Appendix A
Public and Agency Participation

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DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL ASSESSMENT AND OPEN HOUSE PUBLIC MEETINGS FOR HOMEPORTING CONSTELLATION-CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

The U.S. Department of the Navy (Navy) invites the public to review and comment on the Draft Environmental Assessment (EA) prepared for Homeporting Constellation-class frigates at Naval Station Everett, Washington (WA).

Under the Proposed Action, the Navy would homeport up to 12 Constellation-class frigates; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 military personnel, plus their family members. The Navy would phase in homeported ships over a 10-year time period, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and arrival of the first Constellation-class frigate no earlier than fiscal year 2028. Homeporting of ships and personnel would occur incrementally as existing homeported ships and personnel depart Naval Station Everett.

The Draft EA is available on the Navy's website, https://www.nepa.navy.mil/FFGEverett and at local libraries (Everett Public Library (2702 Hoyt Ave., Everett, WA 98201) and Everett Public Library-Evergreen Branch (9512 Evergreen Way, Everett, WA 98204). The Navy invites the public to attend an open house public meeting at Hotel Indigo, Harbor Ballroom, 1028 13th Street, Everett, WA 98201 on either Tuesday, February 27 from 5 P.M. to 7 P.M. or Wednesday, February 28 from 2 P.M. to 4 P.M.

The Navy is accepting written comments on the Draft EA during the 30-day public comment period from February 9 through March 11, 2024. Comments may be submitted at the open house, electronically via the project website https://www.nepa.navy.mil/FFGEverett, or by mail to: FFG EA Project Manager, Naval Facilities Engineering Systems Command Atlantic, Attn: Code EV21JB, 6506 Hampton Blvd, Norfolk, Virginia 23508. All comments must be received or postmarked by 11:59 p.m. on March 11, 2024 to be considered.

For additional information regarding the EA and media queries, please contact, U.S. Fleet Forces Command Public Affairs at 757-836-4427, or email to theodore.c.brown4.civ@us.navy.mil.

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL ASSESSMENT AND OPEN HOUSE PUBLIC MEETINGS FOR HOMEPORTING CONSTELLATION-CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

The U.S. Navy invites the public to review and comment on a Draft Environmental Assessment (EA) prepared for proposed homeporting of Constellation-class guided-missile frigates (FFGs) at Naval Station Everett, Washington. Under the Proposed Action, the Navy would homeport up to 12 frigates; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 military personnel, plus their family members. The Navy would phase in homeported ships over a 10-year time period, with the first frigates arriving no earlier than fiscal year 2028. Personnel arrival and facilities establishment would begin no earlier than fiscal year 2026. Homeporting of ships and personnel would occur incrementally as existing homeported Navy ships and personnel depart Naval Station Everett.

Public Comment Period

The Navy is accepting written comments on the Draft EA during the 30-day public comment period from February 9 through March 11, 2024. All comments must be postmarked or received digitally by 11:59 p.m. PDT on March 11, 2024, to be considered in the development of the Final EA. The Draft EA is available on the Navy's website, https://www.nepa.navy.mil/FFGEverett and at local libraries [Everett Public Library (2702 Hoyt Ave., Everett, WA 98201) and Everett Public Library-Evergreen Branch (9512 Evergreen Way, Everett, WA 98204)].

Public Open House Meetings

The Navy invites the public to attend a public meeting. Two open house style meetings will be held with project team members who will be available to answer questions. The public may arrive at any time during the hours specified. There will not be a formal presentation. The meetings will be held on the following dates/times and locations:

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How to Submit Comments

Comments must be submitted by March 11, 2024, to be considered in the development of the Final EA. The Navy encourages the public to attend a public meeting and to visit the project website to learn more. The public may submit comments in one of the following ways:

- Through the project website: **https://www.nepa.navy.mil/FFGEverett**
- In person at one of the public information meetings
- By mail, postmarked no later than **March 11, 2024**, to the following address:

  Naval Facilities Engineering Systems Command Atlantic
  Attn: Navy FFG Project Manager, Code EV21JB
  6506 Hampton Blvd
  Norfolk, Virginia 23508

For additional information regarding the EA and media queries, please contact Mr. Ted Brown with U.S. Fleet Forces Command Public Affairs at 757-836-4427 or theodore.c.brown4.civ@us.navy.mil

For more information visit https://www.nepa.navy.mil/FFGEverett

MEMORANDUM

Date: February 9, 2024

To: Abigail Cooley, Library Director, Everett Public Library, 2702 Hoyt Ave., Everett, WA 98201
From: Kathy Hall, Project Manager, Stantec
Subject: U.S. Navy's Draft Environmental Assessment for Homeporting Constellation-Class Frigates at Naval Station Everett, Washington

Dear Ms. Cooley:

On behalf of the Navy, I am providing the enclosed copy of the U.S. Navy's Draft Environmental Assessment (EA) for Homeporting Constellation-Class Frigates at Naval Station Everett, Washington. The Draft EA is provided in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended by the Fiscal Responsibility Act of 2023, and as implemented by the Council on Environmental Quality regulations and Navy regulations for implementing NEPA. The EA analyzes the potential environmental effects that may result from the Proposed Action.

Please place a copy of the Draft EA on reserve or in the reference section of your library. Members of the public have been invited to review the document at your library should they be unable to access the materials online.

The document should not leave the library. Space permitting, please retain the document for one year before disposing of it through recycling or other preferred local methods.

Additional project details and public notification materials can be viewed and downloaded from the project website at: https://www.nepa.navy.mil/FFGEverett. Comments on the Draft EA may be submitted any time during the 30-day public comment period from February 9 through 11:59 p.m. PDT on March 11, 2024 via the project website or by U.S. mail postmarked by March 11, to the following address:

Navy FFG EA Project Manager, Code EV21JB
Naval Facilities Engineering Systems Command, Atlantic
6506 Hampton Boulevard
Norfolk, Virginia 23508

Sincerely,

Kathy Hall

Kathy Hall, Stantec Project Manager

cc: Navy FFG EA Project Manager, Code EV21JB

Enclosure: Draft Environmental Assessment for Homeporting Constellation-Class Frigates at Naval Station Everett, Washington (1 paper copy and 1 copy on USB drive)

MEMORANDUM

Date: February 9, 2024

To: Naomi Clegg, Library Director, Everett Public Library - Evergreen Branch, 9512 Evergreen Way, Everett, WA 98204

From: Kathy Hall, Project Manager, Stantec

Subject: U.S. Navy's Draft Environmental Assessment for Homeporting Constellation-Class Frigates at Naval Station Everett, Washington

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Dear Ms. Clegg:

On behalf of the Navy, I am providing the enclosed copy of the U.S. Navy's Draft Environmental Assessment (EA) for Homeporting Constellation-Class Frigates at Naval Station Everett, Washington. The Draft EA is provided in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended by the Fiscal Responsibility Act of 2023, and as implemented by the Council on Environmental Quality regulations and Navy regulations for implementing NEPA. The EA analyzes the potential environmental effects that may result from the Proposed Action.

Please place a copy of the Draft EA on reserve or in the reference section of your library. Members of the public have been invited to review the document at your library should they be unable to access the materials online.

The document should not leave the library. Space permitting, please retain the document for one year before disposing of it through recycling or other preferred local methods.

Additional project details and public notification materials can be viewed and downloaded from the project website at: https://www.nepa.navy.mil/FFGEverett. Comments on the Draft EA may be submitted any time during the 30-day public comment period from February 9 through 11:59 p.m. PDT on March 11, 2024 via the project website or by U.S. mail postmarked by March 11, to the following address:

Navy FFG EA Project Manager, Code EV21JB
Naval Facilities Engineering Systems Command, Atlantic
6506 Hampton Boulevard
Norfolk, Virginia 23508

Sincerely,

Kathy Hall, Stantec Project Manager

cc: Navy FFG EA Project Manager, Code EV21JB

Enclosure: Draft Environmental Assessment for Homeporting Constellation-Class Frigates at Naval Station Everett, Washington (1 paper copy and 1 copy on USB drive)

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Appendix B
Coastal Zone Management Act Documentation

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DEPARTMENT OF THE NAVY
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK VA 23551-2487

5090
Ser N46/005
January 29, 2024

Federal Consistency Program Office
Washington Department of Ecology
300 Desmond Drive, SE
Lacey, WA 98503

Dear Federal Consistency Manager:

The United States (U.S.) Navy (Navy), proposed to establish facilities and functions at Naval Station (NAVSTA) Everett, Washington to support homeporting of Constellation-class frigates. Under the Proposed Action, the Navy would homeport up to 12 Constellation-class frigates (FFGs); construct training and support facilities for ships, commands, and crews; and station approximately 2,900 military personnel, plus their family members. The homeporting of ships and personnel would be phased in over approximately 10 years, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and the arrival of the first Constellationclass FFG no earlier than fiscal year 2028. Enclosed is a Federal Consistency Determination pursuant to the Coastal Zone Management Act (CZMA) (16 U.S.C. § 1451 et seq.) and Washington's Coastal Zone Management Program (CZMP).

FFGs would be berthed at NAVSTA Everett's existing piers, and there are no requirements to modify existing piers or to conduct in-water work. With the planned departure of 10 Navy ships currently homeported at NAVSTA Everett prior to the completion of the FFG homeporting in 2037, the net total personnel supporting ships based at NAVSTA Everett would decrease by approximately 200 (2,900 new FFG personnel less 3,100 departing personnel).

Facility requirements under the Proposed Action include construction of an Administrative Support Facility, additional space for a Fleet Region Readiness Center, two shelter additions on the pier deck, and utility upgrades. The Proposed Action may involve renovation/remodeling of certain existing structures. Other supporting facilities and infrastructure include storm water management facilities, electrical and mechanical utilities, and road and parking lot resurfacing.

The Navy respectfully requests concurrence from Ecology that the homeporting actions are consistent with the enforceable policies of the CZMP.

The Navy determined that the proposed activity complies to the maximum extent practicable with the enforceable policies identified in Washington's CZMP.

If you have any questions or require additional information, please contact Mr. Jason McKinney at (360) 396-0403 or email at Jason.D.McKinney14.civ@us.navy.mil.

Sincerely,

AGUAYO.MARIA.LORETO.1157276731

Digitally signed by AGUAYO.MARIA.LORETO.1157276731
Date: 2024.01.29 18:32:36 -05'00'

M. L. AGUAYO
Director, Fleet Installations and Environment
And Deputy Chief of Staff

Enclosure: Determination of Consistency with Washington's Coastal Zone Management Program
Copy to: Teressa Pucylowski, Coastal Zone Management Federal Consistency Manager

COASTAL ZONE MANAGEMENT ACT
FEDERAL CONSISTENCY DETERMINATION
For
HOMEPORTING CONSTELLATION-CLASS FRIGATES
At
NAVAL STATION EVERETT, WASHINGTON

JANUARY 2024

Prepared By:

Naval Facilities Engineering Command Northwest

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Table of Contents

Figures

Acronyms and Abbreviations

Acronym	*Definition*
CZMA	Coastal Zone Management Act
FFG	Constellation-class guided-missile frigate
LID	Low Impact Development
MSP	Marine Spatial Plan
NAVSTA	Naval Station
Navy	U.S. Navy
ORMA	Ocean Resource Management Act
RCW	Revised Code of Washington
SMP	Shoreline Master Program
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USEPA	U.S. Environmental Protection Agency
WAC	Washington Administrative Code
WDOE	Washington Department of Ecology

1.0 Introduction

United States (U.S.) Fleet Forces Command, a Command of the U.S. Navy (hereinafter referred to as the Navy) proposes to establish facilities and functions at Naval Station (NAVSTA) Everett, Washington (Figure 1), to support homeporting Constellation-class guided-missile frigates (FFGs). Under the Proposed Action, the Navy would homeport up to 12 FFGs; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 military personnel, plus their family members. This document provides the State of Washington with the Navy's Federal Consistency Determination under the Coastal Zone Management Act (CZMA), 16 U.S. Code section 1456(c) and Title 15 of the Code of Federal Regulations, part 930, subpart C.

Because nearshore construction and operation of the proposed activity is reasonably likely to affect resources of the state within the coastal zone (outside of the base boundaries), the Navy has prepared this Federal Consistency Determination to address the enforceable policies of the Washington State Coastal Zone Management Program.

2.0 Summary Determination

Pursuant to section 307 of the CZMA, this is a Federal Consistency Determination for establishing facilities and functions at NAVSTA Everett, Washington, to support homeporting of Constellation-class FFGs. The Navy has evaluated the proposed activity and has found that it is consistent to the maximum extent practicable with the enforceable policies of the Washington State Coastal Zone Management Program. NAVSTA Everett is a restricted naval facility located adjacent to the mouth of the Snohomish River in Snohomish County, Washington (Figure 2).

3.0 Proposed Federal Agency Activity

The Proposed Action would establish facilities and functions at NAVSTA Everett, Washington, to support FFG homeporting. Under the Proposed Action, the Navy would homeport up to 12 FFGs; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 military personnel, plus their family members. The homeporting of FFGs and personnel would be phased in over approximately 10 years, with personnel arriving and facilities established beginning no earlier than fiscal year[1] 2026 and arrival of the first FFG no earlier than fiscal year 2028. FFGs would be berthed at NAVSTA Everett's existing piers, and there are no requirements to structurally modify existing piers or to conduct in-water work.

Ten Navy ships currently (2023) homeported at NAVSTA Everett and approximately 3,100 personnel will gradually depart through changes in homeport or changes in mission. Two U.S. Coast Guard vessels currently homeported at NAVSTA Everett will remain. The total number of homeported vessels would fluctuate very little from the current 12 to an overall net increase of 2 vessels with an end state total of 14 homeported vessels at NAVSTA Everett and a net decrease of 200 personnel when the Proposed Action is completed no earlier than fiscal year 2037. Facility requirements under the Proposed Action include construction of an Administrative Support Facility, a multistory addition to the existing Fleet Region Readiness Center, two shelter additions on the pier deck, and utility upgrades. The Proposed Action may involve renovation/remodeling of certain existing structures. Potential locations of all proposed new construction and additions are shown in Figure 3. Other supporting facilities and

[1] Fiscal year: October 1 to September 30.

infrastructure include stormwater management facilities, electrical and mechanical utilities, and road and parking lot resurfacing.

As facility planning remains in early stages, other possible construction activities on NAVSTA Everett, including approximately 35 new personnel parking spaces, are conservatively considered in this Coastal Consistency Determination as part of the proposed activities. All construction activities would include standard practices of site clearing, excavation, grading, site cleanup, removal, and disposal of hazardous materials and/or contaminated soil.

3.1 Overwater Facilities

The only overwater components of the proposed activities are upgrades to two shelter additions and utility upgrades along the pier (see Figure 3). The shelter additions would be single story and consist of 200 square-foot steel-framed, reinforced concrete building additions. These facilities can be installed without generating any construction-related debris or other wastes that could be discharged unintentionally into the Port Gardner Bay. No in-water construction would be required, as the additions would be installed on the existing pier deck.

3.2 Upland Facilities

3.2.1 Upland Project Components

The other components of the proposed activities would be located in upland portions of NAVSTA Everett within the "Administrative District" contained within the polygon outlined in red in Figure 3. The main upland project components include the following:

- **Administrative Support Facility** (up to three stories). Approximately 50,000 square feet[2] comprised of either a stand-alone structure, an addition to an existing building, or a smaller building addition combined with interior renovations of existing buildings.[3]
- **Fleet Region Readiness Center** (multistory addition). Approximately 41,000 square-foot building addition to accommodate classroom and training space.
- **Other Interior Renovations.** There may be minor (approximately 2,500 square feet) interior renovations of existing buildings.

3.2.2 Other Supporting Facilities and Infrastructure

Supporting facilities would include stormwater management facilities, electrical and mechanical utilities, and road and parking lot resurfacing. Utilities would be upgraded throughout NAVSTA Everett, either within existing utility pathways, or where needed, along new alignments. Electrical upgrades would include:

- main substation upgrades (e.g., transformer bank and distribution equipment upgrades);
- pier distribution system (e.g., new electrical equipment and connector upgrades);
- transmission lines (e.g., second pole route);

[2] All building square footages listed are estimates at this early stage in planning.

[3] The Environmental Assessment is analyzing two alternatives. Alternative 1 includes a 50,000 square-foot stand-alone structure or addition to an existing building. Alternative 2 includes a smaller building addition combined with interior renovations of existing buildings.

- base distribution system (e.g., new electrical equipment and duct banks to support facilities and mechanical utilities); and
- site lighting, communications, and security.

Mechanical utilities would include:

- site potable water line upgrades (e.g., water distribution lines, water line rerouting due to construction, and water connections);
- sanitary sewer upgrades (e.g., upgrades to sanitary sewer lift station system, sanitary sewer lines, sanitary sewer line reroute due to construction, and sanitary sewer connections);
- low-pressure compressed air system upgrades (e.g., larger capacity compressed air distribution lines and upgrades to the compressed air plant);
- fire protection pumping system upgrades;
- natural gas line upgrades (e.g., reroute for construction, natural gas line extensions, and connections).

3.2.3 Construction Methods

Construction of the Administrative Support Facility and the Fleet Region Readiness Center addition would consist of steel-framed, reinforced concrete masonry with standing seam metal roof and pile foundation. Site improvements would include paving, pedestrian walkways, landscaping, stormwater management, and an emergency generator (500 kilowatt). Antiterrorism/Force Protection standards would be incorporated into the design, where applicable. All construction would follow NAVSTA Everett's Base Exterior Architectural Plan.

Special foundation features would consist of grade beam foundations with 16- to 24-inch diameter steel piles, driven by vibratory and impact hammers into fill soils, and concrete pile caps. Buildings would include features to protect against a 100-year flood, such as raised flooring above the high-water mark. Sustainable building design, special foundations for seismic conditions, pile-supported foundations due to fill soils, and Low Impact Development (LID) principles would be included in the design and construction of the new structures, as appropriate.

3.3 Construction Schedule

Total construction duration would be approximately 2.5 years with foundation pile installation occurring for a few weeks to a few months. Construction is planned to occur from approximately fiscal year 2026 to approximately fiscal year 2028.

3.4 Current Practices and Best Management Practices

Several measures have been identified to avoid, reduce, and mitigate the effects of the project on sediments, water quality, and biological resources of Port Gardner Bay and the Snohomish River. These measures include, but are not limited to the following:

- **Stormwater Pollution Prevention Plan.** Construction and operations will be conducted in accordance with the Clean Water Act (33 U.S. Code section 1251 et seq.) requirements and NAVSTA Everett's site-specific Stormwater Pollution Prevention Plan (SWPPP) (NAVSTA Everett, 2021) to ensure no violations of state water quality and to avoid and minimize the potential for adverse impacts to water quality from stormwater runoff.

- **Spill Prevention Control.** Construction and operations will be managed to minimize the likelihood of adverse impacts to water quality resulting from accidental spills and releases of petroleum products through implementation of the Navy's region-wide spill response plan and Hazardous Materials Control and Management Plan (NAVFAC NW, 2021) as well as the installation's SWPPP. Further, the Environmental Division and the Safety Director review and approve all hazardous material usage on NAVSTA Everett (NAVSTA Everett, 2022). Fuel hoses, oil or fuel transfer valves, and fittings would be checked regularly for drips or leaks and would be maintained and stored properly.
- **Protection of Water Quality During Construction and Operation.** To minimize water quality impacts during construction, construction will follow standard best management practices. Construction activities will be conducted in accordance with the U.S. Environmental Protection Agency (USEPA) Construction General Permit. For compliance with the Energy Independence and Security Act of 2007 (Public Law 110-140 codified at 42 U.S. Code section 17001 et seq.), the Navy will maintain pre-development site hydrology to the maximum extent feasible. Design of upland features will consider the USEPA guidance (USEPA, 2009a) for compliance with the Energy Independence and Security Act, as well as other relevant technical information regarding methods to improve stormwater retention and quality (e.g., LID).

3.5 Mitigation Measures

Because the proposed activity will not cause significant environmental impacts, no mitigation measures are necessary.

4.0 Consistency With Enforceable State Policies

The CZMA created a national program for management and control of development within the shoreline zone and protection of coastal waters and resources. The program provides for participating coastal states, such as Washington, to prepare coastal management programs to implement the federal requirements of the CZMA. In Washington, the Washington Department of Ecology's (WDOE's) Shorelands and Environmental Assistance Program administers the Washington State Coastal Zone Management Program.

Under the Washington State Coastal Zone Management Program (WDOE, 2022), federal actions that affect land use, water use or natural resources of the coastal zone must comply with the enforceable policies within the five regulations outlined in WDOE's Enforceable Policies document:

- Marine Waters Planning and Management – Chapter 43.372 Revised Code of Washington (RCW);
- Washington Shoreline Management Act – RCW 90.58, implementing Washington Administrative Codes (WACs) 173-15 through 26;
- Ocean Resources Management Act (ORMA) – Revised Code of Washington (RCW) 43.143, Ocean Management Guidelines at WAC 173-26-360;
- Washington State Water Pollution Control Act – RCW 90.48, implementing WACs 173-40 through 270; 372-52 through 68;
- Washington Clean Air Act – RCW 70.94, implementing WACs 173-400 through 495.

An enforceable policy is a state policy that is legally binding under state law (i.e., through constitutional provisions, laws, regulations, land use plans, ordinances, or judicial or administrative decisions), and by

which a state exerts control over private and public coastal uses and resources, and that is incorporated in a state's federally approved coastal management program.

4.1 Marine Waters Planning and Management – Chapter 43.372 RCW

The Marine Spatial Plan (MSP) Study Area consists of marine waters of the Pacific Ocean adjacent to Washington's coastline from the intertidal zone out to the continental slope. It extends from ordinary high water on the shoreward side out to a water depth of 700 fathoms (4,200 feet) offshore. The MSP Study Area extends along the coast from Cape Flattery on the north of the Olympic Peninsula south to Cape Disappointment at the mouth of the Columbia River. Because the Proposed Action does not occur within marine waters of the Pacific Ocean, the enforceable policies of the MSP do not apply to this Proposed Action.

4.2 Shoreline Management Act of 1971 – Chapter 90.58 RCW

The Shoreline Management Act was passed by the State Legislature in 1971 with the goal "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines." The Shoreline Management Act applies to counties, towns, and cities in Washington that have "shorelines of the state" within their boundaries. Each of these jurisdictions must prepare and adopt a Shoreline Master Program (SMP) based on state laws and rules, but tailored to local geographic, economic, and environmental needs. Each SMP is a combined local shoreline comprehensive plan, zoning ordinance, and development permit system. The National Oceanic and Atmospheric Administration's Office for Coastal Management approves state coastal management programs and individual SMPs to ensure they are enforceable through federal consistency. The project site is located within Snohomish County, adjacent to the City of Everett. The City of Everett has adopted the City of Everett SMP (City of Everett, 2019). However, local plans do not apply to federal activity on lands owned by the federal government per WAC 173-27-060 and are not enforceable policies. SMPs can be used as a tool to evaluate whether a project is consistent with the enforceable policies of the Shoreline Management Act. The Navy has selected to demonstrate consistency with the Shoreline Management Act independent of the City of Everett SMP.

The Navy reviewed the policy of Washington State to provide for the management of the shorelines of the State by planning for and fostering all reasonable and appropriate uses. Washington State's RCW 90.58.020 defines the State's order of preference for uses; consistency is discussed below.

The proposed activity would not make any changes to the current shoreline, thus there are no competing local/statewide shoreline interests. With respect to preservation of the natural character of the shoreline, the entirety of NAVSTA Everett land is developed and no changes to the shoreline are proposed as part of the proposed activity.

The proposed activity would take place on already-developed land with surrounding land uses that are industrial in nature. The proposed activities would not negatively affect the resources and ecology of the shoreline.

The waters of Port Gardner and the East Waterway surrounding NAVSTA Everett are within a naval restricted area. Due to security restrictions, no public access currently occurs at the project site and no public recreational opportunities are currently available. The proposed activity would maintain the existing security restrictions.

RCW 90.58.100 provides guidelines for the development of local SMPs and does not apply to specific shoreline actions.

Therefore, the proposed activity is consistent to the maximum extent practicable with the enforceable policies of the Shoreline Management Act.

4.3 Ocean Resource Management Act (ORMA) – Chapter 43.143 RCW

RCW 43.143.020 defines "coastal waters" as the waters of the Pacific Ocean seaward from Cape Flattery south to Cape Disappointment, from mean high tide seaward 200 miles. The proposed project location does not occur within marine waters of the Pacific Ocean, and therefore ORMA does not apply to this Proposed Action. The proposed activity is located at the mouth of the Snohomish River in Snohomish County, Washington, and not within marine waters of the Pacific Ocean. Therefore, ORMA does not apply to this Proposed Action.

4.4 Water Pollution Control – Chapter 90.48 RCW

RCW 90.48 (Water Pollution Control), as amended, regulates discharges to the waters of the United States, including waters of Washington State. Without appropriate controls, stormwater runoff discharges from NAVSTA Everett could affect surface water quality in the Snohomish River. The design and implementation of the proposed activity, including handling, storage, and disposal of hazardous materials and petroleum products, will adhere to applicable Construction General Permit conditions and the water quality guidelines, policies, standards, and regulations of water quality management programs and regulatory agencies. The permit would require the Navy to implement a SWPPP that would include best management practices and measures for managing stormwater runoff and preventing erosion and offsite transport of soils. NAVSTA Everett will obtain this permit prior to commencing construction activities. Further, NAVSTA Everett operates under the Navy's region-wide spill response plan and Hazardous Materials Control and Management Plan, and installation-specific SWPPP (NAVFAC NW, 2021; NAVSTA Everett, 2021). The Environmental Division and the Safety Director review and approve all hazardous material usage on NAVSTA Everett (NAVSTA Everett, 2022). In addition, the proposed activity includes construction of new stormwater management facilities.

The specific LID features that would be included for the Proposed Action have not been identified. In general, LID features fall into the following four categories (DoD, 2023):

1. Engineered Natural Treatment: features that provide depression storage, infiltration, and evapotranspiration, such as bioretention, vegetated swales, rain gardens, and vegetated filter strips.
2. Engineered Subsurface Treatment: features may include permeable pavements and infiltration trenches that provide infiltration and prevent concentrated flow.
3. Non-Potable Rainwater Harvesting Systems: features that may include LID features like cisterns and rain barrels to store rainwater for non-potable uses, such as irrigation.
4. Green (Vegetative) Roofs: these features do not promote infiltration of water into the ground at the source.

LID features that result in infiltration of runoff into soils would not be appropriate at NAVSTA Everett due to the presence of soil contaminants. However, infiltration features can be designed to manage stormwater and prevent the mobilization of subsurface contamination, such as incorporating an impermeable liner with subdrains that discharge to the surface or away from subsurface plumes (USEPA, 2009b). Once construction of the new stormwater management facilities is complete, the added LID features would be expected to reduce pollutant loadings to the Snohomish River potentially associated with stormwater discharges from the proposed activity. Therefore, the proposed activity is consistent to

the maximum extent practicable with the enforceable policies in the Washington Water Pollution Control Act.

4.5 Washington Clean Air Act – Chapter 70.94 RCW

The Washington Clean Air Act, as amended, provides for protection and enhancement of the state's air resources. Snohomish County generally has good air quality, as indicated by maintaining attainment status in the county since 1996. While Snohomish County is designated as a maintenance area for ozone and carbon monoxide (since 1996), USEPA classifies Snohomish County as being in attainment for all National Ambient Air Quality Standards (USEPA, 2023). Since the project is within an attainment area for all National Ambient Air Quality Standards, a conformity determination outlined in section 176(c) of the 1990 Federal Clean Air Act will not be required. With the exception of the emergency generator described below, a new air pollution source is not part of the proposed activity, and air permitting is not required.

Construction equipment, non-road engines (e.g., graders, rubber-tired dozers, tractors, loaders, and backhoes), and vehicles will be utilized for construction components of the proposed activity. To comply with WAC 173-400-035(3) only ultra-low sulfur diesel, ultra-low sulfur biodiesel, gasoline, natural gas, propane, liquefied petroleum gas, hydrogen, ethanol, methanol, or liquefied natural gas/compressed natural gas will be combusted in non-road engines. To comply with WAC 173-400-040(2,3,5,7, and 8) all equipment will be maintained in good working order at all times. Excessive visible emissions, odors, and fallout will be monitored for and, if found, engines will be stopped and maintenance and repair will be conducted prior to engine restart. All non-road engines will be maintained and operated in accordance with the manufacturer's specifications. To comply with WAC 173-400-040(9) dust emissions from the construction site will be minimized as necessary using measures such as providing covers for material piles and wetting of exposed surfaces.

As part of the proposed activity, the Navy would install and operate a new 500-kilowatt emergency generator. The Navy will comply with the regulations regarding emergency engines (WAC 173-400-930) including usage only during emergency outages and for maintenance and testing (not to exceed 50 hours per year) or would otherwise apply for any applicable source construction and/or operating permits or update their existing permits to include new emission sources. The emergency generator will be operated within the bounds of applicable permits and all relevant requirements for monitoring, record keeping, and reporting. Therefore, the proposed activity is consistent to the maximum extent practicable with the enforceable policies in the Washington Clean Air Act.

5.0 Conclusion

Based on this information, data, and analysis, the proposed activity is determined to be consistent to the maximum extent practicable with the enforceable policies of the Washington State Coastal Zone Management Program.

6.0 References

City of Everett. (2019). *City of Everett Shoreline Master Program.* City of Everett, Community, Planning and Economic Development. June 2019.

DoD. (2023). Unified Facilities Criteria (UFC) Low Impact Development, UFC 3-210-10, 28 August 2023.

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NAVSTA Everett. (2021). *Stormwater Pollution Prevention Plan*. Naval Station Everett. June.

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ATTACHMENT 1
FIGURES

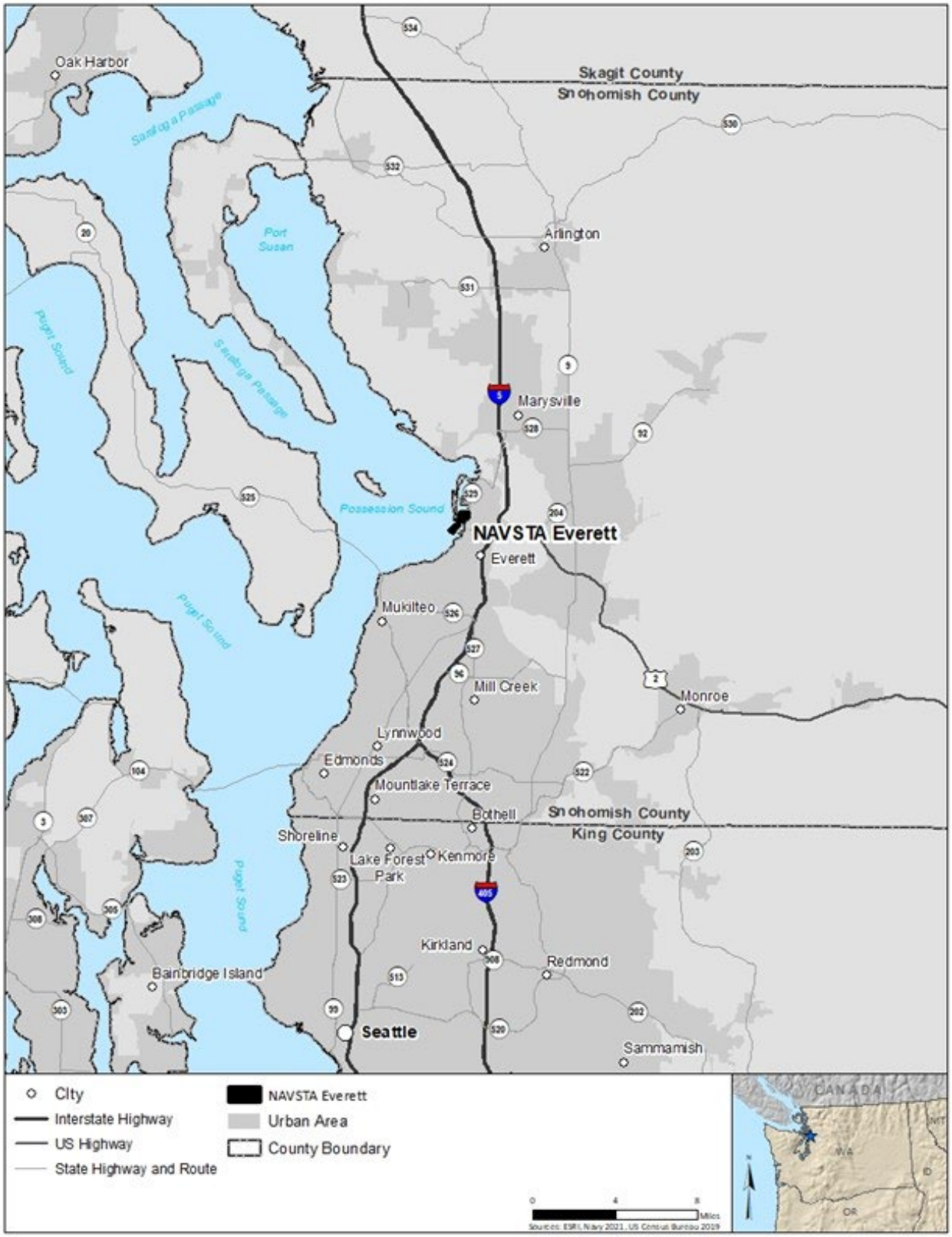


Figure 1. NAVSTA Everett General Location Map

Figure 2. NAVSTA Everett Detail Map

Figure 3. Proposed Activities Site Locations

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600, Olympia, WA 98504-7600 • 360-407-6000

April 11, 2024

The Department of the Navy
NAVFAC Northwest
ATTN: Jason McKinney
1101 Tautog Circle
Silverdale, WA 98315

Re: Coastal Zone Management Federal Consistency Decision for NAVSTA Everett Homeporting of Constellation-class Frigates, Possession Sound, Everett, Snohomish County, Washington

Dear Jason McKinney:

On February 9, 2024, the United States Department of the Navy (the Navy) submitted a Consistency Determination with the Washington State Coastal Zone Management Program (CZMP). On February 21, 2024, Ecology requested a 15-day extension pursuant to 15 CFR Part 930.41(b), extending the CZM decision deadline to April 24, 2024. Ecology issued a 21-day public notice on February 16, 2024. At Ecology's request, the Navy supplied additional information on April 2, 2024.

The Navy proposes to establish facilities and functions at Naval Station (NAVSTA) Everett, Washington to support homeporting of Constellation-class frigates. The Navy would homeport up to 12 Constellation-class frigates (FFGs); construct training and support facilities for ships, commands, and crews; and station approximately 2,900 military personnel, plus their family members. The homeporting of ships and personnel would be phased in over approximately 10 years, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and the arrival of the first Constellation class FFG no earlier than fiscal year 2028.

FFGs would be berthed at NAVSTA Everett's existing piers, and there are no requirements to modify existing piers or to conduct in-water work. With the planned departure of 10 Navy ships currently homeported at NAVSTA Everett prior to the completion of the FFG homeporting in 2037, the net total personnel supporting ships based at NAVSTA Everett would decrease by approximately 200 (2,900 new FFG personnel less 3,100 departing personnel).

Facility requirements under the proposal include construction of an Administrative Support Facility, additional space for a Fleet Region Readiness Center, two shelter additions on the pier deck, and utility upgrades. The Proposed Action may involve renovation/remodeling of certain existing structures. Other supporting facilities and infrastructure include storm water management facilities, electrical and mechanical utilities, and road and parking lot resurfacing.

The only overwater components of the proposed activities are upgrades to two shelter additions and utility upgrades along the pier. The shelter additions would be single story and consist of 200 square-foot steel-framed, reinforced concrete building additions. These facilities can be installed without generating any construction-related debris or other wastes that could be discharged unintentionally into the Port Gardner Bay. No in-water construction would be required, as the additions would be installed on the existing pier deck.

Construction of the Administrative Support Facility and the Fleet Region Readiness Center addition would consist of steel-framed, reinforced concrete masonry with standing seam metal roof and pile foundation. Site improvements would include paving, pedestrian walkways, landscaping, stormwater management, and an emergency generator (500 kilowatt). All construction would follow NAVSTA Everett's Base Exterior Architectural Plan. Special foundation features would consist of grade beam foundations with 16- to 24-inch diameter steel piles, driven by vibratory and impact hammers into fill soils, and concrete pile caps. Buildings would include features to protect against a 100-year flood, such as raised flooring above the high-water mark. Sustainable building design, special foundations for seismic conditions, pile-supported foundations due to fill soils, and Low Impact Development (LID) principles would be included in the design and construction of the new structures, as appropriate.

The proposed action will occur at NAVSTA Everett in Everett, Snohomish County, Washington, adjacent to Possession Sound.

Pursuant to Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended, Ecology concurs with the Navy's determination that the proposed work is consistent with Washington's CZMP.

If you have any questions regarding Ecology's decision, please contact Teressa Pucylowski at (360) 764-0546.

Your right to appeal

You have a right to appeal this decision to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do all of the following within 30 days of the date of receipt of decision:

- File your notice of appeal and a copy of this decision with the PCHB (see filing information below). "Filing" means actual receipt by the PCHB during regular business hours as defined in WAC 371-08-305 and -335. "Notice of appeal" is defined in WAC 371-08-340.

- Serve a copy of your notice of appeal and this decision on the Department of Ecology mail, in person, or by email (see addresses below).

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Filing an appeal

Filing with the PCHB

For the most current information regarding filing with the PCHB, visit: https://eluho.wa.gov/ or call: 360-664-9160.

Service on Ecology

Street Addresses:

Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

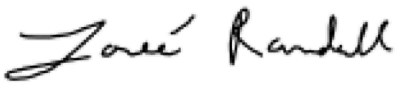
Mailing Addresses:

Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

E-Mail Address:

ecologyappeals@ecy.wa.gov

Sincerely,



Loree' Randall, Section Manager
Aquatic Permitting & Protection Section
Shorelands and Environmental Assistance Program

Sent via e-mail: jason.d.mckinney14.civ@us.navy.mil

E-cc: Todd Williamson, Navy
Jarrett Schuster, Navy
Hugo Flores, DNR
Rachel Skubel, DNR
Teressa Pucylowski, Ecology
Laura Inouye, Ecology
fedconsistency@ecy.wa.gov

Appendix C
Air Quality Calculations

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Appendix C presents an export of results from the Air Conformity Applicability Model (ACAM) air quality modeling software, retaining the organizational headings, text, and table formatting produced by the software.

C.1 ALTERNATIVE 1 SUMMARY AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: MCCHORD AFB (Surrogate location)
State: Washington
County(s): Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Homeporting of Constellation (FFG-62) Class Frigates at Naval Station Everett, Washington

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2026

e. Action Description:

Under Alternative 1, the Navy would homeport 12 Constellation-class FFGs; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 personnel, plus their family members. The homeporting of ships and personnel would be phased in over a period of approximately 10 years. Based on the production and testing timeline, the first ship is expected to arrive at NAVSTA Everett beginning of fiscal year 2028. Personnel will be stationed at NAVSTA Everett in a phased-in approach over approximately 10 years beginning in approximately fiscal year 2026.

Between fiscal years 2023 and 2031, 10 existing homeported guided-missile destroyers (DDGs) and guided-missile cruisers (CGs) berthed at NAVSTA Everett would gradually be reduced to zero through changes in homeport or changes in mission. Over time, approximately 3,100 personnel associated with the departing vessels would also depart NAVSTA Everett.

Facilities construction under the Alternative 1 would occur within existing NAVSTA Everett property boundaries from fiscal year 2026 to fiscal year 2028 (approximately 2.5 years) and is described in detail below.

New stand-alone facilities construction:
• Administrative Support Facility (up to 3 stories) – Approximately 50,000 square feet. The Administrative Support Facility may be a stand-alone structure or an addition to an existing building. The facility would be located within the "Administrative District" of NAVSTA Everett.

Building additions:
• Two shelter additions along the pier (1 story) – total 400 square feet. Each consists of a 200 square foot steel-framed, reinforced concrete addition.
• Fleet Region Readiness Center multistory addition – 41,000 square feet. Provides classroom and training space.
Note: All building square footages listed above are approximate at this early stage in planning.

Renovations:
• No major interior renovations. Minor interior renovations (i.e., 2,500 sf of interior renovations) may occur.
Other supporting facilities and infrastructure:
• Stormwater management facilities
• Electrical and mechanical utilities
• Road and parking lot resurfacing

Potential locations of construction and additions under Alternative 1 are shown in Figure 2.3-1 of the EA.

f. Point of Contact:

Name: Chris Crabtree
Title: Air Quality Meteorologist
Organization: Leidos
Email: ccrabtree@leidos.com
Phone Number: 805-566-6422

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.011	250	
NOx	2.975	250	
CO	-3.888	250	
SOx	0.006	250	
PM 10	23.547	250	
PM 2.5	0.110	250	
Pb	0.000	25	No
NH3	-0.060	250	
CO2e	305.6		

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.116	250	
NOx	3.099	250	
CO	-5.390	250	
SOx	0.004	250	
PM 10	21.605	250	
PM 2.5	0.120	250	
Pb	0.000	25	No
NH3	-0.076	250	
CO2e	84.3		

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.663	250	
NOx	0.834	250	
CO	-11.014	250	
SOx	-0.005	250	
PM 10	10.773	250	
PM 2.5	0.032	250	
Pb	0.000	25	No
NH3	-0.095	250	
CO2e	-835.5		

2029

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.784	250	
NOx	-0.306	250	
CO	-11.214	250	
SOx	-0.008	250	
PM 10	-0.010	250	
PM 2.5	-0.008	250	
Pb	0.000	25	No
NH3	-0.083	250	
CO2e	-1118.3		

2030

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.657	250	
NOx	-0.215	250	
CO	-9.401	250	
SOx	-0.007	250	
PM 10	-0.007	250	
PM 2.5	-0.005	250	
Pb	0.000	25	No
NH3	-0.069	250	
CO2e	-936.4		

2031

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.812	250	
NOx	-0.327	250	
CO	-11.617	250	
SOx	-0.009	250	
PM 10	-0.010	250	
PM 2.5	-0.008	250	
Pb	0.000	25	No
NH3	-0.086	250	
CO2e	-1158.7		

2032

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.685	250	
NOx	-0.236	250	
CO	-9.804	250	
SOx	-0.007	250	
PM 10	-0.007	250	
PM 2.5	-0.006	250	
Pb	0.000	25	No
NH3	-0.072	250	
CO2e	-976.8		

2033

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-1.123	250	
NOx	-0.549	250	
CO	-16.050	250	
SOx	-0.012	250	
PM 10	-0.017	250	
PM 2.5	-0.014	250	
Pb	0.000	25	No
NH3	-0.118	250	
CO2e	-1603.3		

2034

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-1.123	250	
NOx	-0.549	250	
CO	-16.050	250	
SOx	-0.012	250	
PM 10	-0.017	250	
PM 2.5	-0.014	250	
Pb	0.000	25	No
NH3	-0.118	250	
CO2e	-1603.3		

2035

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.841	250	
NOx	-0.347	250	
CO	-12.020	250	
SOx	-0.009	250	
PM 10	-0.011	250	
PM 2.5	-0.009	250	
Pb	0.000	25	No
NH3	-0.089	250	
CO2e	-1199.1		

2036

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.558	250	
NOx	-0.144	250	
CO	-7.990	250	
SOx	-0.006	250	
PM 10	-0.005	250	
PM 2.5	-0.003	250	
Pb	0.000	25	No
NH3	-0.059	250	
CO2e	-794.9		

2037

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.275	250	
NOx	0.058	250	
CO	-3.961	250	
SOx	-0.003	250	
PM 10	0.002	250	
PM 2.5	0.003	250	
Pb	0.000	25	No
NH3	-0.030	250	
CO2e	-390.8		

2038 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.275	250	
NOx	0.058	250	
CO	-3.961	250	
SOx	-0.003	250	
PM 10	0.002	250	
PM 2.5	0.003	250	
Pb	0.000	25	No
NH3	-0.030	250	
CO2e	-390.8		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.

_____ _____

Chris Crabtree, Air Quality Meteorologist DATE

C.2 ALTERNATIVE 1 DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: MCCHORD AFB (Surrogate location)
State: Washington
County(s): Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Homeporting of Constellation (FFG-62) Class Frigates at Naval Station Everett, Washington

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2026

- Action Purpose and Need:

The purpose of the Proposed Action is to support homeporting of 12 Constellation-class guided-missile frigates (FFGs) on the West Coast of the United States to provide the Pacific Fleet with the next generation of multi-mission small surface combatants with the ability to operate independently or as part of a strike group.

The need for the Proposed Action is to provide capabilities for manning, training, and equipping combat-capable naval forces ready to deploy worldwide. In this regard, the Proposed Action furthers the Navy's execution of its congressionally mandated roles and responsibilities under 10 U.S. Code (U.S.C.) Section 8062.

- Action Description:

Under Alternative 1, the Navy would homeport 12 Constellation-class FFGs; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 personnel, plus their family members. The homeporting of ships and personnel would be phased in over a period of approximately 10 years. Based on the production and testing timeline, the first ship is expected to arrive at NAVSTA Everett beginning of fiscal year 2028. Personnel will be stationed at NAVSTA Everett in a phased-in approach over approximately 10 years beginning in approximately fiscal year 2026.

Between fiscal years 2023 and 2031, 10 existing homeported guided-missile destroyers (DDGs) and guided-missile cruisers (CGs) berthed at NAVSTA Everett would gradually be reduced to zero through changes in homeport or changes in mission. Over time, approximately 3,100 personnel associated with the departing vessels would also depart NAVSTA Everett.

Facilities construction under the Alternative 1 would occur within existing NAVSTA Everett property boundaries from fiscal year 2026 to fiscal year 2028 (approximately 2.5 years) and is described in detail below.

New stand-alone facilities construction:
• Administrative Support Facility (up to 3 stories) – Approximately 50,000 square feet. The Administrative Support Facility may be a stand-alone structure or an addition to an existing building. The facility would be located within the "Administrative District" of NAVSTA Everett.

Building additions:
• Two shelter additions along the pier (1 story) – total 400 square feet. Each consists of a 200 square foot steel-framed, reinforced concrete addition.
• Fleet Region Readiness Center multistory addition – 41,000 square feet. Provides classroom and training space.
Note: All building square footages listed above are approximate at this early stage in planning.

Renovations:

• No major interior renovations. Minor interior renovations (i.e., 2,500 sf of interior renovations) may occur.
Other supporting facilities and infrastructure:
• Stormwater management facilities
• Electrical and mechanical utilities
• Road and parking lot resurfacing

Potential locations of construction and additions under Alternative 1 are shown in Figure 2.3-1 of the EA.

- Point of Contact

Name: Chris Crabtree
Title: Air Quality Meteorologist
Organization: Leidos
Email: ccrabtree@leidos.com
Phone Number: 805-566-6422

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Construction of New Facilities/Additions
3.	Emergency Generator	Emergency Generator
4.	Personnel	Personnel 2026
5.	Personnel	Personnel 2027
6.	Personnel	Personnel 2028
7.	Personnel	Personnel 2029
8.	Personnel	Personnel 2030
9.	Personnel	Personnel 2031
10.	Personnel	Personnel 2032
11.	Personnel	Personnel 2033
12.	Personnel	Personnel 2035
13.	Personnel	Personnel 2036
14.	Personnel	Personnel 2037

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Construction of New Facilities/Additions

- Activity Description:

New:
Admin Support Fac - 50,000 sq ft

Additions:
2 Substation Additions - 400 sq ft each
Fleet Readiness Center - 41,000 sq ft

Paving:
Resurfacing up to 35 parking spaces - 5,600 sq ft

Utilities upgrades:
Excavating/trenching - up to 30,000 linear ft

- Activity Start Date
Start Month: 1
Start Month: 2026

- Activity End Date
Indefinite: False
End Month: 6
End Month: 2029

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.831894
SO_x	0.028845
NO_x	8.027388
CO	12.210456
PM 10	55.961352

Pollutant	Total Emissions (TONs)
PM 2.5	0.290266
Pb	0.000000
NH_3	0.008557
CO_2e	2801.3

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 12
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 106350
Amount of Material to be Hauled On-Site (yd^3): 106
Amount of Material to be Hauled Off-Site (yd^3): 106

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 24
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 180000
Amount of Material to be Hauled On-Site (yd^3): 180
Amount of Material to be Hauled Off-Site (yd^3): 180

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 30
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 91400
Height of Building (ft): 30
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase

$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.4 Architectural Coatings Phase

2.4.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 12
Number of Days: 0

2.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 115400
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.5 Paving Phase

2.5.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 12
Number of Days: 0

2.5.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 5600

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.5.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.5.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / $acre)^2$ / acre)

3. Emergency Generator

3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Emergency Generator

- Activity Description:
500 kW emergency generator

- Activity Start Date
Start Month: 1
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.007196
SO_x	0.000126
NO_x	0.260295
CO	0.069144
PM 10	0.008130

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.008130
Pb	0.000000
NH_3	0.000000
CO_2e	13.4

3.2 Emergency Generator Assumptions

- Emergency Generator
Type of Fuel used in Emergency Generator: Diesel
Number of Emergency Generators: 1

- Default Settings Used: No

- Emergency Generators Consumption
Emergency Generator's Horsepower: 670
Average Operating Hours Per Year (hours): 30

3.3 Emergency Generator Emission Factor(s)

- Emergency Generators Emission Factor (lb/hp-hr)

VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
0.000716	0.0000125	0.0259	0.00688	0.000809	0.000809			1.33

3.4 Emergency Generator Formula(s)

- Emergency Generator Emissions per Year
$AE_{POL} = (NGEN * HP * OT * EF_{POL}) / 2000$

AE_{POL}: Activity Emissions (TONs per Year)
NGEN: Number of Emergency Generators
HP: Emergency Generator's Horsepower (hp)
OT: Average Operating Hours Per Year (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hp-hr)

4. Personnel

4.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2026

- Activity Description:
+500 FFG - 930 DDG personnel = -430 personnel.

- Activity Start Date
Start Month: 1
Start Year: 2026

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	-0.607647
SO_x	-0.006459
NO_x	-0.435124
CO	-8.663972
PM 10	-0.013672

Pollutant	Emissions Per Year (TONs)
PM 2.5	-0.012091
Pb	0.000000
NH_3	-0.063458
CO_2e	-868.9

4.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 430
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

4.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

4.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

4.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5. Personnel

5.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2027

- Activity Description:
+200 FFG - 310 DDG personnel = -110 personnel.

- Activity Start Date
Start Month: 1
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	-0.155445
SO_x	-0.001652
NO_x	-0.111311
CO	-2.216365
PM 10	-0.003498

Pollutant	Emissions Per Year (TONs)
PM 2.5	-0.003093
Pb	0.000000
NH_3	-0.016233
CO_2e	-222.3

5.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 110
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

5.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

5.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

5.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

6. Personnel

6.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2028

- Activity Description:
+200 FFG - 310 DDG personnel = -110 personnel.

- Activity Start Date
Start Month: 1
Start Year: 2028

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	-0.155445
SO_x	-0.001652
NO_x	-0.111311
CO	-2.216365
PM 10	-0.003498

Pollutant	Emissions Per Year (TONs)
PM 2.5	-0.003093
Pb	0.000000
NH_3	-0.016233
CO_2e	-222.3

6.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 110
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

6.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

6.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

6.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

7. Personnel

7.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2029

- Activity Description:
+400 FFG - 310 DDG personnel = +90 personnel.

- Activity Start Date
Start Month: 1
Start Year: 2029

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.127182
SO_x	0.001352
NO_x	0.091072
CO	1.813390
PM 10	0.002862

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.002531
Pb	0.000000
NH_3	0.013282
CO_2e	181.9

7.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 90
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

7.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

7.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

7.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

8. Personnel

8.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2030

- Activity Description:
+400 FFG - 310 DDG personnel = 90 personnel.

- Activity Start Date
Start Month: 1
Start Year: 2030

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.127182
SO_x	0.001352
NO_x	0.091072
CO	1.813390
PM 10	0.002862

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.002531
Pb	0.000000
NH_3	0.013282
CO_2e	181.9

8.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 90
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

8.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

8.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

8.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

9. Personnel

9.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2031

- Activity Description:
+200 FFG - 310 DDG personnel = -110 personnel.

- Activity Start Date
Start Month: 1
Start Year: 2031

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	-0.155445
SO_x	-0.001652
NO_x	-0.111311
CO	-2.216365
PM 10	-0.003498

Pollutant	Emissions Per Year (TONs)
PM 2.5	-0.003093
Pb	0.000000
NH_3	-0.016233
CO_2e	-222.3

9.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 110
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

9.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

9.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

9.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

10. Personnel

10.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2032

- Activity Description:
+400 FFG - 310 DDG personnel = +90 personnel.

- Activity Start Date
Start Month: 1
Start Year: 2032

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.127182
SO_x	0.001352
NO_x	0.091072
CO	1.813390
PM 10	0.002862

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.002531
Pb	0.000000
NH_3	0.013282
CO_2e	181.9

10.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 90
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

10.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

10.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

10.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

11. Personnel

11.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2033

- Activity Description:
-310 DDG personnel

- Activity Start Date
Start Month: 1
Start Year: 2033

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	-0.438071
SO_x	-0.004656
NO_x	-0.313694
CO	-6.246119
PM 10	-0.009857

Pollutant	Emissions Per Year (TONs)
PM 2.5	-0.008717
Pb	0.000000
NH_3	-0.045749
CO_2e	-626.4

11.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 310
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

11.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

11.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

11.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

12. Personnel

12.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2035

- Activity Description:
+200 FFG personnel

- Activity Start Date
Start Month: 1
Start Year: 2035

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.282627
SO_x	0.003004
NO_x	0.202383
CO	4.029754
PM 10	0.006359

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.005624
Pb	0.000000
NH_3	0.029515
CO_2e	404.2

12.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 200
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

12.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

12.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

12.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

13. Personnel

13.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2036

- Activity Description:
+200 FFG personnel.

- Activity Start Date
Start Month: 1
Start Year: 2036

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.282627
SO_x	0.003004
NO_x	0.202383
CO	4.029754
PM 10	0.006359

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.005624
Pb	0.000000
NH_3	0.029515
CO_2e	404.2

13.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 200
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

13.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

13.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

13.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

14. Personnel

14.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Personnel 2037

- Activity Description:
+200 FFG personnel.

- Activity Start Date
Start Month: 1
Start Year: 2037

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.282627
SO_x	0.003004
NO_x	0.202383
CO	4.029754
PM 10	0.006359

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.005624
Pb	0.000000
NH_3	0.029515
CO_2e	404.2

14.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 200
Civilian Personnel: 0
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: Yes

- Average Personnel Round Trip Commute (mile): 20 (default)

- Personnel Work Schedule
Active Duty Personnel: 5 Days Per Week (default)
Civilian Personnel: 5 Days Per Week (default)
Support Contractor Personnel: 5 Days Per Week (default)
Air National Guard (ANG) Personnel: 4 Days Per Week (default)
Reserve Personnel: 4 Days Per Month (default)

14.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

14.4 Personnel Emission Factor(s)

- On Road Vehicle Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

14.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)
VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

C.3 ALTERNATIVE 2 SUMMARY AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: MCCHORD AFB (Surrogate location)
State: Washington
County(s): Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Homeporting of Constellation (FFG-62) Class Frigates at Naval Station Everett, Washington

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2026

e. Action Description:

Under Alternative 2, the Navy would homeport 12 Constellation-class FFGs; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 personnel, plus their family members. The homeporting of ships and personnel would be phased in over a period of approximately 10 years. Based on the production and testing timeline, the first ship is expected to arrive at NAVSTA Everett beginning of fiscal year 2028. Personnel will be stationed at NAVSTA Everett in a phased-in approach over approximately 10 years beginning in approximately fiscal year 2026.

Between fiscal years 2023 and 2031, the 10 existing homeported guided-missile destroyers (DDGs) and guided-missile cruisers (CGs) berthed at NAVSTA Everett would gradually be reduced to zero through changes in homeport or changes in mission. Over time, approximately 3,100 personnel associated with the departing vessels would also depart NAVSTA Everett.

New stand-alone facilities construction:
• None.

Building additions:
• Administrative Support Facility (up to 3 stories) – Approximately 20,000 square feet. Under Alternative 2, the Administrative Support Facility would be a combination of a new addition to an existing building and renovations of existing space (see renovations below). The facility would be located within the Administrative District of NAVSTA Everett.
• Two shelter additions along the pier (1 story) – 400 square feet
• Fleet Region Readiness Center multistory addition – 41,000 square feet. Provides classroom and training space.

Note: All building square footages listed above are approximate at this early stage in planning.

Renovations:
• Interior renovations of existing buildings on NAVSTA Everett to accommodate shifts in tenants and allow for FFG-related administrative support facility space allocation (estimated 30,000 sf of interior renovations).

Other supporting facilities and infrastructure:
• Stormwater management facilities

- Electrical and mechanical utilities
- Road and parking lot resurfacing

Potential locations for construction and additions under Alternative 2 are shown in Figure 2.3-1 of the EA.

f. Point of Contact:

Name: Chris Crabtree
Title: Air Quality Meteorologist
Organization: Leidos
Email: crabtreec@leidos.com
Phone Number: 805-566-6422

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.010	250	
NOx	2.962	250	
CO	-3.896	250	
SOx	0.005	250	
PM 10	19.178	250	
PM 2.5	0.109	250	
Pb	0.000	25	No
NH3	-0.060	250	
CO2e	299.1		

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.116	250	
NOx	3.087	250	
CO	-5.398	250	
SOx	0.004	250	
PM 10	21.605	250	
PM 2.5	0.119	250	
Pb	0.000	25	No
NH3	-0.076	250	
CO2e	77.8		

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.080	250	
NOx	0.828	250	
CO	-11.018	250	
SOx	-0.005	250	
PM 10	10.773	250	
PM 2.5	0.032	250	
Pb	0.000	25	No
NH3	-0.095	250	
CO2e	-838.7		

2029

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.784	250	
NOx	-0.306	250	
CO	-11.214	250	
SOx	-0.008	250	
PM 10	-0.010	250	
PM 2.5	-0.008	250	
Pb	0.000	25	No
NH3	-0.083	250	
CO2e	-1118.3		

2030

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.657	250	
NOx	-0.215	250	
CO	-9.401	250	
SOx	-0.007	250	
PM 10	-0.007	250	
PM 2.5	-0.005	250	
Pb	0.000	25	No
NH3	-0.069	250	
CO2e	-936.4		

2031

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.812	250	
NOx	-0.327	250	
CO	-11.617	250	
SOx	-0.009	250	
PM 10	-0.010	250	
PM 2.5	-0.008	250	
Pb	0.000	25	No
NH3	-0.086	250	
CO2e	-1158.7		

2032

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.685	250	
NOx	-0.236	250	
CO	-9.804	250	
SOx	-0.007	250	
PM 10	-0.007	250	
PM 2.5	-0.006	250	
Pb	0.000	25	No
NH3	-0.072	250	
CO2e	-976.8		

2033

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-1.123	250	
NOx	-0.549	250	
CO	-16.050	250	
SOx	-0.012	250	
PM 10	-0.017	250	
PM 2.5	-0.014	250	
Pb	0.000	25	No
NH3	-0.118	250	
CO2e	-1603.3		

2034

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-1.123	250	
NOx	-0.549	250	
CO	-16.050	250	
SOx	-0.012	250	
PM 10	-0.017	250	
PM 2.5	-0.014	250	
Pb	0.000	25	No
NH3	-0.118	250	
CO2e	-1603.3		

2035

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.841	250	
NOx	-0.347	250	
CO	-12.020	250	
SOx	-0.009	250	
PM 10	-0.011	250	
PM 2.5	-0.009	250	
Pb	0.000	25	No
NH3	-0.089	250	
CO2e	-1199.1		

2036

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.558	250	
NOx	-0.144	250	
CO	-7.990	250	
SOx	-0.006	250	
PM 10	-0.005	250	
PM 2.5	-0.003	250	
Pb	0.000	25	No
NH3	-0.059	250	
CO2e	-794.9		

2037

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.275	250	
NOx	0.058	250	
CO	-3.961	250	
SOx	-0.003	250	
PM 10	0.002	250	
PM 2.5	0.003	250	
Pb	0.000	25	No
NH3	-0.030	250	
CO2e	-390.8		

2038 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.275	250	
NOx	0.058	250	
CO	-3.961	250	
SOx	-0.003	250	
PM 10	0.002	250	
PM 2.5	0.003	250	
Pb	0.000	25	No
NH3	-0.030	250	
CO2e	-390.8		

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.

_____ _____

Chris Crabtree, Air Quality Meteorologist DATE

C.4 ALTERNATIVE 2 DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: MCCHORD AFB (Surrogate location)
State: Washington
County(s): Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Homeporting of Constellation (FFG-62) Class Frigates at Naval Station Everett, Washington

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2026

- Action Purpose and Need:

The purpose of the Proposed Action is to support homeporting of 12 Constellation-class guided-missile frigates (FFGs) on the West Coast of the United States to provide the Pacific Fleet with the next generation of multi-mission small surface combatants with the ability to operate independently or as part of a strike group.

The need for the Proposed Action is to provide capabilities for manning, training, and equipping combat-capable naval forces ready to deploy worldwide. In this regard, the Proposed Action furthers the Navy's execution of its congressionally mandated roles and responsibilities under 10 U.S. Code (U.S.C.) Section 8062.

- Action Description:

Under Alternative 2, the Navy would homeport 12 Constellation-class FFGs; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 personnel, plus their family members. The homeporting of ships and personnel would be phased in over a period of approximately 10 years. Based on the production and testing timeline, the first ship is expected to arrive at NAVSTA Everett beginning of fiscal year 2028. Personnel will be stationed at NAVSTA Everett in a phased-in approach over approximately 10 years beginning in approximately fiscal year 2026.

Between fiscal years 2023 and 2031, the 10 existing homeported guided-missile destroyers (DDGs) and guided-missile cruisers (CGs) berthed at NAVSTA Everett would gradually be reduced to zero through changes in homeport or changes in mission. Over time, approximately 3,100 personnel associated with the departing vessels would also depart NAVSTA Everett.

New stand-alone facilities construction:
• None.

Building additions:
• Administrative Support Facility (up to 3 stories) – Approximately 20,000 square feet. Under Alternative 2, the Administrative Support Facility would be a combination of a new addition to an existing building and renovations of existing space (see renovations below). The facility would be located within the Administrative District of NAVSTA Everett.
• Two shelter additions along the pier (1 story) – 400 square feet
• Fleet Region Readiness Center multistory addition – 41,000 square feet. Provides classroom and training space.

Note: All building square footages listed above are approximate at this early stage in planning.

Renovations:
• Interior renovations of existing buildings on NAVSTA Everett to accommodate shifts in tenants and allow for FFG-related administrative support facility space allocation (estimated 30,000 sf of interior renovations).

Other supporting facilities and infrastructure:
• Stormwater management facilities
• Electrical and mechanical utilities
• Road and parking lot resurfacing

Potential locations for construction and additions under Alternative 2 are shown in Figure 2.3-1 of the EA.

- Point of Contact

Name: Chris Crabtree
Title: Air Quality Meteorologist
Organization: Leidos
Email: crabtreec@leidos.com
Phone Number: 805-566-6422

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Construction of New Facilities/Additions

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Snohomish
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Construction of New Facilities/Additions

- Activity Description:

New:
None.

Additions:
Admin Support Fac - 20,000 sq ft
2 Substation Additions - 400 sq ft each
Fleet Readiness Center - 65,000 sq ft

Paving:
Resurfacing up to 35 parking spaces - 5,600 sq ft

Utilities upgrades:
Excavating/trenching - up to 30,000 linear ft

- Activity Start Date

Start Month: 1
Start Month: 2026

- Activity End Date
Indefinite: False
End Month: 6
End Month: 2029

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.250400
SO_x	0.028793
NO_x	7.995805
CO	12.190904
PM 10	51.591673

Pollutant	Total Emissions (TONs)
PM 2.5	0.289772
Pb	0.000000
NH_3	0.008141
CO_2e	2785.1

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 12
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 69750
Amount of Material to be Hauled On-Site (yd^3): 70
Amount of Material to be Hauled Off-Site (yd^3): 70

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 24
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 180000
Amount of Material to be Hauled On-Site (yd^3): 180

Amount of Material to be Hauled Off-Site (yd^3): 180

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 30
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 67000
Height of Building (ft): 30
Number of Units: N/A

- Building Construction Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.4 Architectural Coatings Phase

2.4.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 12
Number of Days: 0

2.4.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 65400
Number of Units: N/A

- Architectural Coatings Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.4.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.4.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.5 Paving Phase

2.5.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 12
Number of Days: 0

2.5.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 5600

- Paving Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.5.3 Paving Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.201	000.002	000.113	003.107	000.004	000.004		000.024	00296.374
LDGT	000.211	000.003	000.199	003.490	000.006	000.005		000.026	00386.238
HDGV	000.798	000.006	000.859	013.035	000.024	000.021		000.051	00897.042
LDDV	000.081	000.001	000.080	002.872	000.003	000.002		000.008	00298.880
LDDT	000.084	000.001	000.120	001.978	000.003	000.003		000.009	00348.850
HDDV	000.115	000.004	002.431	001.505	000.041	000.038		000.032	01249.474
MC	002.292	000.003	000.725	012.519	000.022	000.020		000.054	00390.892

2.5.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds

EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Off-Gassing Emissions per Phase
$VOC_P = (2.62 * PA) / 43560$

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / acre)^2 / acre)

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Appendix D
Endangered Species Act Documentation

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DEPARTMENT OF THE NAVY
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK VA 23551-2487

5090
Ser N46/004
January 29, 2024

Mr. Brad Thompson
State Supervisor, Mr Washington Fish and Wildlife Office
U.S. Fish and Wildlife Service
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503-1263

Dear Mr. Thompson:

The United States (U.S.) Navy (Navy) proposes to establish facilities and functions at Naval Station Everett, Washington to support homeporting of Constellation-class guided-missile frigates (FFGs). The purpose of this letter is to request informal consultation under section 7(a)(2) of the Endangered Species Act (ESA) regarding potential impacts of the Proposed Action on threatened and endangered species.

Under the Proposed Action, the Navy would homeport up to 12 FFGs; construct training and support facilities for ships, commands, and crews; and station approximately 2,900 military personnel, plus their family members. The homeporting of ships and personnel would be phased in over approximately 10 years, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and the arrival of the first Constellation-class FFG no earlier than fiscal year 2028.

The threatened marbled murrelet (*Brachyramphus marmoratus*) is the only ESA-listed species that may occur within the Action Area and that has the potential to be impacted by upland project activities that include construction and renovations. The Proposed Action will not require in-water work. Critical habitat for marbled murrelet is not designated within the Action Area. The closest designated critical habitat is approximately 13 miles (21 kilometers) away from the project area.

The Navy analyzed potential impacts of the project to marbled murrelet using the best scientific data available, as required under section 7(c) of the ESA. Based on the Navy's analyses, the Navy determined that the proposed project *may affect, but is not likely to adversely affect* marbled murrelet.

Enclosed is a biological assessment (Enclosure 1) that provides project details and documents our analyses. The Navy understands that within 30 days of this request, you will notify us in writing if additional information is required.

The Navy appreciates consideration by the USFWS of the Proposed Action and requests the USFWS's concurrence with the Navy's determination. If you have any questions or require additional information, please contact Ms. Amy Fowler at (360) 564-9878 or amy.k.fowler.civ@us.navy.mil.

Sincerely,

AGUAYO.MARIA.LORETO.1157276731

Digitally signed by AGUAYO.MARIA.LORETO.1157276731
Date: 2024.01.29 18:33:18 -05'00'

M. L. AGUAYO
Director, Fleet Installations and Environment
And Deputy Chief of Staff

Enclosure: Biological Assessment for Homeporting of Constellation-Class Frigates
at Naval Station Everett, Everett, WA

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Ecological Services
1009 College St. SE, Suite 215
Lacey, Washington 98503

In Reply Refer to:
FWS/R1/2024-0049574

July 19, 2024

Commander M.L. Aguayo
Department of the Navy
Attn: Amy Fowler
U.S. Fleet Forces Command
1562 Mitscher Avenue, Suite 250
Norfolk, Virginia 23551-2487

Dear Commander Aguayo:

Subject: Naval Station Everett, Homeporting for Constellation-Class Guided Missile Frigates (FFGs); 5090 Ser N46/004

This letter is in response to your January 29, 2024, request for our concurrence with your determination, that the proposed action located at Naval Station Everett in Snohomish County, Washington, "may affect, but is not likely to adversely affect" federally listed species. We received your letter and Biological Assessment (BA), providing information in support of "may affect, not likely to adversely affect" determinations, on January 29, 2024. Additional information was requested on May 3 and was received from the Department of the Navy (Navy) on May 8, 2024. This informal consultation has been completed in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.) (ESA).

The Navy has determined that the action will have "no effect" on additional listed species and designated critical habitat that are known to occur in Snohomish County. "No effect" determinations rest with the federal action agency. The U.S. Fish and Wildlife Service (Service) has no regulatory or statutory authority for concurring with "no effect" determinations, and no consultation with the Service is required. We recommend that the Navy document their analyses on effects to listed species, and maintain that documentation as part of their project files.

The Navy proposes to establish facilities and functions at Naval Station Everett to support homeporting for Constellation-Class guided missile frigates (FFGs). The Navy plans to homeport up to twelve FFGs. The Navy proposes to redevelop existing upland infrastructure and construct training and support facilities for ships, commands, and crews.

Homeporting will station approximately 2,900 military personnel and their family members at Naval Station Everett. Homeporting will be phased over an approximate 10-year time period, beginning between 2026 and 2028.

Proposed new and redeveloped infrastructure and facilities will include: an administrative support facility (approximately 50,000 square ft); shelter additions on pier decks; a fleet region readiness center (approximately 41,000 square ft); electrical and mechanical utilities; road and parking lot improvements (and/or resurfacing); and, stormwater management facilities (BA, pp. 2-1 thru 2-3). No in-water work (i.e., work at or below mean higher high-water) is required or proposed. Impact pile driving may be conducted in the uplands with 16- to 24-inch diameter hollow pipe steel piles.

According to information provided by the Navy (Navy Responses to Questions; A. Fowler pers. comm. 2024; Email Correspondence Dated May 8, 2024), the proposed action will not modify or construct new outfalls or points of stormwater discharge, and will not significantly change or alter the volume(s) or character of stormwater runoff from the installation. The proposed action includes a modest amount of redevelopment, and the Navy will implement measures to reduce the volume(s) and/or improve the quality of stormwater discharges. The proposed action will construct new and/or expand existing stormwater management facilities, which are likely to include low impact development features and designs (e.g., storage, bioretention, and infiltration facilities; vegetated swales; vegetated filter strips; rain gardens; etc.). Naval Station Everett will continue to operate and comply with stormwater permits issued by the U.S. Environmental Protection Agency (i.e., Multi-Sector General Permit, Municipal Separate Storm Sewer System Permit). According to information provided by the Navy, modest changes to existing operations and sources of stormwater runoff and discharge are expected. The Navy expects that the proposed action will modestly reduce pollutant loadings compared to existing baseline conditions (Navy Responses to Questions; A. Fowler pers. comm. 2024; Email Correspondence Dated May 8, 2024).

Sufficient information has been provided to determine the effects of the proposed action and to conclude whether it would adversely affect federally listed species and/or designated critical habitat. Our concurrence is based on information provided by the federal action agency, best available science, and complete and successful implementation of the conservation measures included by the federal action agency.

EFFECTS TO BULL TROUT, THEIR HABITAT, AND PREY

Bull trout (*Salvelinus confluentus*) are present in the action area and may be affected. Naval Station Everett is located on Port Gardner Bay and Possession Sound (Puget Sound), at or near the mouth of the Snohomish River. The action area includes developed marine shorelines, extensive in-water and over-water structures, sources of stormwater and wastewater discharge, and degraded water and sediment quality. Within the action area, nearshore marine habitats and functions are substantially degraded and impaired, but still continue to support adult and subadult bull trout in low numbers.

Exposures and Effects to Bull Trout, Their Habitat, and Prey

The proposed action's resulting effects on the bull trout will not be measurable, will not significantly disrupt normal bull trout behaviors (i.e., the ability to successfully feed, move, and shelter), and are therefore considered insignificant because of the following:

- No in-water work (i.e., work at or below mean higher high-water) is required or proposed. Construction activities will be limited to the uplands.
- Sources of temporary sound and visual disturbance will not prevent bull trout from successfully foraging and migrating in the action area. Any temporary impacts to water quality will be limited in physical extent, intensity, and duration. Foreseeable temporary impacts to water quality will not significantly disrupt normal bull trout behaviors.
- Improvements in the uplands (i.e., new and redeveloped infrastructure and facilities) will not alter or degrade the current function of nearshore marine or shoreline habitats for bull trout or their prey. Foreseeable effects to habitat and prey will be insignificant.
- With full and successful implementation of the proposed conservation measures, including measures to reduce the volume(s) and/or improve the quality of stormwater discharges (i.e., stormwater management facilities), we expect that pollutant loadings will be modestly reduced; pollutant concentrations will dilute to negligible levels at close proximity; bull trout exposures will be infrequent, brief, and transitory; and, stormwater discharges will not measurably degrade or diminish long term habitat functions or forage resources for bull trout.

All of the foreseeable bull trout exposures and effects are insignificant and/or discountable. No measurable adverse effects to the bull trout, their habitat, or prey are expected or foreseeable.

EFFECTS TO DESIGNATED BULL TROUT CRITICAL HABITAT

Naval Station Everett and adjacent portions of Port Gardner Bay and Possession Sound (Puget Sound) are excluded from the critical habitat designation for the bull trout (75 FR 63898; October 18, 2010). The proposed action will have no effect on the primary constituent elements or current functions of designated bull trout critical habitat.

EFFECTS TO MARBLED MURRELET, THEIR HABITAT, AND PREY

Marbled murrelets (*Brachyramphus marmoratus*) are present in the action area and may be affected. Within the action area, nearshore marine habitats and functions are substantially degraded and impaired, but still continue to support marbled murrelets in low numbers.

Exposures and Effects to Marbled Murrelet, Their Habitat, and Prey

The proposed action's resulting effects on the marbled murrelet will not be measurable, will not significantly disrupt normal marbled murrelet behaviors (i.e., the ability to successfully feed, move, and shelter), and are therefore considered insignificant because of the following:

- No in-water work (i.e., work at or below mean higher high-water) is required or proposed. Construction activities will be limited to the uplands.
- Sources of temporary sound and visual disturbance will not prevent marbled murrelets from successfully foraging, loafing, or making flights through the action area. Any temporary impacts to water quality will be limited in physical extent, intensity, and duration. Foreseeable temporary impacts to water quality will not significantly disrupt normal marbled murrelet behaviors.
- Improvements in the uplands (i.e., new and redeveloped infrastructure and facilities) will not alter or degrade the current function of nearshore marine or shoreline habitats for marbled murrelets or their prey. Foreseeable effects to habitat and prey will be insignificant.
- With full and successful implementation of the proposed conservation measures, including measures to reduce the volume(s) and/or improve the quality of stormwater discharges (i.e., stormwater management facilities), we expect that pollutant loadings will be modestly reduced; pollutant concentrations will dilute to negligible levels at close proximity; marbled murrelet exposures will be infrequent, brief, and transitory; and, stormwater discharges will not measurably degrade or diminish long term habitat functions or forage resources for marbled murrelets.

All of the foreseeable marbled murrelet exposures and effects are insignificant and/or discountable. No measurable adverse effects to the marbled murrelet, their habitat, or prey are expected or foreseeable.

CONCLUSION

This concludes consultation pursuant to the regulations implementing the ESA (50 CFR 402.13). Our review and concurrence with your effect determinations is based on implementation of the project as described. It is the responsibility of the federal action agency to ensure that the projects they authorize or carry out are in compliance with the regulatory permit and ESA. If a permittee or the federal action agency deviates from the measures outlined in a permit or project description, the federal action agency has the obligation to reinitiate consultation and comply with section 7(d).

This action should be re-analyzed and re-initiation may be necessary if 1) new information reveals effects of the action that may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation, 2) if the action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation, and/or 3) a new species is listed or critical habitat is designated that may be affected by the action.

This letter constitutes a complete response by the Service to your request for informal consultation. A record of this consultation is on file at the Washington Fish and Wildlife Office, in Lacey, Washington.

If you have any questions about this letter or our shared responsibilities under the ESA, please contact the consulting biologist identified below.

U.S. Fish and Wildlife Service Biologist:
Ryan McReynolds (ryan_mcreynolds@fws.gov)

Sincerely,

for Brad Thompson, State Supervisor
Washington Fish and Wildlife Office

cc:
Navy, Silverdale, WA (T. Selbig;)
Navy, Silverdale, WA (C. Kunz)
Navy, WA (A Higgs)
Navy, WA (J. Steele)

Appendix E
National Historic Preservation Act Section 106 Documentation

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DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:

5090
N4
February 9, 2024

Allyson Brooks, Ph.D.
Washington State Historic Preservation Officer
Department of Archaeology and Historic Preservation
P.O. Box 48343
Olympia, WA 98504-8343

Dear Dr. Brooks:

SUBJECT: NATIONAL HISTORIC PRESERVATION ACT SECTION 106 CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION-CLASS GUIDED-MISSILE FRIGATES AT NAVAL STATION EVERETT WASHINGTON (DAHP PROJECT NO. 2022-05-03056)

The U.S. Navy is initiating consultation under Title 54 U.S. Code § 306108, commonly known as Section 106 of the National Historic Preservation Act, and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800, for the proposed establishment of facilities and functions at Naval Station (NAVSTA) Everett in Everett, Washington, to support the West Coast homeporting of up to 12 Constellation-Class Guided-Missile Frigates (FFGs) (Enclosure 1: Page 5 NAVSTA Everett Location Map). The Navy has determined that authorization of the project, and the disbursement of Federal appropriations, is an undertaking and involves the type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a). We are entering into consultation with you on this undertaking and are notifying you of our finding of No Historic Properties Affected, pursuant to 36 CFR § 800.4(d)(1).

The proposed undertaking would homeport up to 12 FFGs; construct training and support facilities and station approximately 2,900 active military personnel plus their family members. The Navy would phase in homeported ships over a 10-year time period, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and arrival of the first FFG no earlier than fiscal year 2028. Ten Navy ships currently (2023) homeported at NAVSTA Everett and approximately 3,100 personnel will gradually depart through changes in homeport or changes in mission. Two U.S. Coast Guard vessels currently homeported at NAVSTA Everett will remain. The total number of homeported vessels would fluctuate very little from the current 12 to an overall net increase of 2 vessels with an end state total of 14 homeported vessels at NAVSTA Everett and a net decrease of 200 personnel when the proposed undertaking is completed no earlier than fiscal year 2037.

FFGs would be berthed at NAVSTA Everett's existing piers and there are no requirements to physically modify these structures. Pier utility upgrades would be necessary and include potable water lines, sewer upgrades, compressed air lines and electrical power distribution lines. No in-water work would be conducted.

Homeporting the FFGs requires construction of administrative support facilities, utility upgrades, and parking for Sailors and trainers. The Fleet Region Readiness Center (constructed within the last 15 years) would gain an addition and two shelter additions would be built on the pier deck (constructed within the last 30 years) Temporary facilities would include the use of trailers, similar to those currently used at the piers and parking areas.

The proposed undertaking would include electrical substation upgrades to increase electrical service capacity to support electrical loads. Utilities would be upgraded throughout the installation within existing utility conduits or along new alignments. Site improvements would include paving, pedestrian walkways, landscaping, stormwater management and an emergency generator for the training and support facility.

The Navy identified the Area of Potential Effects (APE) using two National Environmental Protection Act (NEPA) alternatives including all proposed work activity and associated staging areas (refer to Enclosure 2: Page 6 NAVSTA Everett APE Map). Because project details are not finalized, the APE was defined broadly to ensure it incorporates all potential construction footprints related to new stand-alone facilities (e.g., training and support facilities), proposed building alterations and other areas of potential ground disturbance (e.g., paving, pedestrian walkways, landscaping, electrical and mechanical utility upgrades).

Existing paved roads would be employed to access the construction areas. Equipment to be used would include excavators, dump trucks, trenching machines, pile drivers, backhoes, wheel tractor scrapers, loaders, cranes, bulldozers, paving machines and pickup trucks. Materials and equipment staging would occur on the adjacent paved roads. Lands surrounding the project area are characterized by the NAVSTA Everett installation, Port of Everett, and City of Everett built environment.

The APE vertical depth ranges with a maximum of 15-feet deep, the horizontal APE width varies with a maximum of 2,400-feet-wide, as does the APE length which is a maximum of 5,400-feet-long. The excavated material would be disposed of at an existing waste area on Navy property. The APE is located in Sections 18-19, T. 29 N., R. 5 E., Willamette Baseline and Meridian, as depicted on the 1953 Everett NW 7.5' U.S. Geological Survey topographic quadrangle map. The APE is approximately 138 acres and encompasses the entire NAVSTA Everett facility footprint including the piers (excluding Possession Sound waters).

Two FFG NEPA alternatives have been analyzed and their components are listed below (refer to Enclosures 3 and 4: Pages 7-8 NAVSTA Everett NEPA Alternatives 1 and 2 Map and Table).

Identification efforts by the Navy include a 2023 review of the Washington DAHP Wisaard cultural resources database. No historic properties (archaeological or built environment) are located within the APE or in an adjacent 0.25-mile search radius. NAVSTA Everett archaeological and built environment cultural resource inventories and National Register of Historic Places (NRHP) determinations of eligibility are presented below (refer to Enclosure 5: Page 9 NAVSTA Everett Cultural Resources Inventories and Studies Table).

NAVSTA Everett built environment resources range from a 1930s bulkhead, World War II piers, few Cold War period support buildings and are dominated by post-Cold War buildings and structures constructed from the 1990s to 2010s. The modern period installation buildings have been constructed with commercially available components that are not unique or reflect distinctive characteristics of a type, period or method of construction. As of 2023, the bulk of the installation-built environment post-dates the Cold War era and has not achieved exceptional importance as required under NRHP Criterion Consideration G for properties less than 50 years of age.

Archaeological investigations of NAVSTA Everett include monitoring and an archaeological site sensitivity model. The sensitivity model demonstrates there is an extremely low probability that prehistoric and ethnographic cultural resources exist as the installation is built on an artificial landform overlying the nearshore and intertidal zone of the pre-development shoreline (Hughes, 2019). Any pre-contact Native American artifacts encountered in the fill dredged from the East Waterway and Everett Harbor would be displaced from their original depositional context. Your office reviewed and accepted the sensitivity model in 2019. While there is a low probability for intact subsurface archaeological deposits at the installation due to the past land use history, the Navy has prepared an inadvertent discovery plan in the unlikely event that subsurface cultural resources are encountered during FFG project construction.

5090
N4
February 9, 2024

Pursuant to the regulations at 36 CFR § 800.3(f)(2), the Navy identified the Stillaguamish Tribe of Indians, Swinomish Indian Tribal Council, the Suquamish Tribe, and Tulalip Tribes of Washington as Indian tribes who might attach religious and cultural significance to historic properties within the APE. On October 10, 2023, the Navy sent letters to invite their participation in the Section 106 process pursuant to 36 CFR § 800.4(a)(4). No traditional cultural places have been identified in the APE during prior consultation efforts with the four Tribes.

The Navy is continuing public outreach with local communities under the NEPA process. The Navy also sent letters to tribal government representatives to invite them to initiate government-to-government consultation on the proposed project.

The Navy applied the criteria of adverse effects to the proposed undertaking and has found that it will result in no adverse effects to historic properties pursuant to 36 CFR § 800.5(b). No historic properties are located in the APE, all of the installation buildings and structures have been determined to be ineligible for listing in the NRHP with agreement by your office, and no intact pre-contact or historic period archaeological resources have been identified in the APE.

Based on the information discussed above, the Navy has reached a finding of no historic properties affected for the current undertaking. We invite your comments on the delineation of the APE and the appropriateness of the identification efforts to identify historic properties in the APE. The Navy requests your agreement with our finding of no historic properties affected pursuant to 36 CFR § 800.4(d)(1). If you have any questions or concerns regarding this project, please contact the NAVSTA Everett Cultural Resources Manager Mr. Lex Palmer at (360) 564-9549 or by email at kevin.a.palmer20.civ@us.navy.mil.

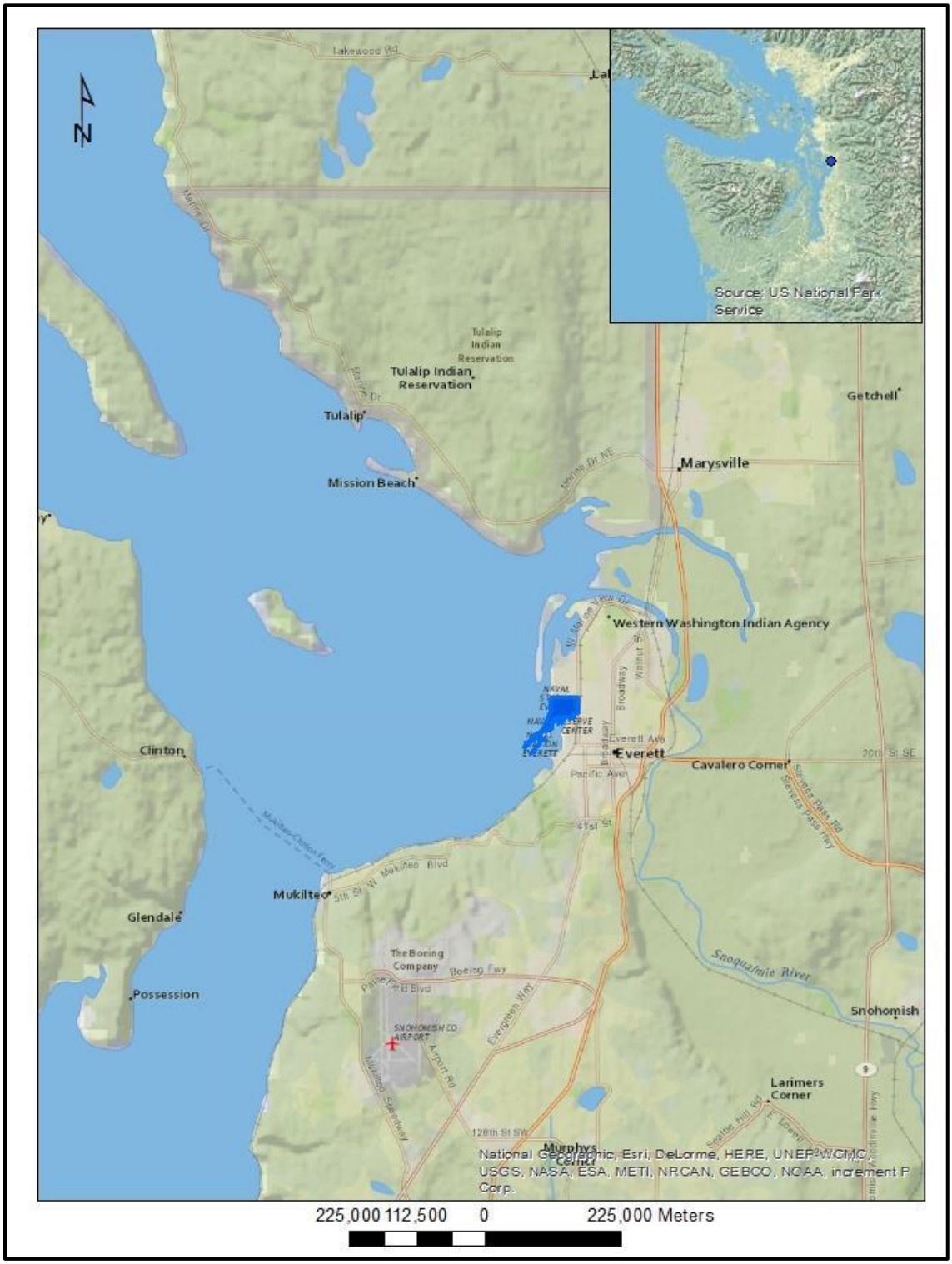
Sincerely,

MENZEL.JOSHUA.M.1096074324 Digitally signed by MENZEL.JOSHUA.M.1096074324 Date: 2024.02.07 07:03:36 -08'00'

J. M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett Location Map
2. NAVSTA Everett APE Map
3. NAVSTA Everett NEPA Alternatives 1 and 2 Map
4. NAVSTA Everett NEPA Alternatives 1 and 2 Table
5. NAVSTA Everett Cultural Resources Inventories and Studies Table

NAVSTA EVERETT LOCATION MAP



Enclosure (1)

NAVSTA EVERETT APE MAP

Enclosure (2)

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 MAP

Enclosure (3)

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 TABLE

Alternative	Description	Buildings/Structures
1	New facilities and associated infrastructure to support FFG crews	1. Construct Administrative Support Facility (up to 3 stories) with approximately **50,000 square feet** (SF). Facility may be a stand-alone structure or an addition to an existing building. The facility would be located within the Administrative District. Minor interior renovations (approximately **2,500 SF**) may also occur. 2. Two 1-story reinforced concrete shelter additions on the pier (constructed within the last 30 years) deck with combined total 400 SF. 3. Construct multi-story approximately 41,000 SF addition on the Fleet Region Readiness Center (constructed within the last 15 years). 4. Potential 35-space parking lot on existing impervious surface. 5. Stormwater management facilities. 6. Electrical and mechanical utilities. 7. Road and parking lot resurfacing.
2	Facilities and associated infrastructure to support FFG crews	1. Construct Administrative Support Facility (up to 3 stories) with approximately **20,000 SF**. Facility would be a combination of an addition to an existing building and renovations to existing spaces. The facility would be located within the Administrative District. Alternative 2 Administrative Support Facility construction would include **30,000 SF** of building interior renovations to existing buildings as compensation for a smaller new Administrative Support Facility building addition. 2. Items 2 to 7 above remain in Alternative 2.

NAVSTA Everett Cultural Resources Inventories and Studies Table

SHPO Case No.	Description	NRHP Eligibility
2014 062314-31-USN 23 June 2014	Sackett 2013-2014 installation architectural survey of World War II, Cold War (pre-Navy), and Post-Cold War buildings and structures	Ineligible under Criterion A and C, and Criterion Consideration G with agreement by SHPO.
113015-20-USN 6 July 2016	Hughes 2016 archaeological monitoring at Everett main gate. Non-diagnostic historic period building materials associated with secondary deposition observed and determined they were ineligible for the NRHP. This corresponds with the extensive geo-technical boring and ground penetrating radar data collected at the site prior to construction in the late 1980s.	No historic properties with agreement by SHPO.
2017-02-01187 24 March 2017	1930s-era (pre-Navy) bulkhead	Ineligible under Criterion A and C due to integrity issues with agreement by SHPO.
2019-04-02428	Everett archaeological sensitivity model (Hughes 2019).	Accepted by SHPO in 2019.

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
February 9, 2024

Rob Whitlam, Ph.D.
State Archaeologist
Department of Archaeology and Historic Preservation
P.O. Box 48343
Olympia, WA 98504-8343

Dear Dr. Whitlam:

Subject: NATIONAL HISTORIC PRESERVATION ACT SECTION 106 CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION-CLASS GUIDED-MISSILE FRIGATES PROJECT AREA OF POTENTIAL EFFECTS DELINEATION, NAVAL STATION EVERETT SNOHOMISH COUNTY, WASHINGTON (DAHP PROJECT NO. 2022-05-03056)

The U.S. Navy is initiating consultation under Title 54 U.S. Code § 306108, commonly known as Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800, for the proposed establishment of facilities and functions at Naval Station (NAVSTA) Everett in Everett, Washington, to support the West Coast homeporting of up to 12 Constellation-class guided-missile frigates (FFGs) (Enclosure 1: Page 4 NAVSTA Everett Location Map). The Navy has determined that authorization of the project, and the disbursement of Federal appropriations, is an undertaking and involves the type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a). We are entering into consultation with you on this undertaking to define the project Area of Potential Effects (APE).

The proposed undertaking would homeport up to 12 FFGs; construct training and support facilities and station approximately 2,900 active military personnel plus their family members. The Navy would phase in homeported ships over a 10-year time period, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and arrival of the first FFG no earlier than fiscal year 2028. Ten Navy ships currently (2023) homeported at NAVSTA Everett and approximately 3,100 personnel will gradually depart through changes in homeport or changes in mission. Two U.S. Coast Guard vessels currently homeported at NAVSTA Everett will remain. The total number of homeported vessels would fluctuate very little from the current 12 to an overall net increase of 2 vessels with an end state total of 14 homeported vessels at NAVSTA Everett and a net decrease of 200 personnel when the proposed undertaking is completed no earlier than fiscal year 2037.

FFGs would be berthed at NAVSTA Everett's existing piers and there are no requirements to physically modify these structures. Pier utility upgrades would be necessary and include potable water lines, sewer upgrades, compressed air lines and electrical power distribution lines. No in-water work would be conducted.

Homeporting the FFGs requires construction of administrative support facilities, utility upgrades and parking lots for sailors and trainers. The Fleet Region Readiness Center (constructed within the last 15 years) would gain an addition and two shelter additions would be built on the pier deck (constructed within the last 30 years).

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N4
February 9, 2024

The proposed undertaking would include electrical substation upgrades to increase electrical service capacity to support electrical loads. Utilities would be upgraded throughout NAVSTA Everett, within existing utility conduits or along new alignments. Site improvements would include paving, pedestrian walkways, landscaping, stormwater management and an emergency generator for the training and support facility.

The Navy identified the APE using two National Environmental Protection Act alternatives including all proposed work activity and associated staging areas (refer to Enclosure 2: Page 5 NAVSTA Everett APE Map). Because project details are not finalized, the APE was defined broadly to ensure it incorporates all potential construction footprints, utility upgrades, and hardscape improvements.

Existing paved roads would be employed to access the construction areas. Equipment to be used would include excavators, dump trucks, trenching machines, pile drivers, backhoes, wheel tractor scrapers, loaders, cranes, bulldozers, paving machines and pickup trucks. Materials and equipment staging would occur on the adjacent paved roads. Lands surrounding the project area are characterized by the NAVSTA Everett installation, Port of Everett, and City of Everett built environment.

The APE vertical depth ranges with a maximum of 15-feet deep, the horizontal APE width varies with a maximum of 2,400-feet-wide, as does the APE length which is a maximum of 5,400-feet-long. The excavated material would be disposed of at an existing waste area on Navy property. The APE is located in Sections 18-19, T. 29 N., R. 5 E., Willamette Baseline and Meridian, as depicted on the 1953 Everett NW 7.5' U.S. Geological Survey topographic quadrangle map. The APE is approximately 138 acres and encompasses the entire NAVSTA Everett facility footprint including the piers (excluding Possession Sound waters).

We invite your comments on the delineation of the APE. If you have any questions or concerns regarding this project, please contact the NAVSTA Everett Cultural Resources Manager Mr. Lex Palmer at (360) 564-9549 or by email at kevin.a.palmer20.civ@us.navy.mil.

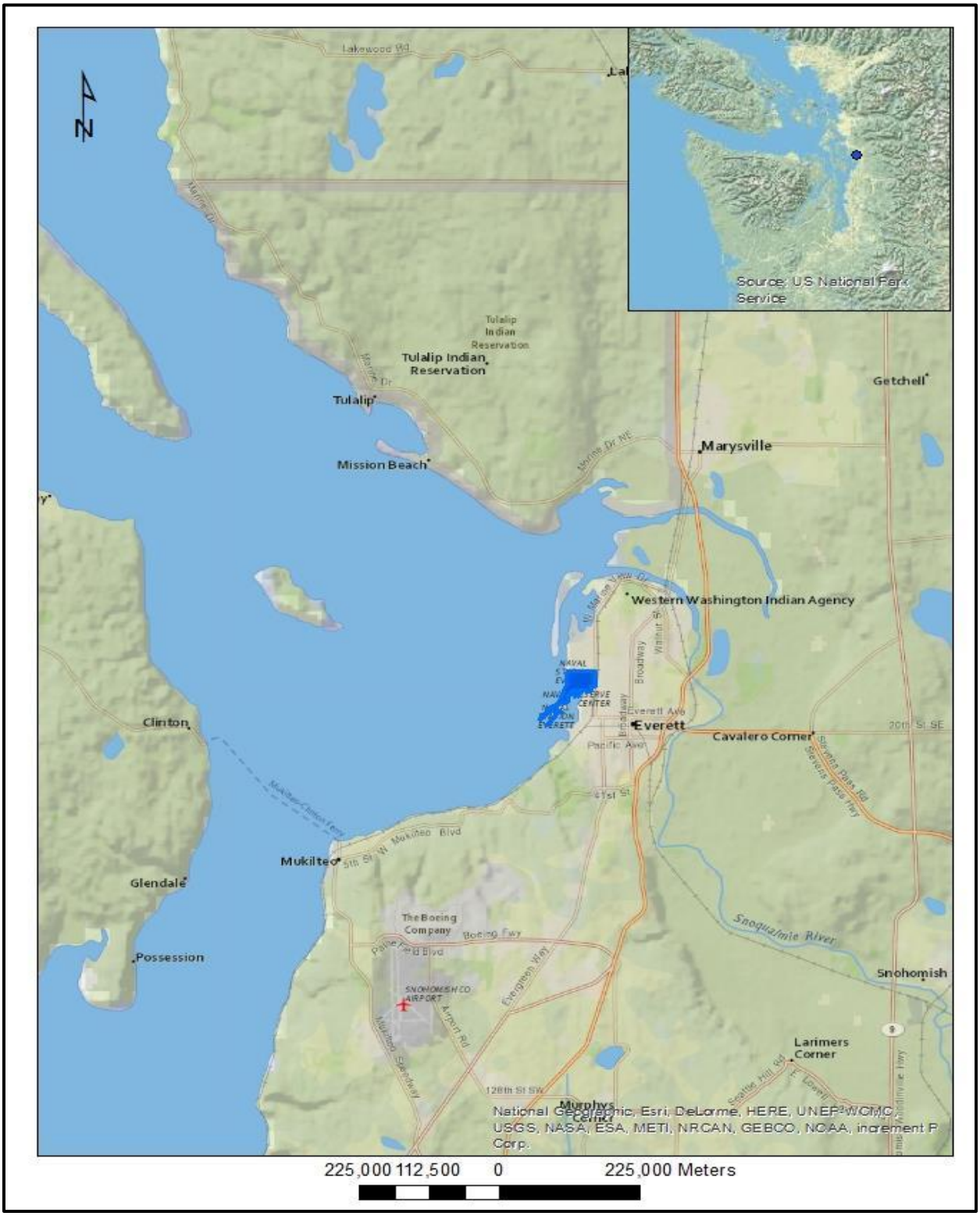
Sincerely,

MENZEL.JOSHUA.M.1096074324 Digitally signed by MENZEL.JOSHUA.M.1096074324 Date: 2024.02.07 07:04:16 -08'00'

J. M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

Enclosures: 1. NAVSTA Everett Location Map
2. NAVSTA Everett APE Map

NAVSTA EVERETT LOCATION MAP



Enclosure (1)

NAVSTA EVERETT APE MAP

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

February 22, 2024

J. M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

In future correspondence please refer to:
Project Tracking Code: 2022-05-03056
Property: Homeporting of Constellation Class Guided Missile Frigates (FFG) NAVSTA Everett
Re: No Historic Properties Affected

Dear Captain Mezel:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP) regarding the above referenced proposal. This action has been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. Our review is based upon documentation provided in your submittal.

We concur that no historic resources will be affected by the current project as proposed.

As a result of our concurrence, further contact with DAHP on this proposal is not necessary. However, if new information about affected resources becomes available and/or the project scope of work changes significantly, please resume consultation as our assessment may be revised. Also, if any archaeological resources are uncovered during construction, please halt work immediately in the area of discovery and contact the appropriate Native American Tribes and DAHP for further consultation.

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

Sincerely,

Maddie Levesque, M.A
Architectural Historian
(360) 819-7203
Maddie.Levesque@dahp.wa.gov

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

February 9, 2024

Captain J. M. Menzel
Naval Station Everett
2000 West Marine View Drive
Everett, Washington 98207

RE: Homeporting of Constellation Class Guided Missile Frigates (FFG) Project
Log No.: 2022-05-03056-USN

Dear Captain J. M. Menzel;

Thank you for contacting our department. We have reviewed the materials you provided for the proposed *Smokey Homeporting of Constellation Class Guided Missile Frigates (FFG) Project* at Naval Station (NAVSTA) Everett, Snohomish County, Washington.

We concur with your determination of the Area of Potential Effect as detailed in your letter and associated map and Figures.

We look forward to further consultations as you consult with the concerned tribal governments, provide the results of your cultural resources review, and your determination of effect.

We would also request 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 compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment and we look forward to receiving the results of your consultation efforts, the cultural resources review, and your Determination of Effect.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 890-2615
email: *rob.whitlam@dahp.wa.gov*

cc: L. Palmer

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
February 9, 2024

The Honorable Leonard Forsman
Chairman
The Suquamish Tribe
P.O. Box 498
Suquamish, WA 98392

Dear Chairman Forsman,

SUBJECT: NATIONAL HISTORIC PRESERVATION ACT SECTION 106 COORDINATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION-CLASS GUIDED-MISSILE FRIGATES AT NAVAL STATION EVERETT WASHINGTON

The U.S. Navy is initiating consultation under Title 54 U.S. Code § 306108, commonly known as Section 106 of the National Historic Preservation Act, and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800, for the proposed establishment of facilities and functions at Naval Station (NAVSTA) Everett in Everett, Washington, to support the West Coast homeporting of up to 12 Constellation-class guided-missile frigates (FFGs) (Enclosure 1: Page 4 NAVSTA Everett Location Map). The Navy has determined that authorization of the project, and the disbursement of Federal appropriations, is an undertaking and involves the type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a). Your tribe has been identified as potentially having knowledge of cultural resources in the vicinity of the project area. The Navy is contacting you in an effort to solicit information about potential effects to sites of religious and cultural significance and invite you and your tribe to participate in the Section 106 process by reviewing and commenting on the project. The Navy previously contacted you regarding this project in a letter dated October 10, 2023, to invite you to initiate government-to-government consultation.

The proposed undertaking would homeport up to 12 FFGs; construct training and support facilities and station approximately 2,900 active military personnel plus their family members. The Navy would phase in homeported ships over a 10-year time period, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and arrival of the first FFG no earlier than fiscal year 2028. Ten Navy ships currently (2023) homeported at NAVSTA Everett and approximately 3,100 personnel will gradually depart through changes in homeport or changes in mission. Two U.S. Coast Guard vessels currently homeported at NAVSTA Everett will remain. The total number of homeported vessels would fluctuate very little from the current 12 to an overall net increase of 2 vessels with an end state total of 14 homeported vessels at NAVSTA Everett and a net decrease of 200 personnel when the proposed undertaking is completed no earlier than fiscal year 2037.

FFGs would be berthed at NAVSTA Everett's existing piers and there are no requirements to physically modify these structures. Pier utility upgrades would be necessary and include potable water lines, sewer upgrades, compressed air lines, and electrical power distribution lines. No in-water work would be conducted.

Homeporting the FFGs requires construction of administrative support facilities, utility upgrades and parking for Sailors and trainers. The Fleet Region Readiness Center would gain an addition and two shelter additions would be built on the pier deck. Temporary facilities would include the use of trailers, similar to those currently used at the piers and parking areas.

The proposed undertaking would include electrical substation upgrades to increase electrical service capacity to support electrical loads. Utilities would be upgraded throughout the installation within existing utility conduits or along new alignments. Site improvements would include paving, pedestrian walkways, landscaping, stormwater management and an emergency generator for the training and support facility.

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February 9, 2024

The Navy identified the Area of Potential Effects (APE) using two National Environmental Protection Act (NEPA) alternatives including all proposed work activity and associated staging areas (refer to Enclosure 2: Page 5 NAVSTA Everett APE Map). The APE was defined broadly to ensure it incorporates all potential construction footprints related to new stand-alone facilities (e.g., training and support facilities), proposed building alterations and other areas of potential ground disturbance (e.g., paving, pedestrian walkways, landscaping, electrical and mechanical utility upgrades).

Existing paved roads would be employed to access the construction areas. Equipment to be used would include excavators, dump trucks, trenching machines, pile drivers, backhoes, wheel tractor scrapers, loaders, cranes, bulldozers, paving machines and pickup trucks. Materials and equipment staging would occur on the adjacent paved roads. Lands surrounding the project area are characterized by the NAVSTA Everett installation, Port of Everett and City of Everett built environment.

The APE vertical depth ranges with a maximum of 15-feet deep, the horizontal APE width varies with a maximum of 2,400-feet-wide, as does the APE length which is a maximum of 5,400-feet-long. The excavated material would be disposed of at an existing waste area on Navy property. The APE is located in Sections 18-19, T. 29 N., R. 5 E., Willamette Baseline and Meridian, as depicted on the 1953 Everett NW 7.5' U.S. Geological Survey topographic quadrangle map. The APE is approximately 138 acres and encompasses the entire NAVSTA Everett facility footprint including the piers (excluding Possession Sound waters).

Two FFG NEPA alternatives have been analyzed and their components are listed below (refer to Enclosures 3 and 4: Pages 6-7 NAVSTA Everett NEPA Alternatives 1 and 2 Map and Table).

The Navy is gathering information on cultural resources eligible for the National Register of Historic Places, including sites of religious and cultural significance pursuant to 36 CFR § 800.4(a), to determine the potential effect of the proposed undertaking on such properties. We request your assistance in the identification of any known cultural resources of concern that may be affected by the proposed undertaking. If the location and nature of these resources is sensitive or confidential, this information may be withheld from public disclosure as outlined in the regulations at 36 CFR § 800.11(c).

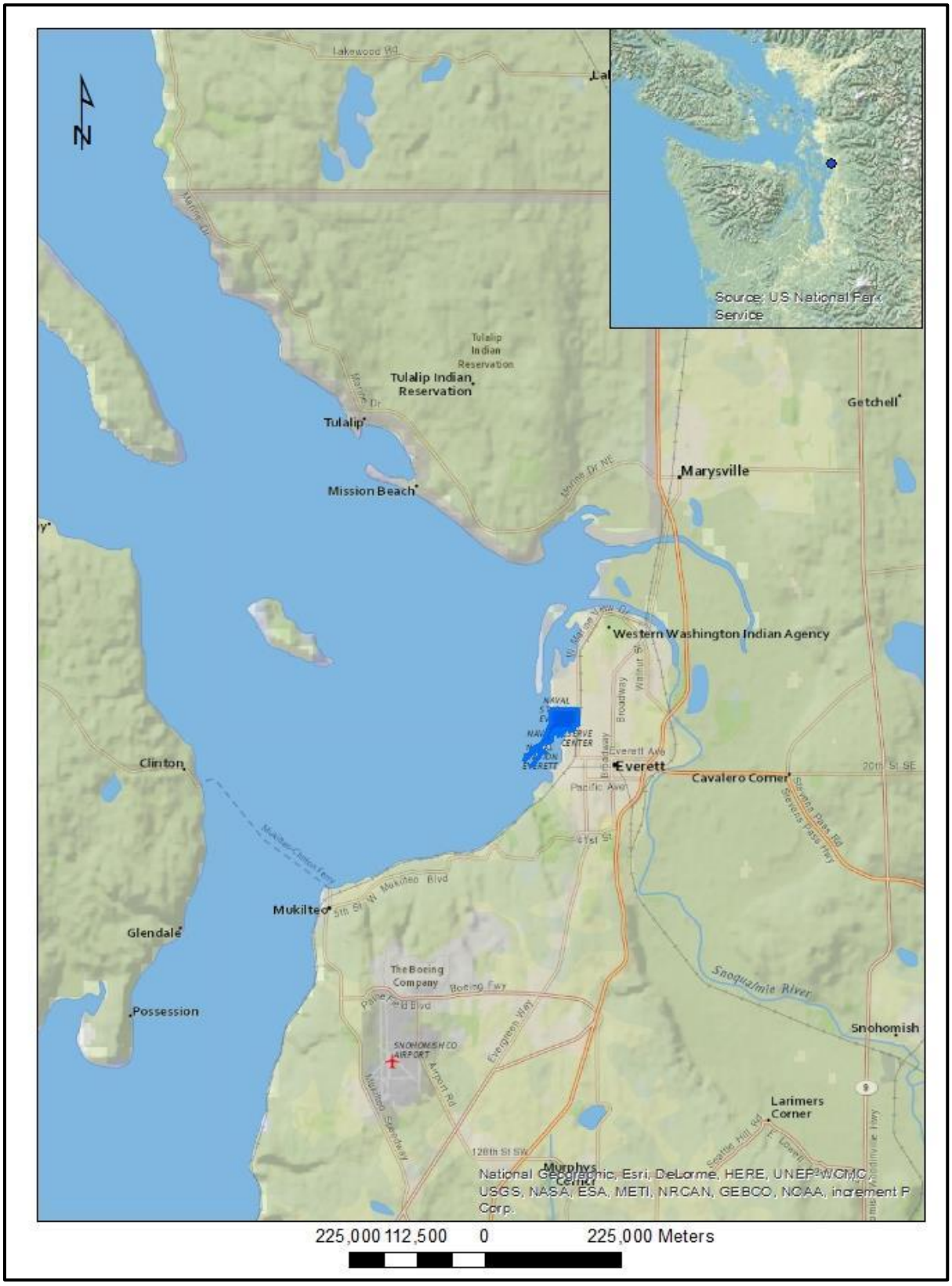
Pursuant to 36 CFR § 800.3(f)(2), if your tribe would like to participate as a Section 106 consulting party for this undertaking, please provide us with a formal written request under your signature. Please also inform us in writing if you would like to designate a tribal representative to coordinate with me regarding this undertaking. If you have any questions or concerns regarding this project, please contact Acting Installation Environmental Program Director Mr. Kevin McKeag at (425) 304-3396 or by email at kevin.j.mckeag.civ@us.navy.mil.

Sincerely,

J. M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett Location Map
2. NAVSTA Everett APE Map
3. NAVSTA Everett NEPA Alternatives 1 and 2 Map
4. NAVSTA Everett NEPA Alternatives 1 and 2 Table

NAVSTA EVERETT LOCATION MAP



Enclosure (1)

NAVSTA EVERETT APE MAP

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 MAP

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 TABLE

Alternative	Description	Buildings/Structures
1	New facilities and associated infrastructure to support FFG crews	1. Construct Administrative Support Facility (up to 3 stories) with approximately **50,000 square feet** (SF). Facility may be a stand-alone structure or an addition to an existing building. The facility would be located within the Administrative District. Minor interior renovations (approximately **2,500 SF**) may also occur. 2. Two 1-story reinforced concrete shelter additions on the pier (constructed within the last 30 years) deck with combined total 400 SF. 3. Construct multi-story approximately 41,000 SF addition on the Fleet Region Readiness Center (constructed within the last 15 years). 4. Potential 35-space parking lot on existing impervious surface. 5. Stormwater management facilities. 6. Electrical and mechanical utilities. 7. Road and parking lot resurfacing.
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DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
February 9, 2024

The Honorable Steve Edwards
Chairman
Swinomish Indian Tribal Council
11404 Moorage Way
La Conner, WA 98257

Dear Chairman Edwards:

SUBJECT: NATIONAL HISTORIC PRESERVATION ACT SECTION 106 COORDINATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION-CLASS GUIDED-MISSILE FRIGATES AT NAVAL STATION EVERETT WASHINGTON

The U.S. Navy is initiating consultation under Title 54 U.S. Code § 306108, commonly known as Section 106 of the National Historic Preservation Act, and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800, for the proposed establishment of facilities and functions at Naval Station (NAVSTA) Everett in Everett, Washington, to support the West Coast homeporting of up to 12 Constellation-class guided-missile frigates (FFGs) (Enclosure 1: Page 4 NAVSTA Everett Location Map). The Navy has determined that authorization of the project, and the disbursement of Federal appropriations, is an undertaking and involves the type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a). Your tribe has been identified as potentially having knowledge of cultural resources in the vicinity of the project area. The Navy is contacting you in an effort to solicit information about potential effects to sites of religious and cultural significance and invite you and your tribe to participate in the Section 106 process by reviewing and commenting on the project. The Navy previously contacted you regarding this project in a letter dated October 10, 2023, to invite you to initiate government-to-government consultation.

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February 9, 2024

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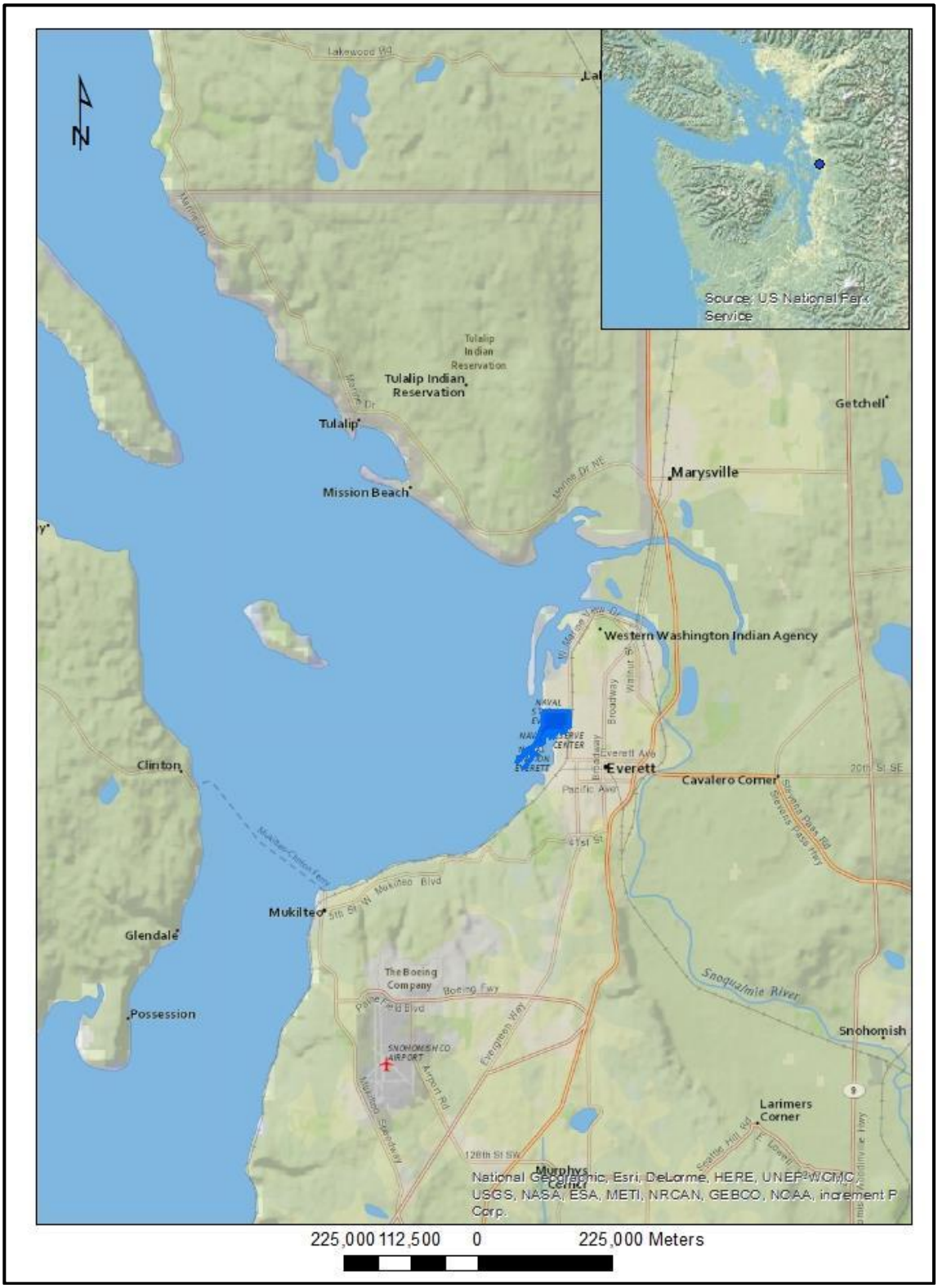
Sincerely,

MENZEL.JOSHUA.M.1096074324 Digitally signed by MENZEL.JOSHUA.M.1096074324 Date: 2024.02.07 07:06:32 -08'00'

J.M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

Enclosures: 1. NAVSTA Everett Location Map
2. NAVSTA Everett APE Map
3. NAVSTA Everett NEPA Alternatives 1 and 2 Map
4. NAVSTA Everett NEPA Alternatives 1 and 2 Table

NAVSTA EVERETT LOCATION MAP



Enclosure (1)

NAVSTA EVERETT APE MAP

Enclosure (2)

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DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
February 9, 2024

The Honorable Teri Gobin
Chairwoman
Tulalip Tribes of Washington
6406 Marine Drive
Tulalip, WA 98271

Dear Chairwoman Gobin:

SUBJECT: NATIONAL HISTORIC PRESERVATION ACT SECTION 106 COORDINATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION-CLASS GUIDED-MISSILE FRIGATES AT NAVAL STATION EVERETT WASHINGTON

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February 9, 2024

The Navy identified the Area of Potential Effects (APE) using two National Environmental Protection Act (NEPA) alternatives including all proposed work activity and associated staging areas (refer to Enclosure 2: Page 5 NAVSTA Everett APE Map). The APE was defined broadly to ensure it incorporates all potential construction footprints related to new stand-alone facilities (e.g., training and support facilities), proposed building alterations and other areas of potential ground disturbance (e.g., paving, pedestrian walkways, landscaping, electrical and mechanical utility upgrades).

Existing paved roads would be employed to access the construction areas. Equipment to be used would include excavators, dump trucks, trenching machines, pile drivers, backhoes, wheel tractor scrapers, loaders, cranes, bulldozers, paving machines and pickup trucks. Materials and equipment staging would occur on the adjacent paved roads. Lands surrounding the project area are characterized by the NAVSTA Everett installation, Port of Everett and City of Everett built environment.

The APE vertical depth ranges with a maximum of 15-feet deep, the horizontal APE width varies with a maximum of 2,400-feet-wide, as does the APE length which is a maximum of 5,400-feet-long. The excavated material would be disposed of at an existing waste area on Navy property. The APE is located in Sections 18-19, T. 29 N., R. 5 E., Willamette Baseline and Meridian, as depicted on the 1953 Everett NW 7.5' U.S. Geological Survey topographic quadrangle map. The APE is approximately 138 acres and encompasses the entire NAVSTA Everett facility footprint including the piers (excluding Possession Sound waters).

Two FFG NEPA alternatives have been analyzed and their components are listed below (refer to Enclosures 3 and 4: Pages 6-7 NAVSTA Everett NEPA Alternatives 1 and 2 Map and Table).

The Navy is gathering information on cultural resources eligible for the National Register of Historic Places, including sites of religious and cultural significance pursuant to 36 CFR § 800.4(a), to determine the potential effect of the proposed undertaking on such properties. We request your assistance in the identification of any known cultural resources of concern that may be affected by the proposed undertaking. If the location and nature of these resources is sensitive or confidential, this information may be withheld from public disclosure as outlined in the regulations at 36 CFR § 800.11(c).

Pursuant to 36 CFR § 800.3(f)(2), if your tribe would like to participate as a Section 106 consulting party for this undertaking, please provide us with a formal written request under your signature. Please also inform us in writing if you would like to designate a tribal representative to coordinate with me regarding this undertaking. If you have any questions or concerns regarding this project, please contact Acting Installation Environmental Program Director Mr. Kevin McKeag at (425) 304-3396 or by email at kevin.j.mckeag.civ@us.navy.mil.

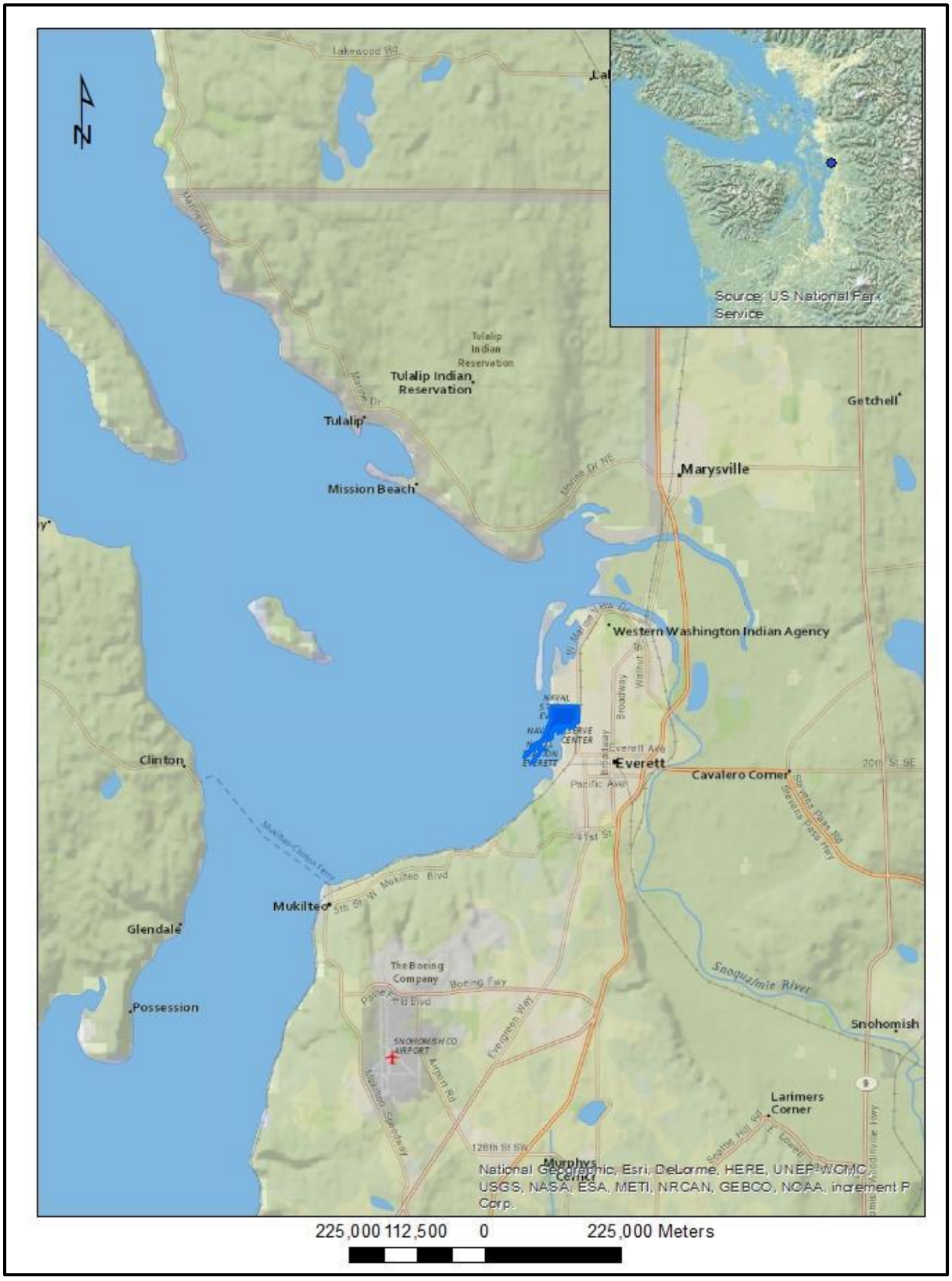
Sincerely,

MENZEL.JOSHUA.M.1096074324
Digitally signed by MENZEL.JOSHUA.M.1096074324
Date: 2024.02.07 07:07:03 -08'00'

J. M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett Location Map
2. NAVSTA Everett APE Map
3. NAVSTA Everett NEPA Alternatives 1 and 2 Map
4. NAVSTA Everett NEPA Alternatives 1 and 2 Table

NAVSTA EVERETT LOCATION MAP



Enclosure (1)

NAVSTA EVERETT APE MAP

Enclosure (2)

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 MAP

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 TABLE

Alternative	Description	Buildings/Structures
1	New facilities and associated infrastructure to support FFG crews	1. Construct Administrative Support Facility (up to 3 stories) with approximately **50,000 square feet** (SF). Facility may be a stand-alone structure or an addition to an existing building. The facility would be located within the Administrative District. Minor interior renovations (approximately **2,500 SF**) may also occur. 2. Two 1-story reinforced concrete shelter additions on the pier (constructed within the last 30 years) deck with combined total 400 SF. 3. Construct multi-story approximately 41,000 SF addition on the Fleet Region Readiness Center (constructed within the last 15 years). 4. Potential 35-space parking lot on existing impervious surface. 5. Stormwater management facilities. 6. Electrical and mechanical utilities. 7. Road and parking lot resurfacing.
2	Facilities and associated infrastructure to support FFG crews	1. Construct Administrative Support Facility (up to 3 stories) with approximately **20,000 SF**. Facility would be a combination of an addition to an existing building and renovations to existing spaces. The facility would be located within the Administrative District. Alternative 2 Administrative Support Facility construction would include **30,000 SF** of building interior renovations to existing buildings as compensation for a smaller new Administrative Support Facility building addition. 2. Items 2 to 7 above remain in Alternative 2.

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
February 9, 2024

The Honorable Eric White
Chairman
Stillaguamish Tribe of Indians
PO Box 277
Arlington, WA 98223

Dear Chairman White:

SUBJECT: NATIONAL HISTORIC PRESERVATION ACT SECTION 106 COORDINATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION-CLASS GUIDED-MISSILE FRIGATES AT NAVAL STATION EVERETT WASHINGTON

The U.S. Navy is initiating consultation under Title 54 U.S. Code § 306108, commonly known as Section 106 of the National Historic Preservation Act, and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800, for the proposed establishment of facilities and functions at Naval Station (NAVSTA) Everett in Everett, Washington, to support the West Coast homeporting of up to 12 Constellation-class guided-missile frigates (FFGs) (Enclosure 1: Page 4 NAVSTA Everett Location Map). The Navy has determined that authorization of the project, and the disbursement of Federal appropriations, is an undertaking and involves the type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a). Your tribe has been identified as potentially having knowledge of cultural resources in the vicinity of the project area. The Navy is contacting you in an effort to solicit information about potential effects to sites of religious and cultural significance and invite you and your tribe to participate in the Section 106 process by reviewing and commenting on the project. The Navy previously contacted you regarding this project in a letter dated October 10, 2023, to invite you to initiate government-to-government consultation.

The proposed undertaking would homeport up to 12 FFGs; construct training and support facilities; and station approximately 2,900 active military personnel plus their family members. The Navy would phase in homeported ships over a 10-year time period, with personnel arriving and facilities established beginning no earlier than fiscal year 2026 and arrival of the first FFG no earlier than fiscal year 2028. Ten Navy ships currently (2023) homeported at NAVSTA Everett and approximately 3,100 personnel will gradually depart through changes in homeport or changes in mission. Two U.S. Coast Guard vessels currently homeported at NAVSTA Everett will remain. The total number of homeported vessels would fluctuate very little from the current 12 to an overall net increase of 2 vessels with an end state total of 14 homeported vessels at NAVSTA Everett and a net decrease of 200 personnel when the proposed undertaking is completed no earlier than fiscal year 2037.

FFGs would be berthed at NAVSTA Everett's existing piers, and there are no requirements to physically modify these structures. Pier utility upgrades would be necessary and include potable water lines, sewer upgrades, compressed air lines and electrical power distribution lines. No in-water work would be conducted.

Homeporting the FFGs requires construction of administrative support facilities, utility upgrades, and parking for sailors and trainers. The Fleet Region Readiness Center would gain an addition, and two shelter additions would be built on the pier deck. Temporary facilities would include the use of trailers, similar to those currently used at the piers and parking areas.

The proposed undertaking would include electrical substation upgrades to increase electrical service capacity to support electrical loads. Utilities would be upgraded throughout the installation within existing utility conduits or along new alignments. Site improvements would include paving, pedestrian walkways, landscaping, stormwater management and an emergency generator for the training and support facility.

5090
N4
February 9, 2024

The Navy identified the Area of Potential Effects (APE) using two National Environmental Protection Act (NEPA) alternatives including all proposed work activity and associated staging areas (refer to Enclosure 2: Page 5 NAVSTA Everett APE Map). The APE was defined broadly to ensure it incorporates all potential construction footprints related to new stand-alone facilities (e.g., training and support facilities), proposed building alterations and other areas of potential ground disturbance (e.g., paving, pedestrian walkways, landscaping, electrical and mechanical utility upgrades).

Existing paved roads would be employed to access the construction areas. Equipment to be used would include excavators, dump trucks, trenching machines, pile drivers, backhoes, wheel tractor scrapers, loaders, cranes, bulldozers, paving machines and pickup trucks. Materials and equipment staging would occur on the adjacent paved roads. Lands surrounding the project area are characterized by the NAVSTA Everett installation, Port of Everett, and City of Everett built environment.

The APE vertical depth ranges with a maximum of 15-feet deep, the horizontal APE width varies with a maximum of 2,400-feet-wide, as does the APE length which is a maximum of 5,400-feet-long. The excavated material would be disposed of at an existing waste area on Navy property. The APE is located in Sections 18-19, T. 29 N., R. 5 E., Willamette Baseline and Meridian, as depicted on the 1953 Everett NW 7.5' U.S. Geological Survey topographic quadrangle map. The APE is approximately 138 acres and encompasses the entire NAVSTA Everett facility footprint including the piers (excluding Possession Sound waters).

Two FFG NEPA alternatives have been analyzed and their components are listed below (refer to Enclosures 3 and 4: Pages 6-7 NAVSTA Everett NEPA Alternatives 1 and 2 Map and Table).

The Navy is gathering information on cultural resources eligible for the National Register of Historic Places, including sites of religious and cultural significance pursuant to 36 CFR § 800.4(a), to determine the potential effect of the proposed undertaking on such properties. We request your assistance in the identification of any known cultural resources of concern that may be affected by the proposed undertaking. If the location and nature of these resources is sensitive or confidential, this information may be withheld from public disclosure as outlined in the regulations at 36 CFR § 800.11(c).

Pursuant to 36 CFR § 800.3(f)(2), if your tribe would like to participate as a Section 106 consulting party for this undertaking, please provide us with a formal written request under your signature. Please also inform us in writing if you would like to designate a tribal representative to coordinate with me regarding this undertaking. If you have any questions or concerns regarding this project, please contact Acting Installation Environmental Program Director Mr. Kevin McKeag at (425) 304-3396 or by email at kevin.j.mckeag.civ@us.navy.mil.

Sincerely,

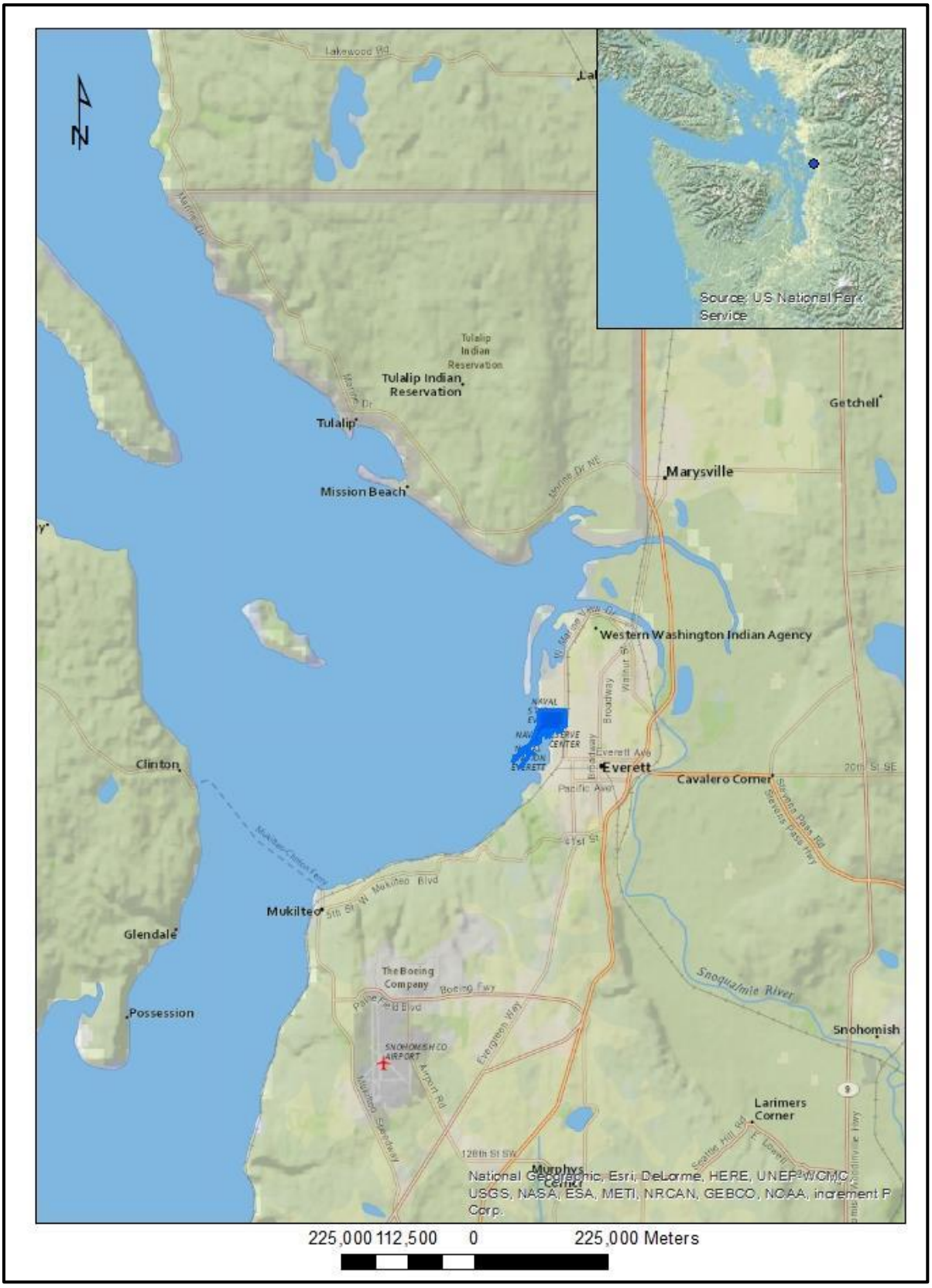
MENZEL.JOSHUA.M.1096074324 Digitally signed by MENZEL.JOSHUA.M.1096074324 Date: 2024.02.07 07:07:38 -08'00'

J.M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

CC: Tribal Historic Preservation Officer Kerry Lyste (Identical Letter)

Enclosures:
1. NAVSTA Everett Location Map
2. NAVSTA Everett APE Map
3. NAVSTA Everett NEPA Alternatives 1 and 2 Map
4. NAVSTA Everett NEPA Alternatives 1 and 2 Table

NAVSTA EVERETT LOCATION MAP



Enclosure (1)

NAVSTA EVERETT APE MAP

Enclosure (2)

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 MAP

NAVSTA EVERETT NEPA ALTERNATIVES 1 AND 2 TABLE

Alternative	Description	Buildings/Structures
1	New facilities and associated infrastructure to support FFG crews	1. Construct Administrative Support Facility (up to 3 stories) with approximately **50,000 square feet** (SF). Facility may be a stand-alone structure or an addition to an existing building. The facility would be located within the Administrative District. Minor interior renovations (approximately **2,500 SF**) may also occur. 2. Two 1-story reinforced concrete shelter additions on the pier (constructed within the last 30 years) deck with combined total 400 SF. 3. Construct multi-story approximately 41,000 SF addition on the Fleet Region Readiness Center (constructed within the last 15 years). 4. Potential 35-space parking lot on existing impervious surface. 5. Stormwater management facilities. 6. Electrical and mechanical utilities. 7. Road and parking lot resurfacing.
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Appendix F
Tribal Government-to-Government Documentation

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Navy to Tribal Governments March 29, 2022

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
29 Mar 22

The Honorable Steve Edwards
Swinomish Indian Tribal Community
11404 Moorage Way
La Conner, WA 98257

Dear Chairman Edwards,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

In recognition of the Department of the Navy's consultation responsibilities, I would like to inform you that the U.S. Navy is proposing to establish facilities and functions at Naval Station (NAVSTA) Everett (Enclosure 1) to support West Coast homeporting of 12 Constellation (FFG 62) Class Frigates. The proposed action is needed to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide.

The Navy is in the early stages of preparing an Environmental Assessment (EA) for the proposed action, which includes construction of multi-story training and support facilities for squadrons and crews; construction of personal vehicle parking and stationing of approximately 5,100 military and civilian personnel, plus their family members. The EA is expected to take approximately one year to complete, with a Draft EA anticipated to be available for public review in the fall of 2022 and a final decision document expected in early 2023. The homeporting of ships and personnel would be phased over a period of nine years beginning with the arrival of initial personnel in fiscal year 2024. The Navy is currently developing alternatives for the placement of new facilities within existing NAVSTA Everett property or on adjacent property.

FFG-62 ships would be berthed at NAVSTA Everett's existing piers (Enclosure 2) and there are no requirements under the proposed action to modify existing piers or to conduct in-water work. With a phased approach, the first FFG-62 ship is expected to arrive in fiscal year 2026. The proposed action will address any changes to the frequency of Port Security Barrier operations that may result from homeporting activities.

Pursuant to the Navy's policies for government-to-government consultations with American Indian tribes, I would like to invite you to review the information provided in this letter and offer the opportunity to brief you or your staff on the proposed action. If you determine there may be a potential to significantly affect tribal treaty rights, protected tribal resources or Indian lands

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

from the implementation of the proposed action and would like to initiate government-to-government consultation, we will continue consultation beyond the initial briefing. Please provide your response to this letter within 60 days.

I look forward to working with you to address any concerns you may have regarding this proposed action onboard NAVSTA Everett. If you have any questions or concerns, please contact me directly at (425) 304-3325 or at joshua.m.menzel.mil@us.navy.mil. Please feel free to have your staff contact Tom Dildine, NAVSTA Everett Installation Environmental Program Director, at (425) 304-3463 or thomas.e.dildine.civ@us.navy.mil.

Sincerely,

J. M. MENZEL
Captain, U.S. Navy
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett General Location Map
2. NAVSTA Everett Detail Map

2

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO
5090
N4
29 Mar 22

The Honorable Leonard Forsman
The Suquamish Tribe
PO Box 498
Suquamish, WA 98392

Dear Chairman Forsman,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

In recognition of the Department of the Navy's consultation responsibilities, I would like to inform you that the U.S. Navy is proposing to establish facilities and functions at Naval Station (NAVSTA) Everett (Enclosure 1) to support West Coast homeporting of 12 Constellation (FFG 62) Class Frigates. The proposed action is needed to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide.

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SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

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Sincerely,

J. M. MENZEL
Captain, U.S. Navy
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett General Location Map
2. NAVSTA Everett Detail Map

2

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
29 Mar 22

The Honorable Teri Gobin
Tulalip Tribes
6406 Marine Drive
Tulalip, WA 98271

Dear Chairwoman Gobin,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

In recognition of the Department of the Navy's consultation responsibilities, I would like to inform you that the U.S. Navy is proposing to establish facilities and functions at Naval Station (NAVSTA) Everett (Enclosure 1) to support West Coast homeporting of 12 Constellation (FFG 62) Class Frigates. The proposed action is needed to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide.

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SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

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Sincerely,

J. M. MENZEL
Captain, U.S. Navy
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett General Location Map
2. NAVSTA Everett Detail Map

2

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO
5090
N4
29 Mar 22

The Honorable Eric White
Stillaguamish Tribe of Indians
PO Box 277
Arlington, WA 98223

Dear Chairman White,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

In recognition of the Department of the Navy's consultation responsibilities, I would like to inform you that the U.S. Navy is proposing to establish facilities and functions at Naval Station (NAVSTA) Everett (Enclosure 1) to support West Coast homeporting of 12 Constellation (FFG 62) Class Frigates. The proposed action is needed to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide.

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Pursuant to the Navy's policies for government-to-government consultations with American Indian tribes, I would like to invite you to review the information provided in this letter and offer the opportunity to brief you or your staff on the proposed action. If you determine there may be a potential to significantly affect tribal treaty rights, protected tribal resources or Indian lands

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG 62) CLASS FRIGATES AT NAVAL STATION EVERETT WASHINGTON

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I look forward to working with you to address any concerns you may have regarding this proposed action onboard NAVSTA Everett. If you have any questions or concerns, please contact me directly at (425) 304-3325 or at joshua.m.menzel.mil@us.navy.mil. Please feel free to have your staff contact Tom Dildine, NAVSTA Everett Installation Environmental Program Director, at (425) 304-3463 or thomas.e.dildine.civ@us.navy.mil.

Sincerely,

J. M. MENZEL
Captain, U.S. Navy
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett General Location Map
2. NAVSTA Everett Detail Map

2

Navy to Tribal Governments October 10, 2023

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
10 Oct 23

The Honorable Steve Edwards
Swinomish Indian Tribal Community
11404 Moorage Way
La Conner, WA 98257

Dear Chairman Edwards,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

In recognition of the Department of the Navy's consultation responsibilities, I would like to inform you that the U.S. Navy is proposing to establish facilities and functions onboard Naval Station (NAVSTA) Everett (enclosure (1)) in Everett, Washington, to support West Coast homeporting of 12 Constellation (FFG-62) Class Frigates. The proposed action is needed to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide.

On March 29, 2022, you were notified of the Navy's proposal to homeport the FFG-62 ships onboard NAVSTA Everett and our intent to initiate an Environmental Assessment (EA) for the proposed action. Since that time, the FFG-62 program has undergone some changes in manning and infrastructure requirements. This letter is to notify you of our intent to restart the EA process and to provide some updated information on the proposed action.

The Navy is in the early stages of preparing a new EA for the proposed action, which includes construction of training and support facilities for squadrons and crews and stationing of approximately 2,900 personnel, plus their family members. The Navy is currently developing alternatives for the placement of new facilities within existing NAVSTA Everett property.

FFG-62 ships would be berthed at NAVSTA Everett's existing piers (enclosure (2))), and there are no requirements under the proposed action to modify existing piers or to conduct in-water work. The homeporting of ships and personnel would be phased in over a period of approximately 10 years beginning in fiscal year 2026. The timing of construction and delivery of ships to NAVSTA Everett may fluctuate. The proposed action will address any changes to the frequency of Port Security Barrier operations that may result from homeporting activities.

Pursuant to the Navy's policies for government-to-government consultations with American Indian tribes, I would like to invite you to review the information provided in this letter and offer

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

the opportunity to brief you or your staff on the proposed action. If you determine there may be a potential to significantly affect tribal treaty rights, protected tribal resources, or Indian lands from the implementation of the proposed action and would like to initiate government-to-government consultation, we will continue consultation beyond the initial briefing. Please provide your response to this letter within 60 days.

I look forward to working with you to address any concerns you may have regarding this proposed action onboard NAVSTA Everett. If you have any questions or concerns, please contact me directly at (425) 304-3325 or at joshua.m.menzel3@navy.mil. Please feel free to have your staff contact Kevin McKeag, NAVSTA Everett Installation Environmental Program Director, at (425) 304-3396 or kevin.j.mckeag.civ@us.navy.mil.

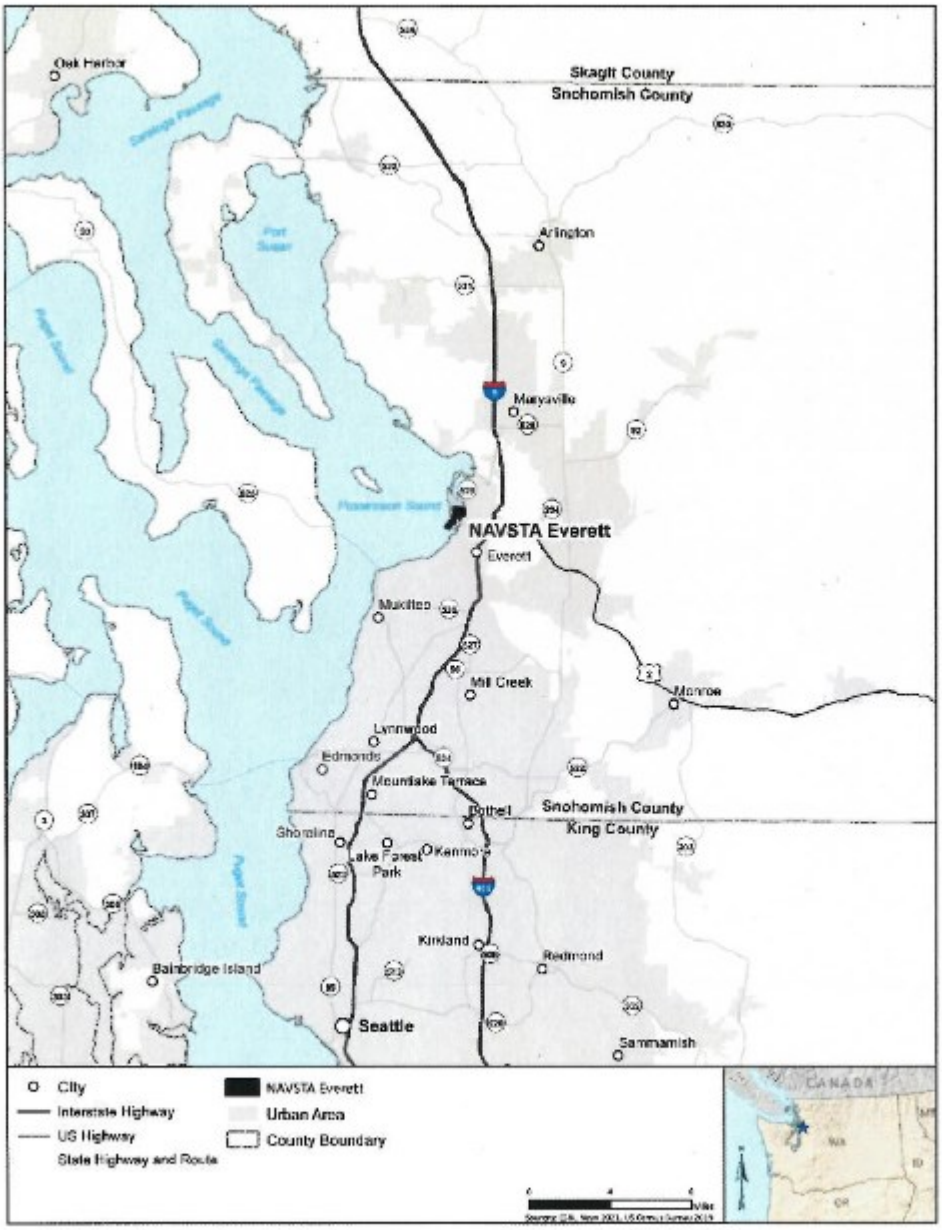
Sincerely,

Captain, USN
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett General Location Map
2. NAVSTA Everett Detail Map

2

NAVSTA Everett General Location Map



Enclosure (1)

NAVSTA Everett Detail Map

Enclosure (2)

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
10 Oct 23

The Honorable Eric White
Stillaguamish Tribe of Indians
PO Box 277
Arlington, WA 98223

Dear Chairman White,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

In recognition of the Department of the Navy's consultation responsibilities, I would like to inform you that the U.S. Navy is proposing to establish facilities and functions onboard Naval Station (NAVSTA) Everett (enclosure (1)) in Everett, Washington, to support West Coast homeporting of 12 Constellation (FFG-62) Class Frigates. The proposed action is needed to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide.

On March 29, 2022, you were notified of the Navy's proposal to homeport the FFG-62 ships onboard NAVSTA Everett and our intent to initiate an Environmental Assessment (EA) for the proposed action. Since that time, the FFG-62 program has undergone some changes in manning and infrastructure requirements. This letter is to notify you of our intent to restart the EA process and to provide some updated information on the proposed action.

The Navy is in the early stages of preparing a new EA for the proposed action, which includes construction of training and support facilities for squadrons and crews and stationing of approximately 2,900 personnel, plus their family members. The Navy is currently developing alternatives for the placement of new facilities within existing NAVSTA Everett property.

FFG-62 ships would be berthed at NAVSTA Everett's existing piers (enclosure (2)), and there are no requirements under the proposed action to modify existing piers or to conduct in-water work. The homeporting of ships and personnel would be phased in over a period of approximately 10 years beginning in fiscal year 2026. The timing of construction and delivery of ships to NAVSTA Everett may fluctuate. The proposed action will address any changes to the frequency of Port Security Barrier operations that may result from homeporting activities.

Pursuant to the Navy's policies for government-to-government consultations with American Indian tribes, I would like to invite you to review the information provided in this letter and offer

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

the opportunity to brief you or your staff on the proposed action. If you determine there may be a potential to significantly affect tribal treaty rights, protected tribal resources, or Indian lands from the implementation of the proposed action and would like to initiate government-to-government consultation, we will continue consultation beyond the initial briefing. Please provide your response to this letter within 60 days.

I look forward to working with you to address any concerns you may have regarding this proposed action onboard NAVSTA Everett. If you have any questions or concerns, please contact me directly at (425) 304-3325 or at joshua.m.menzel3@navy.mil. Please feel free to have your staff contact Kevin McKeag, NAVSTA Everett Installation Environmental Program Director, at (425) 304-3396 or kevin.j.mckeag.civ@us.navy.mil.

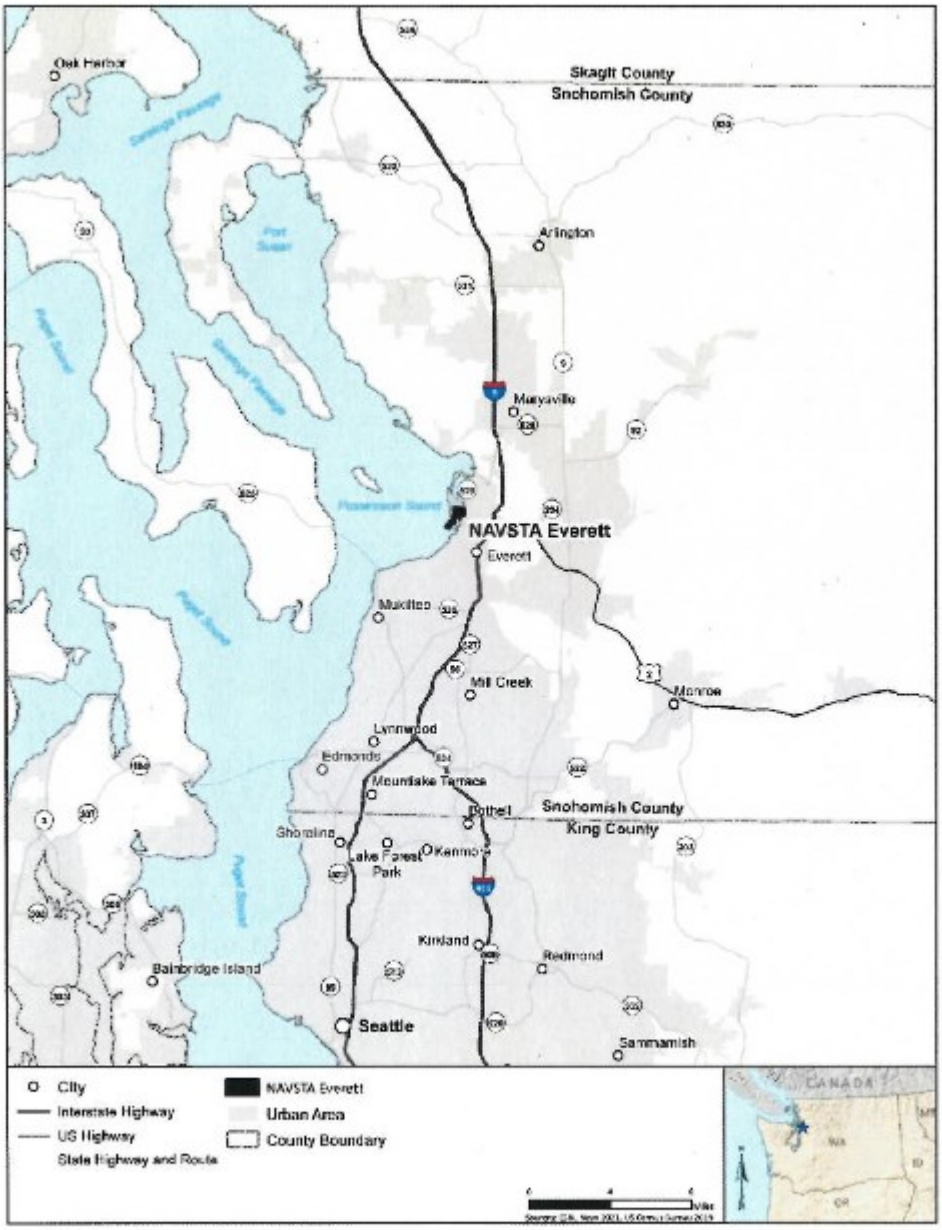
Sincerely,

J. M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

Enclosures:
1. NAVSTA Everett General Location Map
2. NAVSTA Everett Detail Map

2

NAVSTA Everett General Location Map



Enclosure (1)

NAVSTA Everett Detail Map

Enclosure (2)

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
10 Oct 23

The Honorable Leonard Forsman
The Suquamish Tribe
PO Box 498
Suquamish, WA 98392

Dear Chairman Forsman,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

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The Navy is in the early stages of preparing a new EA for the proposed action, which includes construction of training and support facilities for squadrons and crews and stationing of approximately 2,900 personnel, plus their family members. The Navy is currently developing alternatives for the placement of new facilities within existing NAVSTA Everett property.

FFG-62 ships would be berthed at NAVSTA Everett's existing piers (enclosure (2)), and there are no requirements under the proposed action to modify existing piers or to conduct in-water work. The homeporting of ships and personnel would be phased in over a period of approximately 10 years beginning in fiscal year 2026. The timing of construction and delivery of ships to NAVSTA Everett may fluctuate. The proposed action will address any changes to the frequency of Port Security Barrier operations that may result from homeporting activities.

Pursuant to the Navy's policies for government-to-government consultations with American Indian tribes, I would like to invite you to review the information provided in this letter and offer the opportunity to brief you or your staff on the proposed action. If you determine there may be a potential to significantly affect tribal treaty rights, protected tribal resources, or Indian lands

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

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I look forward to working with you to address any concerns you may have regarding this proposed action onboard NAVSTA Everett. If you have any questions or concerns, please contact me directly at (425) 304-3325 or at joshua.m.menzel3@navy.mil. Please feel free to have your staff contact Kevin McKeag, NAVSTA Everett Installation Environmental Program Director, at (425) 304-3396 or kevin.j.mckeag.civ@us.navy.mil.

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J. M. MENZEL
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Commanding Officer, Naval Station Everett

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2. NAVSTA Everett Detail Map

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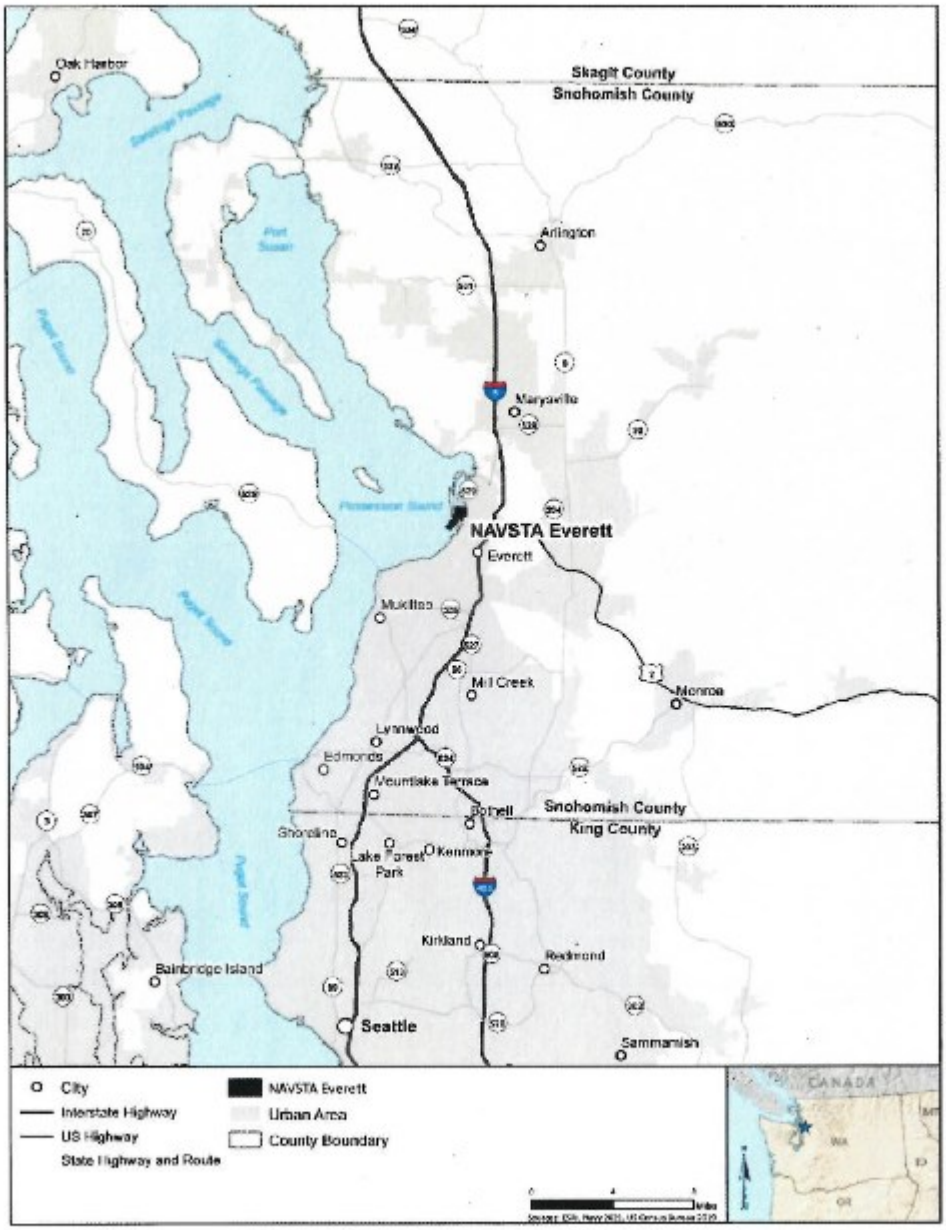

Enclosure (1)

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Enclosure (2)

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
10 Oct 23

The Honorable Teri Gobin
Tulalip Tribe
6406 Marine Drive
Tulalip, WA 98271

Dear Chairman Gobin,

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

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Pursuant to the Navy's policies for government-to-government consultations with American Indian tribes, I would like to invite you to review the information provided in this letter and offer the opportunity to brief you or your staff on the proposed action. If you determine there may be

SUBJECT: INVITATION TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION FOR THE U.S. NAVY HOMEPORTING OF CONSTELLATION (FFG-62) CLASS FRIGATES AT NAVAL STATION EVERETT, WASHINGTON

a potential to significantly affect tribal treaty rights, protected tribal resources, or Indian lands from the implementation of the proposed action and would like to initiate government-to-government consultation, we will continue consultation beyond the initial briefing. Please provide your response to this letter within 60 days.

I look forward to working with you to address any concerns you may have regarding this proposed action onboard NAVSTA Everett. If you have any questions or concerns, please contact me directly at (425) 304-3325 or at joshua.m.menzel3@navy.mil. Please feel free to have your staff contact Kevin McKeag, NAVSTA Everett Installation Environmental Program Director, at (425) 304-3396 or kevin.j.mckeag.civ@us.navy.mil.

Sincerely,

J. M. MENZEL
Captain, USN
Commanding Officer, Naval Station Everett

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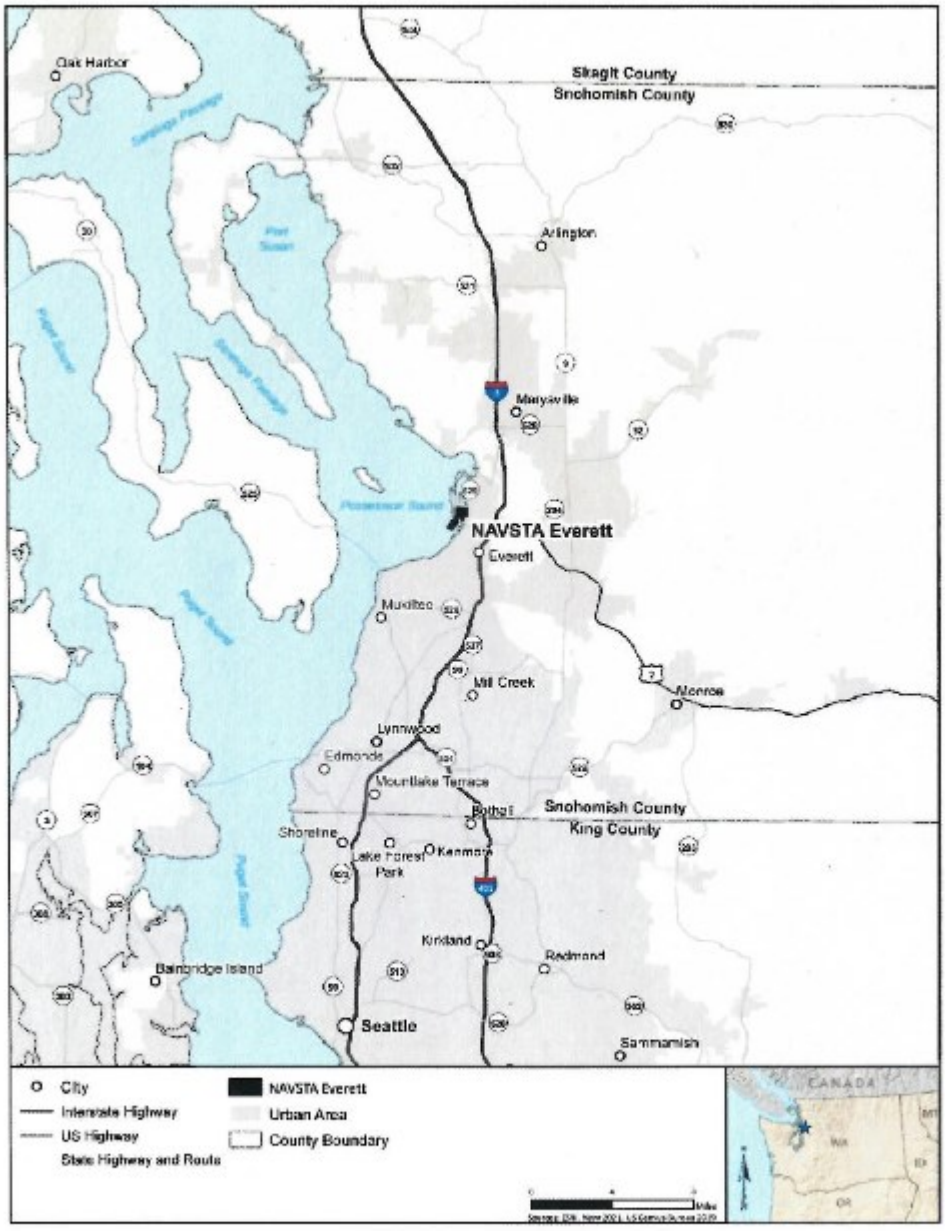

Enclosure (1)

NAVSTA Everett Detail Map

Enclosure (2)

Main Office: 360.466.3163
Facsimile: 360.466.5309

Swinomish Indian Tribal Community

A Federally Recognized Indian Tribe Organized Pursuant to 25 U.S.C. § 476
* 11404 Moorage Way * La Conner, Washington 98257 *

January 31, 2024

Captain Menzel
Commanding Officer
Naval Station Everett
2000 West Marine View Drive
Everett, WA 98207

RE: Government to Government Consultation re: Homeporting of Constellation (FFG-62) Class Frigates

Dear Captain Menzel,

I received your letter dated October 10, 2023 regarding the anticipated increase to personnel and ships at the Naval Station Everett in Everett, Washington. As you are aware, Swinomish fishers regularly exercise treaty fishing rights in waters immediately surrounding the Naval Station Everett and connecting waters.

After reviewing the proposed action, we believe that the addition of 12 new frigates and associated personnel in Everett will have a significant impact on Swinomish Treaty rights and resources. Due to that possibility, the Swinomish Senate would like to engage in government to government consultation with the Navy to discuss this proposal and how its impacts may be minimized or mitigated.

Please contact me or Staff Attorney Clyde Halstead at clyde.halstead@swinomish.nsn.us to schedule an initial consultation and discuss the project in the future.

Sincerely,

Steve Edwards, Chairman

DEPARTMENT OF THE NAVY
NAVAL STATION EVERETT
2000 WEST MARINE VIEW DRIVE
EVERETT, WA 98207-5001

IN REPLY REFER TO:
5090
N4
February 14, 2024

The Honorable Steve Edwards
Swinomish Indian Tribal Community
11404 Moorage Way
La Conner, WA 98257

Dear Chairman Edwards:

SUBJECT: FOLLOW-UP ON REQUEST TO INITIATE GOVERNMENT-TO-GOVERNMENT CONSULTATION ON THE HOMEPORTING OF CONSTELLATION CLASS FRIGATES AT NAVAL STATION EVERETT

I received your request to initiate government-to-government consultation, and my staff has reached out to Mr. Halstead and your executive assistant to schedule an initial consultation meeting with you and other representatives of the tribe. I want to thank the Swinomish Indian Tribal Community for initiating the engagement opportunity for the Navy to present information about the proposed action and appreciate the dedicated occasion to listen and learn from you about the Tribe's interests, viewpoints, and concerns.

Your letter helped me to better understand your concerns, and I would like to offer some clarifying information about the proposed action. The homeporting of the 12 new frigates and their associated personnel would occur incrementally over 10 years and would coincide with a gradual departure of 10 Navy vessels currently homeported at Naval Station Everett. Throughout the 10-year period the total number of homeported Navy vessels would fluctuate very little year to year, but the proposed action would result in an overall increase of two vessels and an end state of 14 vessels stationed at Naval Station Everett. The net total personnel supporting ships based at Naval Station Everett is also expected to remain relatively consistent.

The Navy has recently completed our draft Environmental Assessment for the proposed action, and it is now available to the public at https://www.nepa.navy.mil/FFGEverett. The public comment period ends on March 11, 2024. I respectfully invite you and your staff to review the detailed information provided in this document and hope that it may assist in our discussions at the initial consultation meeting.

I look forward to meeting with you soon. If you have any immediate questions or concerns, please contact me directly at (425) 304-3325, or joshua.m.menzel.mil@us.navy.mil. Please feel free to have your staff contact Kevin McKeag, Naval Station Everett Installation Environmental Program Director at (425) 304-3396 or kevin.j.mckeag.civ@us.navy.mil.

Sincerely,

J. M. MENZEL
Captain, U.S. Navy

CC: Clyde Halstead, Staff Attorney, Swinomish Indian Tribal Community

Appendix G
Noise Metrics and Methodology

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Noise Metrics and Methodology

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. The perception and evaluation of sound involves three basic physical characteristics:

Intensity – the acoustic energy, which is expressed in terms of sound pressure, in decibels (dB)

Frequency – the number of cycles per second the air vibrates, in Hertz (Hz)

Duration – the length of time the sound can be detected

Noise is defined as unwanted or annoying sound that interferes with or disrupts normal human activities. Although continuous and extended exposure to high noise levels (e.g., through occupational exposure) can cause hearing loss, the principal human response to noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise; perceived importance of the noise; its appropriateness in the setting, time of day, and type of activity during which the noise occurs; and sensitivity of the individual.

G.1 Basics of Sound and A-Weighted Sound Level

The loudest sounds that can be detected comfortably by the human ear have intensities that are a trillion times higher than those of sounds that can barely be detected. This vast range means that using a linear scale to represent sound intensity is not feasible. The dB is a logarithmic unit used to represent the intensity of a sound, also referred to as the sound level. Table G-1 provides a comparison of how the human ear perceives changes in loudness on the logarithmic scale.

Table G-1 Subjective Responses to Changes in A-Weighted Decibels

Change	*Change in Perceived Loudness*
3 dB	Barely perceptible
5 dB	Quite noticeable
10 dB	Dramatic – twice or half as loud
20 dB	Striking – fourfold change

Key: dB = decibels.

All sounds have a spectral content, which means their magnitude or level changes with frequency, where frequency is measured in cycles per second or Hz. To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements are usually on an "A-weighted" scale that filters out very low and very high frequencies to replicate human sensitivity. It is common to add the "A" to the measurement unit to identify that the measurement has been made with this filtering process (dBA).

Figure G-1 (Cowan, 1994) provides a chart of A-weighted sound levels from typical noise sources. Some noise sources (e.g., air conditioner, vacuum cleaner) are continuous sounds that maintain a constant sound level for some period of time. Other sources (e.g., automobile, heavy truck) are the maximum sound produced during an event like a vehicle pass-by. Other sounds (e.g., urban daytime, urban nighttime) are averages taken over extended periods of time. A variety of noise metrics have been developed to describe noise over different time periods, as discussed below.

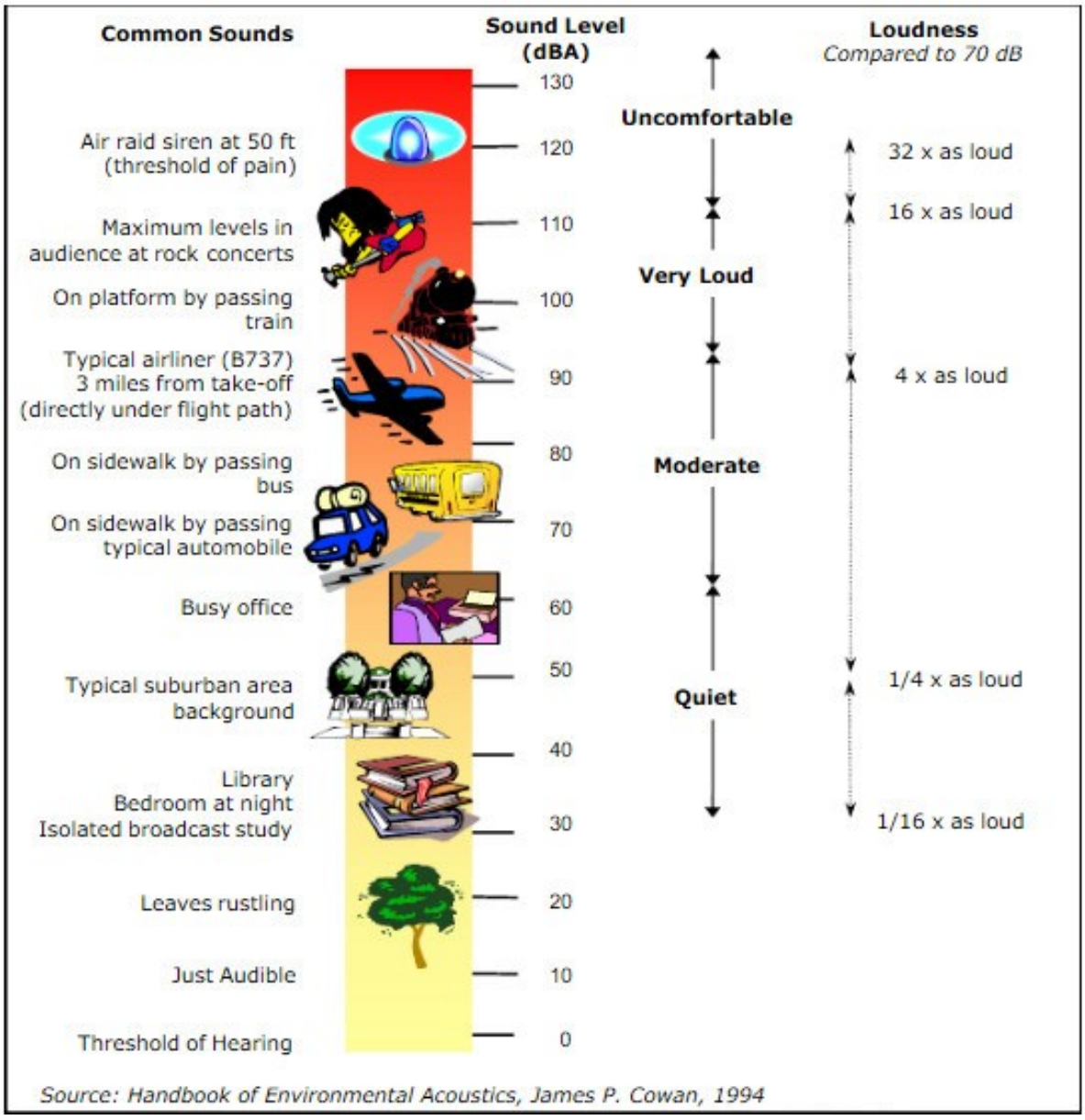

Figure G-1 A-Weighted Sound Levels from Typical Sources

G.2 Noise Metrics

A metric is a system for measuring or quantifying a particular characteristic of a subject. Since noise is a complex physical phenomenon, different noise metrics help to quantify the noise environment. This EA uses the metrics maximum noise level (L_{max}), Day-Night Average Noise Level (DNL), and equivalent noise level (L_{eq}).

Maximum Noise Level. The highest noise level measured during a single event where the noise level changes value with time is called the maximum noise level or L_{max}. The noise of a passing truck, for example, starts at the ambient or background noise level, rises to the maximum level as the truck comes closest to the observer, and returns to the background level as the truck recedes into the distance. L_{max}

defines the maximum noise level occurring for a fraction (typically 1/8th) of a second (American National Standards Institute, 1988).

Day-Night Average Noise Level. The DNL metric is the energy-averaged noise level measured over a 24-hour period, with a 10-dB penalty assigned to noise events occurring between 10 p.m. and 7 a.m. (known as "acoustic night"). DNL is the primary noise metric used by the U.S. Department of Housing and Urban Development, Federal Aviation Administration, U.S. Environmental Protection Agency, and Department of Defense to assess community reactions to noise. Research has indicated that about 87 percent of the population is not highly annoyed by outdoor noise levels below 65 dBA DNL (Federal Interagency Committee on Urban Noise, 1980). However, studies on the relationship between DNL and prevalence of annoyance have focused on the noise sources that persist for long periods of time (e.g., years). Community reactions to noise sources of short duration, such as construction noise, are not necessarily predicted with the same degree of accuracy using the DNL metric. Land use compatibility guidelines associated with particular DNL values are intended primarily for application to noise sources that last for long periods of time.

Equivalent Noise Level. The L_{eq} is the continuous noise level that would be present if all of the variations in noise level occurring over a specified time period were smoothed out as to contain the same total noise energy. The L_{eq} measured over a 24-hour period (denoted L_{eq24hr}) is equivalent to DNL except that it does not incorporate decibel penalties for late night noise events. Other common time periods described using L_{eq} are 5 minutes ($L_{eq\text{-}5min}$), 1 hour ($L_{eq\text{-}1hr}$), and 8 hours ($L_{eq\text{-}8hr}$).

G.3 Noise Effects

Several categories of potential noise effects are summarized below.

G.3.1 Annoyance

As previously noted, the primary effect of noise on exposed communities is annoyance. Annoyance is often triggered by interference of a noise with an activity such as conversation or sleep.

G.3.2 Speech Interference

Speech interference can cause disruption of routine activities, such as enjoyment of radio or television programs, telephone use, or family conversation, giving rise to frustration or irritation. Some degree of speech interference is possible whenever background noise levels exceed 50 dBA. However, people often choose to raise their voices to be heard over moderately loud background noise. People indoors experience lower noise levels as a result of outdoor noise sources. Typical residential construction provides approximately 25 dBA outdoor-to-indoor noise level reduction while windows are closed, and speech interference indoors is unlikely when outdoor noise levels are below 75 dBA.

G.3.3 Sleep Disturbance

Sleep disturbance is often of concern in situations where noise levels would be elevated late at night when most people are asleep. Noise generated during daytime hours is less likely to result in sleep disturbance.

G.4 Noise Modeling

Construction noise levels were estimated using methods prescribed by Washington State Department of Transportation (WSDOT) (WSDOT, 2023). All construction equipment noise levels used in modeling except those associated with impact pile driving were also based on WSDOT recommendations. Noise

levels associated with impact driving of 24-inch piles were based on measurements conducted by the U.S. Navy at Naval Base Kitsap – Bangor, Washington (Navy, 2015). The Navy-measured pile driving noise levels are slightly higher than values reported by WSDOT and were selected to ensure that impacts would not be underrepresented. The formula used to determine construction noise levels at a specific distance assumed that there is no intervening topography or structures and assumes that noise propagation is over hard surfaces (e.g., concrete) with minimal impedance.

G.5 References

Author	*Date*	*Title*
American National Standards Institute	1988	American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, ANSI S12-9-1988. New York: Acoustical Society of America.
Cowan, J.P.	1994	Handbook of Environmental Acoustics. New York: John Wiley & Sons.
Federal Interagency Committee on Urban Noise	1980	Guidelines for Considering Noise in Land Use Planning and Control. Washington, D.C.
Navy	2015	Proxy Source Sound Levels and Potential Bubble Curtain Attenuation for Acoustic Modeling of Nearshore Marine Pile Driving at Navy Installations in Puget Sound. Silverdale, WA: Naval Facilities Engineering Command.
Washington State Department of Transportation (WSDOT)	2023	Biological Assessment Preparation Manual. Chapter 7 Construction Noise Impact Assessment. June.