Final Environmental Assessment

Improvements to Building 431 Central Tool Shop at Puget Sound Naval Shipyard

Naval Base Kitsap Bremerton

Bremerton, Washington

July 2015

Naval Facilities Engineering Command Northwest

1101 Tautog Circle

Silverdale, WA 98315

Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
APE	Area of Potential Effect
ASCE	American Society of Civil Engineers
BMPs	Best Management Practices
BRBs	Buckle Restrained Braces
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIA	Controlled Industrial Area
CNIC	Commander, Navy Installations Command
CNRNW	Commander, Navy Region Northwest
DoD	Department of Defense
DoN	Department of the Navy
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPCRA	Emergency Planning and Community Right to Know Act
FEMA	Federal Emergency Management Agency
FFCA	Federal Facilities Compliance Act
FONSI	Finding of No Significant Impact
HMCP	Heavy Metal Containing Paint
HVAC	Heating, ventilation, and air conditioning
IMF	Intermediate Maintenance Facility
LBP	Lead Based Paint
NAVBASE	Naval Base
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
MOA	Memorandum of Agreement
NOA	Notice of Availability
NPL	National Priorities List
NPS	National Park Service
NYPS	Navy Yard Puget Sound
OPNAVINST	Chief of Naval Operations Instruction
OU	Operable Unit
PCBs	Polychlorinated Biphenyls
PSNS & IMF	Puget Sound Naval Shipyard and Intermediate Maintenance Facility
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROI	Region of Influence
SAP	Sampling Analysis Plan
SHPO	State Historic Preservation Officer
TSCA	Toxic Substances Control Act
U.S.	United States
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
WAC	Washington Administrative Code
WSDOT	Washington Department of Transportation

Environmental Assessment

Improvements to Building 431 Central Tool Shop at Puget Sound Naval Shipyard

Naval Base Kitsap Bremerton

Bremerton, Washington

July 2015

LEAD AGENCY: United States Department of the Navy

ACTION PROPONENT: Naval Base Kitsap

FOR FURTHER INFORMATION CONTACT:

Building 431 EA Team
NAVFAC Northwest
1101 Tautog Circle, Suite 203
Silverdale, WA 98315
or
NWNEPA@navy.mil

ABSTRACT:

This environmental assessment (EA) evaluates the potential environmental impacts associated with the United States Department of the Navy's proposed action to provide a seismic retrofit and reinforcements, replace deteriorating siding, remove obsolete machinery and provide additional modifications to address deficiencies affecting safety and usability at Building 431 Central Tool Shop at Naval Base Kitsap Bremerton. This EA analyzes the environmental effects on the human environment from implementation of one action alternative (proposed action) and the No-Action alternative. The following resources are addressed in this EA: cultural resources and hazardous materials and wastes.

[This page intentionally left blank]

EXECUTIVE SUMMARY

Proposed Action

The United States (U.S.) Department of the Navy (Navy) proposes to provide a seismic retrofit and reinforcements to the interior and exterior of Building 431 Central Tool Shop located in the Controlled Industrial Area (CIA) of the Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF) at Naval Base (NAVBASE) Kitsap Bremerton. The proposed action also would address building deficiencies by removing obsolete machinery, replacing siding, stabilizing soil, expanding concrete footings and providing fire suppression, elevator, egress, restroom, exterior, electrical, and mechanical modifications. Construction activities would occur over approximately twenty-eight months beginning in 2015.

Purpose and Need

The purpose of the proposed action is to meet the requirements of Public Law 101-614, *National Earthquake Hazards Reduction Program* and Executive Order 12941, *Seismic Safety of Existing Federally Owned or Leased Buildings*. The proposed action is needed to address deficiencies identified in seismic evaluations of the structure (Navy 1999, 2002, 2013, and 2014a).

Existing Conditions

PSNS & IMF, located at NAVBASE Kitsap Bremerton, provides the Navy with critical maintenance, modernization, and technical and logistics support for Pacific Fleet vessels. Building 431 Central Tool Shop provides for all work on Navy vessel shafts in the Pacific Arena and therefore is a critical facility at PSNS & IMF. In addition to the machinery essential to conduct this work, 500 employees work in this building.

Building 431 is located in a seismically active region and could sustain significant damage during a seismic event. Seismic evaluation of Building 431 has identified twenty-eight seismic structural vulnerabilities, including six major seismic vulnerabilities. Building 431 is also at risk of damage from liquefaction instability and ground settlement at the south end of the structure. The soils at this location are prone to liquefaction. Liquefaction is when water-saturated soil temporarily loses its strength and acts as a fluid during earthquakes or other strong ground motions. Two obsolete machines in the building's main bay preclude space usage. Deteriorated siding at a western lean-to structure is resulting in water seepage and damage to the facility's walls. Additional deficiencies of Building 431 undermine the building's usability or present safety risks, including elevators, sprinkler protection systems, fire safety egress routes, concrete exterior walls, restrooms, plumbing, electrical distribution systems, and heating, ventilation, and air conditioning.

Alternatives Considered

Alternatives were selected based on the following selection criteria: 1. Ensuring continuous operation of the machine shop, 2. Addressing the deficiencies and requirements identified in building evaluations (Navy 1999, 2002, 2013, and 2014a), and 3. Minimizing effects to the Navy Yard Puget Sound (NYPS) NHL historic district.

The Navy is considering one action alternative (proposed action) that meets the purpose and need for the proposed action and fulfills the selection criteria; no other alternative was identified that would meet the purpose and need and fulfill the selection criteria. Eight other alternatives to the proposed action, including acquisition of a new facility, demolition and replacement of facility components, and design

approaches attempting to reduce cultural resources impacts were eliminated from further consideration because they would not fulfill the selection criteria.

The proposed action consists of seismically retrofitting the building through addition of buckling restrained braces (BRBs) and shotcrete/grout to the interior and exterior of the building. Six BRBs, consisting of 16-inch diameter steel tubes connecting the high bay masonry walls to the low roofs below, would be installed on the west and east faces of the building. The proposed action would remove obsolete machines from Building 431's main bay and remove and replace asbestos siding at the building's west lean-to structure. The proposed action would also include stabilization of liquefaction-prone soils at the south end of the building, expansion of concrete footings, fire protection and egress additions, elevator retrofits, exterior restoration, restroom upgrades, electrical modifications, and mechanical upgrades.

The Navy is also considering a No Action alternative. Under the No Action alternative, the proposed seismic retrofits and additional building modifications would not be implemented. The No Action alternative does not meet the purpose and need described above; however, as required by NEPA implementing regulations, the No Action alternative is carried forward as a baseline for the analysis in this EA.

Summary of Potential Environmental Consequences of the Proposed Action

The following is a summary of the potential environmental consequences of the proposed action:

Cultural Resources. Building 431 is a contributing resource to the Navy Yard Puget Sound (NYPS) National Historic Landmark (NHL) historic district listed on the NRHP. The exterior seismic bracing and replacement of siding on the western lean-to structure of Building 431 would adversely affect the NHL historic district by altering its visual setting. Removing machinery considered to be character defining features of the NHL historic district would also constitute an adverse effect to the NHL historic district. The Navy has developed a memorandum of agreement (MOA) with the State Historic Preservation Officer (SHPO) to address adverse effects. With implementation of the stipulations specified in the MOA, the proposed action would not result in significant impacts to cultural resources. Aspects of the proposed action soil disturbing work would occur in previously disturbed areas. If any archaeological resources are uncovered during construction, project work will be halted in the area of discovery and appropriate Native American Tribes and the SHPO will be consulted.

Hazardous Materials and Wastes. Building 431 is located in a contaminated site, operable unit (OU) B-Terrestrial, which is on the U.S. Environmental Protection Agency (USEPA) Comprehensive Environmental Response, Compensation, and Liability Act National Priorities List of contaminated areas requiring environmental investigation and cleanup. Part of the remedy for OU B-Terrestrial selected by the Navy in a 2004 Record of Decision (RoD) and completed in 2006 included institutional controls, specifically a land use management plan and an excavation management plan. All soil-disturbing work under the proposed action would be conducted in accordance with the *PSNS & IMF Instruction 5090.50 and Naval Base Kitsap Instruction 5090.14 Land Use Controls at PSNS & IMF Bremerton Site and Naval Base Kitsap - Bremerton* and *Excavation Management at Naval Base Kitsap at Bremerton* to protect human health and the environment. Excavated soils would not be reused off the worksite and all excavations would be backfilled and re-covered with a cap of asphalt, concrete pavement, or flooring. Asbestos containing materials (ACM), heavy metal containing paint (HMCP), and polychlorinated biphenyls (PCBs) are present at construction locations. The Navy would remove and manage all hazardous materials and ACM potentially impacted by construction in accordance with applicable laws and regulations. The Navy would also adhere to plans addressing proper handling, storage, and disposal of hazardous materials and wastes throughout implementation of the proposed action. Therefore,

implementation of the proposed action would not result in significant impacts from the presence of hazardous materials and waste.

The following resources were not evaluated or carried forward for analysis in this EA, as potential impacts would be negligible or non-existent: aesthetics/visual resources, air quality, American Indian traditional resources, archaeological resources, biological resources, environmental justice and socioeconomics, geological resources, land use, noise, public health and safety, and water resources.

Public Involvement

The Navy made available the Draft EA to the public for review and comment from April 10 to May 11, 2015 and received no comments.

Conclusion

Implementation of the proposed action would not result in significant impacts to any resource area when considered individually or cumulatively, including both direct and indirect impacts. Implementation of the proposed action would not constitute a major federal action significantly affecting the quality of the human environment. Therefore, this EA supports a Finding of No Significant Impact for the proposed action and the preparation of an Environmental Impact Statement is not required.

[This page intentionally left blank]

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS ..... Inside Front Cover

Executive Summary ..... ES-i

CHAPTER 1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION 1

1.1 Introduction 1

1.2 Location and Background 1

1.3 Purpose and Need for the Proposed Action 2

1.4 Scope of Environmental Analysis 2

1.5 Relevant Laws and Regulations 4

1.6 Public Involvement 4

CHAPTER 2.0 PROPOSED ACTION AND ALTERNATIVES 2-1

2.1 Proposed action 2-1

2.2 Development of Reasonable Alternatives and Selection Criteria 2-1

2.3 Alternatives Considered but Eliminated from Further Analysis 2-1

2.3.1 Demolition and Replacement of Building 431 2-1

2.3.2 Leasing Replacement Facility 2-2

2.3.3 Interior-Only Structural Reinforcements 2-2

2.3.4 Seismic Exterior Truss 2-2

2.3.5 Seismic Bracing Struts Alternative Design 2-2

2.3.6 Demolition and Replacement of Western Lean-To Structures 2-2

2.3.7 Encapsulating Asbestos Siding at the Western Lean-To Structure 2-3

2.3.8 Leaving in Place Shaft Lathe and Mill in Main Bay 2-3

2.4 Alternatives Carried Forward for Analysis 2-3

2.4.1 Improvements to Building 431 (Proposed Action) 2-4

2.4.2 No Action Alternative 2-5

2.5 Best Management Practices (BMPs) and Avoidance & Minimization Measures 2-5

CHAPTER 3.0 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES ... 3-1

3.1 Cultural Resources 3-1

3.1.1 Affected Environment 3-2

3.1.2 Environmental Consequences 3-3

3.2 Hazardous Materials & Wastes 3-4

3.2.1 Affected Environment 3-5

3.2.2 Environmental Consequences 3-6

CHAPTER 4.0 CUMULATIVE IMPACTS 4-1

4.1 Past, Present, and Reasonably Foreseeable Projects 4-1

4.2 Assessment of Cumulative Impacts by Resource 4-2

4.2.1 Cultural Resources 4-2

4.2.2 Hazardous Materials and Waste 4-3

CHAPTER 5.0 OTHER CONSIDERATIONS REQUIRED BY NEPA 5-1

5.1 Possible Conflicts Between the Proposed Action and the Objectives of Federal, State, Local, and Regional Land Use Plans, Policies, and Controls 5-1

5.2 Irreversible or Irretrievable Commitment of Natural or Depletable Resources 5-2

5.3 Relationship Between Local Short-Term Use of the Human Environment and Maintenance and Enhancement of Long-Term Natural Resource Productivity 5-2

5.4 Means to Mitigate and/or Monitor Adverse Environmental Impacts 5-3

5.5 Any Probable Adverse Environmental Effects That Cannot Be Avoided and Are Not Amenable To Mitigation 5-3

CHAPTER 6.0 REFERENCES 6-1

CHAPTER 7.0 PERSONS AND AGENCIES CONTACTED 7-1

CHAPTER 8.0 LIST OF PREPARERS 8-1

APPENDICES

APPENDIX A AGENCY CORRESPONDENCE A-1

APPENDIX B DRAFT MEMORANDUM OF AGREEMENT C-1

APPENDIX C MITIGATION AND MONITORING B-1

List of Figures

Figure **Page**

1-1 Vicinity Map 1-5
2-1 Representation of Proposed Buckling Restrained Braces 2-4
2-2 Proposed Action North, East, and West Elevations 2-7
2-3 Asbestos Siding West Lean-To Structure 2-9
2-4 American Shaft Lathe and Giddings and Lewis Post Mill Proposed for Removal 2-10
3-1 Puget Sound Naval Shipyard National Historic Landmark Historic District 3-7

List of Tables

Table **Page**

4-1 Past, Present, and Reasonably Foreseeable Future Projects at NAVBSAE Kitsap Bremerton and the ROI 4-1
5-1 Principal Federal and State Laws Applicable to the Proposed Action 5-1

CHAPTER 1.0
PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The United States (U.S.) Department of the Navy (Navy) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] §4321-4370h), as implemented by the Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508); Navy regulations for implementing NEPA (32 CFR Part 775); and Chief of Naval Operations Instruction (OPNAVINST) 5090.1D CH-1, *Environmental Readiness Program*.

The Navy proposes to provide seismic upgrades and additional modifications to Building 431 Central Tool Shop located in the Controlled Industrial Area (CIA) of the Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF) at Naval Base (NAVBASE) Kitsap Bremerton. Modifications consist of replacements and modifications to the building's exterior, removal of obsolete machinery, elevator retrofits, fire protection and egress additions, and restroom, electrical, and mechanical upgrades. Construction activities would occur over approximately twenty-eight months beginning November 2015.

1.2 LOCATION AND BACKGROUND

NAVBASE Kitsap Bremerton is located on the north side of Sinclair Inlet within the City of Bremerton, Washington, in Kitsap County (Figure 1-1). NAVBASE Kitsap Bremerton encompasses 400 acres of land, 400 acres of submerged tidelands, 382 buildings, and six dry docks for wet or dry berthing of all sizes and classes of vessels. The PSNS & IMF at NAVBASE Kitsap Bremerton was designated as the Navy Yard Puget Sound (NYPS) National Historic Landmark (NHL) historic district in 1990 for its "inestimable" contribution to the success of the Pacific Fleet during WWII (Thompson 1990) and continues to provide essential vessel maintenance and repair work for the Pacific Fleet.

Building 431 Central Tool Shop is a contributing resource to the NHL historic district and is a mission-critical facility for current PSNS & IMF operations. At the time of its construction in 1934, the original portion of Building 431 was the largest machine shop west of the Mississippi River. Additional structures were added to the building in phases from the time of WWII until 1991. Today, Building 431 is the Navy's largest machine shop on the Pacific Coast, encompassing 550,000 square feet and containing 650 pieces of plant equipment and over 500 personnel. The building supports all shaft work in the Pacific Arena.

Building 431 is located along the Seattle Fault, which could produce earthquakes with Richter magnitudes of 7.0 to 7.7 (Kitsap County Department of Emergency Management; Bourgeois and Martin 2008). Building 431 could sustain significant damage during a seismic event. Evaluation of Building 431 has identified vulnerabilities resulting from deficient members - which consist of steel girders, concrete beams, wood trusses, etc – and the connections that hold them together that have a high probability of failure during an earthquake (Navy 2013).

Additionally, recent examinations of soils beneath Building 431 have identified risks of liquefaction instability and ground settlement at the south end of Building 431 (Navy 2014a). Liquefaction is when water-saturated soil temporarily loses its strength and acts as a fluid during earthquakes or other strong ground motions. Other deficiencies of Building 431 undermine the building's usability or present safety risks, including deteriorated walls and siding, obsolete machinery and elevators, lack of sprinkler

protection, egress inadequacies, defective plumbing and restroom facilities, and inadequate electrical distribution and heating, ventilation, and air conditioning (HVAC; Navy 2014b).

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to meet the requirements of Public Law 101-614, *National Earthquake Hazards Reduction Program* and Executive Order 12941, *Seismic Safety of Existing Federally Owned or Leased Buildings*. The proposed action is needed to address deficiencies identified in seismic evaluations of the structure (Navy 1999, 2002, 2013, and 2014a).

1.4 SCOPE OF ENVIRONMENTAL ANALYSIS

This EA includes an analysis of potential environmental impacts associated with the proposed action. The environmental resource areas analyzed in this EA include: cultural resources and hazardous materials and wastes. The following resources were not carried forward for analysis in this EA, as potential impacts were considered to be negligible or non-existent:

Aesthetics/Visual Resources – The Central Tool Shop is surrounded by industrial buildings within PSNS & IMF. Work that would occur under the proposed action would be consistent with the industrial setting. The majority of work would not be visible from outside the installation with the exception of restoration work on the south facing wall, visible from Sinclair Inlet, which would bring the south face of the building closer to its original appearance and result in an improvement to the visual setting. Renovations would be conducted in accordance with Secretary of the Interior's *Standards for Rehabilitating Historic Buildings* (Department of Interior Regulations, 36 CFR Part 37). The Navy has consulted with the Washington State Historic Preservation Officer (SHPO) on adverse visual effects to the NHL historic district resulting from the seismic bracing; visual impacts on the NHL historic district are addressed in Section 3.2, Cultural Resources.

Air Quality – Effects on air quality from implementation of the proposed action would be negligible due to the classification of attributed air sources and the attainment designation of Kitsap County in relation to the National Ambient Air Quality Standards. As described in 40 CFR Part 51, Determining Conformity of General Federal Actions to State or Federal Implementation Plans (the "General Conformity Rule"), all federal actions occurring in air basins designated in nonattainment or in a maintenance area must conform to an applicable implementation plan. Since Kitsap County is designated an attainment area for all criteria pollutants, the General Conformity Rule does not apply. The activities associated with the Proposed Action are limited to mobile sources and sources excluded from Notice of Construction requirements per Puget Sound Clean Air Agency Regulation I, Article 6.03; therefore, New Source Review and Prevention of Significant Deterioration requirements do not apply. The proposed action would not impact PSNS & IMF's Title V air permit since the Navy's contractors would be required to operate equipment in a manner that is in compliance with Puget Sound Clean Air Agency Regulations I, II, and III. Asbestos containing material (ACM) affected by the proposed action would be abated in accordance with an Abatement Plan and all friable and non-friable ACM would be handled, stored, and disposed of in accordance with Regulation III of the Puget Sound Clean Air Agency.

American Indian Traditional Resources – NAVBASE Kitsap Bremerton is adjacent to and includes portions of Sinclair Inlet. Sinclair Inlet is within the Usual and Accustomed fishing grounds and stations of the Suquamish Tribe. This upland project would have no effect to traditional resources because it would not change the tribe's access to exercise tribal treaty rights and it would not reduce or degrade harvestable marine resources.

Archeological Resources – No archaeological resources eligible for inclusion in the NRHP have been identified in the project area. The proposed action would occur in an area with the potential presence of pre-contact or early historic archaeological deposits (Lewarch et al. 2002). However, there would be a low probability of encountering archaeological resources due to the presence of fill and because soil disturbing work would occur in previously-disturbed areas. If any archaeological resources are uncovered during construction, project work would be halted in the area of discovery and the Suquamish Tribe and the SHPO will be consulted. On December 22, 2014 the Navy sent a letter to the Suquamish Tribe stating that no adverse effect on buried historic properties is anticipated to result from the proposed action (Appendix A).

Biological Resources – The proposed action would occur in a previously developed and disturbed area and no existing vegetation would be disturbed. No wetlands are present in the project area. In accordance with Section 7 of the Endangered Species Act, the Navy has determined that implementation of the proposed action would have no effect on species or critical habitat listed under the Endangered Species Act. The proposed action would not impact any unique or sensitive biological resources. Therefore, the proposed action would have no impact on biological resources.

Environmental Justice and Socioeconomics – The proposed action would occur entirely within the boundaries of NAVBASE Kitsap Bremerton. The proposed action would be in compliance with Executive Order (EO) 12898 and EO 13045 as no low income, children, or minority communities exist at the project site or immediate vicinity, and there would not be a disproportionately high and adverse effect on schools, children, or local communities. The proposed action would not impact the economic baseline of employment at the installation or in Kitsap County.

Geologic Resources – Construction activities would involve limited soil disturbance from electrical work and injection of compaction grout to mitigate liquefaction potential in the south area of Building 431. However, all disturbed areas, which are located in highly developed industrial areas, would be backfilled with clean fill and re-covered with an impermeable cap of asphalt, concrete pavement, or flooring. Injection of compaction grout would improve soil stability and would also reduce the potential impacts to Building 431 from earthquakes, slope failure, and liquefaction of soils. Therefore, the proposed action would have negligible impacts to geological resources.

Land Use – Land use would not change as a result of the proposed action. Therefore, the proposed action would not impact land use.

Noise – Noise generated during construction activities would not occur between 10:00 p.m. and 7:00 a.m., and is therefore exempt from the State of Washington and the City of Bremerton maximum permissible environmental noise levels for receiving properties (WAC Chapter 173-60 and City of Bremerton Code Chapter 6.32 Noise). Noise generated from the proposed action would not exceed typical daily noise levels already generated on NAVBASE Kitsap Bremerton from industrial shipyard activities, which typically range between 60 and 90 dBA (WSDOT, 2008). There would be no long term change in the noise environment on NAVBASE Kitsap Bremerton with implementation of the proposed action. Therefore, the proposed action would have negligible impacts to noise.

Public Health and Safety – The proposed action is located in the CIA within Naval Base Kitsap Bremerton, where public access is restricted. The public, including children, would not have access to the project site. All hazardous materials would be handled in accordance with applicable laws and regulations as described in Section 3.2 below. Therefore, the proposed action would have no impact on public health and safety.

Utilities – Temporary outages during construction would be coordinated with installation staff. The proposed action would not exceed any water or electrical utility capacities or require utilities upgrades beyond the building. The proposed action is expected to result in an improvement to building water and energy efficiency and a reduction in water and energy usage. Therefore, the proposed action would not impact utilities.

Water Resources – There are no surface waters in the project area. Injected compaction grout may intersect groundwater at the project location; however, the grout contains no contaminants that would be expected to impact groundwater. The proposed action would not increase the amount of impervious surface within the Building 431 footprint or surrounding areas. Therefore, implementation of the proposed action would have negligible impacts to water resources.

1.5 RELEVANT LAWS AND REGULATIONS

In addition to NEPA, CEQ, and Navy regulations, the Navy has prepared this EA integrating other federal and state laws, statutes, regulations, and policies that are relevant to the implementation of the proposed action including, but not limited to the following:

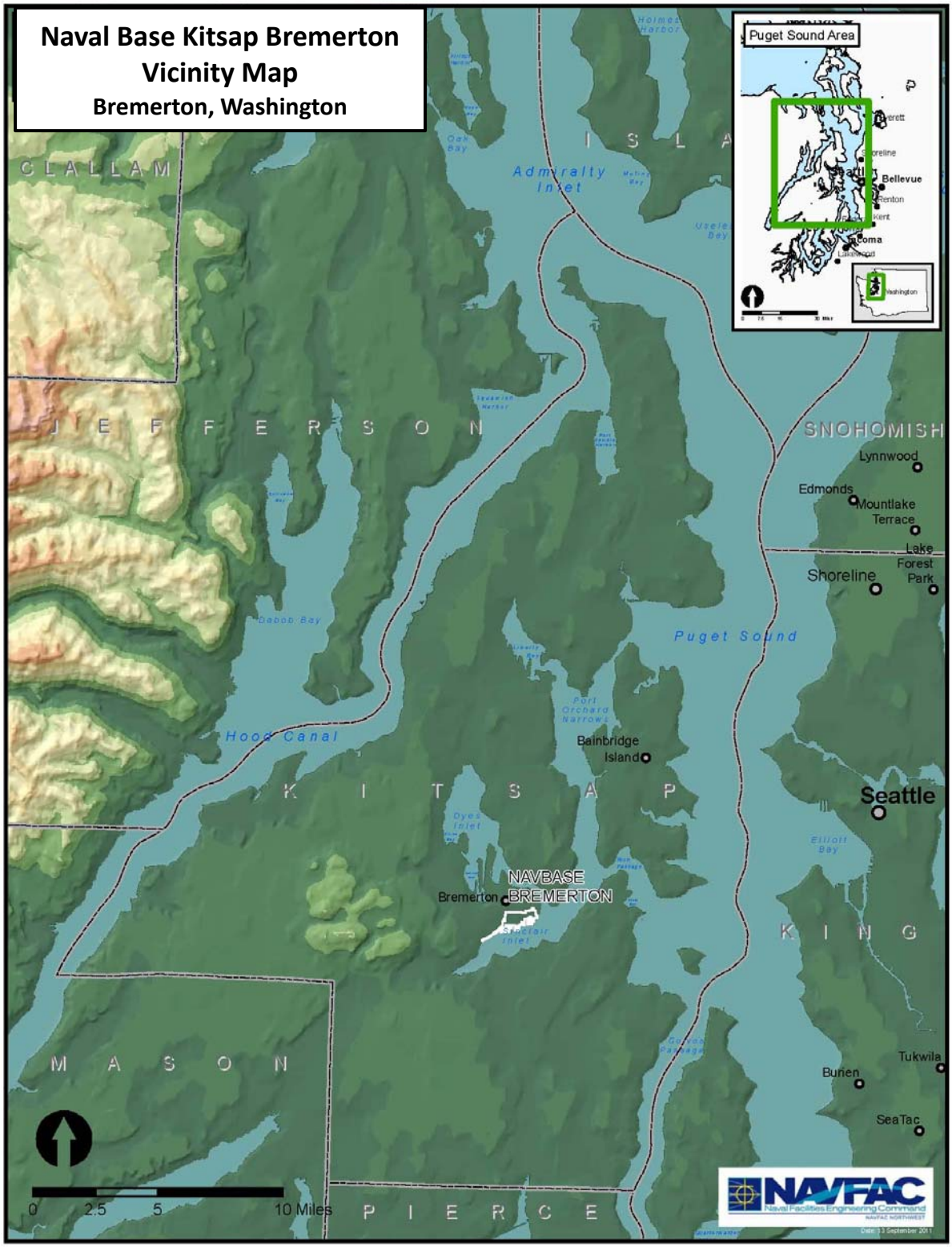
- Clean Air Act (CAA; 42 USC §7401 *et seq*.)
- Clean Water Act (CWA; 33 USC § 1251 *et seq*.)
- Comprehensive Environmental Response, Compensation, and Liability Act (42 USC § 9601 *et seq*.)
- Earthquake Hazards Reduction Act (42 USC § 7701 *et seq*.)
- EO 12088, *Federal Compliance with Pollution Control Standards*
- EO 12898, *Federal Actions to Address Environmental Justice* (50 Federal Register 7629 [Sect. 1-101]
- EO 13045, *Protection of Children from Environmental Risks and Safety Risks* (62 Federal Register 1985)
- EO 12941, *Seismic Safety of Existing Federally Owned or Leased Buildings*
- National Historic Preservation Act (54 USC 306108)
- Resource Conservation and Recovery Act (42 USC § 6901 *et seq*.)
- Toxic Substances Control Act (15 USC § 2601)

A description of the Proposed Action's consistency with these policies and regulations is presented in Chapter 5.0 (Table 5-1).

1.6 PUBLIC INVOLVEMENT

The Navy made available the Draft EA to the public for review and comment from April 10 to May 11, 2015 and received no comments.

Figure 1-1. Vicinity Map



[This page intentionally left blank]

CHAPTER 2.0
PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Navy proposes to provide a seismic retrofit and reinforcements to the interior and exterior of Building 431 Central Tool Shop. The proposed action would also remove obsolete machinery, replace siding, provide soil stabilization, expand concrete footings and provide fire suppression, elevator, egress, restroom, exterior, electrical, and mechanical modifications at Building 431. Construction activities would occur over approximately twenty-eight months beginning November 2015.

2.2 DEVELOPMENT OF REASONABLE ALTERNATIVES AND SELECTION CRITERIA

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federally proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and which meet the purpose and need require detailed analysis. Potential alternatives that meet the purpose and need were evaluated against the following selection criteria:

1. Ensuring continuous operation of the Central Tool Shop.
2. Addressing the deficiencies and requirements identified in building evaluations (Navy 1999, 2002, 2013, and 2014a) associated with the following:
    - soils beneath the south end of the building,
    - building exterior,
    - space use conflicts,
    - restrooms and plumbing,
    - elevators,
    - electrical systems, and
    - HVAC systems.
3. Minimizing effects to the NYPS NHL historic district.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

The Navy considered the following alternatives that were eliminated from further analysis because they did not fulfill one or more of the selection criteria identified above.

2.3.1 Demolition and Replacement of Building 431

Under this action alternative, the Navy would demolish existing Building 431 and replace it with a newly constructed Central Tool Shop building at the existing location. The new building would be constructed in compliance with current seismic and health and safety codes and regulations. Equipment from Building 431 would be removed prior to demolition and reused in the new building when possible. This alternative is eliminated from further consideration because it would not fulfill selection criteria #1 and #3 in Section 2.2. Demolition and replacement of the existing building would require a disruption to operation of the mission-critical Central Tool Shop of up to several years, including movement of over 500 personnel and 650 pieces of plant equipment between the demolished building, a temporary replacement building, and a new building, resulting in an unacceptable impact to PSNS & IMF operations. Additionally, demolition of the structure would not be consistent with Criterion #3 to minimize effects to the NYPS NHL historic district, particularly when continued use of the building is viable and practicable. Demolition of Building 431, a contributing resource of the NYPS NHL historic district and the largest and most prominent building contributing to the WWII effort, could compromise the NHL historic district's integrity.

2.3.2 Leasing Replacement Facility

Lease of a Central Tool Shop facility would require relocating personnel and plant equipment out of Building 431 to an equivalent sized facility off-base. The movement of all personnel and equipment for the relocation would disrupt operation of the machine shop and would result in an unacceptable impact to PSNS & IMF operations; this alternative therefore would not fulfill Selection Criterion #1. Additionally, review of nearby facilities indicates there are no structures of the size and location that would be adequate for replacement of Building 431.

2.3.3 Interior-Only Structural Reinforcements

Under this alternative, the components of the proposed action described in Section 2.4.1 below would be implemented with the exception that seismic reinforcements would be applied only to the interior of Building 431. This alternative would avoid impacting the exterior of the building and the NHL historic district. This alternative consists of using only internal bracing to structurally reinforce the building. However, such a design approach would require considerable amounts of internal bracing that would conflict with the location of machinery and crane paths. This alternative would interfere with machine shop operations and impact the PSNS & IMF mission by reducing available interior floor space and impeding crane service. The resulting degradation of building capabilities would severely impact operations. Therefore, this alternative is eliminated because it would not fulfill Selection Criterion #1.

2.3.4 Seismic Exterior Truss

Under this alternative, the components of the proposed action described in Section 2.4.1 below would be implemented with the exception that Building 431 would be fitted with an exterior truss system to fulfill seismic bracing requirements. When the Interior-Only Structural Reinforcements were found to be infeasible, the Navy examined a design that used extensive exterior bracing with a large exterior truss. The exterior truss would bring the building into compliance with seismic codes while keeping the building's mission capabilities intact fulfilling Selection Criteria #1 and #2. However, the visual effect of the design was determined to have excessive impact on the NHL historic district. Therefore, the seismic exterior truss alternative was eliminated from consideration because it would not fulfill Selection Criterion #3.

2.3.5 Seismic Bracing Struts Alternative Design

Under this alternative, the components of the proposed action described in Section 2.4.1 below would be implemented with the exception that Building 431 would be fitted with a different exterior seismic bracing design. The original design of the buckling restrained bracing consisted of 24-inch diameter struts with two legs each that attached to bracing in the sides of the high bay. Re-examination of the design determined that a less visible strut system was feasible. Therefore, the more visible alternative bracing design was eliminated from further consideration because it would not fulfill Selection Criterion #3. The bracing design was replaced with the use of 16-inch buckling restrained braces included in the design of the proposed action described in Section 2.4.1 below.

2.3.6 Demolition and Replacement of Western Lean-To Structures

The western lean-to structures add excess weight to the building that would be turned into lateral force during a seismic event. Complete removal of the lean-to structures was considered. This alternative would also better enable removal of the deteriorated asbestos siding from the original 1934 structure. However, the western lean-to structures are considered to be contributing elements to the NHL historic

district and their removal and replacement would have a greater impact to cultural resources. Therefore, this alternative is eliminated because it would not fulfill Selection Criterion #3.

2.3.7 Encapsulating Asbestos Siding at the Western Lean-To Structure

This alternative consists of applying an asphaltic coating to fill the cracks and cover the broken edges of the asbestos siding at the western lean-to structure. However, given the extent of the cracks and holes in the siding water is currently leaking into the wall system and the coating would not be capable of protecting the structure from long-term damage. Water leakage cannot be repaired except by siding replacement. Additionally, the asphaltic coating would appear black and adversely affect the historic character of the exterior of the structure. Therefore, this alternative is eliminated from further consideration because it would not fulfill selection criteria #2 and #3.

2.3.8 Leaving in Place Shaft Lathe and Mill in Main Bay

Under this alternative, the components of the proposed action described in Section 2.4.1 below would be implemented with the exception of the removal and disposition of the American Shaft Lathe and Giddings & Lewis Post Mill (Pedestal Borer), which would be returned to their current locations following completion of internal modification work. This alternative was considered in an attempt to reduce impacts to cultural resources because the two machines were identified as character defining features of Building 431. However, the mill has been broken for several years despite attempts to return it to commission and replacement parts for the mill are no longer available. The broken mill uses productive floor space that is better suited for other machinery. The shaft lathe suffers rigging deficiencies and no longer meets machine tolerances. Also, the lathe's location relative to the overhead bridge crane results in misalignment of the bridge crane hook and an undesirable side loading condition. The lathe shares a common foundation with an adjacent lathe with no additional space to relocate the lathe and correct the side loading condition. Therefore, this alternative is eliminated from further consideration because it would not fulfill Selection Criterion #2.

2.4 ALTERNATIVES CARRIED FORWARD FOR ANALYSIS

This EA analyzes the environmental effects of the proposed action and the No Action Alternative. As discussed in Section 2.3 above, the Navy considered other potential alternatives to meet the purpose and need, however no other reasonable action alternatives were identified. Therefore, only two alternatives are carried forward in this analysis.

2.4.1 Improvements to Building 431 (Proposed Action)

The proposed action consists of seismically retrofitting the building through the addition of buckling restrained braces (BRBs) and shotcrete/grout to the interior and exterior of the building. Six BRBs, consisting of 16-inch diameter steel tubes, would be installed on the west and east faces of the building and connect the high bay masonry walls to the low roofs below (Figures 2-1 and 2-2). The proposed action would include removal and replacement of asbestos siding at the building's west lean-to structure (Figure 2-3). The siding would be replaced with cement board panels similar to HardiePanel® siding that would be installed with a rain screen-type system. Two functionally obsolete machines would be removed from Building 431's main bay and reused, recycled, or disposed of: an American Shaft Lathe and Giddings & Lewis Post Mill (Figure 2-4).

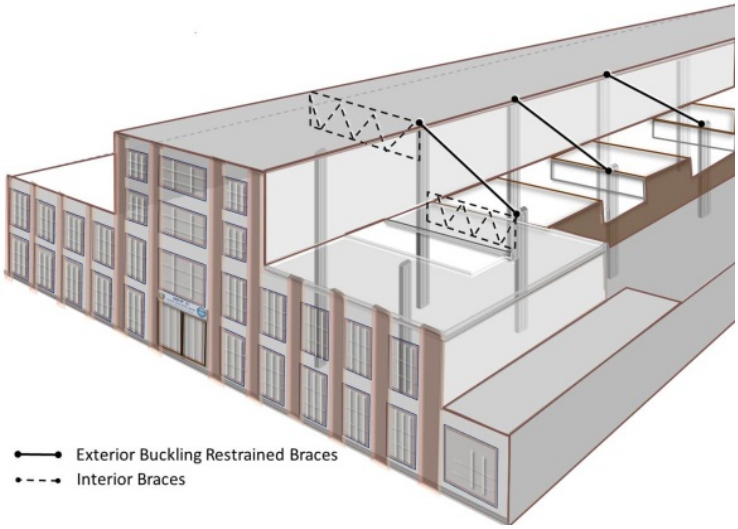


Figure 2-1 Representation of Proposed Buckling Restrained Braces

The proposed action consists of the following additional components to address Building 431 deficiencies:

- Interior seismic reinforcement of the building.
- Mitigating soil liquefaction in the southeast corner of the building by injecting expansion grout into the soil through shafts.
- Exterior restoration work.
- Removal of metal siding and windows and provision of curtain wall system infill between concrete columns on the south wall southern extension.
- Installation of a fire protection sprinkler system throughout the building.
- Egress corrections throughout the building.
- Restroom upgrades.
- Removal of a portion of the existing periscope tower above the 7th Floor Level.
- Replacement/refurbishment of components of the existing passenger elevator and freight elevator.
- Modification of the existing high bay electrical distribution system via installation of higher voltage panels and underground raceway system.
- Replacement and installation of new heating, ventilation, and air conditioning (HVAC) units.

Construction activities would occur over approximately twenty-eight months beginning November 2015.

2.4.2 No Action Alternative

Under the No Action alternative, the seismic retrofits and modifications to Building 431 would not be implemented. However, the building would continue to be maintained as required. Under the No Action alternative, the Building 431 Central Tool Shop would not be brought into compliance with health and safety codes and standards and other deficiencies would not be addressed to ensure ongoing and future use of the building. The No Action alternative does not meet the purpose and need described above; however, as required by CEQ regulations, the No Action alternative is carried forward as a baseline for the analysis in this EA.

2.5 BEST MANAGEMENT PRACTICES (BMPS) AND AVOIDANCE & MINIMIZATION MEASURES

Implementation of the proposed action would include the following best management practices to avoid or minimize any potential environmental impacts.

- Stipulations identified in a Memorandum of Agreement (MOA) between the Navy and SHPO would be implemented (Appendices B and C).
- If any archaeological resources are uncovered during construction, project work will be halted in the area of discovery and appropriate Native American Tribes and the SHPO will be consulted.
- The Navy would prepare and implement an Environmental Protection Plan, Safety Plan (including Activity Hazard Analysis), Demolition Plan, Solid Waste Management Plan, and a Hazardous Materials Abatement Plan containing an Asbestos Abatement Plan and a Lead Abatement Plan per U.S. Army Corps of Engineers *EM 385-1-1, Safety and Health Requirements Manual*.
- All soil-disturbing work and any work that breaches the OU B-Terrestrial cap would be in accordance with the *PSNS & IMF Instruction 5090.50 and Naval Base Kitsap Instruction 5090.14 Land Use Controls at PSNS & IMF Bremerton Site and Naval Base Kitsap - Bremerton* and *Excavation Management at Naval Base Kitsap at Bremerton* to protect human health and the environment. PSNS & IMF policy is to assume all excavated soil and groundwater within OU-B Terrestrial is potentially contaminated and to require the construction contractor to test and analyze soil and water from dewatering operations for waste characterization by the Navy. Excavated soils would not be reused off the worksite and all excavations would be backfilled and re-covered with a cap of asphalt, concrete pavement, or flooring. The contractor would be required to prepare a Sampling Analysis Plan (SAP) prior to ground disturbing activities, such as those associated with trenching for the electrical power distribution system and compaction grout injection supporting liquefaction stabilization measures. The SAP would be reviewed for approval by the Navy.
- A hazard assessment would be conducted and appropriate worker protective precautions would be undertaken when building materials are disturbed. An initial exposure assessment would be conducted to determine required personal protective measures.
- Prior to demolition or construction, hazardous materials would be abated or removed from work areas (e.g. asbestos containing materials [ACM], heavy metal containing paint [HMCP], polychlorinated biphenyls [PCBs], chlorofluorocarbons [CFCs; if present in HVAC equipment], and PCB or mercury containing ballasts and light tubes). All demolition and construction debris would be characterized prior to disposal. All ACM and assumed ACM would be removed and disposed prior to commencement of seismic retrofits; any suspect

materials would be treated as ACM unless sampled by an AHERA Building Inspector and analyzed by a certified laboratory to determine asbestos content.

- Hazardous and toxic waste would be handled, stored, and disposed of in accordance with applicable federal, state, and local requirements including Washington State Occupational Health Standards, Safety Standards for Carcinogens (Chapter 296-62 Washington Administrative Code [WAC]), Washington State Dangerous Waste Regulations (WAC Chapter 173–303), Resource Conservation and Recovery Act (RCRA), and the Toxic Substances Control Act (TSCA). ACM affected by the proposed action would be abated in accordance with an Abatement Plan and all friable and non-friable ACM would be handled, stored, and disposed of in accordance with Regulation III of the Puget Sound Clean Air Agency.
- Demolished flooring from an area contaminated above the TSCA threshold level for designation of PCB contaminated waste would be disposed as TSCA PCB contaminated waste.
- Any hazardous wastes generated during the removal of the lathe and mill machines would be disposed of in accordance with applicable laws and regulations.
- Wash water from exterior cleaning would be collected to prevent potential migration of contaminants to Sinclair Inlet via the storm drains.
- Non-hazardous waste and debris would be disposed of off-site at an approved disposal facility.
- The contractor would adhere to all installation and PSNS & IMF requirements, including submitting excavation permit requests prior to any ground disturbing activities, permit for outages, and submitting a Contractor Hazardous Material Inventory (CHMI) form for introduction of hazardous materials and their use on-base.
- Prior to the start of construction, work areas would be fenced to prevent unauthorized access. This construction fencing would be maintained for the duration of the project.

Figure 2-2 Proposed Action North, East, and West Elevations

[This page intentionally left blank]

Figure 2-3 Asbestos Siding West Lean-To Structure

Figure 2-4 American Shaft Lathe and Giddings and Lewis Post Mill Proposed for Removal

American Shaft Lathe

Giddings & Lewis Post Mill

CHAPTER 3.0
AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This chapter presents baseline data for the affected environment and an assessment of the potential impacts, or environmental consequences that could result from implementation of the proposed action. The following resources are evaluated in this chapter: cultural resources and hazardous materials and wastes.

3.1 CULTURAL RESOURCES

Cultural resources consist of prehistoric and historic districts, sites, buildings, landscapes, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources consist of three major categories: archaeological resources, traditional cultural properties, and architectural resources. No traditional cultural resources have been identified in the Area of Potential Effect (APE; see Section 3.1.1 for a description of the APE) and the proposed action would be unlikely to affect archaeological resources due to the presence of disturbed soils in the area of ground-penetrating activities. As such, only architectural resources are carried forward for detailed analysis in this section. Architectural resources include standing buildings, dams, canals, bridges, cemeteries, landscapes, and other built-environment resources of historic or aesthetic significance.

Regulatory Overview

Under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, federal agencies must consider impacts to historic properties associated with all proposed undertakings. Likewise, under Section 110 of the NHPA, the agency must minimize harm to any NHL historic district that may be adversely affected by an undertaking. Procedures for assessing adverse effects to cultural resources are set forth in 36 CFR Part 800, *Procedures for Protection of Historic Properties*, and OPNAVINST 5090.1D. Architectural resources generally must be more than 50 years old to be considered under the NHPA. However, more recent properties, such as Cold War era buildings less than 50 years of age, may warrant consideration if they demonstrate “exceptional importance.”

To be considered a historic property, architectural resources must meet one or more criteria as defined in 36 CFR 60.4, *National Register of Historic Places, Criteria for Evaluation*, for inclusion on the National Register of Historic Places (NRHP). These criteria include association with an important event, association with a historic person, properties that embody the distinctive characteristics of a type, period, or method of construction, or that have yielded, or may be likely to yield information important in prehistory or history on the local, state, or national level. Resources must also possess integrity (i.e., their important historic features must still be present and recognizable). Additionally, the primary NRHP criteria consideration for properties less than 50 years of age is Criteria Consideration G: properties that have achieved exceptional significance within the past 50 years.

NHLs are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States (www.nps.gov/nhl). To be considered nationally significant, a property must meet one or more criteria as defined in 36 CFR 65.4, *National Historic Landmark Criteria*, for consideration as a NHL. These criteria include: association with nationally significant events; association with nationally significant persons; representation of a great idea or ideal; a property that embodies the distinguishing characteristics of an architectural type for a study of a period; style or method of construction; a property that is composed of integral parts that collectively compose exceptional historical or artistic significance or illustrate a way of

life or culture; or may be likely to yield information of major scientific importance by revealing new cultures, or provide information on periods of occupation over large areas of the United States. Resources must also possess a high degree of integrity of location, design, setting, materials, workmanship, feeling and association.

3.1.1 Affected Environment

To determine what types of historic properties may be present, historic property surveys at NAVBASE Kitsap Bremerton and historic records were reviewed. These studies cover the Area of Potential Effect (APE) and the entirety of the installation. The APE for cultural resources is the geographic area or areas within which an undertaking (project, activity, program or practice) may cause changes in the character or use of any historic properties present. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking. The APE for this project is the boundary of the NYPS NHL historic district. Building 431 is centrally located within and is a contributing resource to the NHL historic district. Due to the building's mass and location, Building 431 can be viewed from numerous points within the NHL historic district (Figure 3-1).

A historic properties survey was conducted at NAVBASE Kitsap Bremerton (then called Puget Sound Naval Shipyard) in 1986 (Grulich Architecture and Planning Services, 1986). As a result of this study, four National Register Historic Districts (Officer's Row, Old Puget Sound Radio Station District, Old Marine Reservation District, and Old Naval Hospital) and the NYPS NHL historic district were established at NAVBASE Kitsap Bremerton. The oldest of the four districts is Officer's Row, which contains homes dating back to 1896.

The NYPS NHL historic district was designated in 1991 for the significant role it played in our nation's history during World War II (Thompson, 1990). The NHL historic district's statement of significance reads:

> "Puget Sound Naval Shipyard was the principal repair establishment for battle-damaged battleships and aircraft carriers as well as smaller warships of the Pacific Fleet during World War II. Five of the eight battleships bombed at Pearl Harbor on December 7, 1941, were repaired at the shipyard and returned to sea. During the war, the shipyard repaired 26 battleships (some more than once), 18 aircraft carriers, 13 cruisers, and 79 destroyers. In addition, 50 ships were built or fitted out at the yard. More than 30,000 workers built, fitted out, repaired, over-hauled or modernized 394 fighting ships between 1941 and 1945; Arizona's last (1941) refit/modernization was done here. War-time technological advances in radar, fire control, and armament were added to many of the ships at Puget Sound. The shipyard's contribution to the success of the Pacific Fleet from the first to the last day of the war was inestimable."

Puget Sound Naval Shipyard shares with Mare Island Naval Shipyard the distinction of epitomizing the rise of the United States to world power in the Pacific and thus on two oceans. While Mare Island was the Navy's first permanent installation on the Pacific coast, Puget Sound became the focus of attention because it was the only west coast yard capable of repairing battleships, the capital ships of the late 19th century, which emerged as the symbol and reality of naval power at that time. The NYPS was nominated as a National Historic Landmark in 1990 as a historic district under National Register Criterion A and NHL Criteria 1, Theme VIII, B. The NYPS was nominated for its association with World War II, War in the Pacific, with a period of significance of 1938-1945. On August 27, 1992 the NYPS was designated as National Historic Landmark by the Secretary of the Interior (National Park Service, 1992).

Building 431

The Navy determined that Building 431 is a contributing resource to the NYPS NHL historic district as part of the 1990 NHL designation. The Machine, Director and Central Tool Shop (Building 431) was completed in 1934 as a machine and electric shop facility. At the beginning of WWII, the electric shop was relocated and Building 431 remained the principal machine shop of the industrial yard. Throughout the war Building 431 was an integral element of the industrial yard in the effort to repair and construct ships. This facility machined rough steel components that were cast or forged in other shops of the industrial yard. In addition, it machined numerous components from stock steel. The facility was expanded numerous times during WWII, however, alterations made since WWII are insignificant relative to the immense size of the machine shop facility.

The building, designed by the Navy's Bureau of Yards and Docks (now Naval Facilities Engineering Command), was the largest machine shop west of the Mississippi River when it was constructed. Although much of the equipment associated with the WWII facility has been replaced with newer equipment, there remain notable large scale machine tools dating from WWII. Most remarkable of these tools are the shaft lathes used to machine the heavy shaft forgings. These lathes are capable of machining shafts up to several feet in diameter, in excess of 30 feet in length, and include lathes by Betts Bridgeford and American Tool. Additional equipment includes post mills, a horizontal boring mill and a Morton planer. The extensive interior volume remains largely unaltered from the initial design.

3.1.2 Environmental Consequences

In accordance with 36 CFR 800.5 an action results in an effect to an NRHP-eligible resource when it alters the resource characteristics that qualify it for inclusion in the register. An adverse effect occurs when the undertaking directly or indirectly alters any of these characteristics in a manner that would diminish the property's integrity. Examples of direct impacts can include physical destruction, damage, or alteration of a resource; alteration of the character of the surrounding environment that contributes to the resource's eligibility; introduction of visual, audible, or atmospheric intrusions out of character with the resource or its setting; and neglect of the resource resulting in its deterioration or destruction; or sale of the property. Consultation and mitigation under NHPA can resolve an adverse effect in accordance with 36 CFR 800.8(c)(1)(v) to a less than significant impact. Impacts to cultural resources as a result of the proposed action and No Action alternative are described below.

Proposed Action

The Navy has determined that the proposed action would have an adverse effect on the NYPS NHL historic district. Specifically, the components of the proposed action that would adversely affect the historic character of Building 431 include the establishment of the exterior buckle-restrained braces, removal of asbestos siding and replacement with cement board lap siding on the west lean-to building, and the removal and disposal of the American Shaft Lathe and Giddings & Lewis Post Mill. The exterior alterations of Building 431 would affect characteristics of the building that make it a contributing resource of the NHL historic district and would adversely affect the viewshed of the NHL historic district.

The Navy initiated consultation with the SHPO, requesting concurrence with the APE of the proposed action, on December 16, 2013. On January 9, 2014, the SHPO concurred with the Navy's definition of the APE. On September 12, 2014 the Navy requested the SHPO's concurrence with the Navy's determination of adverse effects on the historic building and surrounding NHL historic district and invited SHPO to participate in the development of a Memorandum of Agreement (MOA) to address adverse effects under Section 106 of the NHPA. The Navy also sent invitations to participate in consultation to the Advisory

Council on Historic Preservation (ACHP) and the National Park Service (NPS) on behalf of the Secretary of the Interior on September 26, 2014. On September 30, 2014, the Navy received SHPO concurrence that the proposed action would have an adverse effect to the NYPS NHL historic district and contributing resource Building 431. On October 23, 2014, the Navy received a letter from the ACHP who declined to consult on the development of stipulations to resolve the adverse effect (Appendix A). Stipulations that address the adverse effects have been defined through the consultation process and are outlined in an MOA between the Navy and the SHPO (Appendices B and C). The Navy made the draft MOA available to the public for review and comment from April 10 to May 11, 2015 with a notice of availability published in the local newspaper, *Kitsap Sun*. No comments were received. With implementation of the stipulations specified in the MOA, the proposed action would not result in significant impacts to cultural resources.

No Action Alternative

Under the No Action alternative, the proposed seismic retrofits and additional building modifications would not be implemented but building maintenance would continue as required. No properties eligible for inclusion in the NRHP would be directly affected. Therefore, no significant impacts to cultural resources are anticipated.

3.2 HAZARDOUS MATERIALS & WASTES

Hazardous materials are any materials that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a substantial hazard to human health or the environment. A hazardous material becomes waste when it is not appropriate for further use, or when regulations determine that the material has become waste. Most typically, hazardous materials become waste once the decision has been made to dispose of the materials. Hazardous wastes are defined as solid waste, or combination of solid wastes, that because of quantity, concentration, or physical, chemical or infectious characteristics may:

- Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible, illness.
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

Regulatory Overview

Hazardous materials and wastes are identified and regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); Emergency Planning and Community Right-to-Know Act (EPCRA); EO 12088, *Federal Compliance with Pollution Control Standards*, and DoD Instruction 4715.6.

As amended by the Superfund Amendments and Reauthorization Act (SARA), CERCLA establishes a series of programs for the cleanup of hazardous waste disposal and spill sites nationwide. It requires protection of human health and the environment. Under CERCLA §121(c), a periodic review is required when hazardous substances, pollutants, or contaminants remain on-site above levels that allow for unlimited use and unrestricted exposure [40 CFR §300.430(f)(4)(ii)]. In response to CERCLA requirements, the DoD has established a Navy Installation Restoration Program that continues to monitor and conduct reviews every five years of the remedial action methods required at contaminated sites based on established Records of Decision (RODs).

RCRA regulates the management of solid and hazardous waste. Under Subtitle C, RCRA has two general paths to protecting human health and the environment: (1) preventing environmental problems by ensuring that wastes are well managed from "cradle to grave," reducing the amount of waste generated, conserving energy and natural resources; and (2) cleaning up environmental problems caused by mismanagement of wastes. RCRA provides that the US Environmental Protection Agency (USEPA) may delegate authority to states to regulate hazardous waste under state law in lieu of RCRA. Irrespective of USEPA-delegated hazardous waste authority, state hazardous waste substantive and procedural requirements, including the requirement to obtain state permits, are applicable to Navy facilities under the Federal Facilities Compliance Act (FFCA).

TSCA addresses the production, importation, use, and disposal of specific chemicals including PCBs, asbestos, and lead-based paint. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements and restrictions relating to chemical substances. EPCRA establishes requirements for federal, state and local governments, tribes, and industry that cover emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. The Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, and DoD Instruction 4715.6, *Environmental Compliance*, require that hazardous materials and hazardous waste management procedures be developed and implemented by all military departments.

3.2.1 Affected Environment

The proposed action is located entirely within Operable Unit (OU) B-Terrestrial, a site listed on the CERCLA National Priorities List (NPL) for subsurface soil and groundwater affected by past shipyard operations. Remaining OU B-Terrestrial site contaminants included a variety of metals, volatile and semi-volatile organic compounds, polychlorinated biphenyls (PCBs), and pesticides. In 2004 the Navy executed a Record of Decision (ROD) documenting the Navy's selected remedy for the site, which included a combination of stormwater restoration, installation of a pavement cap to limit potential infiltration of water into site soil, shoreline stabilization, and institutional controls (Navy et al 2004). All active cleanup action was completed in 2006. Land use controls from the 2004 ROD remain in effect to ensure the continued presence of a cap over contaminated soils.

A hazardous materials survey of Building 431 was conducted to identify and quantify the presence of accessible hazardous materials at building locations that would be affected by the proposed action, including sampling of flooring, coatings, gaskets, sealants, stair tread, walls, ceilings, and dust. The survey identified the presence of asbestos containing materials (ACM), heavy metal containing paint and coatings (HMCP), and PCBs at locations that would be affected by the proposed action. ACM was assumed to be present at inaccessible locations, such as surrounding live electrical components, based on its confirmed presence at other similar buildings and locations. ACM was detected at locations including, but not limited to the following: elevator pit floors, flooring, sink undercoats, mastic, glazing and caulking putty at window frames, insulated pads and components at cranes, machinery, insulation at water tanks, roofing, power bus ducts, and fire doors. Siding at the western lean-to structures is comprised of ACM. Hazardous metals, including arsenic, cadmium, chromium, lead, and mercury were detected in samples of paint, wood block flooring, dust samples, and other materials. Lead is also assumed to be present in glaze at porcelain fixtures. Varying concentrations of PCBs were identified in wood block flooring (Navy 2014b).

3.2.2 Environmental Consequences

Impacts involving hazardous materials and waste are considered significant if the handling, disturbance, storage, use, transportation, or disposal of these substances would impact human health or present ecological risks. Significance is based on toxicity and risk associated with handling, disturbance, transportation, storage, and disposal of hazardous materials.

Project-specific surveys indicate the proposed action would encounter hazardous materials ACM, HMCP, and PCBs in the Building 431 structure, flooring, and fixtures as identified in Section 3.2.1. To address the risks of handling, disturbing, transporting, storing, and disposing of hazardous materials and wastes, the BMPs identified in Section 2.5 would be implemented as part of the proposed action. BMPs would include, but would not be limited to, preparation and implementation of an Environmental Protection Plan, Safety Plan (including Activity Hazard Analysis), Demolition Plan, Solid Waste Management Plan, a Hazardous Materials Abatement Plan, and a Sampling Analysis Plan. The Navy would remove and manage all hazardous materials potentially impacted by construction in accordance with applicable policies, laws and regulations, including *PSNS & IMF Instruction 5090.50 and Naval Base Kitsap Instruction 5090.14 Land Use Controls at PSNS & IMF Bremerton Site and Naval Base Kitsap - Bremerton* and *Excavation Management at Naval Base Kitsap at Bremerton*, and RCRA. All hazardous wastes generated during implementation of the proposed action would be disposed of at approved hazardous waste disposal facilities.

With implementation of the BMPs to address risks associated with the handling, disturbance, transport, storage, and disposal of hazardous materials and wastes and compliance with applicable laws, no significant hazardous materials and waste impacts would result from the proposed action.

3.2.2.1 No Action Alternative

Under the No Action alternative, the proposed seismic retrofits and additional building modifications would not be implemented but building maintenance would continue as required. There would be no change to, and no significant impact from, hazardous materials and waste with implementation of the No Action Alternative.

Figure 3-1 Puget Sound Naval Shipyard National Historic Landmark Historic District

[This page intentionally left blank]

CHAPTER 4.0
CUMULATIVE IMPACTS

CEQ regulations implementing the procedural provisions of NEPA define cumulative impacts 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 regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR 1508.7)

For the proposed action to have a cumulatively significant impact to an environmental resource, two conditions must be met. First, the combined effects of all identified past, present, and reasonably foreseeable future projects, activities, and processes on a resource, including the effects of the proposed action, must be significant. Second, if there is a significant cumulative impact, the proposed action must make an appreciable contribution to that significant cumulative impact.

This cumulative effects analysis is performed for the two applicable resource areas, cultural resources and hazardous materials and wastes, in accordance with the following methodology: 1. The region of influence (ROI) of a resource – the geographic boundaries of a resource affected beyond the immediate area of the proposed action - and timeframe for the cumulative impacts analysis are identified, 2. Past, present, and reasonably foreseeable future actions within the ROI and timeframe are identified that would have similar and potentially additive/cumulative effects to the proposed action, and 3. The individual impacts of these past, present, and reasonably foreseeable future actions are considered in combination with the contribution of the individual impacts of the proposed action to determine if the proposed action results in a significant cumulative impact.

4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS

For purposes of the cumulative effects analysis, the ROI consists of the Puget Sound Naval Shipyard and the timeframe is five years before and after present. Two past projects, two current and future projects, and one reasonably foreseeable future project have been identified within the ROI and timeframe for the cumulative effects analysis, as identified in Table 4-1.

Table 4-1. Past, Present, and Reasonably Foreseeable Future Projects at NAVBASE Kitsap Bremerton and the ROI

Project	*Project Description*	*Affected Structures Found Eligible for NRHP*	*Affected Structures that Contribute to the NYPS NHL*	*Time*		
				Past	*Present*	*Future*
Demolition of Extension at Building 469	Under this project the Navy would demolish an extension at Building 469. Building 469 was built in 1941 and is a contributing element to the NYPS NHL historic district but is not individually eligible for listing on the NRHP. This project is not currently programmed.	0	1			X

Table 4-1. Past, Present, and Reasonably Foreseeable Future Projects at NAVBASE Kitsap Bremerton and the ROI

Project	*Project Description*	*Affected Structures Found Eligible for NRHP*	*Affected Structures that Contribute to the NYPS NHL*	*Time*		
				Past	*Present*	*Future*
Demolition of Four Buildings, Energy Efficiency Upgrades at Eight Buildings, and Seismic Upgrade at Building 147	The Navy is in the process of implementing an action consisting of demolition of Buildings 461, 480, 500, and 523 and energy efficiency upgrades for Buildings 147, 427, 448, 455, 457, 460, 850, and 857. The action also includes seismic upgrades to Building 147. Buildings 147, 427, and 460 were identified as contributing elements of the NYPS NHL historic district. Buildings 461 and 500 are individually eligible for listing on the NRHP but are not contributing elements to the NYPS NHL historic district. The remaining buildings are not individually eligible for listing on the NRHP and are not contributing elements to the NYPS NHL historic district. The Navy and SHPO entered into an MOA to address adverse effects to buildings 461 and 500.	2	3		X	X
Disposition of Railroad Turntable	Under this project the Navy would dispose of the railroad turntable (Building 746) at Naval Base Kitsap Bremerton by donating it to a museum and implementing the conditions of the MOA with the SHPO. The turntable is individually eligible for listing on the NRHP but is not a contributing element to the NYPS NHL historic district.	1	0		X	X
Modernization of Building 491	In 2012, the Navy renovated building 491, which is a contributing resource to the Hospital Reservation Historic District. The building itself is not individually eligible for listing on the NRHP and consultation with SHPO resulted in determination that no adverse effect resulted from the renovation. Renovations included seismic upgrades. As part of the project, building 853 was demolished. Building 853 was constructed in the 1970s and was not a contributing element to the NYPS NHL historic district and was not individually eligible for listing on the NRHP.	0	0	X		

4.2 ASSESSMENT OF CUMULATIVE IMPACTS BY RESOURCE

4.2.1 Cultural Resources

The five applicable past, present, and reasonably foreseeable future projects involve demolition or disposal of three structures individually eligible for listing on the NRHP (buildings 461, 500, and 746 railroad turntable) and modifications to four structures that are contributing resources to the NYPS NHL historic district (buildings 147, 427, 460, and 469). Demolition of buildings 461 and 500 and modifications to buildings 147, 427, and 460 are being mitigated by the Navy's development of an outdoor display interpreting the historic significance of the NYPS NHL historic district, its contributing buildings and structures, and the role PSNS played in the outcome of World War II. The Navy is also working with the Puget Sound Navy Museum to develop a webpage on the historic significance of the NYPS NHL historic district. The Building 746 railroad turntable is in the process of being disposed of via donation to a museum. Mitigation for modifications to Building 469 will be determined in consultation with SHPO at a future date. With implementation of these measures, the effects of the actions are not expected to be individually significant. The demolition and alteration of these buildings would result in a

combined cumulative impact to the cultural resources located at PSNS, particularly the NYPS NHL historic district, via incremental changes and removal of resources that contribute to the character of the NYPS NHL historic district. However, this cumulative impact would be mitigated by the measures contained in MOAs, which comprehensively address the historic significance of the NYPS NHL historic district as a whole. As indicated in Chapter 3, the proposed action likewise would not result in an individually significant impact to cultural resources with the implementation of the stipulations in the MOA, which also comprehensively address the NYPS NHL historic district as a whole. Additionally, seismic bracing of the Building 431 Central Tool Shop and restoration of the south facing wall would have a beneficial impact by conserving and restoring contributing elements to the NYPS NHL historic district. Therefore, no significant adverse cumulative impacts to cultural resources are anticipated from the proposed action when combined with past, present, and reasonably foreseeable future projects in the ROI.

Implementation of the No Action alternative would have no impact to cultural resources and therefore would not contribute to cumulative impacts to this resource.

4.2.2 Hazardous Materials and Waste

The five applicable past, present and reasonably foreseeable future projects involve the demolition of five structures (buildings 461, 480, 500, 523, and 853) and modifications or retrofits to ten buildings (buildings 147, 427, 448, 455, 457, 460, 469, 491, 850, and 857). Similar hazardous materials were or would be encountered under these projects as encountered under the proposed action and the same policy requirements for handling, transporting, and disposing of hazardous materials and wastes apply. Surveys confirm that four of the buildings that were or would be demolished and six of the buildings that were or would be modified or retrofitted contain one or more of the same hazardous materials present at Building 431. Within the ROI, a long-term beneficial effect would result from the reduction in the quantities of ACM, LBP, and mercury and PCB containing materials on NAVBASE Kitsap Bremerton. Therefore, no significant adverse hazardous materials and wastes cumulative impacts are anticipated from the proposed action when combined with past, present, and reasonably foreseeable future projects in the ROI.

Implementation of the No Action alternative would not affect hazardous materials or wastes and therefore would not contribute to cumulative impacts to this resource.

[This page intentionally left blank]

CHAPTER 5.0
OTHER CONSIDERATIONS REQUIRED BY NEPA

5.1 POSSIBLE CONFLICTS BETWEEN THE PROPOSED ACTION AND THE OBJECTIVES OF FEDERAL, STATE, LOCAL, AND REGIONAL LAND USE PLANS, POLICIES, AND CONTROLS

Table 5-1 summarizes how the proposed action would be in compliance or avoid conflicts with federal, state, and local regulations, plans and policies.

Table 5-1. Principal Federal and State Laws Applicable to the Proposed Action

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
National Environmental Policy Act (NEPA) (42 USC §4321 et seq.); CEQ NEPA implementing regulations (40 CFR 1500-1508; Navy procedures for Implementing NEPA [32 CFR Part 775 and OPNAVINST 5090.1D CH-1, Chapter 5])	Preparation of this EA has been conducted in compliance with NEPA and in accordance with CEQ regulations and the Navy's NEPA procedures.
Clean Air Act (42 USC §7401 *et seq*.)	The USEPA has established National Ambient Air Quality Standards (NAAQS) for seven pollutants. NAVBASE Kitsap Bremerton is located in Kitsap County which is an attainment area. A formal conformity determination is not required. Emissions for the proposed action would come from mobile sources and would be well below applicable thresholds. As a result, the project would comply with the requirements of the Clean Air Act, as amended.
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC § 9601 *et seq*.)	The proposed action is located entirely within a contaminated site, referred to as operable unit (OU) B-Terrestrial. All soil-disturbing work would be in accordance with *Excavation Management at Naval Base Kitsap at Bremerton* to protect human health and the environment.
Consultation and Coordination with Indian Tribal Governments (EO 13175) and Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes (SECNAVINST 11010.14A)	NAVBASE Kitsap Bremerton is located within the Usual and Accustomed grounds and stations of the Suquamish Tribe. This upland project would have no effect to traditional resources because it would not change the tribe's access to exercise tribal treaty rights and it would not reduce or degrade harvestable marine resources. As the proposed action would not have a significant effect on tribal treaty rights or resources, consultation was not required.
EO 12088, Federal Compliance with Pollution Control Standards	The proposed action would conform to all applicable pollution control standards including, but not limited to, those specified in the TSCA, RCRA, and CAA. All required coordination would be conducted in accordance with EO 12088.
EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-income Populations	No disproportionately high or adverse impacts to minority and low-income populations would be expected from the proposed action.
EO 13045, Protection of Children from Environmental Health Risks and Safety Risks	The proposed action is located entirely within the CIA at PSNS & IMF, which restricts access for children. The construction activities would not cause environmental health risks and safety risks, such as products and substances that children could come into contact with

Table 5-1. Principal Federal and State Laws Applicable to the Proposed Action

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
	or ingest, that may disproportionately affect children.
National Historic Preservation Act (Section 106, 54 USC 306108)	The Navy has determined that implementation of the proposed action would have an adverse effect on the NYPS NHL historic district and properties eligible for listing on the NRHP. On July 23, 2015, the Navy and the Washington SHPO signed an MOA with stipulations as to how the Navy would mitigate these adverse effects (Appendix B).
Resource Conservation and Recovery Act (RCRA) (42 USC § 6901 *et seq*.)	Solid, hazardous and dangerous waste will be disposed of in accordance with the requirements of RCRA and applicable state law.
Toxic Substances Control Act (TSCA) (15 USC § 2601 *et seq*.)	The proposed action would include the disposal of toxic substances addressed by TSCA, including PCBs, ACM, and lead-based paint present at construction areas. All disposal of these materials would occur in accordance with the requirements of TSCA and the proposed action would be in conformance with TSCA.

5.2 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF NATURAL OR DEPLETABLE RESOURCES

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

Implementation of the proposed action would involve the consumption of fuel, oil, and lubricants for construction vehicles and equipment. Human energy invested in construction would be irretrievably lost. Implementation of the proposed action would not result in significant irreversible or irretrievable commitment of resources.

5.3 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM NATURAL RESOURCE PRODUCTIVITY

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

Building 431 seismic retrofits and modifications would not alter current activities or change land use. The proposed action would not result in any impacts that would reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.

5.4 MEANS TO MITIGATE AND/OR MONITOR ADVERSE ENVIRONMENTAL IMPACTS

The proposed action would not result in significant adverse environmental impacts with implementation of the following measures to avoid, minimize and/or mitigate impacts:

In accordance with the MOA between the Navy and SHPO (Appendix B), the Navy will implement the following mitigation actions as part of the proposed action:

- conducting a historic resources survey of the Controlled Industrial Area,
- restoring the north parapet,
- clean and repoint brickwork, and
- preparing Department of Archaeology & Historic Preservation Level II documentation of two machines proposed for removal from the main bay.

5.5 ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED AND ARE NOT AMENABLE TO MITIGATION

This EA has demonstrated that the proposed action would not result in any significant impacts; therefore, there are no probable adverse environmental effects that cannot be avoided or are not amenable to mitigation.

[This page intentionally left blank]

CHAPTER 6.0
REFERENCES

Bourgeois, J. and M. Martin 2008. Hazards inferred from tsunami deposits in Washington and Oregon U.S. Geological Survey external research report, award 07HQGR0009. http://earthquake.usgs.gov/research/external/reports/07HQGR0009.pdf (accessed February 9, 2015).

Grulich Architecture 1986. *Historic Survey Puget Sound Naval Shipyard, Bremerton, Washington*. Report No. N 62474-85-C-9967.

Kitsap County Department of Emergency Management 2004. Kitsap County hazard & vulnerability analysis. September 2004.

Lewarch et al. 2002. *Cultural Resources Survey at Bremerton Sub-Region* (PSNS/NAVSTA and Jackson Park Housing/NAVHOSP), Kitsap County, Washington.

National Park Service 1992. Puget Sound Naval Shipyard National Historic Preservation National Register of Historic Places Nomination. Washington, D.C.

Navy, USEPA, Ecology 2004. Record of Decision, Puget Sound Naval Shipyard Complex, Terrestrial Operable Unit B. 8 March.

Navy 1999. Final Seismic Evaluation of Various Buildings at Puget Sound Naval Shipyard (PSNS): Building 431. 31 July.

Navy 2002. *FEMA Tier 2 Seismic Studies of Core PSNS Buildings.* Berger/ABAM.

Navy 2004. Record of Decision, Puget Sound Naval Shipyard Complex, Terrestrial Operable Unit B. 13 April.

Navy 2013. Puget Sound Naval Shipyard and Intermediate Maintenance Facility Building 431 ASCE/SEI 41-13 Seismic Evaluation Report. 12 November.

Navy 2014a. Special Project: Building 431 Seismic; Basis of Design. Bremerton, Washington.

Navy 2014b. Draft Limited Hazardous Materials Survey Report; Puget Sound Naval Shipyard and Intermediate Maintenance Facility B431 Seismic Upgrade Project. Bremerton, Washington. 25 July.

[This page intentionally left blank]

CHAPTER 7.0
PERSONS AND AGENCIES CONTACTED

The following agencies, organizations, and individuals were contacted during preparation of this EA.

Advisory Council on Historic Preservation

Katherine Kerr, Program Analyst

Raymond Wallace, Historic Preservation Technician

NAVBASE Kitsap

Greg Leicht, Environmental Program Director

Puget Sound Naval Shipyard

Eric Mollerstuen, Environmental Protection Specialist

Department of Archaeology and Historic Preservation (SHPO)

Dr. Allyson Brooks, Ph.D., State Historic Preservation Officer

Nicholas Vann, Historical Architect

United States Department of Interior- National Park Service

Dr. Elaine Jackson-Retondo, PhD, National Historic Landmarks Program Manager

[This page intentionally left blank]

CHAPTER 8.0
LIST OF PREPARERS

This EA was prepared by Naval Facilities Engineering Command Northwest (NAVFAC NW) for NAVBASE Kitsap Bremerton. Members of the professional staff are listed below.

Project Management

Amanda Bennett, NAVBASE Kitsap Cultural Resources Manager

Wes Miksa, NAVFAC NW Environmental Planner

Quality Assurance

Mike Hardiman, NAVBASE Kitsap Bremerton Environmental Office Supervisor

Nancy Glazier, NAVFAC NW Legal Counsel

Christine Stevenson, NAVFAC NW NEPA Coordinator

GIS & Graphic Design

Sara Street, NAVFAC NW GIS Technician

[This page intentionally left blank]

APPENDIX A
AGENCY CORRESPONDENCE

NATIONAL HISTORIC PRESERVATION ACT, SECTION 106 CONSULTATION LETTERS

[This page intentionally left blank]

DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/02045
16 Dec 13

Allyson Brooks, PhD
State Historic Preservation Officer
Washington Department of Archaeology and Historic Preservation
1063 South Capital Way Ste 106
PO Box 48343
Olympia, WA 98504-8343

Dear Dr. Brooks:

SUBJECT: PROPOSED IMPROVEMENTS TO BUILDING 431, NAVAL BASE KITSAP, BREMERTON, WA

In accordance with Section 106 of the National Historic Preservation Act, the Navy would like to initiate consultation regarding a proposed undertaking at Naval Base (NAVBASE) Kitsap, Bremerton. The undertaking proposes to make a variety of improvements to the Building 431 Machine Shop including seismic retrofit; upgrades to restrooms, life safety, fire protection, mechanical, elevators and electrical; as well as exterior restoration. This undertaking would occur within the Puget Sound Naval Shipyard National Historic Landmark (NHL) district, where Building 431 is considered a contributing resource.

The Navy is in preliminary planning stages for this undertaking and individual components may still be added or removed. This letter is an effort to get both the Washington State Department of Archeology and Historic Preservation (DAHP) and the National Park Service (NPS) involved early in the process. The intent is that through early consultation with all involved parties we can identify potential adverse effects to historic properties and ways to mitigate them. To this end, the Navy would like to extend an invitation to your office for a site visit to be scheduled in the near future.

The Navy has determined the area of potential effect (APE) for this undertaking to include everything within the boundary of the NHL, including Building 431.

The primary purpose of this undertaking is to bring Building 431 to a condition that will meet criteria for current legal, regulatory and policy requirements and to abate hazards

and damage that may occur in the event of seismic activity. The seven-story building is over 550,000 square feet and has been considered to be the largest machine shop in the country with around 650 pieces of plant equipment and 700 occupants. The shop provides virtually all Navy shafting work in the Pacific Arena.

Building 431 was initially constructed in 1934 as a machine and electric shop for the shipyard. Six additions were made to the building through the 1940s and a few more additions since 1966. The original structure is a box frame with modified Warren Trusses, clad in brick. A major addition in 1942 extended the south end of the building with a six-story concrete structure, which was topped with a seventh floor in 1945. The majority of the other 1940s additions were along the east and west sides. In a 1986 survey, Grulich Architecture and Planning Services identified the building as significant for its use during World War II as the principal machine shop and an integral element in ship repair and construction. In 1991, when the NHL was designated, Building 431, including all additions through 1945, was listed as a contributing resource to the district.

The Navy requests your concurrence on the APE and looks forward to working with you on this proposed undertaking. We will soon be contacting you to see about scheduling a site visit. If you have any further questions, please contact Mr. Eric Mollerstuen. He can be reached at (360) 476-9384 or by email at eric.mollerstuen@navy.mil.

Sincerely,

T. A. ZWOLFER
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Area of Potential Effect Map
2. 1986 Survey Form

Copy to:
Mr. Hank Florence, National Park Service

AREA OF POTENTIAL EFFECT MAP

Enclosure (1)

1986 SURVEY FORM

Enclosure (2)

PSNS INVENTORY HISTORIC SURVEY PUGET SOUND NAVAL SHIPYARD

Facility No. 431

NAME OF STRUCTURE MACHINE, DIRECTOR & CENTRAL TOOL SHOP

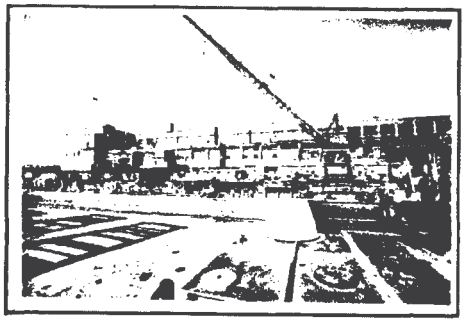
Construction Date 1934

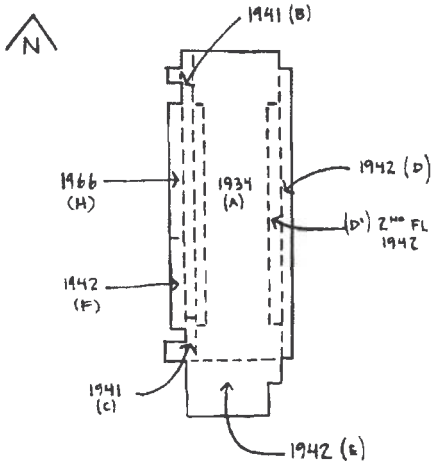
Uses: Original Machine & Electric Shop
WWII Machine Shop
Present Machine Shop

Alterations/Additions
(Add-41,42,45,55,66)
(Remod-36,37,40,41,42,43,44,45,46,47,48, 50,51-58,61,69,71,72,75-83)

DESIGNED BY BUREAU OF YARDS & DOCKS DATE 1934

DESCRIPTION: Condition Good Altered Yes Original Site Yes





Building 431 is a large rectangular structure constructed in eight phases from 1934 through 1945. The structure is 979 ft. north-south, 349 ft. east-west and 144 ft. (7 stories) high. According to a plaque on the building, the original structure was erected under the National Industrial Recovery Act and, at the time of its completion (1934) it was the largest machine shop west of the Mississippi.

The original and primary structure (A) is 800ft. north-south, 250 ft. east-west, single story bulding with mezzanine latrines in each corner. The outside 30 ft. bays are 22 ft. high sheds. The side 55 ft. bays are 35 ft. high box framed with modified steel Warren Trusses, and the central 80ft. bay is 90ft. high with steel Warren trusses.The structure is steel framed on 25 ft. bay center lines. The building has extensive areas of industrial steel sash glazing (13ft. x 16 ft., typical) with pivot sections forming pilasters between the glazing areas. The glazed areas have cast stone sills and soldier course headers. The building is clad with brick (common bond) with "Art Deco" motif cast stone coping at the top of the brick pilasters.

The central bay has a metal coping over the original cast stone coping. The building has a four ft. high concrete base. The roof is a wood deck, the floor originally wood block of which large areas remain. The high central bay has clerestories both sides and a central monitor. The 55 ft. side bays have clerestories at the box faces. The glazing provides extensive natural lighting to the interior of this large structure.

(Continued on following page)

SIGNIFICANCE: Period 1933-1949 Area of Significance Ship Repair

1. 2. 3. X 4.

Machine, Director and Central Tool Shop (Facility 431) was completed in 1934 as a machine and electric shop facility. At the beginning of WWII, the electric shop was relocated to Facility 427. Facility 431 remained the principal machine shop of the industrial yard throughout the war and was an integral element of the industrial yard in the effort to repair and construct ships. This facility machined rough steel components forged in Facilities 452 and 469 or cast in Facility 147. In addition it machined numerous components from stock steel. The facility was expanded numerous times during WWII, however, alterations made since WWII are insignificant relative to the immense size of the machine shop facility. Although designed by the Bureau of Yards and Docks, the facility, when constructed, was the largest machine shop west of the Mississippi. It

NEGATIVE NO.

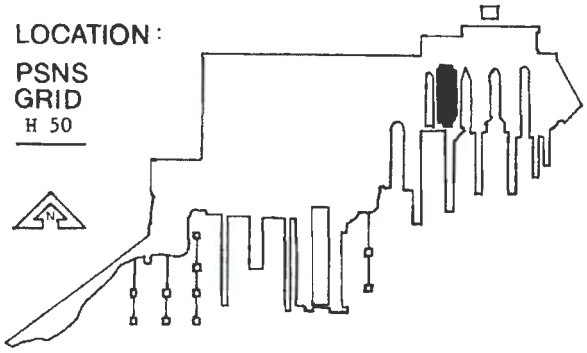
SP85-00992
Bldg. #431

W | N
E | N

Facility No.
431

LOCATION:

PSNS GRID
H 50



UTM Zone	Easting	Northing
10	527570	5267460

Quadrangle Bremerton West
scale 1:24,000

CONTINUATION of SIGNIFICANCE

was designed under the direction of Public Works Officer Capt. R. M. Warfield.

Machine Shop 431 played a major role in the repair and construction of naval ships during WWII. Castings and forgings made in other shops of the industrial yard were machined into precise components required by the ships in this facility. Photographic evidence indicates extensive use of powerlays to machine numerous steel components during WWII. Although much of the equipment associated with the WWII facility has been replaced with newer equipment, there remain notable large scale machine tools dating from WWII. Most remarkable of these tools are the shaft lathes used to machine the heavy shaft forgings made in Facility 469. These lathes are capable of machining shafts up to several feet in diameter and in excess of 30 feet and include

Surveyed by Jeffrey L. Greene, A.I.A. Date August 1985

lathes by Betts-Bridgeford and American Tool. Additional equipment includes post mills and horizontal boring mill and planer (Morton).

At the time of its construction the facility was reputedly the largest machine shop west of the Mississippi. The extensive interior volume remains largely unaltered from the initial design. It is provided with extensive interior natural light through series of clerestory windows on both sides of the central bay, by a central monitor, and by clerestory on the faces of box girders in alternating bays of the side bay.

In 1941 a 31 ft. by 800 ft. brick clad extension (B) was added to the west side of the structure. A second floor latrine (C) was added to the south end of this addition also in 1942.

In 1942 a two-story brick (running bond) extension (D) was made to the east side of the building and a second (D') story was added to a portion of the original building.

Also in 1942 a major addition (E) to the south side of the building added 175 ft. to the north-south length by 280 ft. east west to the building. The addition was six stories high although it extends the interior volume of the original structure. The addition has concrete exterior walls with "Art Deco" detailing and was used originally as machine and optical shops. The addition was extended with a metal clad seventh floor and tower in 1945.

The structure was extended (F) to the west again in 1942 with a wood shed structure used to house shaft boring lathes. This structure was eventually enclosed with mineral faced GWB (asbestos) siding, and was partially replaced by a 1966 brick structure housing x-ray equipment (H).

The south facade has recently (1985) been clad with metal siding and the windows replaced as part of energy conservation work.

The exterior of 431 has layers of World War II construction that obscure much of the original east, west and south facades. The north facade and the interior volume are largely intact.

DEPARTMENT OF
ARCHAEOLOGY &
HISTORIC PRESERVATION
Protect the Past, Shape the Future

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

January 9, 2014

Capt. T.A. Zwolfer
Commanding Officer
U.S. Navy, Naval Base Kitsap Bremerton
120 South Dewey St
Bremerton, WA 98134-5020

Attn: Eric Mollerstuen

In future correspondence please refer to:
Log: 010914-20-USN
Property: Puget Sound Naval Shipyard Building 431
Re: Proposed Improvements to Building 431 – APE Concur

Dear Capt. Zwolfer:

We have reviewed the materials forwarded to our office for the above referenced project. Thank you for your description of the area of potential effect (APE) for the project. We concur with the definition of the APE. We look forward to continuing our consultation and determining the effects of the proposed project. We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised.

Thank you for the opportunity to review and comment. We look forward to scheduling a site visit on the base to further discuss the effects of this project. In the meantime if you have any questions, please feel free to contact me.

Sincerely,

Nicholas Vann, RA
Historical Architect
(360) 586-3079
Nicholas.Vann@dahp.wa.gov

cc: Amanda Bennett
Hank Florence

DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/ 01561
12 Sep 14

Allyson Brooks, PhD
State Historic Preservation Officer
Washington Department of Archaeology and Historic Preservation
PO Box 48343
Olympia, WA 98504-8343

Dear Dr. Brooks:

SUBJECT: LOG NO. 010914-20-USN, PROPOSED IMPROVEMENTS TO BUILDING 431, NAVAL BASE KITSAP, BREMERTON, WA

The Navy has previously consulted with your office on a proposed project to make a variety of improvements to the Building 431 Machine Shop including seismic retrofit; upgrades to restrooms, life safety, fire protection, mechanical, elevators and electrical; as well as exterior restoration. Building 431 is located within the Navy Yard Puget Sound National Historic Landmark (NHL) district and has been identified as a contributing resource. The Area of Potential Effect (APE) was determined to be the boundary of the NHL. This letter is to update your office on the scope of the proposed project and provide a determination of effect for the undertaking.

Elements of the proposed project include:

- Seismic retrofit of the building including Buckling-Restrained Braces (BRBs), drift joints, slip planes and seismic joints as well as mitigating soils prone to liquefaction in the SE corner of the building
- Installation of a fire protection sprinkler system throughout the building
- Egress evaluation and corrections throughout the building
- Restroom upgrades to comply with current Architectural Barriers Act (ABA) requirements and meet current demands for women and men restrooms
- Exterior restoration including concrete spalling repairs on the east, west, and north face of the south extension, masonry pointing and sealing, repairing individual broken window panes and sealing or replacing the asbestos siding on the wood lean-tos, application of elastomeric coating on the east and west sides of the south extension

- South Wall, South Extension: Remove metal siding, windows, and provide new exterior concrete seismic upgrades to the building, curtain wall system infill between concrete columns and spandrel, and other improvements required to install seismic improvements
- Remove portion of the existing "Periscope Tower" above the 7th floor level
- Modernize two existing elevators
- Modify existing high bay electrical distribution system
- Modernize existing heating, ventilation and air conditioning (HVAC) systems in various areas

Complete project details and scope are provided for your review in the enclosed 65% Draft *Project Summary for Historic Review* report and project drawings (Enclosure 1).

On January 28, 2014 State Historical Architect, Nicholas Vann, visited the building for an on-site review of potential project components and their effect on the character of the historic building. After discussions with Mr. Vann and further review amongst the project team and Navy cultural resources staff, the Navy has determined that some components of the proposed undertaking would have an adverse effect on Building 431.

The majority of the interior and exterior improvements have been designed to follow the Secretary of the Interior's Standards for Rehabilitation. However, the Navy recognizes that the application of an elastomeric coating on the east and west exterior walls of the south extension does not meet the Standards, but finds it to be the preferred approach to prevent further deterioration of the wall. Navy mission-related needs and current building activity have resulted in some modifications that directly affect the historic character of the building, including:

- Exterior BRBs that connect the top of the high-bay masonry walls to the low-bay roofs below, which will be visible from the street level when standing at a distance from the building.
- Removal of the asbestos siding on the historic wood lean-tos on the west side of the building and replacement with cement board lap siding.
- Removal and disposal of two machines considered to be contributing resources to the NHL: American Shaft Lathe and Giddings & Lewis Post Mill.

SUBJECT: LOG NO. 010914-20-USN, PROPOSED IMPROVEMENTS TO BUILDING 431, NAVAL BASE KITSAP, BREMERTON, WA

With Building 431 situated centrally and as the largest structure in the NHL, the Navy has determined that these modifications will be an adverse effect on the historic building and surrounding NHL. However, the proposed interior modifications and remaining exterior restoration work, which improves the longevity of the building and safety of the staff without compromising the historic character, will not adversely affect the historic building or NHL.

The Navy considered an alternative to avoid affecting the historic building exterior and NHL that involved strengthening existing interior building structural features. This would include interior walls, foundation, columns and trusses, as well as increasing the number and size of column footings. This alternative would not adversely affect the exterior appearance of Building 431, but would significantly reduce interior floor space, mission-critical machine shop operations and overhead crane service.

The Navy requests your concurrence on the adverse effect determination and looks forward to working with you to develop a Memorandum of Agreement (MOA) to address and mitigate the adverse effects of the undertaking. We will contact your office shortly to arrange a time to meet and discuss the elements of the MOA. If you have any further questions, please contact Ms. Amanda Bennett. She can be reached by telephone at (360) 476-6613 or by email at amanda.j.bennett@navy.mil.

Sincerely,

T. A. ZWOLFER
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Project Summary for Historic Review
2. Select pages from 65% Project Plans
3. CD: 65% Plan Set

Copy to:
Elaine Jackson-Retondo, Ph.D., National Park Service

DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/01685
26 Sep 14

Elaine Jackson-Retondo, Ph.D.
National Historic Landmarks Program Manager
National Park Service
Pacific West Region Office
333 Bush Street, Suite 500
San Francisco, CA 94104

Dear Ms. Jackson-Retondo:

SUBJECT: PROPOSED IMPROVEMENTS TO BUILDING 431, NAVAL BASE KITSAP BREMERTON, WA

In accordance with Section 106 of the National Historic Preservation Act and 36 CFR 800.10, the Navy would like to invite the National Park Service (NPS), on behalf of the Secretary of the Interior, to participate in consultation and the development of an appropriate Memorandum of Agreement (MOA) to resolve the adverse effects of a proposed undertaking at Naval Base (NAVBASE) Kitsap Bremerton. The undertaking proposes to make a variety of improvements to the Building 431 Machine Shop including seismic retrofit; upgrades to restrooms, life safety, fire protection, mechanical, elevators and electrical; as well as exterior restoration. This undertaking would occur within the Navy Yard Puget Sound National Historic Landmark (NHL) district, where Building 431 is considered a contributing resource.

The primary purpose of this undertaking is to bring Building 431 to a condition that will meet criteria for current legal, regulatory and policy requirements and to abate hazards and damage that may occur in the event of seismic activity. The seven-story building is over 550,000 square feet and has been considered to be the largest machine shop in the country with around 650 pieces of plant equipment and 700 occupants. The shop provides virtually all Navy shafting work in the Pacific arena. The Navy has determined the area of potential effect (APE) for this undertaking to include everything within the boundary of the NHL, including Building 431 (Enclosure 1). The Washington State Historic Preservation Office (SHPO) has concurred with the Area of Potential Effect (APE).

SUBJECT: PROPOSED IMPROVEMENTS TO BUILDING 431, NAVAL BASE KITSAP, BREMERTON, WA

Elements of the proposed project include:

- Seismic retrofit of the building including Buckling-Restrained Braces (BRBs), drift joints, slip planes and seismic joints as well as mitigating soils prone to liquefaction in the southeast corner of the building.
- Installation of a fire protection sprinkler system throughout the building.
- Egress evaluation and corrections throughout the building
- Restroom upgrades to comply with current Architectural Barriers Act (ABA) requirements and meet current demands for women and men restrooms.
- Exterior restoration including concrete spalling repairs on the east, west, and north face of the south extension, masonry pointing and sealing, repairing individual broken window panes and sealing or replacing the asbestos siding on the wood lean-tos, application of elastomeric coating on the east and west sides of the south extension.
- South Wall, South Extension: Remove metal siding, windows, and provide new exterior concrete seismic upgrades to the building, curtain wall system infill between concrete columns and spandrel, and other improvements required to install seismic improvements.
- Remove portion of the existing "Periscope Tower" above the 7th floor level.
- Modernize two existing elevators.
- Modify existing high bay electrical distribution system.
- Modernize existing heating, ventilation and air conditioning (HVAC) systems in various areas.

The majority of the interior and exterior improvements have been designed to follow the Secretary of the Interior's Standards for Rehabilitation. However, the Navy recognizes that the application of an elastomeric coating on the east and west exterior walls of the south extension does not meet the Standards, but finds it to be the preferred approach to prevent further deterioration of the wall. Navy mission-related needs and current building activity will result in modifications that will directly affect the historic character of the building, including:

- Exterior BRBs that connect the top of the high-bay masonry walls to the low-bay roofs below, which will be visible

from the street level when standing at a distance from the building.

- Removal of the asbestos siding on the historic wood lean-tos on the west side of the building and replacement with cement board lap siding.
- Removal and disposal of two machines considered to be contributing resources to the NHL: American Shaft Lathe and Giddings & Lewis Post Mill.

With Building 431 situated centrally and as the largest structure in the NHL, the Navy has determined that these modifications will be an adverse effect on the historic building and surrounding NHL. The proposed exterior braces, lean-to alterations and machinery removal will diminish the integrity of the original building design, materials and thus feeling of its WWII aesthetic. The braces will also negatively impact the visual character of the NHL from within the shipyard. Removal of the large historic machinery reduces the WWII feeling and association the building interior has retained for half a century. Despite having an adverse effect on the historic building and NHL, the proposed undertaking will not adversely affect the overall characteristics that make the Navy Yard Puget Sound NHL eligible as a NHL.

Due to the mission-critical nature of the work, the shops presently housed in Building 431 will need to remain while the building is improved. An alternative to avoid affecting the historic building exterior and NHL that has been considered as part of the design process is to seismically retrofit the building by strengthening existing interior building structural features. This would include nearly all interior structural walls, foundation, columns and trusses, as well as increasing the number and size of column footings. This alternative would not adversely affect the exterior appearance of Building 431, but would significantly reduce interior floor space, mission-critical machine shop operations and overhead crane service, which is not a practicable alternative.

Building 431 was initially constructed in 1934 as a machine and electric shop for the shipyard. Six additions were made to the building through the 1940s and a few more additions since 1966. The original structure is a box frame with modified Warren Trusses, clad in brick. A major addition in 1942 extended the south end of the building with a six-story concrete

structure, which was topped with a seventh floor in 1945. The majority of the other 1940s additions were along the east and west sides. In a 1986 survey, Grulich Architecture and Planning Services identified the building as significant for its use during World War II as the principal machine shop and an integral element in ship repair and construction (Enclosure 2). In 1991, the NHL was designated, with Building 431, including all additions through 1945, listed as a contributing resource to the district. The Navy Yard Puget Sound NHL is considered significant for being the principal repair establishment for battle-damaged battleships and aircraft carriers as well as smaller warships of the Pacific Fleet during WWII (Enclosure 2).

Complete project details and scope are provided for your review in the enclosed *Project Summary for Historic Review* report and a 65% project drawing plan set CD (Enclosures 2 & 4).

The Navy will be working with the SHPO on the development of an MOA to mitigate the adverse effects. Per 36 CFR Sections 800.6 and 800.10, the Advisory Council on Historic Preservation has also been invited to participate in the Section 106 consultation process as a result of the adverse effect to the NHL. Project consultation communications are provided in the enclosures (Enclosure 3).

We look forward to receiving your interest in participating in the preparation of an appropriate MOA to address the effects on the NHL within 30 days of receipt of this letter. Please direct additional inquiries to Ms. Amanda Bennett. She can be reached by phone at (360) 476-6613 or by email at amanda.j.bennett@navy.mil.

Sincerely,

T. A. ZWOLFER
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Maps and Photos
2. *Project Summary for Historic Review*
3. Project Consultation communication
4. CD - 65% Plan Set

DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/01684
26 Sep 14

Katharine Kerr
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW, Suite 803
Old Post Office Building
Washington, D.C. 20004

Dear Ms. Kerr:

SUBJECT: PROPOSED IMPROVEMENTS TO BUILDING 431, NAVAL BASE KITSAP BREMERTON, WA

In accordance with Section 106 of the National Historic Preservation Act, the Navy would like to invite the Advisory Council on Historic Preservation (ACHP) to participate in consultation and the development of an appropriate Memorandum of Agreement (MOA) to resolve the adverse effects of a proposed undertaking at Naval Base (NAVBASE) Kitsap Bremerton. The undertaking proposes to make a variety of improvements to the Building 431 Machine Shop including seismic retrofit; upgrades to restrooms, life safety, fire protection, mechanical, elevators and electrical; as well as exterior restoration. This undertaking would occur within the Navy Yard Puget Sound National Historic Landmark (NHL) district, where Building 431 is considered a contributing resource.

The primary purpose of this undertaking is to bring Building 431 to a condition that will meet criteria for current legal, regulatory and policy requirements and to abate hazards and damage that may occur in the event of seismic activity. The seven-story building is over 550,000 square feet and has been considered to be the largest machine shop in the country with around 650 pieces of plant equipment and 700 occupants. The shop provides virtually all Navy shafting work in the Pacific arena. The Navy has determined the area of potential effect (APE) for this undertaking to include everything within the boundary of the NHL, including Building 431 (Enclosure 1). The Washington State Historic Preservation Office (SHPO) has concurred with the Area of Potential Effect (APE).

SUBJECT: PROPOSED IMPROVEMENTS TO BUILDING 431, NAVAL BASE KITSAP, BREMERTON, WA

Elements of the proposed project include:

- Seismic retrofit of the building including Buckling-Restrained Braces (BRBs), drift joints, slip planes and seismic joints as well as mitigating soils prone to liquefaction in the southeast corner of the building.
- Installation of a fire protection sprinkler system throughout the building.
- Egress evaluation and corrections throughout the building.
- Restroom upgrades to comply with current Architectural Barriers Act (ABA) requirements and meet current demands for women and men restrooms.
- Exterior restoration including concrete spalling repairs on the east, west, and north face of the south extension, masonry pointing and sealing, repairing individual broken window panes and sealing or replacing the asbestos siding on the wood lean-tos, application of elastomeric coating on the east and west sides of the south extension.
- South Wall, South Extension: Remove metal siding, windows, and provide new exterior concrete seismic upgrades to the building, curtain wall system infill between concrete columns and spandrel, and other improvements required to install seismic improvements.
- Remove portion of the existing "Periscope Tower" above the 7th floor level.
- Modernize two existing elevators.
- Modify existing high bay electrical distribution system.
- Modernize existing heating, ventilation and air conditioning (HVAC) systems in various areas.

The majority of the interior and exterior improvements have been designed to follow the Secretary of the Interior's Standards for Rehabilitation. However, the Navy recognizes that the application of an elastomeric coating on the east and west exterior walls of the south extension does not meet the Standards, but finds it to be the preferred approach to prevent further deterioration of the wall. Navy mission-related needs and current building activity will result in modifications that will directly affect the historic character of the building, including:

- Exterior BRBs that connect the top of the high-bay masonry walls to the low-bay roofs below, which will be visible

from the street level when standing at a distance from the building.

- Removal of the asbestos siding on the historic wood lean-tos on the west side of the building and replacement with cement board lap siding.
- Removal and disposal of two machines considered to be contributing resources to the NHL: American Shaft Lathe and Giddings & Lewis Post Mill.

With Building 431 situated centrally and as the largest structure in the NHL, the Navy has determined that these modifications will be an adverse effect on the historic building and surrounding NHL. The proposed exterior braces, lean-to alterations and machinery removal will diminish the integrity of the original building design, materials and thus feeling of its WWII aesthetic. The braces will also negatively impact the visual character of the NHL from within the shipyard. Removal of the large historic machinery reduces the WWII feeling and association the building interior has retained for half a century. Despite having an adverse effect on the historic building and NHL, the proposed undertaking will not adversely affect the overall characteristics that make the Navy Yard Puget Sound NHL eligible as a NHL.

Due to the mission-critical nature of the work, the shops presently housed in Building 431 will need to remain while the building is improved. An alternative to avoid affecting the historic building exterior and NHL that has been considered as part of the design process is to seismically retrofit the building by strengthening existing interior building structural features. This would include nearly all interior structural walls, foundation, columns and trusses, as well as increasing the number and size of column footings. This alternative would not adversely affect the exterior appearance of Building 431, but would significantly reduce interior floor space, mission-critical machine shop operations and overhead crane service, which is not a practicable alternative.

Building 431 was initially constructed in 1934 as a machine and electric shop for the shipyard. Six additions were made to the building through the 1940s and a few more additions since 1966. The original structure is a box frame with modified Warren Trusses, clad in brick. A major addition in 1942 extended the south end of the building with a six-story concrete

structure, which was topped with a seventh floor in 1945. The majority of the other 1940s additions were along the east and west sides. In a 1986 survey, Grulich Architecture and Planning Services identified the building as significant for its use during World War II as the principal machine shop and an integral element in ship repair and construction (Enclosure 2). In 1991, the NHL was designated, with Building 431, including all additions through 1945, listed as a contributing resource to the district. The Navy Yard Puget Sound NHL is considered significant for being the principal repair establishment for battle-damaged battleships and aircraft carriers as well as smaller warships of the Pacific Fleet during WWII (Enclosure 2).

Complete project details and scope are provided for your review in the enclosed *Project Summary for Historic Review* report and a 65% project drawing plan set CD (Enclosures 2 & 4).

The Navy will be working with the SHPO on the development of an MOA to mitigate the adverse effects. Per 36 CFR Sections 800.6 and 800.10, the Secretary of the Department of the Interior has also been invited to participate in the Section 106 consultation process as a result of the adverse effect to the NHL. Project consultation communications are provided in the enclosures (Enclosure 3).

We look forward to receiving your interest in participating in the preparation of an appropriate MOA to address the effects on the NHL within 30 days of receipt of this letter. Please direct additional inquiries to Ms. Amanda Bennett. She can be reached by phone at (360) 476-6613 or by email at amanda.j.bennett@navy.mil.

Sincerely,

T. A. ZWOLFER
Captain, U. S. Navy
Commanding Officer

Enclosures: 1. Maps and Photos
2. Project Summary for Historic Review
3. Project Consultation communication
4. CD - 65% Plan Set

DEPARTMENT OF
ARCHAEOLOGY &
HISTORIC PRESERVATION
Protect the Past, Shape the Future

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

September 30, 2014

Capt. T.A. Zwolfer
Commanding Officer
U.S. Navy, Naval Base Kitsap Bremerton
120 South Dewey St
Bremerton, WA 98134-5020

Attn: Amanda Bennett

In future correspondence please refer to:
Log: 010914-20-USN
Property: Puget Sound Naval Shipyard Building 431 (Machine Shop)
Re: Proposed Improvements; Adverse Effect

Dear Capt. Zwolfer:

Thank you for contacting the Department of Archaeology and Historic Preservation (DAHP). We have reviewed the materials you provided for this project. We concur with your determination that the project, as proposed, will have an Adverse Effect on Building 431, a contributing resource the Navy Yard Puget Sound National Historic Landmark (NHL) Historic District.

We concur that the project attributes that adversely affect the historic character of Building 431 include the exterior Buckling-Restrained Braces (BRBs), removal of asbestos siding and replacement with cement board lap siding, and the removal and disposal of two machines American Shaft Lathe and Giddings & Lewis Post Mill) that are contributing resources to the NHL. The application of elastomeric coating on the south extension does not meet the Secretary of the Interior's Standards, but given the circumstances in the location of its application, this will not have an adverse effect. We look forward to further consultation and the development of a Memorandum of Agreement (MOA) to address this Adverse Effect.

Thank you for the opportunity to review and comment. If you have any questions, please contact me.

Sincerely,

Nicholas Vann, AIA
Historical Architect
(360) 586-3079
Nicholas.Vann@dahp.wa.gov

cc: Elaine Jackson-Retondo

Preserving America's Heritage

October 23, 2014

T. A. Zwolfer
Captain, U.S. Navy
Naval Base Kitsap
120 South Dewey Street
Bremerton, WA 98314-5020

Ref: Proposed Improvements to Building 431
Naval Base Kitsap Bremerton, Washington

Dear Captain Zwolfer:

On October 14, 2014, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on properties listed on and eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases,* of our regulations, "Protection of Historic Properties" (36 CFR Part 800) does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or another party, we may reconsider this decision. Additionally, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR 800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Washington State Historic Preservation Officer (SHPO) and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require further assistance, please contact Katharine Kerr at 202-517-0216, or via email at kkerr@achp.gov.

Sincerely,

Raymond V. Wallace

Raymond V. Wallace
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION
401 F Street, Suite 308 Washington, DC 20001-2637
Phone: 202-517-0200 Fax: 202-517-6381 achp@achp.gov www.achp.gov

APPENDIX B
MEMORANDUM OF AGREEMENT

[This page intentionally left blank]

MEMORANDUM OF AGREEMENT
BETWEEN
COMMANDER, NAVY REGION NORTHWEST
AND
THE WASHINGTON STATE HISTORIC PRESERVATION OFFICER
REGARDING IMPROVEMENTS TO BUILDING 431 AT NAVAL BASE KITSAP BREMERTON, WA

WHEREAS, Commander, Navy Region Northwest (hereinafter the "Navy") proposes to make a variety of improvements to Building 431 at Naval Base Kitsap (NBK) Bremerton over the next three years, including seismic retrofit; upgrades to restrooms, life safety, fire protection, mechanical, elevators and electrical; as well as exterior restoration (hereinafter the "Undertaking"); and

WHEREAS, the Navy has determined that the proposed improvements constitute an Undertaking that has the potential to cause effects on historic properties and is subject to review under Section 106 of the National Historic Preservation Act (NHPA) 54 United States Code (U.S.C.) 306108 470f, and its implementing regulations, 36 Code of Federal Regulations (CFR) § 800; and

WHEREAS, the Navy has established the area of potential effect (APE) for the Undertaking as defined at 36 CFR § 800.16(d) as the boundary of the Navy Yard Puget Sound National Historic Landmark, which includes the location of Building 431, as further depicted in Appendix A; and

WHEREAS, the Navy has completed Section 106 identification of historic properties and has determined that the Undertaking may adversely affect properties listed in the National Register of Historic Places; and

WHEREAS, the Navy and the Washington State Historic Preservation Officer (SHPO) have agreed that Building 431 is a contributing resource of the Navy Yard Puget Sound National Historic Landmark, designated by the Secretary of the Interior, as defined by 36 CFR § 800.16(p); and

WHEREAS, the Navy has developed this Memorandum of Agreement (MOA) pursuant to 36 CFR § 800.6(2) (c) and has consulted with the SHPO; and

WHEREAS, on 26 September 2014, the Navy notified the National Park Service (NPS) and the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation. The NPS and ACHP chose not to participate pursuant to 36 CFR § 800.10(c) and 36 CFR § 800.6(a)(1)(iii); and

WHEREAS, the Navy has also coordinated public participation for this agreement through the National Environmental Policy Act (NEPA) process during a public review and comment period and considered all comments received; and

WHEREAS, the Navy has consulted with the Suquamish Tribe who expressed no concerns about the Undertaking.

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

STIPULATIONS
The Navy shall ensure that the following measures are carried out:

I. MITIGATION MEASURES

A. Within two years of the execution of this Agreement, the Navy shall conduct an updated survey and evaluation of all buildings and structures within the Controlled Industrial Area (CIA) that were constructed prior to 1989, in compliance with Section 110 of the National Historic Preservation Act. The survey report will include updated World War II and Cold War historic contexts for NBK Bremerton, current building descriptions and evaluations, and Historic Property Inventory (HPI) forms for each resource surveyed. The report will also include recommendations for updating the list of contributing and non-contributing resources as well as the boundary of the Puget Sound Navy Yard National Historic Landmark nomination. Before final acceptance, at least one draft of the survey report and HPIs shall be provided to the SHPO for review and comment. SHPO shall provide the Navy with comments within 30 days of receipt. Updated HPIs shall use the SHPO's on-line inventory database and completed at the intensive level of survey effort. Data and recommendations resulting from the revised contexts and HPI's shall be used to inform the Navy's current and future planning initiatives at NBK Bremerton.

B. Within five years of the execution of this Agreement, the Navy shall restore the stone parapet cap on the north face of Building 431 referencing historic construction documents and photos. All work shall meet the Secretary of the Interior Standards for Rehabilitation. The SHPO shall review and provide comments on iterations of draft stone parapet cap restoration plans within 30 days of receipt from the Navy.

C. Within one year of the execution of this Agreement the Navy shall document the American Shaft Lathe and Giddings & Lewis Post Mill machines proposed for disposal following SHPO Level II Mitigation Documentation Requirements. Prior to removal and disposal, the Navy shall complete a draft of all photographic documentation and forward it for review and comment to the SHPO. The SHPO will provide its response within 30 days of receipt. Copies of the final documentation shall be provided to the SHPO and other interested/appropriate organizations identified by the Navy in consultation with the SHPO.

D. In consultation with the SHPO and in conjunction with the Undertaking, the Navy shall remove moss, clean all exterior brick and cast stone surfaces, and repoint brick on Building 431 where heavy moss growth has caused water penetration. Cleaning shall consist of mild methods that conform to the NPS Preservation Brief 1, improving the longevity of the building.

II. REPORTING REQUIREMENTS

The Navy shall submit a report to the SHPO within twelve (12) months of the effective date of this MOA and every twelve (12) months thereafter until the mitigation measures in Stipulation I are completed or this MOA is terminated. The report(s) shall list a summary of the status of the undertaking and a status of each of the mitigation measures.

III. REVIEW

The SHPO may elect to review the activities carried out pursuant to the MOA. The Navy will cooperate with the SHPO in carrying out their review responsibilities.

IV. DISPUTE RESOLUTION

A. The Navy shall consult with the SHPO over any written SHPO objection regarding proposed or completed Navy actions over which either Signatory Party has jurisdiction.

B. If after initiating notification and engaging in consultation with the Navy, either Signatory Party determines that the objection cannot be resolved the Navy shall forward all relevant documentation, to include the Navy's proposed response to the ACHP.

C. Within thirty (30) calendar days after receipt of all relevant documentation, the ACHP shall exercise one of the following options;

1. Concur with the Navy's proposed response; or

2. Provide recommendations on the Navy's proposed response. The Navy shall consider the recommendations before making a final decision on how to proceed; or

3. Determine that further consultations will not be productive and recommend termination. If only partial termination results, then the provisions under Stipulation VIII: Termination will be followed for those specific portions of the MOA that are affected and the remaining Stipulations will remain in effect. If full termination is recommended, then the provisions under Stipulation VIII: Termination will be followed.

V. STAFF QUALIFICATIONS

All work required to meet Stipulations of this MOA will be carried out by or under the supervision of an architect, architectural historian or, historical architect meeting the minimum standards as identified in the Secretary of the Interior's Professional Qualification Standards (48 CFR 44716).

VI. ANTI-DEFICIENCY ACT

A. Anti-Deficiency Act (31 U.S.C. § 1341) prohibits federal agencies from incurring an obligation of funds in advance of or in excess of available appropriations. Accordingly, the Signatory Parties agree that any requirement for obligation of funds arising from the terms of this MOA shall be subject to the availability of appropriated funds for that purpose, and that the Stipulations contained in this MOA shall not be interpreted to require the obligation or expenditure of funds in violation of the Anti-Deficiency Act.

B. If compliance with the Anti-Deficiency Act alerts or impairs the Navy's ability to implement the Stipulations of this MOA, the Navy shall consult with the Signatory Parties. If an amendment is necessary, the provisions of Stipulation VII: Amendment shall be followed.

VII. AMENDMENT

A. Either Signatory Party may propose an amendment.

B. The amendment process starts when a Signatory notifies the other Signatory Parties in writing requesting an amendment. The notification will include the proposed amendments and the reasons supporting them. The Signatory Parties involved shall consult to consider any proposed amendment.

C. An amendment shall not take effect until it has been agreed to and executed by all Signatory Parties.

VIII. TERMINATION

Any Signatory Party of this MOA may terminate it in part or in whole by providing thirty (30) days notice to the other parties, providing that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that will avoid termination. In the event of full termination, all Signatory Parties will comply with 36 CFR § 800 regarding individual projects included in the Undertaking. In the event, only a portion of the MOA is terminated, the remainder of the Stipulations will remain in effect and the MOA will be amended to reflect the change in accordance with the provisions of this Stipulation.

IX. TERM OF THIS MOA

This MOA shall become effective upon execution by all Signatory Parties and shall remain in effect for a period of five years or until the Undertaking and all mitigation measures have been completed, whichever occurs first. If the Undertaking, Mitigation measures or other Stipulations contained in this MOA have not been completed within three months prior to the end of the five year MOA period, the Signatory Parties will review the MOA to determine if it needs to be extended, amended or allowed to terminate. The MOA may be terminated at any time in accordance with the provision of Stipulation VIII.

SIGNATORY PARTIES
All the undersigned Signatory Parties certify that they have full authority to represent and bind their respective agency for the purpose of entering into this MOA.

DEPARTMENT OF THE NAVY

REVIEWED AND CONCUR:

7/2/15 Date:

T. A. ZWOLFER, Captain, USN
Commanding Officer
Naval Base Kitsap

APPROVED:

CAPT, USN FOR Date: 7/15/15

J. S. RUTH, Rear Admiral, USN
Commander
Navy Region Northwest

WASHINGTON STATE HISTORIC PRESERVATION OFFICER

APPROVED:

Date: 7/23/15

ALLYSON BROOKS, PhD
Washington State Historic Preservation Officer

Historic Districts & Buildings
Naval Base Kitsap Bremerton
Puget Sound Radio Station
Officer's Row
Naval Hospital
Marine Reservation
Bldg. 431
Landmark
APE
Contributing Building
Historic Districts
Historic Shoreline

APPENDIX C
MITIGATION AND MONITORING

[This page intentionally left blank]

Appendix C
Mitigation and Monitoring

This appendix provides a comprehensive list of all mitigation requirements associated with the proposed action, as required by OPNAVINST 5090.1D, Section 10-3.6.

Mitigation Measure	*Origin of measure*	*Anticipated Benefit*	*Criteria for Evaluating Effectiveness*	*Responsible Party*	*Estimated Completion Date*
Historic Resources Survey of Controlled Industrial Area	MOA	Updated information about PSNS & IMF historic resources	Survey Results and Final Report	Navy	Two years from execution of MOA.
Restoration of North Parapet	MOA	Improvement to historic resources	Completion of restoration plan	Navy	Five years from execution of the MOA.
Clean and Repoint Brickwork	MOA	Improvement to and conservation of historic resources	Moss removal, exterior brick and stone cleaning, brick repointing	Navy	During construction.
DAHP Level II Documentation of Two Machines Proposed for Removal from Main Bay	MOA	Recordation of historic resources and dissemination of information to interested parties	Draft and Final Documentation	Navy	One year from execution of the MOA.