and 10-year increments. From these data, high, medium, and low compounded annual growth rates were derived and applied to the current population to forecast the future population in 5-year increments for the next 20 years.

Table 3.15-1: Existing and Projected Population 1993 to 2013.

Projection	1993 Population	Projected 2013 Population	Projected Population Increase	Percent Increase	Annual Growth Rate	New Housing Units
Low	18,930	24,040	5,110	27%	1.35%	1,776
Medium	18,930	26,650	7,720	41%	2.05%	2,757
High	18,930	28,580	9,650	51%	2.55%	3,398

Source: City of Oak Harbor 1998.

NASWI plays an important role in the population of Oak Harbor. NASWI serves as an employment base and a market for services, while increasing the population of the city with military personnel and their dependents. For example, in 1993 there were 24,155 military and civilian personnel and dependents directly related to NASWI. Of this amount, 94 percent live in the North Whidbey/Oak Harbor area, representing 78 percent of the total population. It is projected that a smaller proportion of the population of Oak Harbor will be directly related to Navy employment by the year 2013. This is based on the assumption that the employment base of Oak Harbor will become more diversified, and that NASWI will have a reduced impact on population growth in the future (City of Oak Harbor 1998).

3.15.1.3 Housing

Existing and Projected Housing for Oak Harbor

Housing demand is a function of the total population, the amount of population living in group quarters, the number of unoccupied units, and the number of units that are vacant and available for rent. Table 3.15-2 illustrates the historic, existing, and projected housing demand in Oak Harbor's planning area including its Urban Growth Area (UGA), and the Seaplane Base.

Table 3.15-2: Historic, Existing, and Projected Households (HH).

Year	Total Population	Group Population	HH Pop.	Avg. HH Size	Total HH	Vacant HH	Percent Vacant	Ttl. HH Required
1980	12,271	781	2,193	2.97	4,107	232	5.65%	4,407
1990	17,176	801	7,096	2.86	5,971	202	3.38%	6,173
1993	18,930	801	8,850	2.82	6,809	204	3.00%	7,013
2013	28,580	802	8,500	2.64	10,795	324	3.00%	11,119

Source: City of Oak Harbor 1998.

As Table 3.15-2 indicates, local housing vacancies have been very limited since the early 1990s, a condition projected to remain unchanged far into the future. Limited vacancies translate to limited housing choice and, ultimately, higher housing prices.

Naval Housing

Current (FY 2001) gross family housing requirements for military personnel assigned to NASWI total 4,707 units (see Table 3.15-3) (Department of the Navy 1999).

Table 3.15-3: Existing and Projected Navy Housing Data.

	FY 1998	Projected (to 2004)
Total Personnel Strength	7,635	8,126
Gross Family Housing Requirements	4,707	5,070
Effective Housing Deficit	328	423

Source: Department of the Navy 1999.

Living in base housing is optional for Naval personnel stationed at NASWI, but waiting lists are long for those desiring to live in on-base housing. The availability of rental units within the local commuting area is very limited and rental rates are high. Rental rates average $325 to $820 for studio to three-bedroom apartments, $400 to $1,500 for one- to four-bedroom houses, and $400 to $900 for one- to three-bedroom mobile homes. Deposits of first and last months' rent may also be required. Rental prices quoted above are only estimates, and units in the lower price range may not always be immediately available. Several motels in the area offer reduced weekly and monthly rates and are equipped with kitchenettes (Source: NASWI website).

Navy-operated housing is located at both Seaplane Base and Ault Field. The only housing units adjacent to Ault Field are Whidbey Apartments and Apache Street (both enlisted housing areas). The Seaplane Base contains the majority of Navy-owned housing including the Maylor Point housing area, Victory Homes (junior enlisted), Saratoga Heights, Rockhill Terrace, and Oriole Street Housing (enlisted housing), and the Crescent Harbor housing area. The Seaplane Base is also the location of the Navy Exchange, Commissary Store, housing office, and other residential support activities (Source: NASWI website). Housing operated by NASWI is summarized in Table 3.15-4.

3.15.1.4 Project Demographics

The existing Victory Homes site has a population of 469 including 198 enlisted personnel and 271 dependants (ROC, Rodgers, 3/2/00). Of these, only 38 are school-age dependents. By the standards of family housing, the Victory Homes has an unusually low percentage of school-age dependants to housing units (8 percent), attributable to the relative lack of bedrooms, living area, and amenities. By contrast, the adjacent 286-unit Saratoga Heights houses a population of 820 with 342 school-age dependants, comprising more than 40 percent of the population of Saratoga Heights.

Table 3.15-4: NASWI Housing Summary.

Housing Area	Eligible Rank	# Bedrooms
Enlisted Housing:		
Victory Homes	E1 - E3	1, 2 and 3 BR units
Oriole Street	E4 - E6	2 BR units
Apache Street	E4 - E6	2 BR units
Elk Drive	E4 - E6	2 BR units
Coral Sea Avenue	E4 - E6	2 BR units
Whidbey Apartments	E4 - E6	2 and 3 BR units
Saratoga Heights	E4 - E6	2, 3 and 4 BR units
Maylor Point	E4 - E6	3 and 4 BR units
Crescent Harbor	E4 - E6	3 and 4 BR
Rockhill Terrace	E4 - E6	2 BR units
Khaki Housing[1]:		
Maylor Point	E7 - O6	3 and 4 BR units
Maylor Point Capehart	E7 - O6	3 and 4 BR units
Farmhouses	E7 - O6	3 and 4 BR units

Source: NASWI website.
[1] Khaki Housing serves senior enlisted and junior officers and their families.

3.15.1.5 Employment

In 1999, there were an estimated 16,143 employment opportunities in the north Whidbey Island planning unit. Employment in this region was forecasted by OFM to increase by 1,185 jobs by the year 2000 and another 5,522 jobs by 2020 (ROC, Tate, 11/4/99). Most jobs on north Whidbey Island are associated with NASWI. Other significant employment sectors include government, service, and retail, with most jobs occurring in or near the city of Oak Harbor. The largest private employers include Technical Services, Inc. (printed circuit boards); Logos Research Systems, Inc. (Bible software and archival search engines); Upchurch Scientific (finely engineered fittings for high pressure liquid chromatography devices and other high-temperature, high-pressure systems); InterWest Bank; and Chugach Development Corp. (a Navy base maintenance contractor) (Source: Whidbey News-Times website).

Approximately 8,000 active duty military and 1,200 DoD civilian employees are associated with NASWI. They bring in a payroll of almost $300 million dollars annually, with even higher DoD non-wage and salary spending in the area is even more. As this money circulates through the county's economy, it creates jobs in the trade and services industries, which are quite large, proportionately, in Island County. Employment growth in these two sectors over the last two decades has outstripped growth of DoD personnel. The other industrial sectors in the county have also grown rapidly. In fact, employment growth in every sector has outpaced its counterpart statewide, usually by a wide margin. Overall, nonfarm employment grew by 235 percent between 1970 and 1994. Statewide, the growth was 114 percent (Source: LMEA website).

NASWI also has a significant impact on employment. Based on a survey of Oak Harbor residents, approximately 50 percent of all employment in the north Whidbey and Oak Harbor area was in the active military (Oak Harbor Planning Department 1993). In addition, because the Navy is a "basic" industry (i.e., an industry that brings in revenue and employment from outside the community), it attracts other secondary employment business such as retailers and service firms. In 1991, there were 0.2378 Navy dependent jobs for each basic military employee (Reed Hansen and Associates 1991). Table 3.15-5 illustrates both projected NASWI and Non-NASWI employment.

Table 3.15-5: NASWI and Non-military Employment Forecast.

Year	Military	NASWI Civilian	Total	NASWI-Depend.	NASWI-Independ.	Non-NASWI Total	Non-NASWI Growth	Total Employment
1980	6,381	856	7,237	1,517	2,388	3,905	-----	11,142
1991	8,510	786	9,296	2,024	5,666	7,690	3,785	16,986
1993	8,829	2,031	10,860	2,099	5,989	8,088	398	18,948
2013[1]								
Low[2]	7,505	1,726	9,231	1,517	10,424	11,941	3,853	21,172
Medium[3]	8,829	2,031	10,860	2,099	10,424	12,523	4,435	23,383
High[4]	9,270	2,133	11,403	2,315	10,424	12,739	4,651	24,142

Source: City of Oak Harbor 1998.
[1] Oak Harbor Planning Department 1993. Based on annual growth rate of 2.81 on Non-NASWI Employment and a 0.2378 Military/NASWI-Dependent multiplier.
[2] Assumes a 15% reduction.
[3] Assumes no change.
[4] Assumes a 5% increase.

3.15.1.6 Income

According to U.S. Census estimates released in February 1999, the median household income for Island County was $37,305, with 90 percent of county population household income between $34,300 to $40,294. County poverty data are shown in Table 3.15-6.

Table 3.15-6: Model-Based Income and Poverty Estimates for Island County, Washington in 1996.

Population as of July 1996	Number		Percent	
Statistic	Estimate	90% Confidence Interval	Estimate	90% Confidence Interval
People of all ages in poverty	4,658	3,738 to 5,578	6.8	5.5 to 8.2
People under age 18 in poverty	1,766	1,389 to 2,142	9.5	7.5 to 11.5
Related children age 5-17 in families in poverty	1,031	800 to 1,262	8.1	6.3 to 9.9

Source: Bureau of the Census website.

3.15.2 Environmental Consequences

The following sections describe the potential social and economic effects of the Proposed Action and No Action Alternative. Socioeconomic impacts related to the Proposed Action would apply to either Action Alternative. Both short-term and long-term impacts are considered in the following discussion.

3.15.2.1 Proposed Action

In the short-term, the closure of the Victory homes will temporarily decrease the regional housing supply. In response, the NASWI Housing Office has closed Victory Homes for backfill in anticipation of replacing the Victory Homes. In other words, housing units at Victory homes are kept vacant whenever vacated by occupants as a way to moderate pressure on the local housing supply during the construction period (ROC, Kler, 9/11/00).

The most significant long-term demographic difference anticipated to result from the Proposed Action would be facilitated by the change in the number of bedrooms. Almost one quarter of the existing housing units contain only one bedroom. By contrast, no single bedroom units are proposed. Even more significant, approximately three-quarters of the proposed units would have three bedrooms, up from only 10 percent of existing units. In addition, there would be 28 four-bedroom units; none of existing units have more than three bedrooms (see Table 3.15-7). The Proposed Action would replace substandard housing with housing that is far more suitable for families. More bedrooms and more spacious dwelling units would attract families with more children. This may have a moderate beneficial impact on both Navy and civilian families by reducing pressure on the tight civilian real estate market and freeing up a portion of the local housing supply. In addition, many Navy families would be able to live closer to work, reducing commute distances.

Table 3.15-7: Change in Number of Bedrooms.

Housing Unit type	Existing Victory Homes		Proposed Action		Total Change
by Bedroom Count	# Units	# Bedrooms	# Units	# Bedrooms	Number of Bedrooms
1	45	45	0	0	-45
2	134	268	20	40	-228
3	19	57	152	456	+399
4	0	0	28	112	+112
Total	198	370	200	608	+238

Source: EDAW 2000.

As a result of these improved living conditions for families, 583 dependants are estimated to relocate to the new Victory Homes, representing a net increase of 312 dependants and two additional enlisted personnel, for a total of 314 people, as shown in Table 3.15-8.

The Proposed Action would change the housing assignment system for enlisted families at NASWI. As previously shown on Table 3.15-4, the Victory Homes is currently the only on-base family housing available to the lowest pay grades (E1-E3). Following replacement of the Victory Homes, all enlisted family housing including the Victory Homes will be available to pay grades E1-E6 provided that they qualify for the appropriate bedroom entitlements (ROC, Rodgers, 4/17/00). This change is expected to increase housing opportunities for enlisted pay grades, a positive socioeconomic impact on many Navy families.

Table 3.15-8: Population Change.

Housing Unit type	Existing Victory Homes			Future Victory Homes			Net Change
by Bedroom Count	Depend-ants	Military	Total	Depend-ants	Military	Total	Total Occupants
1	42	45	87	0	0	0	-87
2	185	134	319	31	20	51	-268
3	44	19	63	436	152	588	+525
4	0	0	0	116	28	144	+144
Total	271	198	469	583	200	783	+314

Source: EDAW 2000.

3.15.2.2 No Action Alternative

The No Action Alternative would have a negative socioeconomic impact on Naval families and the local housing supply. The existing Victory Homes do not meet Navy housing standards for numerous reasons. These houses are significantly undersized by a factor of approximately 50 percent, resulting in insufficient common space, extremely undersized bedrooms, and severe lack of storage. Major systems such as roofing, electrical, plumbing, heating, structural supports, etc. are failing. The site layout includes narrow streets with no sidewalks, curbs, landscaping, and inadequate parking. The lack of off-street parking not only fails to meet standards, but also hinders effective vehicle and pedestrian circulation on the narrow streets without sidewalks, curbs, or underground storm drainage, affecting quality of life for occupants.

Continued use of the existing Victory Homes under the No Action Alternative would result in: (1) not meeting current Navy housing requirements (per NAVFACINST 11101.85H) for the needs of enlisted personnel (E1-E6) and their families, (2) continuing safety concerns for pedestrians, (3) continuing high maintenance costs, and (4) lack of compliance with ADAAG and UFAS.

In human terms, if new housing is not provided, married enlisted personnel will have to choose between involuntary separation from their families, or accept housing that is unsuitable. Military families would be forced to live in neighborhoods that provide less than a desirable quality of life. These choices would affect morale and adversely affect the Navy's ability to retain quality personnel (DD form 1391c).

The Oak Harbor area has an affordable housing vacancy rate of less than 3 percent (DD form 1391c). This makes suitable and affordable housing within reasonable commuting distance difficult to obtain for enlisted families. Short-term month-to-month rentals are scarce and do not meet the requirement of those who do manage to procure affordable short-term rentals. Planned construction and development of off-base housing would not meet current housing demands or projected increases (DD form 1391c).

3.15.3 Mitigation Measures

The Proposed Action would have beneficial socioeconomic impacts. No mitigation measures are required.

3.16 SCHOOL CAPACITY

This section addresses potential impacts to school enrollment within the Oak Harbor School District that are likely to result from the Proposed Action and No Action Alternative. There is no anticipated difference that would affect school enrollment between the two Proposed Action alternatives.

3.16.1 Affected Environment

The majority of students from families living in the new housing units would attend schools operated by the Oak Harbor School District No. 201. The Oak Harbor School District is located on the northern-most part of Whidbey Island, encompassing the area from just north of Penn Cove to Deception Pass, and Strawberry Point to West Beach Road including both the Seaplane Base and Ault Field. The district consists of:

- Six elementary schools, serving students from kindergarten through fifth grade.
- Two middle schools, North Whidbey Middle School and Oak Harbor Middle School, serving students from grades 6-8.
- Oak Harbor High School, a four-year AAA school serving grades 9-12.

(Source: Oak Harbor School website)

A sizable portion of the district's current student enrollment consists of children from Naval families. Of the 6,484 students enrolled for the 1999/2000 school year, 3,009 students have one or both parents in the military as of October 4, 1999 (ROC, Wallin, 3/3/00). Most Navy families live in Navy-provided housing, but a sizable number also live off-base in Oak Harbor or elsewhere on Whidbey Island.

The nearest school to the Victory Homes site is the Olympic View Elementary School, located approximately 0.3 mile (0.5 km) north of the Victory Homes site at 380 NE Regatta Drive in Oak Harbor. The Olympic View Elementary School has a current enrollment (1999-2000) of 489 students and a full-time staff of 26 certified and 15 classified teachers (ROC, Wallin, 3/3/00). There is also a kindergarten with both morning and afternoon sessions and a new all-day class. The school has a capacity of 525 students. Olympic View students are all housed in permanent classrooms. Portable classrooms are used for ancillary services such as Chapter I services, a federal supplemental education program of Olympic View Elementary School's enrollment, music, counseling, and Early Childhood Educational Assistance Program (ECAP).

In the past, students living on NASWI have comprised a significant percentage of the school's enrollment. During the 1999/2000 school year for instance, 212 or 43 percent of the school's students live on base. This percentage has been even higher when all of the

Navy's housing is occupied.[2] Most of these students lived in Saratoga Heights, which is configured for families of school-age children.

The school district is in the process of upgrading all schools in the district. Work on the Olympic View Elementary School (including window replacement, asbestos abatement, roof and plumbing replacement, and technology and heating/ventilation/air conditioning [HVAC] upgrades) is scheduled to be bid in the late summer of 2001. This work is not anticipated to add square footage or new classrooms to the building (ROC, Goltz, 2/18/00).

Most middle school-age children from the Victory Homes currently attend the North Whidbey Middle School, located approximately five blocks to the west at 815 NE 4th Avenue in Oak Harbor. The North Whidbey Middle School has a (1999-2000) enrollment of 689 students and a full-time staff of 67 including 23 classified, 40 certified, and 4 specialists (ROC, Wallin, 4/12/00). The school has a permanent capacity of 800 students. In the past, students living on NASWI have comprised 38 percent of the school's enrollment.

Oak Harbor High School is the largest school in the district with 1,834 students enrolled, exceeding permanent capacity of 1,761 students by 73 seats (ROC, Wallin, 3/3/00).

Projected student enrollment for the Oak Harbor School District are: 2000/2001: 6,356 2001/2002: 6,125 and 2001/2003: 6,123. Projected enrollment data for individual schools are not available (ROC, Wallin, 4/10/00).

Currently, a total of 38 school-age occupants live in the Victory Homes. Of these, 17 are elementary school-age. The remainder attend either middle school, high school, or are young spouses of military personnel.

3.16.2 Environmental Consequences

Impacts on school enrollment and capacity are discussed below for the Proposed Action and No Action Alternative.

3.16.2.1 Proposed Action

An unknown portion of the residents in the new housing provided under the Proposed Action are expected to move to Naval housing from other locations within the same school district. School-age children relocating from elsewhere in the district would not have a direct impact to the district; however, as the vacated housing units within the district become populated by civilian families with school-age children, these enrollments would impact the district. Since it is impossible to know how many Naval families would

[2] 70 units of the Navy's Saratoga Heights housing were unoccupied during the 1999/2000 school year due to renovations.

relocate within the district or how many of the vacated dwelling units would be populated by families with school-age children, this analysis assumes all students generated by the proposed housing to be new to the district.

School enrollment projections are extrapolated from current occupants and enrollment rates by floor plan (number of bedrooms) in Saratoga Heights. Assuming similar demographics, the Proposed Action would generate an estimated 342 school-age students with the largest cohort (256) attending elementary schools.

The Oak Harbor School District's overall student enrollment is expected to remain fairly constant with or without the replaced Victory Homes. Even if the Proposed Action increases enrollment within the school district by 342 students, the district would be able to accommodate this increase by re-assigning students from other parts of the district to different schools. Other than adjusting school boundaries to distribute student populations, reassignment is not expected to be a significant challenge, since the district is currently transporting students from the west side of town where most residential growth is occurring to schools in more built-out parts of the district such as the Olympic View Elementary School (ROC, Wallin, 3/2/00).

Of all the schools in the district, Olympic View Elementary School would be the most directly affected by the Proposed Action. If all 256 elementary school students projected to be generated by the replaced Victory Homes attended the school, military enrollment at the school would more than double, making its population predominantly Navy-dependant, in essence a neighborhood school for the residents of Victory Homes, Saratoga Heights, Rockhill Terrace, and Oriole Street housing. The School District has indicated its support of increased enrollment at Olympic View Elementary School and would respond by re-assigning students living in other areas who are currently bussed to the school (ROC, Wallin, 3/2/00).

The Proposed Action is also expected to increase the enrollment of the North Whidbey Middle School by 65 additional students. This incremental change would be well within the North Whidbey Middle School's capacity. The remainder of students generated by the Proposed Action would likely enroll in Oak Harbor High School, which is already above capacity, but the number of additional high school students generated by the Proposed Action would be minimal. Oak Harbor High School could accommodate additional students through creative time management by adding classes before or after regular hours. In addition, the school is likely to be remodeled pending state funding when the school is 30 years old later this decade (ROC, Wallin, 8/25/00).

All three schools are within walking distance of the Victory Homes site. Associated impacts are addressed in Sections 3.12 (Transportation) and 3.18 (Children's Health and Safety).

3.16.2.3 No Action Alternative

Under the No Action Alternative, the existing Victory Homes would continue to house a relatively small number of school-age children. Navy families with children would be forced to live off-base. Since most of the civilian housing supply is in the western part of the school district, students would continue to attend schools in other neighborhoods and/or be bussed from other parts of town to the Olympic View Elementary School.

3.16.3 Mitigation Measures

As no adverse impacts to school capacity are anticipated, no mitigation measures are required or proposed.

3.17 Public Health and Safety

3.17.1 Affected Environment

The population potentially affected by the Proposed Action consists primarily of Navy enlisted personnel and their dependents, and may occasionally include relatives or other visitors to Victory Homes. Impacts to these non-resident groups are expected to be minimal relative to impacts to residents. Therefore, this discussion addresses the environmental impacts on the future resident population from the Proposed Action. The number of future residents of the re-developed Victory Homes is estimated to be 783 (see Section 2.1 and Table 2.1-2 for the methods used to estimate future residential projections). This represents an estimated increase of 314 new residents over the current population of Victory Homes, 312 of which will be dependents.

Demolition of the existing Victory Homes is scheduled to commence in June 2001 and will occur in two phases. Phase 1 consists of the demolition of the units north of Meadow Drive and related site work, and construction of 102 units and related site work and utilities. Phase 2 consists of the demolition of the remaining units and related site work, and construction of 98 units, related site work, and utilities (Wisbeck and Fraser construction specification as revised: 7/22/00). The construction schedule (staging) will reduce potential safety-related construction impacts on residents by limiting construction activities to unoccupied portions of the site.

The impacts of the Proposed Action on the public health and safety will include noise associated with demolition and construction of the selected alternative, the potential exposure to lead-contaminated soils during these same activities, and potential hazard from increases in traffic associated with the increased number of future residents.

3.17.2 Environmental Consequences

The general environment of the Victory Homes population that could be impacted by the Proposed Action includes drinking water, noise levels, schools, and traffic. A specific concern of the public health and safety environment is the presence of lead-based paints on the existing Victory Home residences, and in the soils of the Proposed Action area.

3.17.2.1 General Environmental Consequences

Drinking water is currently provided to NASWI through the city of Oak Harbor transmission line which meets federal (EPA) and State Department of Health (DOH) water quality requirements (Department of the Navy 2000a). Delivered water from the distribution system poses no health risks and, therefore, no risk of drinking water related hazards from either alternative of the Proposed Action or the No Action Alternative.

Noise levels are generally addressed in Section 3.10. The Victory Homes site is outside the 60 dBA Ldn noise contour for Navy flights from Ault field (Department of the Navy 1988). However, the Proposed Action would generate noise as a result of demolition and construction activity on a temporary basis. Longer-term noise impacts are associated with traffic on roadways. The noise levels that may reasonably be expected from construction activity are presented in Section 3.10, Table 3.10-1.

3.17.2.2 Environmental Consequences Associated with Lead and Asbestos

Environmental health consequences associated with both alternatives of the Proposed Action may include: (1) potential for lead exposure arising from the use of lead-based paints and, (2) potential for exposure to asbestos or asbestos containing materials (ACM). Both of these health hazards may be associated with the existing Victory Homes (Prezant 2000; Harding Lawson 2000). Therefore, the No Action Alternative may pose potential health risks that will be eliminated by construction of the Proposed Action. Both Action Alternatives would have this beneficial effect.

At the Victory Homes site, asbestos is associated within and under the existing structures, while lead has been released into the general environment of the Victory Homes site. The form of asbestos present poses no significant threat to public health and will be removed in both alternatives and disposed of in compliance with applicable regulations (ROC, Kler, 9/11/00). In contrast, lead is present in the environment outside of the structures to be demolished and replaced as part of the Proposed Action. Consequently, this section focuses primarily on the environmental consequences of lead to public health and safety.

Two preliminary investigations of potential lead hazards have been conducted (Harding Lawson 2000; Prezant 2000). These investigations measured levels of lead in paint and in soils near the existing Victory Homes.

The lead paint survey was conducted to identify the presence of lead-based paints (Harding Lawson 2000). Fifty paint chip samples were collected and analyzed for total lead. As a result of these findings, it has been recommended that demolition be conducted using techniques to limit dust-generation and airborne transport, consistent with the recommendations of this report.

The soils investigation provided a preliminary characterization of soils that might contain lead-paint chips near the existing Victory Homes (Prezant 2000, found in Appendix E). The Sampling and Analysis Plan (SAP) is also provided as supporting documentation in Appendix E. The SAP specified 11 samples from randomly selected housing units to be collected from the 196 homes to be demolished, as well as composite soil samples from two play areas. The results of the soil lead analyses are summarized in Table 3.17-1 and presented in Appendix E.

The results of the lead analyses show that lead concentrations vary depending on sampling location. Lead levels in all samples are below Housing and Urban

Development (HUD), Title X, Residential Lead-Based Paint Hazard Reduction Act mandatory abatement levels (2,000 ppm), with the majority below or very near the Act's Risk Assessment threshold (400 ppm). While individual samples are above Washington State Model Toxics Control Act (MTCA), Method A Cleanup Levels (i.e., 250 mg/kg) the mean of all samples (150 ppm) is below MTCA cleanup levels. Further, EPA has concluded that while the release to soil from lead-based paint from structures falls within the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) definition of hazardous substance release, EPA and DoD have agreed that, for the majority of situations involving housing, Title X is sufficiently protective to address the hazards posed by lead-based paint. While the existing situation poses minimal threat to current residents, the Navy will attempt to further reduce the threat to future residents from contaminated soils during new construction. Additionally, the property will be evaluated through a HUD Lead-Based Paint Risk Assessment after construction and prior to occupancy. Any abatement required will be conducted prior to occupancy.

Table 3.17-1: Summary of Soil Lead Analyses (mg/kg) [a].

Sampling Location	Minimum Conc.	Maximum Conc.	Mean Conc.	Standard Deviation	Sample Count
Yard	<33	560	72	110	22
Mid-Yard	<42	210	84	53	11
Dripline	<39	1,300	374	329	11
Play Areas	<44	270	157	160	2

Source: Prezant 2000.
[a]Assuming lead is present at the detection limit when not detected.

As described in Section 3.17.1, potential environmental health hazards resulting from lead paint and the existence of ACM are present in the existing Victory Homes. The demolition of the current structures and replacement with the housing proposed in either the Street-Accessed or Alley-Accessed Alternatives will eliminate this hazard. Removal of dripline area soils and disposal in an area where Navy personnel and dependents will not be exposed will eliminate this hazard to Victory Home residents. Alternatively, placement of a structure over these area will equally eliminate the exposure of Navy personnel to these soils. Both the Street-Accessed and Alley-Accessed Alternatives will sod or re-seed undeveloped spaces. This would reduce the potential for exposure to any bare soils.

However, the increased area of open space in the Street-Accessed Alternative could result in increased usage of lawn-care related herbicides or pesticides over the Alley-Accessed Alternative. Thus, there may be an increased relative exposure potential to lawn-care chemicals under this alternative.

To minimize potential environmental health hazards, the contractor will be required to implement the following measures:

- Under both Proposed Action alternatives, protection of public health will include the removal of contaminated soil within the dripline and covering with clean fill prior to new construction.

- Both alternatives will have managed lawns and open space, although, as discussed in Section 3.9, the amount of open space varies between the Street-Accessed and Alley-Accessed alternatives. In either alternative, it is expected that the lawns will be managed by application of lawn-care chemicals. To mitigate any potential exposures, use of the most toxic of these chemicals should be avoided (i.e., organophosphates). Additionally, chemicals that are used should be used only in amounts necessary, and applied at times when children are not present (e.g., weekdays).

- With appropriate noise control measures, short-term noise levels related to construction can be attenuated. The developer will minimize construction-generated noise by using unit construction techniques designed to minimize noise levels in compliance with the Navy Environmental Resources Manual (OPNAVINST 5090.1B) as well as other federal and state regulations that pertain to construction-related noise generation.

3.17.3 Mitigation Measures

No public health and safety impacts are identified; thus, no mitigation measures are required.

3.18 CHILDREN'S HEALTH AND SAFETY

This section addresses potential risks to health and safety of children as required under federal policy (Executive Order 13045, April 21, 1997). The issues that affect children's health and safety are generally the same as those described in Section 3.17. However, because young children may be more sensitive to the effects of certain environmental exposures and because they may absorb chemicals more readily (WHO 1986), children may be disproportionately affected by environmental exposures. In addition, children's behaviors can increase contact rates with soil (EPA 1997). Specifically, children are more likely to put things containing lead (i.e., lead paint chips) into their mouths and are more likely to ingest soil (ATSDR 1997).

Additionally, children are more susceptible than adults to the effects of lead. Lead has neurological effects that can result in decreased intelligence and reduce growth in young children (ATSDR 1997). The EPA has stated that some of these effects, particularly changes in the levels of certain blood enzymes and in aspects of children's neurobehavioral development, may occur at blood lead levels so low as to be essentially without a threshold (EPA 2000). Lead levels in soils and paint are presented in Appendix E and summarized in Section 3.17.2.

3.18.1 Affected Environment

The affected population of children is estimated by evaluating the number of rooms in the development. The addition of new units in both the Street-Accessed and Alley-Accessed Alternatives will have a significant increase in the number of bedrooms (see Section 2.1). Consequently, it is expected that these units will attract families with children. As a result of the improvements, 583 dependents are expected to relocate to the new Victory Homes, resulting in a net increase of 312 dependents (Table 2.1-2).

The nearest school to the Victory Homes site is the Olympic View Elementary School, located approximately 0.3 mile (0.5 km) north of the Victory Homes site at 380 NE Regatta Drive in Oak Harbor. Older students living in the new Victory Homes would likely attend one of the two middle schools or Oak Harbor High School. Most Middle school-age children from the Victory Homes currently attend the North Whidbey Middle School. Traffic hazards to middle and high-school age children would be the same as currently existing conditions. However, due the increase in the number of children living in the Victory Homes (see Section 3.18.1), there is an increased potential traffic hazard.

The north portion of the project area is conveniently located near the Olympic View Elementary School. The proximity of this elementary school to the proposed residential area would eliminate the need for residents and elementary school-age children to cross arterial streets to travel to and from this school, thereby reducing the potential hazard from traffic. For older children, traffic-related hazards will be similar to existing conditions.

3.18.2 Environmental Consequences

Traffic hazards to older middle and high-school age children would be the same as currently existing conditions. However, there is an increased potential traffic hazard due to the increase in the number of dependent children. The additional increase in student numbers associated with the increased housing availability could potentially expose children to traffic as they go to and from school. Because the Victory Homes site is within one mile (1.6 km) of the Olympic View Elementary School, these students would not have bus service and would walk to school. Since parents often drive their children to school on rainy days, large queues of cars form along the unpaved shoulders of Regatta Drive, creating a safety hazard for motorists, pedestrians, and particularly school children. The existing safety problem is likely to get worse following occupancy of the Victory Homes by Navy families.

During the demolition and construction, there would be an increased, although short-term, potential for exposure to airborne dust, demolition debris, and construction noise. Potential exposures to soils may be reduced due to the construction on the existing Victory Homes site.

Although the development specifications call for re-sodding and landscaping demolished areas, there is potential for children to be exposed to soils in irrigated lawn areas that are a part of both alternatives. The potential attraction for young children to play in these undeveloped areas is increased. Young children are known to incidentally ingest soil during play (EPA 1997). Additionally, the increased amount of lawn area may result in increased use of lawn chemicals and, consequently, children's exposure to these chemicals. This is more a concern of the Street-Accessed Alternative than the Alley-Accessed Alternative because of the larger extent of open space. All soils will be inspected prior to occupancy in compliance with regulations.

The contractor will ensure that all applicable regulations are followed in securing demolition debris and construction material to avoid attracting children and removal of any lead-containing soils in demolition and construction areas. The contractor will incorporate measures to reduce construction-related hazards including: (1) prompt removal of demolition debris, and (2) securing construction materials and demolition after hours so that it will not attract children. As stated in Section 3.17.2 the Proposed Action itself will reduce exposure to lead in the soils. All activities related to demolition debris will comply with regulations as written in the contract specifications.

3.18.2.1 Proposed Action

Street-Accessed Alternative

Children living in the south end of the Victory Homes site will be exposed to traffic as they cross Meadow Drive. This exposure pattern is unchanged in both alternatives of the Proposed Action.

Additionally, children living in Victory Homes that attend Olympic View Elementary school are frequently exposed to traffic on rainy days, when parents typically choose to drive their children to school (ROC, Hansen, 8/14/00). The current area available for dropping and picking up children requires that parents form a double line of cars down the middle of a staff parking lot adjacent to school buses dropping off children curbside (ROC, Hansen, 8/14/00). Children exiting their parent's cars must cross the line of bus traffic to reach the school buildings. An Olympic View Elementary school staffer is stationed in the drop-off area to supervise the movement of cars, buses, and students each morning and afternoon (ROC, Hansen, 8/14/00). The proposed increase in the number of school-age children living in Victory Homes resulting from the Proposed Action will likely increase the number of cars queuing up each day it rains, exposing more students to bus and car traffic on rainy days.

The design elements of this alternative provide children two tot lots, one play lot, and a basketball court in the south part of the site and two tot lots, two play lots, two picnic areas, a basketball court, and a large irrigated lawn in the north part of the site. Additionally, open space and pedestrian paths will be provided that will allow access between the Olympic View Elementary School and the newly constructed residential areas.

Alley-Accessed Alternative

Under this alternative, two tot lots, a play lot, a picnic area, and a basketball court will be constructed in the south part of the site and three tot lots, one play lot, a basketball court, and two picnic areas in the north part of the site. Open space will be provided throughout the site, and it is expected that children will use these areas. Similar to the Street-Accessed Alternative, open space and pedestrian paths will be provided that will allow access between the Olympic View Elementary School and the newly constructed residential areas.

Under both alternatives, the population of school-age dependents will increase, resulting in a potential exposure of children to noise during construction and an increased potential for traffic exposure during operation of both alternatives. Noise emission will be addressed by using unit construction techniques designed to minimize noise levels in compliance with the Navy Environmental Resources Manual (OPNAVINST 5090.1B), as well as other federal and state regulations that pertain to construction-related noise generation.

Exposure of children to lead-containing soils will be prevented by dripline to foundation excavation, covering with clean fill, and the re-vegetation of all exposed soils in the Victory Homes site. This will ensure that no bare soils are available for direct contact and will prevent outside dust from being transported to the interior of homes.

3.18.3 Mitigation Measures

No significant adverse impacts to children's health and safety have been identified; therefore, no mitigation measures are required.

3.19 Environmental Justice

This section addresses potential environmental justice issues associated with the Proposed Action and No Action Alternative.

3.19.1 Affected Environment

In February 1994, the President issued Executive Order 12898 that requires all federal agencies to seek to achieve environmental justice by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations" (Executive Order 12898). The DoD followed in March 1995 with its Strategy on Environmental Justice to meet the intent of Executive Order 12898, which the EPA approved in April 1995. The Navy established policies and assigned responsibilities with the goal of preventing disproportionately high and adverse human or environmental effects on minority and low-income populations. The strategy states that DoD would use NEPA as the primary mechanism to implement the provisions of the Executive Order. In response to this strategy, the Navy is making this EA available to state and local governments, the Swinomish and Samish Tribes, and other organizations so that possible concerns about the potential effects of the Proposed Action can be expressed.

Island County's percentage of racial and ethnic minorities is lower than Washington State as a whole for all categories other than Hispanics (3.0 percent vs. 2.4 percent for the state). Compared to the nation as a whole, Island County has an equal or lower percentage for all categories other than Asian/Pacific Islanders (3.9 percent vs. 2.9 percent for the nation) (Department of the Navy 1988). Ethnicity data for Island County are presented in Table 3.19-1.

Table 3.19-1: Island County 1990 Population Characteristics.

Race/ Ethnicity	Island County		Washington State		United States	
	Number	Percent	Number	Percent	Number	Percent
White	55,093	89.7%	4,308,937	88.5%	199,686,070	80.3%
Black	1,552	2.5%	149,801	3.1%	29,986,060	12.1%
Native American	536	0.9%	81,483	1.7%	1,959,234	0.8%
Asian/ Pacific Islander	2,397	3.9%	210,958	4.3%	7,273,662	2.9%
Hispanic (any race)	1,855	3.0%	115,513	2.4%	9,804,847	3.9%
Total	61,433	100.0%	4,866,692	100.0%	248,709,873	100.0%

Source: U.S. Bureau of the Census 1992

Data on ethnicity of the occupants of Navy housing are not available. The Victory Homes are designated to serve enlisted families from the lowest pay grades, currently E1-E3. The

future Victory Homes site would serve enlisted families from pay grades E1-E6. Pay data for these ranks are listed in Table 3.19-2.

Table 3.19-2: Pay data for Navy Airmen E1-E6.

Rank	Basic Monthly Pay*	# Paygrade in Victory Homes	# Paygrade in Saratoga Heights
E-1	$930.30	58	0
E-2	$1,127.40	61	0
E-3	$1,171.00	51	4
E-4	$1,390.20	22	84
E-5	$1,761.00	0	131
E-6	$2,106.30	0	64
*Basic pay only: does not include any incentive pay such as flight pay, sea pay, housing allowance, etc.			

Source: Pers. Comm., Rodgers, 3/13/2000

3.19.2 Environmental Consequences

This section addresses potential environmental justice issues resulting from the Proposed Action and the No Action Alternative. There are no anticipated environmental justice differences between the two alternatives; thus, both alternatives are discussed together.

3.19.2.1 Proposed Action

Demolition and replacement of the Victory Homes would not have a significant adverse effect on minority or low income communities, including Native American Tribes. The intent of the Proposed Action is to further assist lower ranking enlisted Navy families who tend to be low income by providing quality affordable housing close to the workplace. Unlike the existing Victory Homes, which are substandard and contain hazardous asbestos and lead-based paint, the new Victory Homes will meet Navy housing standards and will contain neither hazard. The Proposed Action will also result in changes to the base's Family Housing Program, which will increase housing choice for enlisted families. As a result, no disproportionate environmental or health risks are anticipated as a result of the Proposed Action.

In compliance with Executive Order 12898 and NEPA, the Navy will distribute this EA to the Swinomish and Samish Tribes to ensure that these minority groups receive adequate information concerning the Proposed Action. Requests from any minority or ethnic groups or organizations for information and/or copies of this EA will be met in a timely manner by the Navy.

3.19.2.2 No Action Alternative

Under the No Action Alternative, the existing Victory Homes would continue to house lower-ranking enlisted personnel and their families in substandard and hazardous

conditions, including asbestos and lead-based paint; this would constitute a minor adverse effect on environmental justice.

3.19.3 Mitigation Measures

No impacts are anticipated and no mitigation measures are required.

4.0 CUMULATIVE AND LONG-TERM ENVIRONMENTAL EFFECTS

4.1 Cumulative Effects

The Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508) define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions..." Cumulative effects are typically defined as two or more individual effects which, when considered together, compound or increase other environmental effects. Cumulative effects can derive from the individual effects of a single project on various resources or the effects of several past, present, and/or future projects on these resources. Thus, cumulative effects can result from individually minor but collectively significant actions taken over a period of time.

Examples of existing and future projects with a possibility of contributing to cumulative effects with the Proposed Action include three new construction projects and seven projects involving renovation of existing housing units in three areas, as described below:

- Navy Lodge - The Navy proposes to construct a new Navy Lodge on Maylor Point. Construction of the 2-story, 50-unit temporary housing facility and 63-stall parking lot is expected to begin as early as 2001 depending on funding. Construction of the Navy Lodge would last approximately one year (ROC, Klope, 8/16/00).

- Skagit Valley College Classrooms - Skagit Valley College is planning to build a 3-story 42,000 square foot classroom building (ROC, Crieder, 8/16/00) adjacent to the Victory Homes site. Construction is currently scheduled to begin in early 2001 and be complete in time for the following school year, nine months later.

- Water & Sewer Line Replacement – The Navy proposes to replace water and sewer lines for the Crescent Harbor area. This project will serve the new Victory Homes and other Navy housing projects in the vicinity. The project is scheduled for construction in 2001.

- Whole site repair/revitalization is proposed for various Navy housing projects in the general vicinity of the Victory Homes site to occur in phases over the next four years. Whole site repair/revitalization typically includes: New kitchen cabinets & appliances, new bath fixtures; new interior doors, jambs, and hardware; new carpet & vinyl flooring; additional telephone & cable TV outlets; new gas furnaces; new insulated windows; replace carports with garages; additional off-street parking; and landscaping around units. The project names, number of units, and expected dates are shown in Table 4.1-1.

Table 4.1-1: Navy Housing Revitalization Projects.

Project	Planned Completion Date	# of Units
H-01-95-1, Maylor Capehart WSR, Phase I	July 2001	80
H-01-95-2, Maylor Capehart WSR, Phase II	October 2002	80
H-03-95-1, Crescent Harbor WSR, Phase I	November 2002	129
H-03-95-2, Crescent Harbor WSR, Phase II	September 2003	138
H-03-95-3, Crescent Harbor WSR, Phase III	September 2004	122
J-377-1, FAF Maylor WSR, Phase I	July 2001	28
J-377-2, FAF Maylor WSR, Phase II	July 2002	32

Potential cumulative effects associated with the Proposed Action are discussed below for the following resources: Land Use/Policy Consistency; Air Quality; Geology and Soils; Water Quality/Runoff; Vegetation/Plants; Wildlife, Habitat, and Wetlands; Threatened and Endangered Species; Cultural Resources; Recreation Resources; Noise and Acoustics; Aesthetic/Visual Resources; Transportation; Public Services; Utilities; Socioeconomics; School Capacity; Public Health & Safety; Children's Health & Safety; and Environmental Justice.

4.1.1 Land Use

The Proposed Action would not change land uses on the Victory Homes site. Under either Proposed Action alternative, the existing land use (residential) would remain. The size of housing units and the population would both increase, but no land use or policy incompatibilities with existing or proposed development near the site would result.

The No Action Alternative would not alter existing uses, population, or housing size and would not result in cumulative land use changes in the project vicinity.

4.1.2 Air Quality

The Proposed Action and No Action Alternatives would have no significant air quality effects. The cumulative effects of the Victory Homes project and others proposed in the area could result in a slight incremental increase in mobile and stationary air pollution associated with population growth.

4.1.3 Geology and Soils

No significant cumulative geology and soil impacts are anticipated from the Proposed Action. During construction and operation, slight increases in soil erosion and sediment runoff could occur, but are not likely to result in significant adverse impacts at the Victory Homes site with implementation of appropriate construction control measures.

The No Action Alternative would result in no negative cumulative effects to soils and geology at the Seaplane Base.

4.1.4 Water Quality and Runoff

No significant cumulative water quality and runoff impacts are anticipated from the Proposed Action. During the construction phase, soil erosion and pollutant runoff are not likely to result in significant adverse impacts at or downslope of the Victory Homes site if appropriate measures are developed and implemented. Potential surface water quality and runoff impacts at the Navy development sites would be mitigated by constructing appropriate stormwater management facilities and using BMPs to limit sources of pollution and treating storm water runoff as necessary. Long-term effects on water quality should be a slight improvement since the Victory Homes development includes a storm drainage system to control flows and filter pollutants.

The No Action Alternative would result in no cumulative effects to water quality or runoff.

4.1.5 Vegetation/Plants

The Proposed Action would have no significant cumulative effects on vegetation because the entire development area was cleared of native vegetation many years prior to the Proposed Action, as was the Navy Lodge site. Moderate positive impacts are anticipated due to the inclusion of several areas of native vegetation restoration areas on the site.

The No Action Alternative would include no native vegetation restoration or additional landscaping.

4.1.6 Wildlife, Habitat, and Wetlands

Development of Victory Homes, together with the other proposed projects in the area, would have no significant negative cumulative effects on habitat or wildlife because all new construction would occur on a previously developed or previously cleared sites. Loss of open space between the Victory Homes buildings would occur due to increasing housing size under both Proposed Action alternatives, but this would be offset by habitat created by native vegetation restoration areas and a detention/water quality pond, which may support some wetland habitat.

Under the No Action Alternative, the site would remain unchanged.

4.1.7 Threatened and Endangered Species

The demolition and construction associated with the Proposed Action and the other projects proposed in the vicinity would not result in any significant adverse cumulative effects to threatened and endangered species since none have been identified on the Victory Homes site and are unlikely to occur on the other sites. Since the Proposed

Action would not disturb the Oregon oak woodland, there would be no impacts to potential white-top aster habitat.

The No Action Alternative would have no impacts on threatened and endangered species.

4.1.8 Cultural Resources

The Proposed Action would demolish most of the Victory Homes Historic District and could potentially disturb shallow archaeological resources during construction on portions of the redeveloped Victory Homes site. As a result, the Proposed Action would erase a portion of the Seaplane Base's historical landscape, which would have a direct and adverse impact on cultural resources. Studies conducted for the Navy Lodge site indicate that no historical resources are likely to be affected, but archaeological resources may possibly be affected by subsurface disturbance during construction. The Navy's housing renovations would not affect historical or archaeological resources. The potential for impacts on archaeological resources due to construction is mitigated through prescribed construction practices for each of the new projects. The impacts of demolition of the Victory Homes Historic District are mitigated through measures specified in the MOA (see Appendix D). Together, the projects would not have an additional cumulative impact.

The No Action Alternative would leave the Victory Homes Historic District intact, which would have no cumulative cultural resource effects at NASWI.

4.1.9 Recreation Resources

Recreational facilities will be provided with the proposed Navy Lodge and the new Victory Homes. Existing recreational facilities will be retained with the repair/revitalization programs for other housing. Thus, the Proposed Action and other actions in the vicinity are not expected to have any significant adverse cumulative effects to recreation resources.

No significant cumulative effects to recreation resources would occur under the No Action Alternative.

4.1.10 Noise

The Proposed Action is expected to generate short-term noise associated with demolition and construction on the Victory Homes site. Of the other proposed projects, the construction of the water and sewer system for Crescent Harbor, construction of the Navy Lodge, and expansion of Skagit Valley College and several of the housing revitalization projects may occur concurrently. Together, these projects could have a cumulative effect on noise levels for surrounding uses during the construction period. Over the long-term,

noise may increase to a slight degree due to the increased number of occupants in the area and children living on the Victory Homes site, but these changes would not be great enough to generate significant cumulative noise impacts.

Under the No Action Alternative, the project would not contribute to cumulative impacts since no new demolition or construction would take place and occupancy would remain unchanged.

4.1.11 Aesthetic/Visual Resources

Both action alternatives would replace small outdated units with newer, larger housing units that are visually consistent with nearby Navy housing. Both action alternatives include underground utility lines, garages, off-street parking, and enhanced landscaping; thus, the Proposed Action is expected to have minor positive cumulative effects on aesthetic/visual resources. The repair/revitalization of other housing units in the vicinity would also have a positive effect on aesthetic/visual resources.

The No Action Alternative would allow the existing homes and site to remain visually deficient, having minor negative effects on visual resources at NASWI.

4.1.12 Transportation and Circulation

During demolition and construction, the Proposed Action would increase truck traffic on local hauling routes including SR 20 and Regatta Drive. This construction traffic, together with traffic generated by construction of the Navy Lodge, expansion of Skagit Valley College, and revitalization of other Navy housing could have a cumulative effect on transportation and circulation during the construction period if intensive construction activities for these projects take place concurrently.

Once in operation, the Proposed Action would contribute a small amount of traffic (103 p.m. peak trips). Although this project alone would not affect level of service, there would be a moderate cumulative adverse impact when combined with the Navy Lodge and the Skagit Valley College classroom project, along with regional traffic growth over the long-term. Pedestrian and bicycle conditions and automobile parking on the Victory Homes site would improve under either of the alternatives in comparison to existing conditions.

The No Action Alternative would have no measurable cumulative transportation and circulation impacts.

4.1.13 Public Services

Other than a small increase in solid waste production resulting from the anticipated population increase under the Proposed Action and the development of the Navy Lodge and Skagit Valley College building, there would be no significant increase in demands on Navy or civilian public service delivery systems or impacts to response times.

The No Action Alternative would also not have measurable cumulative public service impacts.

4.1.14 Utilities

The replacement Victory Homes to be built under the Proposed Action would be larger but would use current and more efficient designs to reduce utility demands; thus, it is not anticipated that any long-term cumulative utility impacts would result from this project. Short-term impacts such as temporary shutdowns would likely be extremely brief and would also not be significant. Likewise, the whole site repair/revitalization of other Navy housing will result in the installation of more energy-efficient and water-efficient systems. Even with potential increases in demand due to the Navy Lodge and Skagit Valley College building, the overall cumulative impact on utilities is expected to be minor.

Under the No Action Alternative, the existing utility systems would continue to supply the Victory Homes with no additional cumulative impacts.

4.1.15 Socioeconomics

The Proposed Action and the development of the Navy Lodge would have a positive (beneficial) cumulative effect on affordable housing stock available to Navy and civilian families on Whidbey Island. Additionally, the repair/revitalization of other Navy housing units will make these units more desirable to Navy families and less likely to consider civilian housing options. These projects would reduce the pressure on the general housing market associated with increased numbers of Navy enlisted families connected with NASWI, as well as improve the quality of life for residents of the Victory Homes.

The No Action Alternative would have cumulative adverse impacts resulting from the continued use of substandard Navy housing, causing involuntary separations, long commutes, and increasing pressure on the local housing market. Such conditions affect morale and adversely affect the Navy's ability to retain quality personnel.

4.1.16 School Capacity

Cumulative impacts associated with the Proposed Action and the Navy Lodge project on the Oak Harbor School District may include reassignment of students to different elementary schools as students from other parts of Oak Harbor are displaced by those moving to the Victory Homes. Such impacts are expected to be positive since the Oak Harbor School District has capacity for enrollment increases and is supportive of neighborhood-based enrollment.

No significant cumulative impacts on school capacity would occur under the No Action Alternative.

4.1.17 Public Health and Safety

No significant negative cumulative impacts on public heath and safety are expected as a result of either of the action alternatives. There will be an increase in housing unit sizes and an overall increase in the number of dependents under either development alternative. The Navy Lodge will also add short-term occupants to the project vicinity. This may result in slight cumulative impacts from increasing traffic levels and associated noise resulting from the projected future increases in population and higher density in the area. However, the Victory Homes development would result in significant improvements to the quality of life for those residents and would eliminate the lead and ACM–related environmental health hazards. Therefore, the net cumulative impacts would be beneficial.

The No Action Alternative is not expected to have any significant cumulative effects on environmental health, although continued occupancy of homes containing lead-based-paint and ACM could potentially result in exposure of these hazards to occupants or others.

4.1.18 Children's Health and Safety

No significant negative cumulative impacts on children's heath and safety are expected as a result of either action alternative. The development would result in significant improvements to the quality of life and eliminate the lead and ACM–related environmental health hazards. Therefore, the net cumulative impacts will be beneficial.

The No Action Alternative is not expected to have any significant cumulative effects on environmental health related to children or others.

4.1.19 Environmental Justice

The Proposed Action is not expected to have any significant effects on minority or low-income communities on Whidbey Island. As stated in Section 4.1.15, the cumulative effect of the various Navy projects is to increase housing options for Navy families and reduce the demand by Navy families on the civilian housing market. This should benefit low-income households by reducing the competition for low cost housing.

The No Action Alternative is not expected to have any significant cumulative effects on specific minority or low-income communities on Whidbey Island.

4.2 Irreversible or Irretrievable Commitment of Resources

Demolition and replacement of the Victory Homes and the new construction of the Navy Lodge and Skagit Valley College building would result in an irretrievable and incremental use of energy and other natural resources, although such use is expected to be negligible. Newer housing will be larger but will use water and energy more efficiently. Water and energy use in the housing sites proposed for whole site repair/revitalization should also decrease as upgraded systems are installed.

4.3 Relationship Between Short-Term Use and Long-Term Productivity

The Victory Homes site has been in residential use for decades and would remain so under the Proposed Action. Likewise, the Navy Lodge site has also been previously developed. These lands are not used for forestry, agriculture, or mineral extraction and these projects would not have a cumulative effect on long-term productivity of the land.

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6.0 LIST OF PREPARERS AND DISTRIBUTION LIST

6.1 LIST OF PREPARERS

This EA for the Victory Homes housing project at NASWI, Washington, was prepared by a multi-disciplinary team managed by the Department of the Navy, Engineering Field Activity Northwest, Poulsbo, Washington. Contributions to the EA were also made by the NASWI Housing Department and the NASWI Environmental Affairs Department, Oak Harbor, Washington. EDAW, Inc., Seattle, Washington, a consulting firm under contract to the Navy, compiled and prepared the EA document. EDAW, Inc. was assisted by Parametrix. Contributions by individuals were subject to revision during product reviews and editing. The following is a list of contributors to this EA.

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Thomas Atkins	Geologist
Paul Seidel	Human Health Toxicologist

6.2 DISTRIBUTION LIST

The following is the distribution list for this EA.

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U.S. Senator Patty Murray
U.S. Representative Rick Larsen

State Elected Officials
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State Representative Kelly Barlean
State Representative Barry Sehlin

Indian Tribes
Swinomish Indian Tribe
Samish Indian Nation
Tulalip Indian Tribe

Federal Agencies
U.S. Environmental Protection Agency
Defense Technical Information Center
Advisory Council on Historic Preservation
U.S. Fish and Wildlife Service

Washington State Agencies
Washington State Office of Archaeology and Historic Preservation/SHPO
Washington State Department of Ecology
Washington State Department of Fish and Wildlife
Washington State Department of Natural Resources

Local Agencies and Organizations
Island County Planning Department
City of Oak Harbor, Planning Department
Oak Harbor Chamber of Commerce
Skagit Valley College Library
Sno-Isle/Oak Harbor Library
Oak Harbor School District
Washington State Historical Society
Trust Board of Ebey's Landing National Historical Reserve
Heritage Resource Center
Bremerton Naval Museum
VFW Post 7392
Whidbey Island News-Times
PBY Catalina Foundation and International Association
National Trust for Historic Preservation

Appendix A
Public Involvement Material

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHWEST
NAVAL FACILITIES ENGINEERING COMMAND
19917 7TH AVENUE N.E.
POULSBO, WASHINGTON 98370-7570

11010
Ser 05LP.MP/5021
FEB 11 2000

Ms. Allyson Brooks
State Historic Preservation Officer
Department of Trade and Economic Development
Office of Archaeology and Historic Preservation
P.O. Box 48343
Olympia, WA 98504-8343

Subj: VICTORY HOMES REPLACEMENT, SECTION 106 SCOPING

Dear Ms. Brooks:

The purpose of the letter is to document compliance with SHPO consultation and public notification requirements of the new Section 106 Guidelines. Subject to amended regulations of May 18, 1999, the Navy has initiated the Section 106 process as part of a NEPA Environmental Assessment of the proposed action consistent with the provisions of 36 CFR § 800.3.

Consultation
The Navy intends to demolish and replace 86 existing buildings comprising the Victory Homes site, which are proposed for listing as a historic district on the National Register of Historic Places. This action has been determined to be an undertaking as defined in 36 CFR § 800.16(y) meeting the adverse effect criteria of 36 CFR § 800.5(a). The Navy initiated SHPO Consultation on 21 December 1999 with a meeting and site visit attended by Stephen Mathison of your office. The minutes of the consultation are attached.

Notification
The Navy's public notification efforts are intended to comply with 36 CFR § 800.2(d). Accordingly, the Navy has notified the public and potentially interested parties and solicited public input through the following means:

1. *Newspaper Advertisements* -- The Navy published display advertisements in the January 19th and 22nd issues of the local newspaper, the Whidbey News Times. A copy of the advertisement is attached.

2. *Direct Mail*-- Detailed notices were mailed directly to interested agencies and organizations. The mailer consists of a page-long text notice explaining the proposed action and comment procedure, a vicinity map showing the project site,

and a sheet of photos of the Victory Homes and examples of replacement housing with explanatory text.
The agencies and organizations with possible interest in historic preservation of the Victory Homes were selected with input from Mr. Mathison and our planning and historic preservation consultants. Notices were mailed to these parties on February 2, 2000. A copy of the mailer and a complete mailing list are attached.

Please contact me at (360) 396-0917 if you have any questions, suggestions, or concern regarding Section 106 compliance. Unless we hear from you to the contrary, it is our understanding that the Navy has met the initiation requirements of 36 CFR § 800.3 and requirements for planning to involve the public per 36 CFR § 800.2(d) of the amended Section 106 Guidelines.

Sincerely,

Marcia Pauley

MARCIA PAULEY

Copy to:
Stephen Mathison, OAHP

Attachments: (2)

Blind Copy:
Nancy Glazier, EFANW
Kimberly Kler, EFANW
Dixie Rodgers, NASWI Housing
Jill Sterrett, EDAW, Inc.

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHWEST
NAVAL FACILITIES ENGINEERING COMMAND
19917 7TH AVENUE N.E.
POULSBO, WASHINGTON 98370-7570

5090
Ser 05EP.KK/5018
FEB 01 2000

Dear Interested Party:

Subj: PUBLIC NOTICE FOR THE DEMOLITION AND REPLACEMENT OF THE VICTORY HOMES AT SEAPLANE BASE NAVAL AIR STATION WHIDBEY ISLAND

In compliance with Section 106 of the National Historic Preservation Act the Navy is seeking public input on the proposed demolition and replacement of the Victory Homes at the Seaplane Base Naval Air Station Whidbey Island. The Navy is planning to demolish 198 housing units comprising the Victory Homes site and construct 188 new units on the same site because the existing homes do not meet the housing needs of Navy families. A total of 200 new units, including some constructed adjacent to the Victory Homes site, will provide housing for enlisted sailors E1 to E6 and their families.

The Victory Homes comprise a district that may be eligible for listing on the National Register of Historic Places both for their historical significance and architectural style. Built in 1942, this neighborhood of modest single-story dwellings retains much of its World War II character, illustrating the emergency military housing program at the outset of the war. The buildings themselves (#571-656) and their physical arrangement on the site represent a particular style and type of structure that convey their specific time and culture.

The Navy is the lead agency for review of this project, which will combine both the National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) processes into one joint action. The project would demolish and replace the entire district with new housing to meet current Navy family housing standards. Most of the replacement homes would be two-story attached townhouses similar to the nearby Saratoga Heights and Rockhill Terrace housing. The project will be accomplished in two phases. Phase I demolition would take place in 2001, and new construction would be complete by 2002. Phase II is currently unprogrammed.

The Navy is required by NEPA and NHPA to avoid or mitigate impacts to historic resources. This public comment period is intended to comply with public scoping requirements of Section 106 of the National Historic Preservation Act.

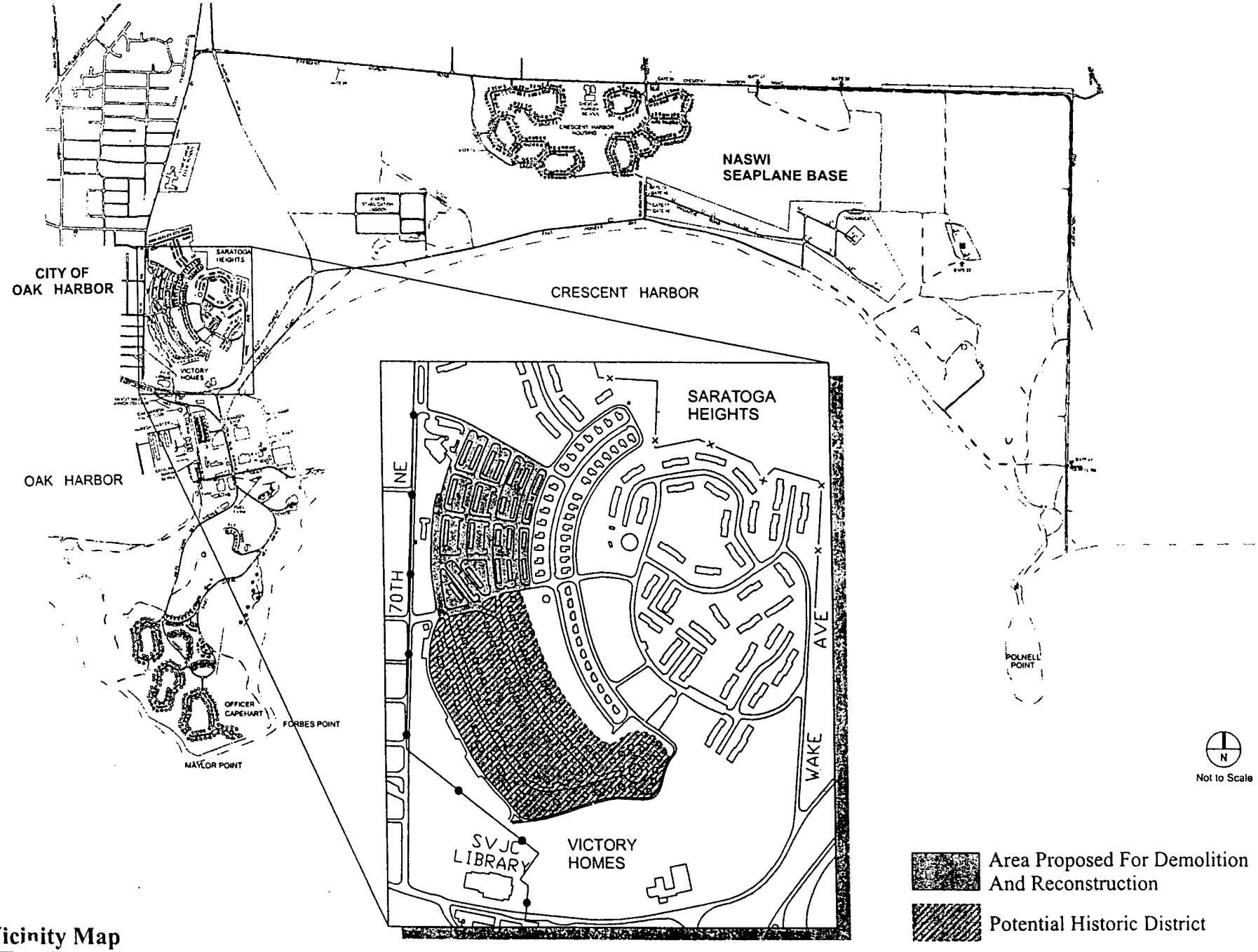
Comments will be accepted until March 3, 2000. Comments should be sent to me at the above address or by e-mail at KlerKH@efanw.navfac.navy.mil.

Sincerely,

Kimberly H. Kler

KIMBERLY H. KLER
Environmental Planner

Enclosures:
(1) Information Package



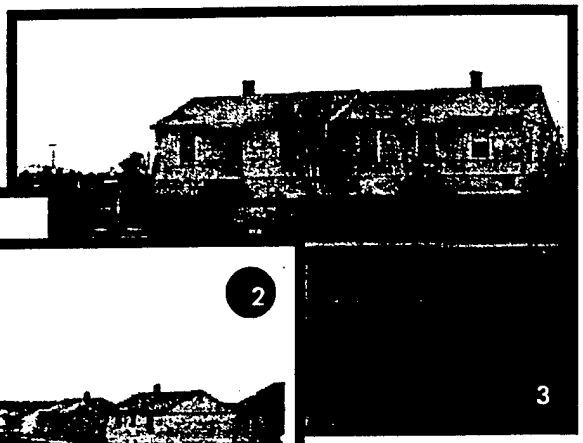
Vicinity Map

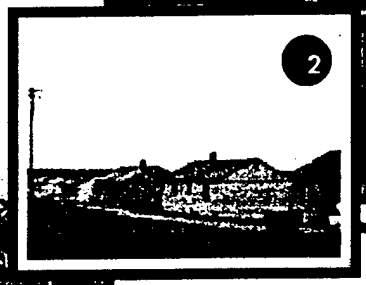
Sour epartment of the Navy 1988

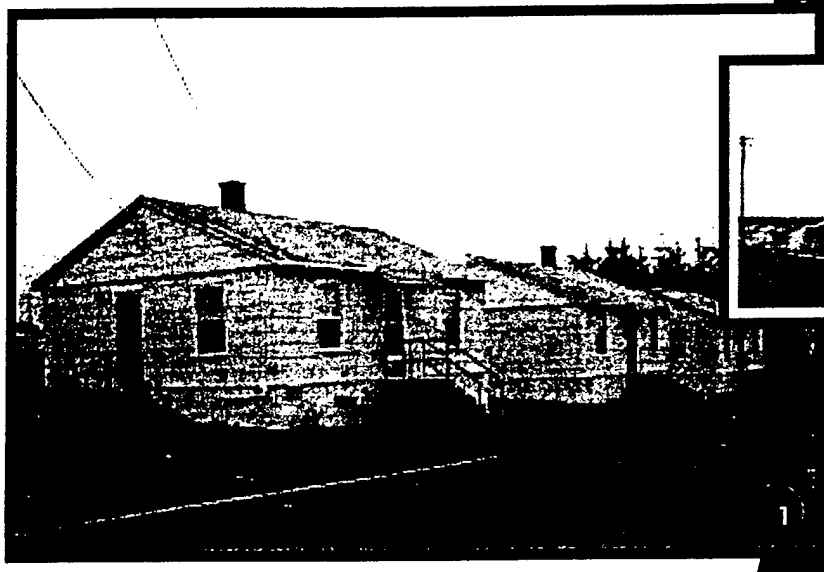
Victory Homes

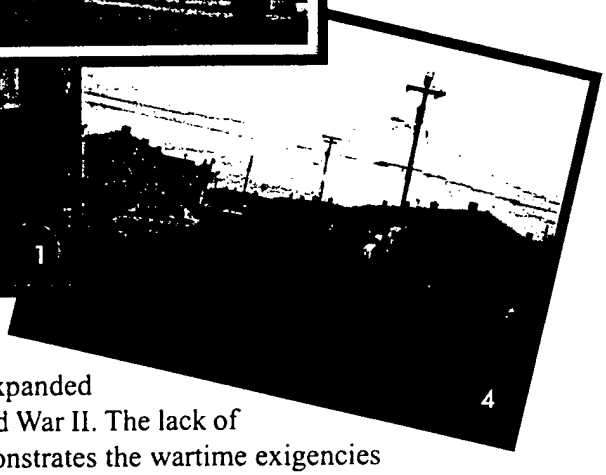
Historic Significance

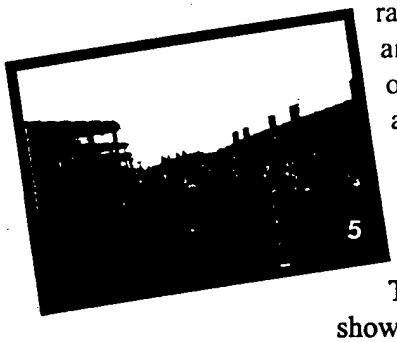
The Victory Homes comprise a proposed historic district that may be eligible for listing on the National Register of Historic Places both for their historical significance and architectural style.











The Victory Homes were built in 1942, as the Naval Air Station expanded rapidly after the outbreak of Word War II. The lack of architectural detail or style demonstrates the wartime exigencies of scarce building supplies and little time or labor available to design and build more elaborate structures. The curvilinear site plan conforming to the natural topography is also historically significant by reflecting the "Garden City" movement popular in pre-war military base and civilian residential design.

The proposed historic district includes 86 small cottages and duplexes shown in photos #1-#3. Additional housing to be demolished consists of 22 buildings illustrated in photos #4-#5, is located to the north of the proposed Victory homes historic district.

Proposed Action

Because the existing Victory Homes no longer meet Navy housing standards, the Navy is proposing to demolish all 108 buildings shown above of which 86 are located within the proposed Victory Homes Historic District and replace it with more contemporary housing and supporting infrastructure similar to those shown in photos #6-#7. Impacts to historic resources will be mitigated based on consultation with the State's Office of Archeology and Historic Preservation as required by Section 106 of the National Historic Preservation Act.

PUBLIC NOTICE DISTRIBUTION LIST

Washington State Historical Society
1911 Pacific Avenue
Tacoma, WA 98402
Att: Ms. Patty Blankenship
Toll Free 1-888-238-4373
253/272-WSHS info line
253/272-3500 reception

Trust Board of Ebey's Landing National Historical Reserve
PO Box 774,
Coupeville, WA 98239
Telephone: 360-678-6084

Heritage Resource Center
211 West 21st Avenue
Olympia, WA 98501

Bremerton Naval Museum
130 Washington Ave
Bremerton, WA 98337
(360) 479-7447

VFW Post 7392
3037 Goldie Road
Oak Harbor, WA 98277

***PBY Catalina* Foundation,**
P.O. Box 6224,
Santa Rosa, CA 95406.

PBY Catalina International Association
1510 Kabel Drive
New Orleans, LA 70131

Island County Historical Museum
PO Box 305
908 NW Alexander St
Coupeville WA 98239
Att: Ms. Billie Jordan
360-678-3310

National Trust for Historic Preservation
1785 Massachusetts Ave. NW
Washington, DC 20036
Phone: 202-588-6000
Fax: 202-588-6038

Swinomish Indian Tribe
P.O. Box 817
LaConner, WA 98257
Att: Robert Joe, Sr.
Chairman
Phone: (360) 466-3163
Fax: (360 466-4047

City of Oak Harbor
865 SE Barrington
Oak Harbor Washington
98277
Phone (360) 979-5551

Island County Planning Department
Island County Courthouse Annex
Coupeville WA.
98239

Samish Indian Nation
Ken Hansen, Chairman
P.O. Box 217
Anacortes, WA 98221

Initiative 695, otherwise known as the "$30 car tab initiative."

I-695 eliminated the unpopular motor vehicle excise tax, which generated money for things such as health services, criminal justice

Link Transit board decided that was not a good option.

"This was not the time to ask for more money. We had to demonstrate we could make the tough decisions," Hamm said.

up the loss due to fares
s due to service cuts.

said the cuts come at a
or Link Transit because
had just started a new program that was boosting ridership. He said he feels sympathy with Island Transit officials.

"I'm sure their heartstrings are being tugged on, just as they were for us," he said.

ple miss ferries, the agency shou
adjust bus schedules, reduce son
non-rush hour runs and limit t
time buses sit at the ferry docks

Both Steinhoff and Rose sa
some of the research data Isla
Transit has passed out overstat
the potential loss of ridership t
fare collection would cause, as w
as the cost of installing fare box
and collecting fares.

The Transit Board agreed t
some of the data was probably
error.

"We can't expect you to agree
disagree unless we can provi
you with real data," said boa
member Sheilah Crider. "I belie
we need to do our homework b
fore we go to the voter."

But Crider said the loss of a
riders is a step in the wrong dire
tion.

landscape that was once dominated by fast food joints serving up Americanized fare.

Edmonds chef Tom Sakias opened a Greek and Italian restaurant called Zorba's about three months ago in downtown Oak Harbor. Although the odd-shaped, hole-in-the-wall diner is hard to spot along Pioneer Way, it is almost always crowded with men and women in business clothes at lunchtime.

In Coupeville, the old Penn Cove Restaurant is closing and being replaced with Louie-G's Pizza and Italian Cuisine. The pizza place opened downstairs from the Penn opened his own pizza places at Ebey Bowl in Coupeville and at the old bowling alley in Freeland. Unfortunately, both bowling alleys went out of business.

Similarly, Flynn said she caters to customers who are looking for something wholesome and out of the ordinary. She and her husband, David Flynn, got the idea of opening a Mediterranean sandwich shop from the vendors who sold pita sandwiches similar to the gyros on the streets in Saudi Arabia.

The Flynns started out as food vendors, which meant driving their kitchen on wheels to arts and crafts shows and other celebrations all over the state. They also parked the truck in an empty lot on Midway Boulevard and fed Oak Harbor gyros and falafels for years.

Although they still drive the truck to about 50 festivals in the summer, Flynn said they were able to open the more permanent restaurant two years ago. They expanded the menu to include both Westernized and authentic Greek foods — like salads, a sausage called loukanika, such lasagna-type dishes as moussaka and pasticcio, kabobs, dolmades, and of course, baklava.

Down on Pioneer Way, Sakias said opening Zorba's Restaurant in Oak Harbor was sort of an accident. He was driving on Whidbey

Nadya Flynn (left) and Jessie Mendiola serve up pitas and other Gre restaurant in Oak Harbor. More and more local eateries are finding menus.

You are invited to comment on:

The proposed demolition and replacement of the Victory Homes at the Seaplane Base Naval Air Station Whidbey Island

The Navy is seeking public input on the proposed demolition and replacement of housing units known as Victory Homes at the Seaplane Base Naval Air Station Whidbey Island. The Navy is planning to demolish 198 housing units comprising the Victory Homes site and construct 168 new units on the same site because the existing homes do not meet the housing needs of Navy families.

Because the Victory Homes comprise a district that may be eligible for listing on the National Register of Historic Places, the Navy is conducting an analysis under the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA). This public comment period is intended to comply with public scoping requirements of Section 106 of the National Historic Preservation Act.

Comments will be accepted until February 16.

To receive further information or submit comments:

Contact Kimberly Klein at Naval Engineering Field Activity Northwest

Phone: (360) 396-0922

Email: Klein_Kimberly@navfac.navy.mil

Address: EFA NW 9917 7th Avenue NE, Poulsbo WA 98370

Appendix B
Assumptions for Regional Mobile Source Air Emissions

CONSTRUCTION EMISSIONS
Site A

Diesel Equipment	Number	Hours/Day	Total Hours	VOC	NOx	PM10	CO
crane	0	0	0	0	0	0	0
excavator	0	0	0	0	0	0	0
forklift-50hp	0	0	0	0	0	0	0
forklift-175 hp	0	0	0	0	0	0	0
off-highway truck	1	6	6	1.14	25.02	1.56	10.8
tracked loader	1	6	6	0.57	4.98	0.354	1.206
tracked tractor	0	0	0	0	0	0	0
scraper/earthmover	1	6	6	1.62	23.04	2.46	7.5
wheeled dozer	1	6	6	1.14	25.02	0.99	10.8
wheeled loader	0	0	0	0	0	0	0
backhoe	1	6	6	1.08	7.62	0.84	21.42
motor grader	1	6	6	0.234	0.324	0.366	0.9
miscellaneous	0	0	0	0	0	0	0
pumps	0	0	0	0	0	0	0
subtotal lbs/day				**5.78**	**86.00**	**6.57**	**52.63**
subtotal tons/year				**0.72**	**10.75**	**0.82**	**6.58**

Based on U.S. EPA estimate of motorized construction equipment associated with residential housing construction (EPA 1971). Assumes equipment operation occurs an average of 6 hours per day (SMAQMD 1994).

Emission Factors

Architectural Coatings

		lbs/unit	
Number of Units:	198	65.6	
lbs/day			51.9552
tons/year			6.4944

Asphalt Paving

		lbs/acre	
Total Number of Acres Paved:	7.5	2.62	
Total Paved Daily:	0.5		
lbs/day			1.31
tons/year			0.009825
subtotal lbs/day			**53.2652**
subtotal tons/year			**6.504225**

Emission factors derived from SCAQMD emission estimates (1993). Daily architectural coatings assumes 250-day annual construction period.

Offsite Mobile Source Emissions

	Daily Trips	Trip length	Miles/day	Emission Factor (g/mile)			
Auto	200	10	2000	1.28	1.77	0	13.53
Heavy Truck	20	10	200	1.33	8.39	0	6.3
Employee trips				**5.64**	**7.80**	**0.00**	**59.66**
Truck trips				**0.59**	**3.70**	**0.00**	**2.78**
subtotal lbs/day				**6.23**	**11.50**	**0.00**	**62.43**
subtotal tons/year				**0.78**	**1.44**	**0.00**	**7.80**

Mobile Source emission factors obtained by use of EPA-approved Mobile5b emissions model assuming an average speed of 35 mph for trucks and 40 mph for automobiles. Emission estimates are based on offsite truck haul and worker commute vehicle miles traveled. The number of trips and trip lengths are assumed based on analyses of similar projects within the area (U.S.Navy 1995).

Fugitive Dust

Total Developed Acreage:	20	
subtotal lbs/day		**255.00**
subtotal tons/year		**0.51**

PM-10 emissions are based on U.S.EPA TSP emission factor of 1.2 tons/acre/month. Assumes PM-10 is 64% of TSP (BAAQMD).

TOTAL tons/year	**8.01**	**12.19**	**1.33**	**14.38**

Sources:

California Air Resources Board, *Methods for Assessing Area Source Emissions in California*, September 1991.

U.S. EPA, *Compilation of Air Pollutant Emission Factors, Volume I: Stationary, Point and Area Sources, AP-42, 5th Edition*, January 1995.

Bay Area Air Quality Management District, *BAAQMD CEQA Guidelines*, April 1996.

San Joaquin Valley Air Pollution Control District, *URBEMIS7G Computer Program User's Guide, Version 3.1, Emissions Estimation for Land Use Development Projects*, May 1998.

U.S. Department of the Navy, *Environmental Assessment: Limited Partnership Family Housing Project, NAVSTA Everett*, 1995.

Sacramento Metropolitan Air Quality Management District, *Air Quality Thresholds of Significance*, 1994.

South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993.

Estimated Increase in Operational Emissions

MOTOR VEHICLE EMISSIONS

		VOC	NOx	CO
Increased Trips: 1,030				
Average Trip Length (m): 13				
Increased Miles/day: 13,390	Emission Factors (g/mile):	1.11	1.9	10.63
Motor Vehicle Emissions (lbs/day)		**32.77**	**56.09**	**313.79**
Motor Vehicle Emissions (tons/year)		**5.98**	**10.24**	**57.27**

Mobile Source emission factors obtained by use of EPA-approved Mobile5b emissions model assuming an average speed of 45 mph. The increased number of trips is based on a projected increase of 103 P.M. peak hour trips associated with the proposed project, and assuming that PM peak hour trips represents approximately 10% of the average daily trips. Average trip length of 13 miles was assumed based on review of similar projects within the area.

Appendix C
Archaeological Resources and Traditional Cultural Properties

Due to the confidential nature of site-specific information regarding archaeological resources, the Archaeological Resources and Traditional Cultural Places Overview Report (Appendix C) is not included in this copy for general distribution. Copies of the report are available to appropriate parties upon request. For more information, contact Kimberly Kler, EFA NW as listed on the cover of this EA.

Appendix D
MOA between Department of the Navy and the SHPO

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement is entered into between the Department of the Navy and the Washington State Historic Preservation Officer (SHPO).

WHEREAS, the United States Navy (Navy) has determined that the Victory Homes Replacement Project to be located on the Seaplane Base, Naval Air Station Whidbey Island, Oak Harbor, WA, will have an adverse effect upon the existing Victory Homes Historic District, a district which is considered eligible for listing in the National Register of Historic Places, and has consulted with the Washington State Historic Preservation Officer (SHPO) pursuant to 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation (16 U.S.C. 470f); and

WHEREAS, the Navy has considered community input regarding the undertaking solicited in accordance with public involvement efforts pursuant to 36 CFR 800.2(d);

NOW, THEREFORE, the Navy and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations to take into account the effect of the undertaking on historic properties.

Stipulations

The Navy will ensure that the following measures are carried out:

1. DOCUMENTATION:

1.1 The Navy shall prepare to HABS Level II standards, building documentation of each unit type to be demolished and the site plans for the demolition area. This shall include recording photographs of the exteriors of the representative building types, including at least one single-family home, one duplex, and one multi-unit row house present at the Victory Homes. Photographs shall be clearly labeled, and both photographs and negatives shall be prepared using archivally stable materials. The Navy shall also maintain any original architectural and site drawings of the Victory Homes Historic District and prepare reduced format copies as part of the documentation for distribution to interested parties. This historical documentation shall be provided to the Office of Archaeology and Historic Preservation (OAHP) prior to the start of demolition and be retained by the Navy as well as an appropriate local archive.

2. INTERPRETATION:

2.1 The Navy shall prepare a multi-media presentation depicting the history and construction of the Victory Homes. Multi-media shall include video and CD-ROM for distribution to interested parties and for website display. This product will be provided to OAHP and retained by the Navy, as well as being made available to local schools, libraries, and historic organizations. The OAHP shall assist in determining the scope of work for the development of the multi-media presentation. The extent of the presentation will be appropriate to the subject matter and the availability of suitable historical data and shall be agreeable to the Navy and the OAHP.

This multi-media presentation should be completed within one year of execution of this memorandum.

2.2 The Navy shall prepare and install a permanently mounted interpretive display panel in an appropriate, publicly accessible location associated with the retained units (see section 3 below) on the Victory Homes site. The interpretive display shall contain brief text descriptions and graphical images describing the historic and architectural significance of the Victory Homes Historic District and its role in the history of the Seaplane Base, with particular emphasis on the period of historical significance. The OAHP shall assist in determining the scope of work for the development of the interpretive display and shall approve the final plans. This display should be installed within three months of completion of construction activities on the project site.

3. RETENTION

3.1 The Navy shall retain one duplex (Building #614) and one single-family unit (Building #613) which are to be rehabilitated consistent with the Secretary of Interior Standards for Historic Buildings and approved by the OAHP. The Navy shall make every reasonable effort to accomplish the rehabilitation of the retained units within three years of construction start. The Navy shall maintain the units to avoid deterioration as discussed in the Integrated Cultural Resources Management Plan (ICRMP) and in accordance with the Historic Structures Preservation Manual (Navy 1991).

4. DESIGN REVIEW

4.1 The selected proposal was provided to the OAHP for review and comment. Based on that review, the Navy has agreed to the following changes: (a) delete proposed decorative shutters, (b) replace proposed hexagonal attic vents with rectangular vents, (c) replace proposed small pane window inserts with plain windows, (d) apply siding on porch and roof columns in a vertical manner, (e) retain the overall gradual sloping character of the existing site with no use of decorative berms, (f) use muted colors on vinyl siding and trim, (g) metal door selection shall be approved by OAHP, and (h) only one accessible unit shall have a slanted entry. The OAHP shall review the final plans for design elements identified above.

5. ARCHEOLOGY

5.1 An archeological resources and traditional cultural properties (TCP) overview has been prepared in conjunction with the Environmental Assessment. No archeological sites were found and no TCPs have been previously identified on the Victory Homes site. In case of discovery of significant archeological evidence during construction, procedures are identified in Chapter 3 of the Environmental Assessment.

Dispute Resolution

The Navy and SHPO have 10 working days to object to any actions proposed under this Agreement. The objection must be in writing. Upon receipt of an objection, the parties shall consult in an attempt to resolve the objection. If the Navy determines that the objection cannot be resolved, the

Navy shall forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (ACHP). Within 30 days after receipt of all pertinent documentation, ACHP will:

A. Provide the Navy with recommendations, which the Navy will take into account in reaching a final decision regarding the dispute; or

B. Notify the Navy that it will comment pursuant to 36 CFR 800.7(b), and proceed to comment. Any ACHP comment provided in response to such a request will be taken into account by the Navy in accordance with 36 CFR 800.7(c)(4) with reference only to the subject of the dispute; the Navy's responsibility to carry out all actions under this agreement that are not subject to the dispute shall remain unchanged.

Amendments

Any signatory party to this Memorandum of Agreement may propose to the other parties that it be amended, whereon the parties will consult in accordance with 36 CFR 800.6(c) to consider such an amendment. Such an amendment shall be executed in the same manner as this agreement.

Execution of this Memorandum of Agreement by The Navy and the Washington SHPO, and the implementation of its terms and subsequent acceptance by the ACHP evidences that the Navy has afforded the ACHP an opportunity to comment on the Victory Homes replacement and its effect on historic properties, and that the Navy has taken into account the effects of the undertaking on historic properties.

U.S. DEPARTMENT OF THE NAVY

BY: _____ DATE: 4/10/01

WASHINGTON STATE HISTORIC PRESERVATION OFFICER

BY: _____ DATE: 4/13/01

Concur:

ADVISORY COUNCIL ON HISTORIC PRESERVATION (not required)

BY: _____ DATE: _____

Appendix E
Preliminary Characterization of Lead-Containing Soils and Lead Sampling and Analysis Plan (SAP)

Prezant
Consulting
Training
Laboratory

February 2, 2000

Mr. Charlie Wisdom
Parametrix, Inc.
5808 Lake Washington Blvd. NE, Suite 200
Kirkland, WA 98033-7350

Re: Lead Soil Sampling and Analysis for the Victory Housing Area at the Whidbey Island Naval Air Station

Dear Mr. Wisdom,

This letter constitutes a report for surface soil sampling for lead performed at the request of Parametrix, Inc. (Parametrix) at the Victory Housing Area at the Whidbey Island Naval Air Station in Oak Harbor, Washington. The objective of the sampling was to determine baseline conditions of lead based paint contamination in the soils.

EXECUTIVE SUMMARY

Of the 46 composite soil samples collected at the Victory Housing Area, the lead concentration ranged from no detectable lead to 1,300 mg/kg of lead. The Model Toxics Control Act (MTCA) WAC 173-340 p.49 has established the cleanup level for lead in residential soil to be 250.0 mg/kg. The samples collected from the "dripline" of the residences contained greater than 250 mg/kg. Sample results can be found in Table 1.

INTRODUCTION

The sampling was conducted on January 24, 2000 by Chuck Haigh (Prezant) at the Victory Housing Area at the Whidbey Island Naval Air Station in Oak Harbor, Washington to determine baseline conditions of lead based paint contamination in the soils. Mr. Haigh is an EPA-certified Lead Inspector and Risk Assessor.

Prezant Associates, Inc.
330 6th Avenue North
Suite #200
Seattle, WA 98109

Voice 206.281.8856
Fax 206.281.8822

SAMPLING PLAN

Objectives

The objective of sampling was to determine the concentration of lead in soil.

Sampling Procedure for Soil Sampling

1. Label the sample container with its identification number and record number. Record sample location, and type of material sampled on a sampling data form.

2. Don vinyl or latex gloves.

3. Use a properly decontaminated coring instrument or small garden shovel.

4. Collect only the top 1/2 inch of the soil and place in the sample container.

5. Collect the remaining core samples of the composite using the same method. The ten cores constituting the composite sample are placed in the same plastic container.

6. Before collecting the next composite sample, thoroughly decontaminate the sampling tool and gloves.

SAMPLING STRATEGY AND RESULTS

Parametrix devised the following sampling strategy for Prezant to follow at the Victory Housing Area:

Parametrix randomly selected 11 units to be sampled out of the 188 housing units scheduled for demolition. Four composite soil samples were collected from each unit. Each composite consisted of 10 "scoops" of soil. The four composite samples were comprised of two composites from the yard areas, one composite at the dripline, and one composite from mid-yard.

Parametrix also selected two play areas to be sampled. One composite sample was collected from each play area.

Please see Table 1 for a summary of the sample results. Samples with laboratory results higher than the MTCA cleanup level for lead in residential soil (250 mg/kg) are in **bold**. Please see Appendix A for Laboratory Data Sheets. Please see Appendix B for sample location maps.

Table 1 – Lead Soil Sample Results, Victory Housing Area of the Whidbey Island Naval Air Station, January 24, 2000.

Sampling Site	Unit	Street	Sample Number	Sample Location	Laboratory Result (mg/kg)
1	571	Meadow	571 Meadow-A	Yard	<43
			571 Meadow-B	Yard	<43
			571 Meadow-C	**Dripline**	**1,300**
			571 Meadow-D	Mid-yard	130
2	682c	Lark	682cLark-A	Yard	96
			682cLark-B	Yard	72
			682cLark-C	**Dripline**	**300**
			682cLark-D	Mid-yard	210
3	587a	Brant	587aBrant-A	Yard	<39
			587aBrant-B	Yard	74
			587aBrant-C	**Dripline**	**400**
			587aBrant-D	Mid-yard	46
4	665d	Brant	665dBrant-A	Yard	<43
			665dBrant-B	Yard	<44
			665dBrant-C	Dripline	230
			665dBrant-D	Mid-yard	<42
5	614b	Brant	**614bBrant-A**	**Yard**	**560**
			614bBrant-B	Yard	<41
			614bBrant-C	Dripline	<39
			614bBrant-D	Mid-yard	<44
6	678d	Jay	678dJay-A	Yard	<33
			678dJay-B	Yard	<44
			678dJay-C	**Dripline**	**260**
			678dJay-D	Mid-yard	57
7	589b	Brant	589bBrant-A	Yard	<42
			589bBrant-B	Yard	<43
			589bBrant-C	Dripline	150
			589bBrant-D	Mid-yard	<43
8	580	Brant	580Brant-A	Yard	<41
			580Brant-B	Yard	38
			580Brant-C	**Dripline**	**360**
			580Brant-D	Mid-yard	110
9	679c	Jay	679cJay-A	Yard	61
			679cJay-B	Yard	47
			679cJay-C	Dripline	240
			679cJay-D	Mid-yard	<45

Table 1 – Lead Soil Sample Results, Victory Housing Area of the Whidbey Island Naval Air Station, January 24, 2000 continued...

Sampling Site	Unit	Street	Sample Number	Sample Location	Laboratory Result (mg/kg)
10	582	Brant	582Brant-A	Yard	<45
			582Brant-B	Yard	<37
			582Brant-C	**Dripline**	**400**
			582Brant-D	Mid-yard	100
11	671c	Goldfinch	671cGoldfinch-A	Yard	46
			671cGoldfinch-B	Yard	59
			671cGoldfinch-C	**Dripline**	**430**
			671cGoldfinch-D	Mid-yard	97
Play 1	Play 1		**Play 1**	**Throughout**	**270**
Play 2	Play 2		Play 2	Throughout	<44

CONCLUSIONS AND RECOMMENDATIONS

Nine of the forty-six samples collected from the Victory Housing Area at the Whidbey Island Naval Air Station contained greater than the MTCA cleanup level for lead in residential soil (250 mg/kg). It is recommended that soils containing 250 mg/kg of lead or greater be treated as lead-containing and appropriate precautions be taken.

LIMITS OF SAMPLING

Soil sampling for lead is non-comprehensive by nature and subject to many limitations including those presented below. Our assessment has considered those locations as directed by the client, however, this sampling is limited to only those locations sampled. This sampling was not designed to identify all potential concerns or eliminate all risk.

Prezant performed this survey in accordance with the generally accepted standards of care that exist in the industrial hygiene profession in Washington State at the time of this sampling.

If you have any questions regarding this report please feel free to call me.

Sincerely,

Chuck R. Haigh
Director of Technical Services

Appendices:

Appendix A - Laboratory Results
Appendix B- Sample Locations Map

Prezant Consulting Training

Prezant

Appendix A

Laboratory Data Sheets

Prezant

January 31, 2000

PAI Batch #: 00-0323

Client: Charlie Wisdom
Company: Parametix
5808 Lake Washington Blvd NE
Kirkland, Washington 98033

Project:	Whidbey Island NAS Family Housing	Project #:	P164-0001
Matrix:	Soil - Total Lead	P.O. #:	N/A
Date Received:	1/25/00	Method:	EPA SW-846 Method 7420
Date Analyzed:	1/31/00	Analyst:	***Charles Linder***

LEAD SAMPLE RESULTS

PAI Lab ID	Client ID	LOD (mg/kg)	Concentration (mg/kg)
00001704	571A	43	< 43
00001705	571B	43	< 43
00001706	571C	44	1,300
00001707	571D	45	130
00001708	682cA	41	96
00001709	682cB	42	72
00001710	682cC	43	300
00001711	682cD	39	210
00001712	587A A	39	< 39
00001713	587A B	43	74
00001714	587A C	41	400
00001715	587A D	42	46
00001716	665D A	43	< 43
00001717	665D B	44	< 44
00001718	665D C	45	230
00001719	665D D	42	< 42
00001720	614B A	44	560
00001721	614B B	41	< 41
00001722	614B C	39	< 39
00001723	614B D	44	< 44

QA/QC Results	
Batch QC MS	106% Recovery
Method Blank	< 45 mg/kg

LOD - limit of detection
mg - milligrams
kg - kilograms
< - less than

Reviewed by: George G. McCaslin, Laboratory Director

Prezant

January 31, 2000

PAI Batch #: 00-0324

Client: Charlie Wisdom
Company: Parametix
5808 Lake Washington Blvd NE
Kirkland, Washington 98033

Project: Whidbey Island NAS Family Housing
Matrix: Soil - Total Lead
Date Received: 1/25/00
Date Analyzed: 1/31/00

Project #: P164-0001
P.O. #: N/A
Method: EPA SW-846 Method 7420
Analyst: *Charles Linder*

LEAD SAMPLE RESULTS

PAI Lab ID	Client ID	LOD (mg/kg)	Concentration (mg/kg)
00001724	678D A	33	< 33
00001725	678D B	44	< 44
00001726	678D C	28	260
00001727	678D D	31	57
00001728	589B A	42	< 42
00001729	589B B	43	< 43
00001730	589B C	32	150
00001731	589B D	43	< 43
00001732	580 A	41	< 41
00001733	580 B	32	38
00001734	580 C	34	360
00001735	580 D	43	110
00001736	679C A	41	61
00001737	679C B	39	47
00001738	679C C	36	240
00001739	679C D	45	< 45
00001740	582 A	45	< 45
00001741	582 B	37	< 37
00001742	582 C	25	400
00001743	582 D	33	100

QA/QC Results
Batch QC MS 112% Recovery
Method Blank < 45 mg/kg

LOD - limit of detection
mg - milligrams
kg - kilograms
< - less than

Reviewed by:

George G. McCaslin, Laboratory Director

Prezant

January 28, 2000

PAI Batch #: 00-0325

Client: Charlie Wisdom
Company: Parametix
5808 Lake Washington Blvd NE
Kirkland, Washington 98033

Project:	Whidbey Island NAS Family Housing	Project #:	P164-0001
Matrix:	Soil - Total Lead	P.O. #:	N/A
Date Received:	1/25/00	Method:	EPA SW-846 Method 7420
Date Analyzed:	1/27/00	Analyst:	***Charles Linder***

LEAD SAMPLE RESULTS

PAI Lab ID	Client ID	LOD (mg/kg)	Concentration (mg/kg)
00001744	671C A	39	46
00001745	671C B	39	59
00001746	671C C	44	430
00001747	671C D	40	97
00001748	Play - 1	41	270
00001749	Play - 2	44	< 44

QA/QC Results	
Batch QC MS	101% Recovery
Method Blank	< 45 mg/kg

LOD - limit of detection
mg - milligrams
kg - kilograms
< - less than

Reviewed by:

George G. McCaslin, Laboratory Director

Prezant

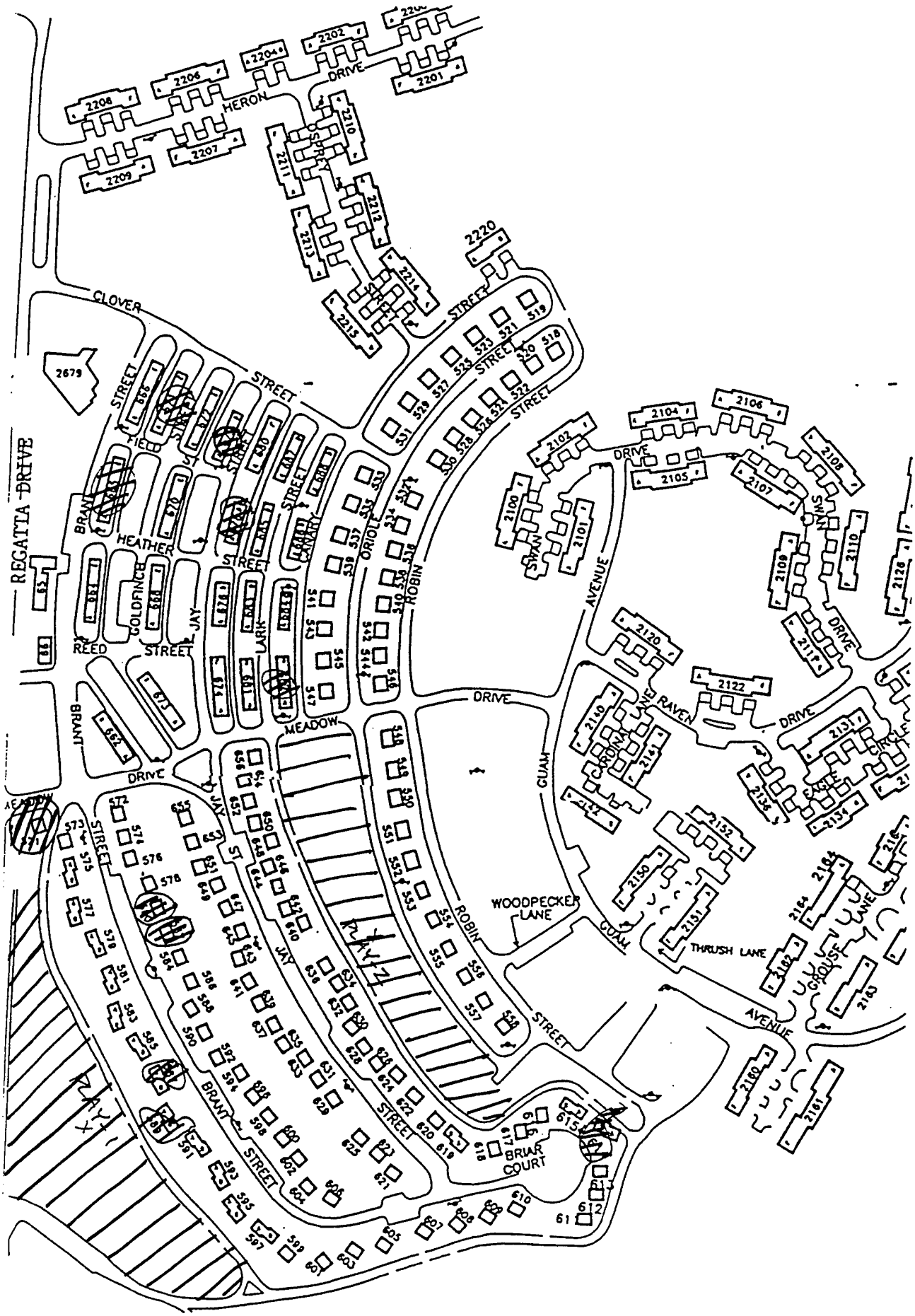
Appendix B

Sample Location Map

Prezant

Consulting

Training


REGATTA DRIVE
CLOVER
STREET
HERON
DRIVE
BRANT
HEATHER
REED
GOLDFINCH
JAY
LARK
ORIOLE
ROBIN
MEADOW
SWAN
AVENUE
RAVEN
LANE
GUAM
WOODPECKER LANE
THRUSH LANE
GROUSE
BRIAR COURT
PARKING
2679
2220
Housing Office
13

Appendix F
Relevant Correspondence

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHWEST
NAVAL FACILITIES ENGINEERING COMMAND
19917 7TH AVENUE N.E.
POULSBO, WASHINGTON 98370-7570

5090
Ser 05EP.KK/5047
MAR 28 2000

Herman Williams, Jr.
Chairman
Tulalip Tribes
6700 Totem Beach Road
Marysville, Washington 98271

Subject: Victory Homes Replacement Project Archaeological Resources and Traditional Cultural Places Overview

Dear Mr. Williams:

The Navy is conducting an overview of archaeological resources and traditional cultural places for the proposed Victory Homes Replacement Project on the Seaplane Base, Naval Air Station (NAS), Whidbey Island. Potential cultural resources addressed in this study consist of archaeological sites and traditional cultural places. The proposed Victory Homes Replacement Project consists of demolition of 198 existing Naval housing units and construction of 188 new housing units in the demolition area for enlisted Naval personnel. The proposed project is on Whidbey Island adjacent to Oak Harbor, Island County, Washington (Figure 1).

Proposed action will be accomplished in two phases. Phase 1 will demolish 102 units and construct 90 new, and Phase 2 will demolish and construct 98 units. Demolition activities that may require native ground disturbance include modification to existing roads, removal of walkways, removal of off-street parking, and use of any topsoil accumulated during demolition for landscaping restoration. Proposed utility infrastructure improvements will require ground disturbance.

The Navy's contractor, Larson Anthropological Archaeological Services Limited (LAAS), will identify known hunter-fisher-gatherer archaeological sites and historic period archaeological sites, and determine the probability for archaeological resources and traditional cultural places in and adjacent to the proposed Victory Homes Replacement Project. The cultural resource overview for the project consists of archival and literature review, tribal consultation, and production of a technical report. LAAS is currently gathering existing archaeological, historic, ethnographic, and historic Indian data from the Washington State Office of Archaeology and Historic Preservation and the University of Washington Libraries. The LAAS point of contact for this overview is archaeologist Leonard Forsman, who can be reached at 1-888-631-6131 or at laasltd@attglobal.net. Mr. Forsman will contact the Tribe's cultural resources representative within the next two weeks.

We are aware that the Tulalip Tribes may have information gathered from elders and/or the Tribe may use nearby areas for traditional cultural activities. Therefore, we encourage the Tulalip Tribes' cultural resources representative to contact us, Leonard Forsman of LAAS, or the NAS Whidbey Island Environmental Affairs Department Cultural Resources Manager at (360) 257-8873 if the Tribe has information that might be useful in our records check. We understand that traditional cultural use areas are private, but would welcome the opportunity to work with the Tribe regarding incorporation of this type of information in a secure and respectful manner.

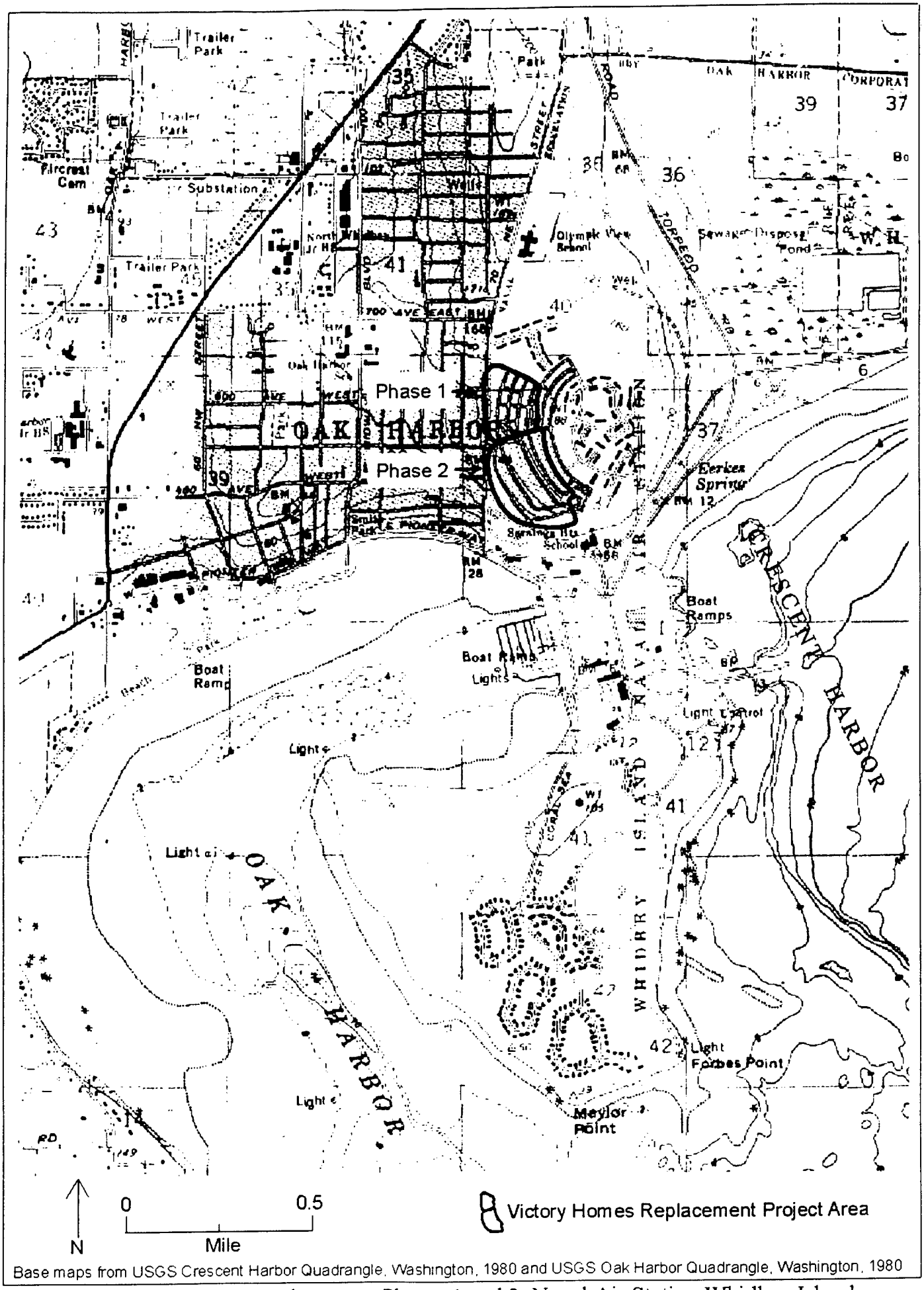
Sincerely,

Kimberly H. Kler

KIMBERLY H. KLER
Environmental Planner

Copy to:
Richard Young, Cultural Resources Technician, Tulalip Tribes
Leonard Forseman, LAAS

Blind Copy:
NAS Whidbey Island (Steve Pennix, Code N4461)
Gerald Hansmire, MAKERS
Mike Usen, EDAW



Base maps from USGS Crescent Harbor Quadrangle, Washington, 1980 and USGS Oak Harbor Quadrangle, Washington, 1980

Figure 1. Victory Homes Replacement Phases 1 and 2, Naval Air Station Whidbey Island, Oak Harbor, Washington.

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHWEST
NAVAL FACILITIES ENGINEERING COMMAND
19917 7TH AVENUE N.E.
POULSBO, WASHINGTON 98370-7570

5090
Ser 05EP.KK/5046
MAR 28 2000

Ken Hansen
Chairman
Samish Tribe
P.O. Box 217
Anacortes, Washington 98221

Subject: Victory Homes Replacement Project Archaeological Resources and Traditional Cultural Places Overview

Dear Mr. Hansen:

The Navy is conducting an overview of archaeological resources and traditional cultural places for the proposed Victory Homes Replacement Project on the Seaplane Base, Naval Air Station (NAS), Whidbey Island. Potential cultural resources addressed in this study consist of archaeological sites and traditional cultural places. The proposed Victory Homes Replacement Project consists of demolition of 198 existing Naval housing units and construction of 188 new housing units in the demolition area for enlisted Naval personnel. The proposed project is on Whidbey Island adjacent to Oak Harbor, Island County, Washington (Figure 1).

Proposed action will be accomplished in two phases. Phase 1 will demolish 102 units and construct 90 new, and Phase 2 will demolish and construct 98 units. Demolition activities that may require native ground disturbance include modification to existing roads, removal of walkways, removal of off-street parking, and use of any topsoil accumulated during demolition for landscaping restoration. Proposed utility infrastructure improvements will require ground disturbance.

The Navy's contractor, Larson Anthropological Archaeological Services Limited (LAAS), will identify known hunter-fisher-gatherer archaeological sites and historic period archaeological sites, and determine the probability for archaeological resources and traditional cultural places in and adjacent to the proposed Victory Homes Replacement Project. The cultural resource overview for the project consists of archival and literature review, tribal consultation, and production of a technical report. LAAS is currently gathering existing archaeological, historic, ethnographic, and historic Indian data from the Washington State Office of Archaeology and Historic Preservation and the University of Washington Libraries. The LAAS point of contact for this overview is archaeologist Leonard Forsman, who can be reached at 1-888-631-6131 or at laasltd@attglobal.net. Mr. Forsman will contact the Tribe's cultural resources representative within the next two weeks.

We are aware that the Samish Tribe may have information gathered from elders and/or the Tribe may use nearby areas for traditional cultural activities. Therefore, we encourage the Samish Tribe's cultural resources representative to contact us, Leonard Forsman of LAAS, or the NAS Whidbey Island Environmental Affairs Department Cultural Resources Manager at (360) 257-8873 if the Tribe has information that might be useful in our records check. We understand that traditional cultural use areas are private, but would welcome the opportunity to work with the Tribe regarding incorporation of this type of information in a secure and respectful manner.

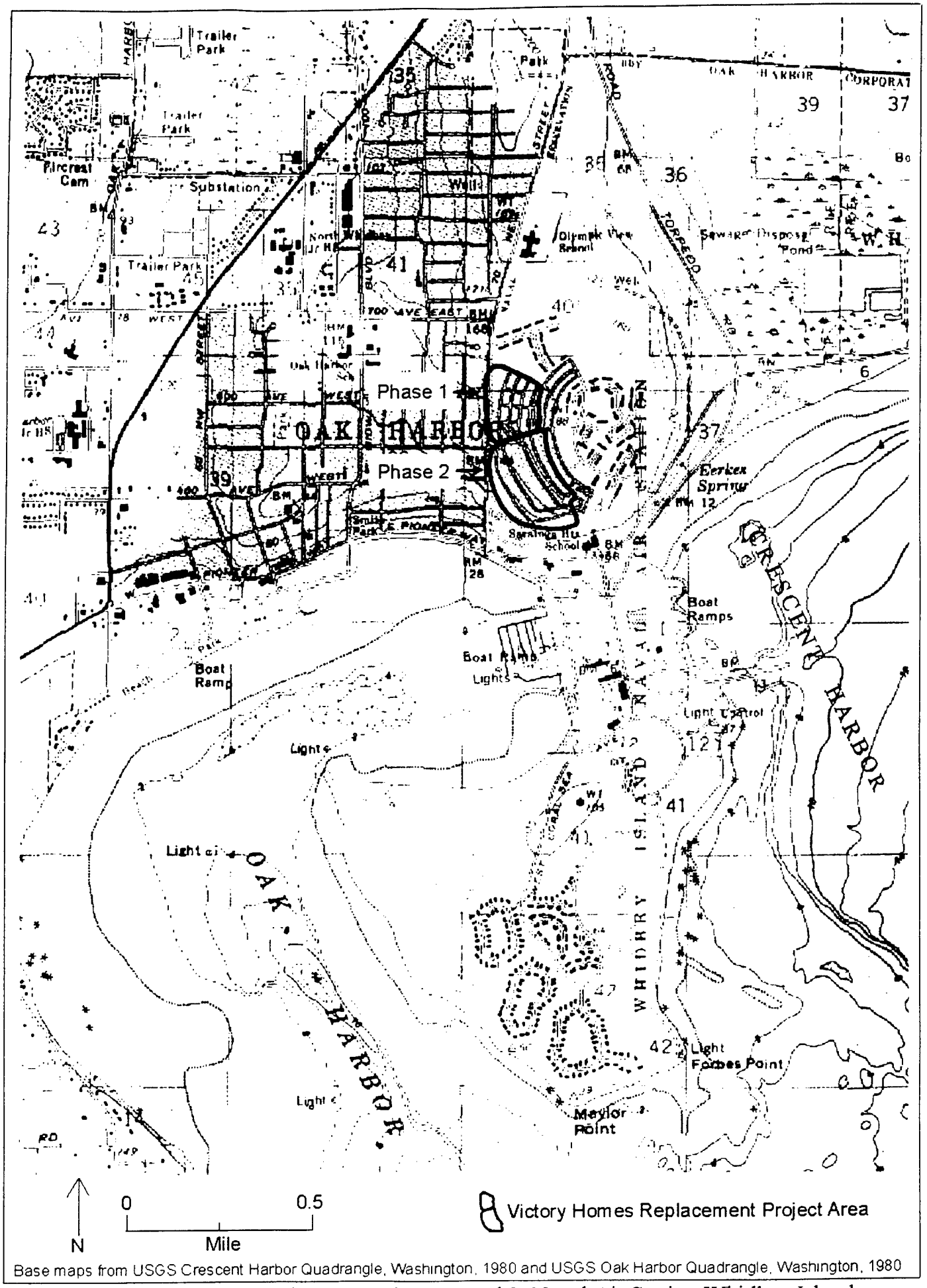
Sincerely,

Kimberly H. Kler

KIMBERLY H. KLER
Environmental Planner

Copy to:
Jan Evans, Cultural Resources Technician, Samish Tribe
Leonard Forseman, LAAS

Blind Copy:
NAS Whidbey Island (Steve Pennix, Code N4461)
Gerald Hansmire, MAKERS
Mike Usen, EDAW



Base maps from USGS Crescent Harbor Quadrangle, Washington, 1980 and USGS Oak Harbor Quadrangle, Washington, 1980

Figure 1. Victory Homes Replacement Phases 1 and 2, Naval Air Station Whidbey Island, Oak Harbor, Washington.

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHWEST
NAVAL FACILITIES ENGINEERING COMMAND
19917 7TH AVENUE N.E.
POULSBO, WASHINGTON 98370-7570

5090
Ser 05EP.KK/5045
MAR 28 2000

Brian Cladoosby
Chairman
Swinomish Tribal Community
P.O. Box 817
LaConner, Washington 98257

Subject: Victory Homes Replacement Project Archaeological Resources and Traditional Cultural Places Overview

Dear Mr. Cladoosby:

The Navy is conducting an overview of archaeological resources and traditional cultural places for the proposed Victory Homes Replacement Project on the Seaplane Base, Naval Air Station (NAS), Whidbey Island. Potential cultural resources addressed in this study consist of archaeological sites and traditional cultural places. The proposed Victory Homes Replacement Project consists of demolition of 198 existing Naval housing units and construction of 188 new housing units in the demolition area for enlisted Naval personnel. The proposed project is on Whidbey Island adjacent to Oak Harbor, Island County, Washington (Figure 1).

Proposed action will be accomplished in two phases. Phase 1 will demolish 102 units and construct 90 new, and Phase 2 will demolish and construct 98 units. Demolition activities that may require native ground disturbance include modification to existing roads, removal of walkways, removal of off-street parking, and use of any topsoil accumulated during demolition for landscaping restoration. Proposed utility infrastructure improvements will require ground disturbance.

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We are aware that the Swinomish Tribal Community may have information gathered from elders and/or the Tribe may use nearby areas for traditional cultural activities. Therefore, we encourage the Swinomish Tribal Community's cultural resources representative to contact us, Leonard Forsman of LAAS, or the NAS Whidbey Island Environmental Affairs Department Cultural Resources Manager at (360) 257-8873 if the Tribe has information that might be useful in our records check. We understand that traditional cultural use areas are private, but would welcome the opportunity to work with the Tribe regarding incorporation of this type of information in a secure and respectful manner.

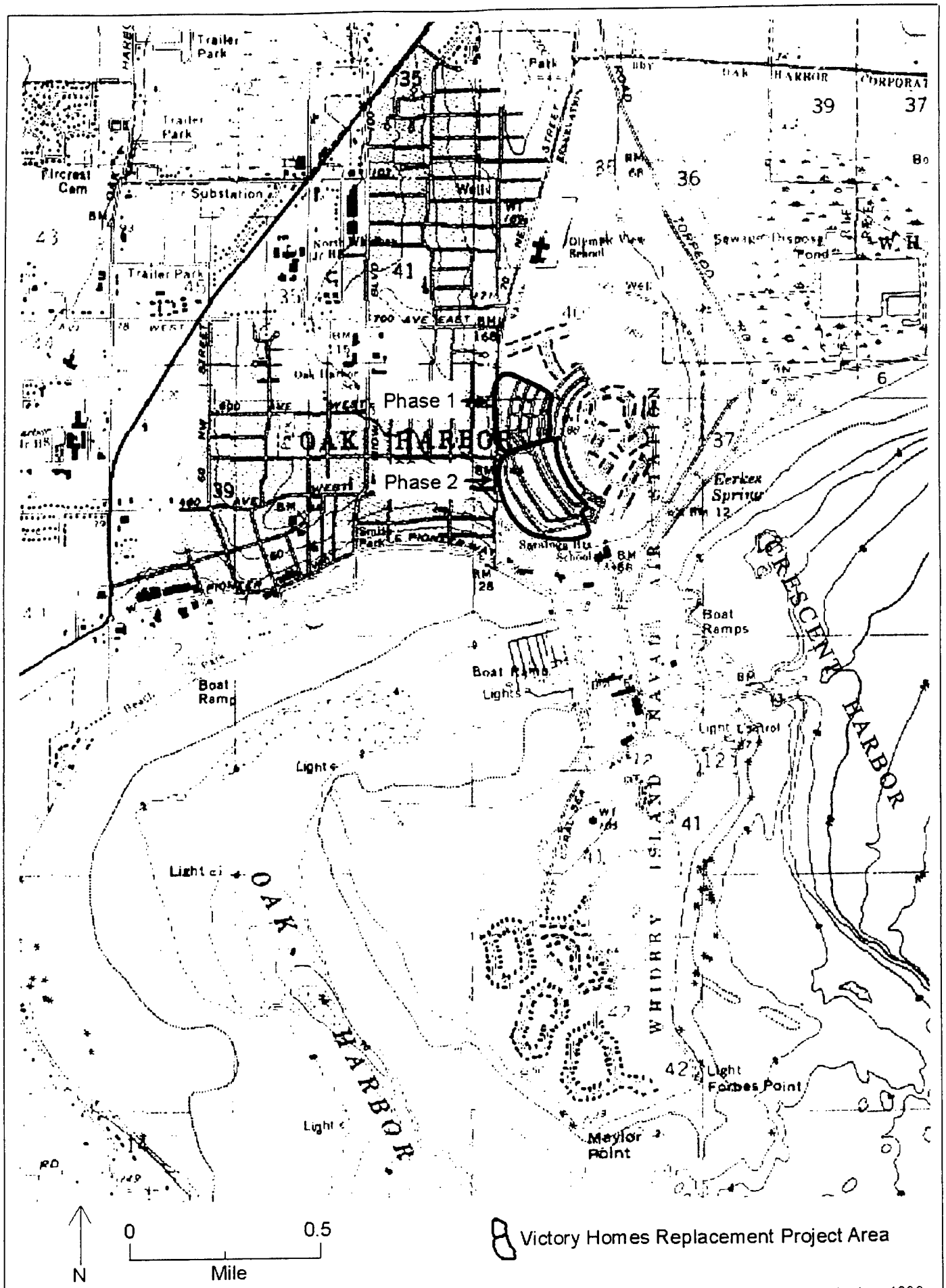
Sincerely,

Kimberly H. Kler

KIMBERLY H. KLER
Environmental Planner

Copy to:
Larry Campbell, Cultural Resources Specialist, Swinomish Tribal Community
Leonard Forseman, LAAS

Blind Copy:
NAS Whidbey Island (Steve Pennix, Code N4461)
Gerald Hansmire, MAKERS
Mike Usen, EDAW



Base maps from USGS Crescent Harbor Quadrangle, Washington, 1980 and USGS Oak Harbor Quadrangle, Washington, 1980

Figure 1. Victory Homes Replacement Phases 1 and 2, Naval Air Station Whidbey Island, Oak Harbor, Washington.

EDAW

EDAW INC

1505 WESTERN AVENUE

SUITE 601

SEATTLE WASHINGTON

98101

TEL 206 622 1176

FAX 206 343 9809

www.edaw.com

March 13, 2000

Mr. John Grettenberger
U.S. Fish and Wildlife Service
North Pacific Coast Ecoregion
510 Desmond Drive, Suite 102
Lacey, WA 98503

Dear Mr. Grettenberger:

EDAW, Inc. is currently under contract to the U.S. Navy to prepare a National Environmental Policy Act (NEPA) document for the Naval Air Station, Whidbey Island's proposed "Victory Homes Replacement" project at the Navy's Seaplane Base. The project site is an already developed area adjacent to the City of Oak Harbor, Washington in Township 32N, Range 2 East, Section 4 (Enclosure 1). The proposed project would include demolition of 198 single-family homes and construction of 200 homes in the same area.

EDAW requests a list of wildlife species listed as threatened or endangered and protected under the Endangered Species Act, as well as species currently proposed for listing under the ESA, that could potentially occur in the vicinity of the project site.

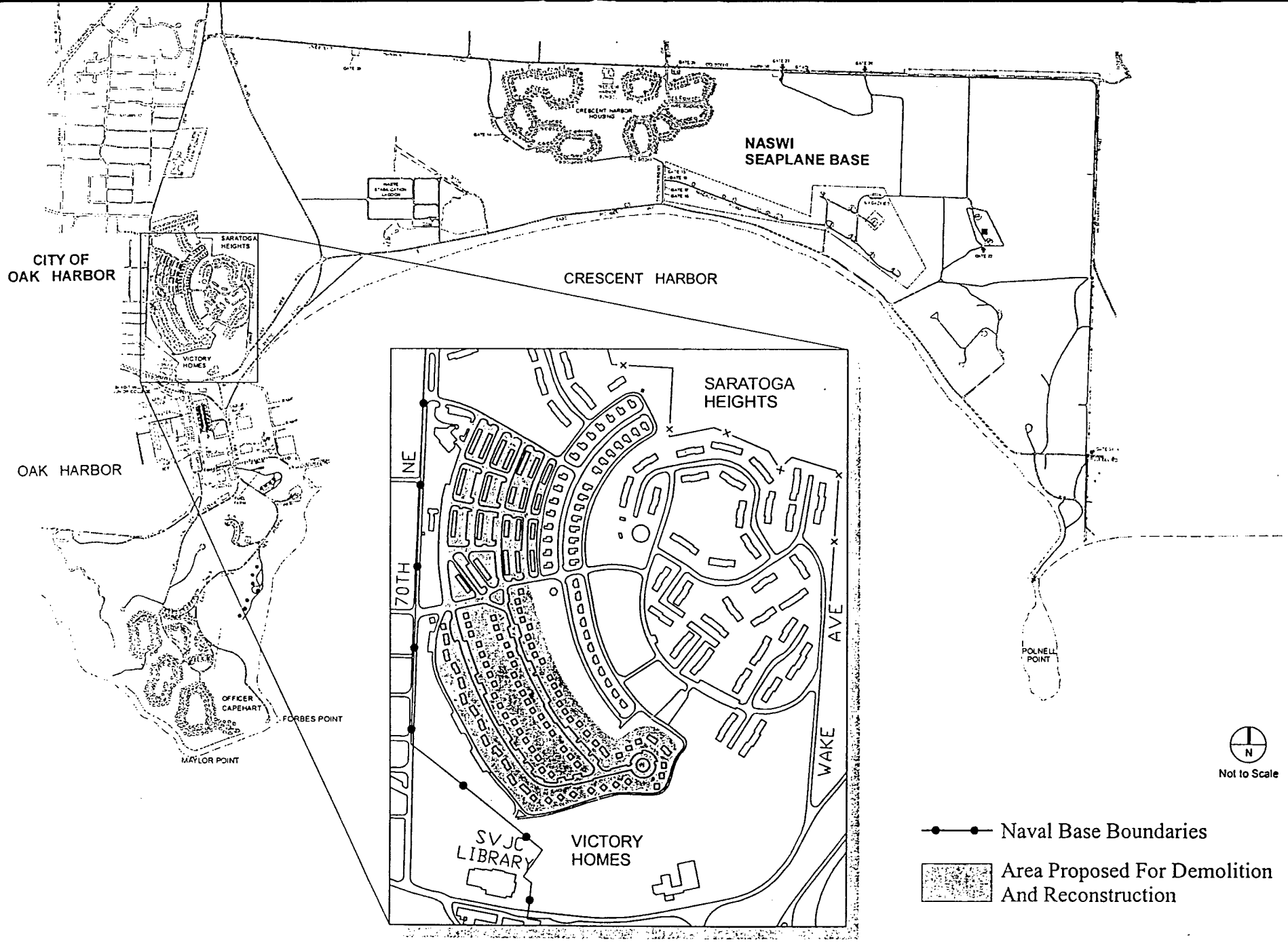
If additional information is required, please contact me at (206) 622-1176, or via e-mail at tresslerr@edaw.com.

Best Regards,

Ronald Tressler
Associate Biologist

Enclosures: 1. NAS Whidbey Island location map

cc: Mike Usen



Vicinity Map

Figure 2.1-2

Source: Department of the Navy 1988

KHK 2-1-01

Kimberly Kler
Environmental Planner
Department of the Navy
Naval Facilities Engineering Command
19917 7th Avenue NE
Poulsbo, Washington, 98370-7570

January 30, 2001

Dear Ms Kler

Thank you for sending me the Draft Environmental Assessment (EA) Review for the demolition and replacement of Victory Homes at the Seaplane Base, NAS Whidbey Island, Oak Harbor, WA.

I tried to answer you via e-mail, but your e-mail was incomplete as written to me: KlerKH@efanw.navfac.navy.mil

Since I am primarily interested in the historical significance of the Seaplane Base, I was pleased to see the Navy's retention of a duplex consisting of two units and a single family unit. They could be used to demonstrate to future school children how early Navy personnel lived during World War II. (and after!) I would hope that the PBY Memorial Association could have use of one until they are successful in building a hangar to place a PBY plane, and other W.W.II planes into.

I would question EDAW,Inc of Seattle, WA, why they did not utilize both sides of the paper in preparing their assessment. In this day of the Navy's economic cut backs, it would appear that they should have done so.

Sincerely,

Helen Chatfield-Weeks

Helen Chatfield-Weeks
PO Box 1555
Oak Harbor, WA, 98277
360-675-5464
helencw@whidbey.net

DEPARTMENT OF THE NAVY
COMMANDER IN CHIEF
UNITED STATES PACIFIC FLEET
250 MAKALAPA DRIVE
PEARL HARBOR, HAWAII 96860-3131

IN REPLY REFER TO:
5090
Ser N46523/1209
01 JUN 01

From: Commander in Chief, U.S. Pacific Fleet
To: Commanding Officer, Naval Air Station, Whidbey Island

Subj: ENVIRONMENTAL ASSESSMENT (EA) FOR VICTORY HOMES DEMOLITION AND REPLACEMENT

Ref: (a) NASWI ltr 5090 Ser N44/0633 of 26 Apr 01
(b) OPNAVINST 5090.1B

Encl: (1) Finding of No Significant Impact (FONSI)
(2) Notice of Availability of FONSI and Environmental Assessment

1. An Environmental Assessment (EA) for the subject action was forwarded by reference (a) for review in accordance with reference (b). It has been determined that preparation of an Environmental Impact Statement (EIS) is not required and the proposed action would not generate significant impacts. Accordingly, it is considered that, with implementation of the following paragraph and any mitigation measures described in enclosure (1), compliance with the National Environmental Policy Act has been effected, and the project may be initiated.

2. The Council on Environmental Quality regulations require public notification of the availability of the EA and of the decision not to prepare an EIS. Enclosure (2) is provided for your use in implementing this requirement and should be published in a local newspaper. If appropriate, publication in a foreign-language newspaper should also occur. Enclosure (1) should be mailed to any interested parties. Please provide verification of local publication to CINCPACFLT (N465) upon implementation. The EA should be retained in project files for possible future use.

Subj: ENVIRONMENTAL ASSESSMENT (EA) FOR VICTORY HOMES
DEMOLITION AND REPLACEMENT

3. Point of contact is Ms. Karen A. Verkennes, N46523, at COMM/DSN (808) 474-0745 or E-mail VerkenKA@cpf.navy.mil.

A. E. RONDEAU
Deputy Chief of Staff for
Shore Installation Management

Copy to:
CNO WASHINGTON DC (N456)
CHINFO WASHINGTON DC
COMNAVREG NW SEATTLE WA (N45)
ENGFLDACT NW POULSBO WA (Code 05EC.4KK)

DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT FOR THE VICTORY HOMES DEMOLITION AND REPLACEMENT AT NAVAL AIR STATION WHIDBEY ISLAND, ISLAND COUNTY, WASHINGTON

Pursuant to Council on Environmental Quality Regulations (40 CFR Parts 1500-1508) implementing procedural provisions of the National Environmental Policy Act, the Department of the Navy gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement is not required for the demolition and replacement of Victory Homes enlisted housing at Naval Air Station, Whidbey Island (NASWI), Oak Harbor, Island County, Washington.

The proposed action is to replace 198 units of substandard housing, known as the Victory Homes site, with 200 units of housing which meet Navy requirement at the Seaplane Base, NASWI, Oak Harbor, Washington. The Navy will demolish 195 of the existing units at the Victory Homes site, and will retain three units for historic, cultural, and recreational purposes. Pursuant to Section 106 of the National Historic Preservation Act, Navy has agreed that the Briar Court cul-de-sac would remain along with Building #614 (a duplex) and Building #613 (a single-family unit). These two buildings and the land around them will serve historic, cultural and recreational purposes. The housing units in these two buildings will not be occupied by residents. The action includes demolition of buildings, streets, landscaping, utilities, and other supporting infrastructure and moderate re-grading of the site prior to reconstruction. Replacement construction will include new site utilities, site improvements, landscaping, new building construction, mechanical systems, electrical systems, and incidental related work. At build-out, the completed project will consist of twenty 2-bedroom housing units, 152 units with 3 bedrooms and 28 units with 4-bedrooms. Amenities for the new housing will include attached parking garages, covered patios, privacy fencing, exterior storage, community recreational facilities and common open space. Demolition will commence June 2001, with construction and full occupancy planned to be completed by September 2003.

The Environmental Assessment addressed two action alternatives, street-accessed and alley-accessed, and the "no action". The two alternatives were related to design and configuration changes for the site. Both action alternatives utilize the historic curvilinear layout of the site. The street-accessed alternative was intended to be a conventional townhouse complex design, most similar to the adjacent Saratoga Heights. With this alternative pedestrians and vehicles would access all 200 housing units from the streets. The alley-accessed alternative will have the homes front the streets while the garages and driveways back-up onto alleys. The alley-access will contribute to better site circulation as well as improved aesthetics. In addition this alternative creates a street grid reminiscent of the pre-war development patterns contemporary with the site's original development maintaining some of the historical continuity of the site layout. Therefore, the alley-accessed alternative was chosen as the preferred alternative. Under the "no action" alternative as required by NEPA, the Navy would retain the existing substandard

ENCLOSURE(1

housing units at Victory Homes with no new housing constructed to meet Navy housing demands and standards.

Prior to selection of the Victory Homes site, full ranges of potential housing sites on the Seaplane Base were examined. Due to operational and environmental constraints the siting options were extremely limited. As a result, there were three other housing options at Seaplane Base that were considered and subsequently eliminated because they were determined to be infeasible: (1) Revitalization option would not meet Navy requirements and would be cost-prohibitive; (2) Rockhill Terrace option would not be feasible because part of the site is a wooded area set aside as mitigation during a previous NEPA review; and (3) East slope option was rejected due to the steeply sloping topography.

Demolition of the Victory Homes site will begin in June 2001. The southern portion of the Victory Homes was built in 1942, as the Naval Air Station expanded rapidly after the outbreak of World War II. This area contains both single-family and duplex houses (Quarters 571-656) built to common plans, and are identified as a historic district eligible for listing in the National Register of Historic Places (NRHP). The lack of architectural detail or style demonstrates the scarcity of building supplies, time and labor during wartime to design and build more elaborate structures. Although not remarkable individually, collectively they convey an especially strong sense of "place and time". The curvilinear site plane conforming to the natural topography is also historically significant by reflecting the "Garden City" movement. Additional units in the northern portion, four-plex and six-plex row houses, built in 1943 were completed in 1944.

The Navy has taken appropriate measures to address the historic aspects of the Victory Homes site. To mitigate adverse effects to historic resources, the Briar Court cul-de-sac would remain along with Building #614 (a duplex) and Building #613 (a single-family unit). These two buildings and the land around them will serve historic, cultural and recreational purposes. Pursuant to Section 106 of the National Historic Preservation Act (NHPA), the Navy has consulted with the State Historic Preservation Officer (SHPO) regarding the Proposed Action and agreed that the action will have an adverse effect on the NRHP-eligible Victory Homes Historic District. The Navy and SHPO developed a Memorandum of Agreement (MOA) to address the adverse effects. The MOA states that the Navy will: (1) prepare a Historic American Buildings Survey Level II for each unit type to be demolished; (2) prepare a multi-media presentation depicting the history and construction of the Victory Homes; (3) prepare and install a permanently mounted interpretive display panel in an appropriate, publicly accessible location associated with the retained units; and (4) rehabilitate Buildings #613 and #614 consistent with the Secretary of Interior Standards for Historic Buildings and approved by the Office of Archaeology and Historic Preservation.

The project area is within the Island County area of the Northwest Air Pollution Authority (NWAPA) and is currently designated as "attainment" for all criteria air pollutants. Construction activities associated with the proposed project would generate locally elevated levels of exhaust emissions and fugitive dust, due to demolition, site preparation, utility installation, and construction. These impacts are localized, temporary, and will be mitigated by applying dust control measures. Although the existing housing units contain asbestos and lead, demolition

contractors are required to comply with all federal, state and local codes and regulations intended to limit these materials from becoming airborne. The project specifications require engineering controls designed to limit the quantity of airborne asbestos fibers and lead dust to safe levels. As a result, airborne hazardous materials from the proposed action are not expected to create a health hazard. Emissions generated by stationary source, heating and cooling systems, would have a less-than-significant impact on regional air quality. Although the proposed action will have an estimated increase of approximately 1,030 trips per day with an average trip length of 13 miles emissions generated by mobile sources would have a less-than-significant impact on both regional and local air quality.

No significant land use impacts will occur from the proposed action. No significant impacts to either geology/soils or water quality will occur from the proposed action. The proposed action will provide a new storm drain system for the Victory Homes site and a detention pond. The detention pond will be designed to handle the remaining stormwater so as not to increase the amount of discharge into Oak Harbor via the Regatta Drive storm drain.

No significant impacts on native vegetation will occur from the proposed action, the Navy will protect all existing Oregon white oak trees within the project site. No impacts to either wildlife, habitat, and wetlands, or threatened and endangered species will occur from the proposed action. No significant impacts to recreational resources will occur from the proposed action.

No significant construction or occupancy (traffic-generated) noise will occur from the proposed action. Measures to reduce construction noise will include: (1) limiting construction activities to normal daytime periods between 7 a.m. and 9 p.m., Monday through Friday, (2) using equipment with proper mufflers or noise control devices, and (3) situating noise-generation equipment near construction activities only.

No impacts to either aesthetic/visual resources, public services, or utilities will occur from the proposed action. Although the proposed action will result in an approximate increase of 314 occupants, the majority being school-age and pre-school children, there will be no significant impact on transportation and circulation.

The increase of 314 occupants as a result of the proposed action will have no significant impact on the socioeconomics of the area. The proposed action will increase housing opportunities for enlisted pay grades stationed at NASWI. No significant impacts to school capacity will occur from the proposed action, which will generate an estimated 342 school-age students. The proposed action, demolition of the current structures, and replacement with new housing and landscaping, will eliminate public health hazards and children's health and safety associated with lead-based paint and asbestos containing material. In addition, all soils will be inspected for lead prior to occupancy in compliance with regulations to ensure no impact to children's health and safety. There will not be any disproportionately high and adverse human health and safety risks or environmental effects from the action on children and minority and low-income populations.

Based on information gathered during preparation of the EA, the Navy finds that the demolition and replacement of Victory Homes at Naval Air Station, Whidbey Island, Island County, Washington will not significantly impact the environment.

The EA addressing this action may be obtained from: Commanding Officer, Engineering Field Activity Northwest, Naval Facilities Engineering Command, 19917 7th Avenue N.E., Poulsbo, Washington 98370-7570 (Attention: Mrs. Kimberly Kler, Code 05EC.4KK); telephone (360) 396-0927. Copies of the EA may also be reviewed at the Oak Harbor City Library, Oak Harbor, Washington, and the Sno-Isle Regional Library in the Town of Coupeville, Washington.

01 JUNE 2001
DATE

A.E. RONDEAU
Rear Admiral, U.S. Navy
Deputy Chief of Staff for
Shore Installation Management,
U.S. Pacific Fleet

DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

NOTICE OF AVAILABILITY OF THE ENVIRONMENTAL ASSESSMENT AND THE FINDING OF NO SIGNIFICANT IMPACT FOR THE VICTORY HOMES DEMOLITION AND REPLACEMENT AT NAVAL AIR STATION WHIDBEY ISLAND, ISLAND COUNTY, WASHINGTON

Pursuant to Council on Environmental Quality Regulations (40 CFR Parts 1500-1508) implementing procedural provisions of the National Environmental Policy Act, the Department of the Navy gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement is not required for the demolition and replacement of Victory Homes enlisted housing at Naval Air Station, Whidbey Island (NASWI), Oak Harbor, Island County, Washington.

The proposed action is to replace 198 units of substandard housing, known as the Victory Homes site, with 200 units of housing which meet Navy requirement at the Seaplane Base, NASWI, Oak Harbor, Washington. The Navy will demolish 195 of the existing units at the Victory Homes site, and will retain three units for historic, cultural, and recreational purposes. Pursuant to Section 106 of the National Historic Preservation Act, Navy has agreed that the Briar Court cul-de-sac would remain along with Building #614 (a duplex) and Building #613 (a single-family unit). These two buildings and the land around them will serve historic, cultural and recreational purposes. The housing units in these two buildings will not be occupied by residents. The action includes demolition of buildings, streets, landscaping, utilities, and other supporting infrastructure and moderate re-grading of the site prior to reconstruction. Replacement construction will include new site utilities, site improvements, landscaping, new building construction, mechanical systems, electrical systems, and incidental related work. Amenities for the new housing will include attached parking garages, covered patios, privacy fencing, exterior storage, community recreational facilities and common open space. Demolition will commence June 2001, with construction and full occupancy planned to be completed by September 2003.

Based on information gathered during preparation of the EA, the Navy finds that the demolition and replacement of Victory Homes at Naval Air Station, Whidbey Island, Island County, Washington will not significantly impact quality of the human environment.

The EA addressing this action may be obtained from Commanding Officer, Engineering Field Activity Northwest, Naval Facilities Engineering Command, 19917 7th Avenue N.E., Poulsbo, Washington 98370-7570 (Attention: Mrs. Kimberly Kler, Code 05EC.4KK); telephone (360) 396-0927. Copies of the EA may also be reviewed at the Oak Harbor City Library, Oak Harbor, Washington, and the Sno-Isle Regional Library in the Town of Coupeville.

ENCLOSURE(2)