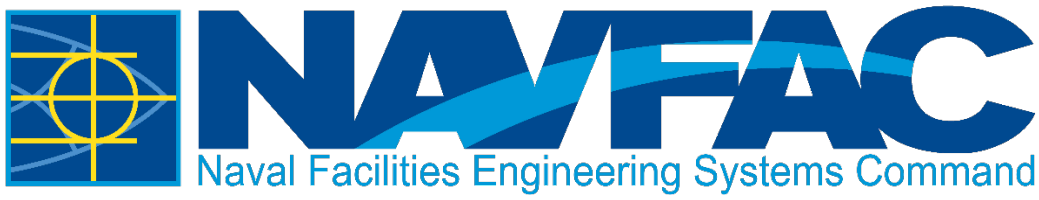


Naval Facilities Engineering Systems Command Northwest

Final

Hazardous Materials and Waste Management Plan

2021 Bangor Long-Term Monitoring, Free Product Recovery and Institutional Control Inspection

NAVAL BASE KITSAP BANGOR
SILVERDALE, WASHINGTON

July 2021

Final

Hazardous Materials and Waste Management Plan
2021 Bangor Long-Term Monitoring, Free Product Recovery, and Institutional Control Inspection
Naval Base Kitsap Bangor
Silverdale, Washington

July 28, 2021

Prepared for:

Department of the Navy
Naval Facilities Engineering Systems Command Northwest
1101 Tautog Circle, Suite 203
Silverdale, WA 98315-1101

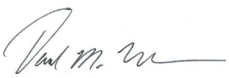
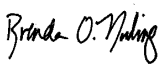
Prepared by:

EA Engineering, Science, and Technology, Inc., PBC
2200 6th Avenue, Suite 707
Seattle, WA 98121

Prepared under:

N44255-20-D-6006, Contract Task Order N4425521F4100

DCIN: EA-LTM/OM-6006-21-0182

Preparer Signature:		July 28, 2021
	David Nelson, EA Task Order Manager	Date
Reviewer Signature:		July 28, 2021
	Hannah Dennis, EA Environmental Scientist	Date
Reviewer Signature:		July 28, 2021
	Brenda Nuding, EA Program Quality Assurance Manager	Date

REVISION TRACKING

Date	Revision	Description and Sections Affected
July 2021	2	This plan is based on the Final Hazardous Materials and Waste Management Plan prepared under Task Order N4425520F4157 for 2020 Bangor Long-Term Monitoring, Free Product Recovery, and Institutional Control Inspection. Revisions are shown in red font for reviewer convenience.

This page intentionally left blank.

Table of Contents

List of Appendices

List of Figures

List of Tables

Acronyms and Abbreviations

ARAR	applicable or relevant and appropriate requirements
BEO	Bangor Environmental Office
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFD	Certificate for Disposal
CFR	Code of Federal Regulations
CHMI	Contractor Hazardous Material Inventory
DON	Department of the Navy
DOT	Department of Transportation
EA	EA Engineering, Science, and Technology, Inc., PBC
ECATTS	Environmental Compliance Assessment, Training, and Tracking System
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
GAC	granular activated carbon
HAZWOPER	Hazardous Waste Operations and Emergency Response
HM	hazardous materials
HMWMP	Hazardous Materials and Waste Management Plan
HW	hazardous waste
IC	Institutional Control
IDW	investigation-derived waste
LTM	Long-Term Monitoring
NAVBASE	Naval Base
NAVBASEKITSAPINST	Naval Base Kitsap Instruction
NAVFAC	Naval Facilities Engineering Systems Command
NTR	Navy Technical Representative
OL	originator label
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCB	polychlorinated biphenyl
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act

RPM	Remedial Project Manager
SAA	satellite accumulation area
SAP	Sampling and Analysis Plan
SDS	safety data sheet
SSHO	Site Safety and Health Officer
SWDA	Solid Waste Disposal Act
TOM	Task Order Manager
TSCA	Toxic Substance Control Act
TSD	Treatment, Storage, or Disposal
WAC	Washington Administrative Code
WIS	Waste Information Specification
WO	waste originator
WRT	Waste Retention/Transfer
WSBOSC	West Sound Base Operating Support Contractor

1. INTRODUCTION

This Hazardous Materials and Waste Management Plan (HMWMP) has been prepared by EA Engineering, Science, and Technology, Inc., PBC (EA) to support long-term monitoring (LTM), free product recovery, and institutional control (IC) inspections at Naval Base (NAVBASE) Kitsap Bangor in Silverdale, Washington (Figure 1-1). The HMWMP describes management of hazardous materials (HM) and waste management practices under Contract N44255-20-D-6006, Task Order N4425521F4100.

1.1 SITE DESCRIPTION AND BACKGROUND

NAVBASE Kitsap, Bangor covers 7,201 acres on the Kitsap Peninsula in Kitsap County, Washington at a location on Hood Canal, approximately 10 miles north of Bremerton (Figure 1-1). Land surrounding NAVBASE Kitsap, Bangor is generally undeveloped or supports limited residential uses. Naval activities began at Bangor in June 1944, when the U.S. Naval Magazine, Bangor was established. From 1944 to the early 1970s, the Bangor Navy facility was primarily used as a trans-shipment and storage point for ordnance. Ordnance arrived by train and ship to support U.S. military efforts. In February 1977, NAVBASE Kitsap, Bangor was commissioned as the west coast homeport for the Trident Submarine Launched Ballistic Missile System.

In 1978, the Navy began to evaluate waste disposal sites on base. In all, 22 areas were identified for investigation of possible hazardous substance in various environmental media (Department of the Navy [DON] 2018). In January 1990, the 22 sites were divided into eight Operable Units (OUs) for site management purposes ICs were placed on property where contaminants remain at levels above regulatory requirements for cleanup, and where potential exposure pathways may cause harm to human health and/or the environment.

1.2 SCOPE OF WORK

The scope of work for this project includes performing the following:

- Preparing planning documents;
- Sampling groundwater, taking field measurements, and performing field test kit analyses;
- Gauging and removing free product;
- Facilitating the transport of samples to an offsite laboratory for analytical testing;
- Analyzing and validating the resulting analytical data;
- Performing IC inspections; and
- Preparing and reviewing reports.

1.3 PURPOSE

The purpose of this project is to continue the required IC inspections, groundwater and free product LTM, and reporting. Descriptions of HM management follow the Naval Base Kitsap Contractors Guide to Environmental Compliance (March 2015), and descriptions of waste management practices follow the Naval Base Kitsap Instruction (NAVBASEKITSAPINST) 5090.3 (DON 2017). These practices will be applied by employees of EA and its subcontractors who are involved in LTM at NAVBASE Kitsap, Bangor in Silverdale, Washington. The HMWMP identifies reoccurring material needs, waste streams, and frequencies of use or generation under LTM, free product recovery, and IC inspection activities that EA provides to the U.S. Navy Environmental Restoration Program for NAVBASE Kitsap, Bangor. The locations for these activities are shown on Figure 1-1. Activities to be performed by EA and its subcontractors that may require materials to be brought onto NAVBASE Kitsap, Bangor or produce investigation-derived waste (IDW) include LTM, free product recovery, and IC inspection activities in accordance with the requirements specified in the OU 1 (Site A), OU 2 (Site F), and OU 8 Record of Decision documents (DON 1991, 1994, 2000).

This HMWMP will be used in conjunction with the following documents:

- Accident Prevention Plan including a Site Safety and Health Plan, which discusses the safety and health policies, practices, and controls (DON 2021a).
- Program QC Management Plan (EA 2020)
- Site-specific Sampling and Analysis Plans (SAPs) which describe the planned field monitoring, sampling, and analytical testing activities that will be performed at the following three groundwater LTM sites on base:
    - Site A (DON 2021b)
    - Site F (DON 2021c)
    - OU 8 (DON 2021d)
- Quality Control Plan (DON 2021e)
- IC Management Plan (DON 2018).

The SAPs and the IC Management Plan are the work plans for the activities described in the HMWMP. The HMWMP will be updated annually, as required, for the duration of the contract. The contents of this HMWMP are subject to review and revision as new or additional information becomes available. Changes in the Performance Work Statement, field changes, or unanticipated site conditions may require HMWMP modification and approval to retain field safety. Revisions and/or HMWMP addenda will be submitted to Naval Facilities Engineering Systems Command (NAVFAC) Northwest for acceptance.

Figure 1-1. Location of NAVBASE Kitsap, Bangor Sites

11 x 17 figure inserted in PDF

This page intentionally left blank.

2. REGULATIONS AND TRAINING

2.1 RELEVANT REGULATIONS

NAVBASEKITSAPINST 5090.3 (DON 2017) outlines regulations that govern the management of and hazardous waste (HW) in this HMWMP; Naval Base Kitsap Contractors Guide to Environmental Compliance (March 2015) outlines guidelines for the management of HM as described below.

2.1.1 Authority

Regulations for HW are issued under the authority of the Resource Conservation and Recovery Act (RCRA) of 1976, for polychlorinated biphenyls (PCBs) and some other toxic substances under the Toxic Substance Control Act (TSCA) of 1976, and for solid waste under the Solid Waste Disposal Act (SWDA) of 1965. HM spill response regulations are issued under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as well as the Superfund Amendments and Reauthorization Act of 1986. Federal regulations provide for states to administer and enforce most environmental laws as long as they are equal to or more stringent than federal regulations. The Washington Administrative Code (WAC) for the State of Washington is generally more stringent than federal regulations.

2.1.2 Federal, State, and Local Regulations

2.1.2.1 Federal Regulations

RCRA regulations are designed to control HW from the point of generation to a secure disposal, often referred to as “cradle to grave.” RCRA regulations are federally administered by the U.S. Environmental Protection Agency (EPA) and can be found in the Code of Federal Regulations (CFR), Volume 40. Subsequent changes in 40 CFR are published in the Federal Register. The regulations use the following mechanisms to control HW:

- Facilities that generate, store, treat, or dispose of HW must apply for identification numbers and comply with the conditions of the waste regulations. This HMWMP provides the actions necessary for NAVBASE Kitsap, Bangor to comply with waste regulation. NAVBASE Kitsap Bangor is a fully regulated Large Quantity Generator.
- An EPA Uniform Hazardous Waste Manifest or Bill of Lading that provides a waste description and designates the generator, transporter, and facility receiving the waste must accompany all offsite shipments. HW being transported to a

Treatment, Storage, or Disposal (TSD) facility must be properly contained, labeled, identified, and manifested per state and federal regulations.

- Other features of RCRA regulations include a notification requirement for organizations engaged in HW activities; annual report requirements; generator, transporter, and facility standards; facility inspections; personnel training; and a deadline for filing applications for facility.

TSCA regulations are designed to control toxic substances and generally require that no PCBs be used as of 1 October 1990. TSCA regulations, which are federally administered by the EPA, can be found in 40 CFR. Subsequent changes in 40 CFR are published in the Federal Register. TSCA regulations also describe the management procedures for existing PCBs and other toxic substances. The SWDA regulations are designed to control the disposal of refuse and to promote the recovery and recycling of refuse.

Project activities at NAVBASE Kitsap, Bangor CERCLA sites must comply with the federal and state applicable or relevant and appropriate requirements (ARARs). Federal, state, or local permits are not required for CERCLA-related activities; however, substantive permit conditions still apply. Project activities will comply with the substantive requirements of regulations during work activities. This HMWMP includes the ARARs relevant to HM generation, handling, transportation, and disposal.

Per U.S. Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, 33.D.03 (Department of Transportation [DOT] and Department of Defense [DoD]) training is required for persons who prepare DOT shipping papers (including hazardous waste manifests), label, package and/or mark containers for purposes of transportation. Training will be documented, and employees will be issued an appointment letter by their management.

2.1.2.2 Washington State Regulations

The Washington State Department of Ecology (Ecology) regulates many more substances through the WAC than federal regulations do. Most waste regulations are contained in WAC 173-303 (updated January 2019) and WAC 173-304. The EPA regulates Ecology to ensure that Washington State regulations are equal to or more stringent than federal regulations. Except for wastes listed or characterized as “dangerous waste” in WAC 173-303, wastes are regulated as refuse, sewage, or industrial wastes. Disposal, treatment, and recycling of dangerous waste and other materials are regulated by WAC 173-303. WAC 173-303 and WAC 173-304 also regulate the disposal and recycling of refuse and industrial waste. WAC 173-216 regulates the treatment and disposal of sewage waste.

2.1.2.3 Local Regulations

The Kitsap County Health District regulates refuse and non-hazardous solid waste per Kitsap County Board of Health Ordinance Number 2010-1, Solid Waste Regulations. Kitsap County Health District authorizes sewer discharges permitted by Washington State Waste Discharge Permit No. ST 7363 to its Publicly Owned Treatment Works at Brownsville.

2.2 TRAINING

There are specific HW regulatory training requirements from federal and state regulations that are identified in NAVBASEKITSAPINST 5090.3 (DON 2017). Training is necessary for waste originators (WOs) who oversee material used and waste generated for the Navy's Environmental Restoration Program under Contract N44255 20 D 6006 for NAVBASE Kitsap, Bangor. Training is required by CFR Titles 40 and 49, specifically 40 CFR 265 and 49 CFR 172 (Department of Transportation (DOT)) hazardous materials training, and by Ecology Dangerous Waste Regulation WAC 173-303 for persons who handle, package, stage, transport, consolidate, treat, or dispose of waste. The training listed in these sections must be completed before personnel participate in, or supervise, waste operations. WO training records will be kept on file at EA's Bangor field office and will be available upon request.

A trained and authorized WO will be onsite who is responsible for properly identifying, containing, handling, and accumulating waste generated for the Navy's Environmental Restoration Program under Contract N44255 20 D 6006 for NAVBASE Kitsap, Bangor. The WO will complete and sign Waste Information Specification (WIS) forms (Appendix A), complete and sign WO labels, manage waste accumulation areas, arrange HW pickups, and coordinate HW concerns with their Command HW Coordinator. Multiple trained WOs will be available to ensure that at least one WO is onsite any time HW is being produced. All HW produced will be turned over to trained WOs by the end of each shift. All HW will be disposed of per WIS designation. WOs are required to be trained as outlined below.

2.2.1 Routine Training Requirements

Project personnel are required to meet the Occupational Safety and Health Administration (OSHA) training requirements defined in CFR Title 29, Part 1910.120[e] and EM 385-1-1 training requirements. These requirements are:

- 40 hours of formal offsite instruction

- A minimum of 3 days of actual onsite field experience for new employees under the supervision of a trained and experienced field supervisor
- 8 hours of annual refresher training.

Additionally, HM training is required for employees who can affect the safety of HMs in transport, including those who:

- Read and interpret regulations
- Supervise HM shipping operations
- Classify or name hazardous materials for transport
- Package shipments or load containers
- Affix HM marks and labels
- Load or unload motor vehicles
- Fill out or sign HM shipping papers
- Train other HM employees.

Before work begins, project personnel will receive site-specific training that thoroughly covers the following areas:

- Names of personnel and alternates responsible for health and safety at the project site
- Health and safety hazards present onsite
- Selection of appropriate personal protection levels
- Correct use of personal protective equipment (PPE)
- Work practices to minimize risks from hazards
- Safe use of engineering controls and equipment onsite
- Medical surveillance requirements, including recognition of symptoms and signs indicating over-exposure to hazardous substances.

Copies of health and safety training records, including course completion certifications for the initial and refresher health and safety training, specialized supervisor training, and first aid and cardiopulmonary resuscitation training, will be maintained in site files by the Site Safety and Health Officer.

Selected project personnel, including employees of EA and subcontractors, will complete the following training as designated:

- **40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard Certification**—Project personnel working onsite in activities that may generate waste will have completed the 40-hour HAZWOPER Certification requirements of 29 CFR, Part 1910.120[e] and the 8-hour Annual Refresher. Supervisors will complete the one-time, 8-hour Supervisor Training.
- **Environmental Management System Awareness**—Project personnel working onsite will complete Environmental Management System Awareness training prior to commencing remedial activities at investigation sites. The training is conducted online through the Department of Defense Environmental Compliance Assessment, Training, and Tracking System (ECATTS). This training will review the specific environmental requirements to be adhered to and implemented throughout the project, including regulatory and Navy environmental requirements.
- **Waste Management**—Project personnel involved in waste management, handling, storage, and disposal, including subcontractors working onsite, will complete waste originator training and an annual refresher in order to perform waste tracking and disposal paperwork. Two people will complete the online WO training through ECATTS as indicated below in Table 2-1. This training includes the RCRA generator-training requirement. If HW is generated, personnel handling the marking, labeling, profiling, manifesting, or packaging of the HW will have current RCRA HW training. This training is required prior to handling HW and will be refreshed annually, as recommended by 40 CFR 243.201-2. Participation in the online initial course and annual refresher will be documented through ECATTS completion certificate.
- **Hazard Communication Training**—Under OSHA requirements, workers must complete hazard communication training. Project personnel working onsite will receive this training upon mobilization. Training will cover the site chemicals of concern, the chemical hazards at the worksite, familiarization with the safety data sheets (SDSs) provided in Appendix B, proper labeling of containers, and the proper use of PPE.
- **Department of Transportation (DOT) Training**—Every person performing a DOT function must be properly trained in DOT Hazardous Materials Management and Security Awareness for federal and state requirements per 49 CFR 172.704. Certificates will be maintained at the project site. DOT training requirements apply to any personnel who selects packaging; prepares HM or HW for transportation; is responsible for safe transportation of HM or HW; loads, unloads, or handles HM or HW; tests, reconditions, repairs, modifies, marks, or

otherwise represents containers as qualified for use in transporting HM or HW; or operates a vehicle used to transport HM or HW. The training is good for 3 years.

- **International Air Transport Association Dangerous Goods Regulations Training**—This training is required for every person handling or affecting the safety of shipping dangerous goods by air requirements. This training is good for 2 years.

2.2.2 Personnel Training Requirements for NAVBASE Kitsap Bangor

As a contractor that generates waste for project activities at NAVBASE Kitsap, Bangor, EA personnel are required to complete site-specific training. Per OPNAV-M-5090.1, personnel must receive site-specific initial and refresher environmental awareness training as soon as is practical after reporting to an installation and at least every 3 years. Table 2-1 lists training requirements for WOs provided by the Navy at no cost to EA.

Table 2-1. Site-Specific Training Required for Contractors

Installation	Class Name	Class Hours	Frequency
NAVBASE Kitsap, Bangor	Waste Originator's Course (ECATTS online)	0.5	Annual
	Environmental Management System Awareness (ECATTS online)	1	At least every 3 years
Note: ECATTS – Environmental Compliance Assessment, Training, and Tracking System			

2.2.3 Training Records

Copies of records documenting the applicable employee training will be filed at the project site in EA's Bangor field office.

3. MATERIALS AND INVESTIGATION DERIVED WASTE

Field activities and maintenance performed at NAVBASE Kitsap, Bangor include several activities that will bring materials onto NAVBASE Kitsap, Bangor and generate IDW. Activities and wastes are described in the subsections below. For identifying the appropriate disposition of waste, the WIS process will be followed to coordinate the BEO.

3.1 FIELD ACTIVITIES

Activities that will generate IDW include the following:

- LTM activities such as well monitoring field testing, depth to water measurements, depth to product measurements, groundwater sampling, and sampling pump maintenance;
- Product (fuel hydrocarbons) recovery from groundwater wells; and
- IC inspections, including walking sites and conducting beach profile surveys.

Table 3-1 summarizes IDW generation by activity and the requirements and procedures that govern the waste management plan. Table 3-2 lists the estimated IDW quantities. Table 3-3 provides a quick reference of approved LTM, free product recovery, and IC inspection WIS forms at the time of this plan preparation.

Materials are required to be brought onto NAVBASE Kitsap, Bangor in support of O&M activities. HM used on the project must be approved by the BEO by submitting an SDS and estimated quantity. An inventory of the hazardous materials used onsite will be maintained for the project activities. HM will be tracked throughout the project using a Contractor Hazardous Material Inventory (CHMI) Log (Appendix C). Primary WIS and SDS are included in Appendices A and B, respectively, and will be maintained in files at EA's Bangor field office as well as being kept in a binder in the field truck.

HM will not be brought onto NAVBASE Kitsap, Bangor until the material has been approved by the BEO. HM will be stored in a secure area in its original, legibly labelled, container. The CHMI Log (Appendix C) will be updated as additional materials are submitted for review and approved. HM containers will be resealed, placed in a secure area while on base, and transported off base for reuse of material at other EA projects.

3.1.1 Long-Term Monitoring

The scope of this activity includes well monitoring at Site A, Site F, and OU 8. From July 2021 through April 2022, groundwater monitoring wells within all three project

areas will be periodically inspected, gauged for depth to water and depth to product (petroleum), and sampled. After the well casings and monuments are inspected, measurements, by electric sounding tapes (water level indicator or interface probe), will be made of depth to water and, for OU 8, depth to product of gasoline or diesel in the subsurface. Sampling will be conducted with a submersible pump/peristaltic pump powered by a gas generator or with a gas-powered air compressor where dedicated bladder pumps are installed. General water quality parameters (e.g., pH, turbidity, temperature, specific conductance, dissolved oxygen, oxygen-reduction potential) will be measured with field instruments, and sample test kits will be used to measure specific constituents at some locations.

3.1.2 Product Measurement and Recovery

Monitoring wells at OU 8 are assessed to determine the presence of floating fuel. In cases of free product thicknesses greater than 0.2 foot, a bailer or peristaltic pump with tubing may be used to remove the majority of fuel. Staging of the recovered product will take place at the OU 8 treatment plant Satellite Accumulation Area (SAA) until pickup for disposal following the WIS process. Product may be accumulated at the OU 8 treatment plant for submittal to a laboratory for analysis.

3.1.3 Institutional Control Inspections

Visual inspections of ICs will be conducted at multiple Bangor locations per the IC Management Plan (DON 2018) to provide qualitative findings of conditions at sites spread across NAVBASE Kitsap, Bangor, with the exception of quantitative beach profiles at Site B. Inspections will be guided by checklists, and photographs will be taken for documentation. Beach profiles will be completed along existing transect locations using elevation survey equipment. Minor common trash may be generated during the IC inspections.

Table 3-1. Waste Management Procedures and Requirements

Project Activity	Potential Regulatory Requirements	Compliance Procedures
Waste Designation and Strategy	Washington Dangerous Waste Regulations RCRA BEO Washington Transportation of Hazardous Materials Hazardous Materials Transportation Act and Regulations Minimal Functional Standards for Solid Waste Handling	EA will work closely with NAVFAC Northwest to ensure that the following waste management procedures are met. The waste management strategy for each waste stream is presented below: **1. Well Purge, Redevelopment, and Decontamination Water**—Purge water generated during well sampling events, or water generated during aquifer testing or well redevelopment, will be containerized in drums, as will deionized or distilled water used for equipment cleaning. For decontamination water, the decontamination agent will be named on the letter requesting approval for disposal with the percentage or amount of agent used. Water generated at Site A and Site F will be processed through the treatment plants. Water generated at OU 8 will be staged at the OU 8 satellite accumulation area (SAA) to accumulate during the field activity and then be transferred to the NAVBASE Kitsap Environmental Office by notifying the (West Sound Base Operating Support Contractor) WSBOSC for pickup within 72 hours of the end of accumulation, per the approved WIS. **2. Field Test Kit Waste**—Field test kit waste from analyses for ferrous iron will be accumulated during the specific field activities at the SAA (Site A, Site F, or OU 8) where test kits are used. At the end of each field activity, ferrous iron field test kit waste will be transferred to the NAVBASE Kitsap Environmental Office by notifying the WSBOSC for pickup within 72 hours of the end of accumulation, per the approved WIS. **3. Recovered Free Product**—Where free product is observed in wells, product greater than 0.2 foot will be removed by bailer or peristaltic pump. Fuel will be pumped into a fire-safe container at the OU 8 SAA to accumulate during the field activity and then be transferred to the NAVBASE Kitsap Environmental Office by notifying the WSBOSC for pickup within 72 hours of the end of accumulation, per the approved WIS. **4. Soil and Sediment**—Site A and Site F soil cuttings from well installation or development will be retained pending analysis and then disposed of to the ground per an approved WIS. Site A and Site F influent tank sediments and well redevelopment sediment may be disposed of to the ground per an approved WIS. If the WIS designation does not allow for disposal to the ground, sediments will be stored in drums per Table 3-2. Site F infiltration wells receive potable water, and water and sediment generated during maintenance or redevelopment may be disposed of to the ground. OU 8 well installation and development soil or sediments generated during well redevelopment will be containerized pending analysis and then shipped offsite for disposal as total-petroleum, hydrocarbon-contaminated solid waste at a non-regulated waste landfill per an approved WIS, unless shown to be hazardous. If the soil is classified as hazardous, the NAVBASE Kitsap Environmental Office will be notified to arrange for acceptance and disposal, or NAVFAC Northwest may contract with EA to arrange for offsite hazardous waste transport and disposal. **5. Decontamination Water**—The decontamination agent will be named on the letter requesting approval for disposal with the percentage or amount of agent used. Water generated at Site A and Site F will be processed through the treatment plants. **6. PPE and Sample Equipment**—Used PPE and sample equipment will be collected, stored, and disposed of according to the BEO.

Table 3-1. Waste Management Procedures and Requirements

Project Activity	Potential Regulatory Requirements	Compliance Procedures
Waste Designation and Strategy (continued)		**7. Garbage**—Garbage (common trash and minor construction debris from maintenance activities) will be disposed of in a dumpster. The materials that can be placed in the trash are uncontaminated: textiles (clothing, gloves [leather gloves are discarded per approved regulations], etc.), non-recyclable paper, and food (no liquids). Materials for recycling that can be transferred include paper, glass, plastic, wood, and metal that is uncontaminated. **8. Unanticipated Waste**—The Navy Technical Representative (NTR) will be notified immediately if waste is encountered that is not anticipated or is unknown and is not part of this project. Additionally, the BEO is notified and a request is submitted for WIS to manage waste from an unknown source.
Hazardous Waste/Waste Awaiting Designation Container Management	Washington Dangerous Waste Regulations RCRA BEO Washington Transportation of Hazardous Materials Hazardous Materials Transportation Act and Regulations Minimal Functional Standards for Solid Waste Handling	Hazardous waste handling and storage procedures for unanticipated hazardous waste: **1. Container Selection**—Containers must be: – Inspected prior to use to ensure that they are in good condition and not leaking; – Evaluated prior to use to determine whether the container is compatible with the waste; – Inspected weekly while in use; and – DOT-approved and properly rated for the weight of waste to be contained. **2. Secondary Containment**—Required when accumulating: – Liquid hazardous waste within 50 feet of a storm drain; – Flammable liquid or reactive waste; and – Liquid hazardous waste at an SAA. **3. Onsite Storage**—All drums containing hazardous waste must be placed fully over secondary containment or protected from rain. A covered containment must hold the greater of 10 percent of the volume of all containers or the volume of the largest container. An uncovered area must have the capacity to hold 4 inches of rainfall, in addition to holding the greater of 10 percent of the volume of all containers or the volume of the largest container. **4. Waste Segregation**—Segregate all wastes according to source to prevent cross contamination. – Drums, lined rolloff containers, UN-rated super sacks, or plastic lining and cover will be used for soil. – Dumpsters will be used for garbage. – Drums will be used for decontamination water and purge water. – Drums or garbage will be used for PPE and used sampling equipment (PPE and sampling equipment may be added to the soil for disposal). – Containers holding IDW (IDW will be physically segregated on a pallet from designated dangerous waste). – Containers of IDW or dangerous waste will be held in a Navy-approved accumulation area with appropriate labeling.

Table 3-1. Waste Management Procedures and Requirements

Project Activity	Potential Regulatory Requirements	Compliance Procedures
Hazardous Waste/Waste Awaiting Designation Container Management (continued)		**5. Container Management**—Containers will be: – Closed at all times, except when waste is being added or removed. Liquid containers will be closed and secured with the bung screwed in. Solid waste containers will have snug-fitting lids; – Reused only for the same waste stream; – Properly labeled with the content of the container; – Positioned so that labels are clearly visible. Note that date labeling should be "Accumulation Start Date should not be placed on the label until the maximum capacity of 55 gallons of HW or 1 quart of acutely HW has been reached." Per Appendix DStored so that incompatible waste will have separate containment systems, such as a berm; and – Stored so that a minimum of 36 inches of aisle space will be maintained between each row of containers, and a row must be no more than two rows wide. – **Inventory and Tracking**— Weekly SAA inspections will be performed and tracked on inspection checklists provided in Appendix D that will be submitted to the NTR.
Investigation-Derived Waste (IDW)	Washington Dangerous Waste Regulations RCRA BEO Minimal Functional Standards for Solid Waste Handling	**Establish an SAA for temporary storage of IDW or hazardous waste awaiting disposal per the BEO-approved WIS** – Use the area only for storage of waste and not for storing non-related materials and equipment. – Follow all container requirements. – Soil cuttings and vegetation or small trees (<4 inches in diameter) will be placed alongside well accesses per the Performance Work Statement. – Purge water will be placed in sealed drums. – Pump well development water into a water tank prior to discharge to the sanitary sewer. – The BEO will identify appropriate receptacles for disposing or recycling of common trash and non-hazardous PPE. – For liquid wastes, post the emergency spill response procedures, and have a spill kit in the area or nearby. – If the IDW is flammable or reactive, keep a fire extinguisher nearby and ensure cell phones are available during the shift. – Ensure that emergency shower or properly rated eyewash stations are immediately available. – If hazardous waste is present, secure the accumulation area when authorized personnel are not present and manage the SAA per the BEO-approved SAA contractor forms provided in Appendix D.

Table 3-1. Waste Management Procedures and Requirements

Project Activity	Potential Regulatory Requirements	Compliance Procedures
Hazardous Waste Accumulation/ SAA	Washington Dangerous Waste Regulations RCRA BEO Minimal Functional Standards for Solid Waste Handling	**If waste is designated as hazardous, place in an approved SAA for offsite disposal per the BEO WIS or deliver directly to the Navy Bangor 90-Day per Day use requirements.** – The area will be used only for storage of waste and not for storing non-related materials, equipment, or functions. Follow all container requirements. – Post the emergency spill response procedures and have a spill kit in the area. – Keep a fire extinguisher, water supply, telephone, and alarm at the area. – Ensure that emergency eyewash stations are immediately available. – Lock access to the accumulation area when authorized personnel are not present. – Provide secondary containment unless this requirement is waived. – Post “HAZARDOUS WASTE ACCUMULATION AREA” and “DANGER—UNAUTHORIZED PERSONNEL KEEP OUT” signs where possible. – Conduct SAA inspections every 7 calendar days and forward copies of inspection forms to the BEO monthly. – Keep a logbook including the date, time, findings, actions taken, and inspector’s signature. – Post “NO SMOKING OR OPEN FLAME” signs where possible unless this requirement is waived. – Remove or decontaminate all containers, liners, and soil prior to closure. – Email the BEO to activate and deactivate the SAA.

Table 3-1. Waste Management Procedures and Requirements

Project Activity	Potential Regulatory Requirements	Compliance Procedures
Hazardous Waste Transport	Washington Dangerous Waste Regulations RCRA BEO Washington Transportation of Hazardous Materials Hazardous Materials Transportation Act and Regulations Minimal Functional Standards for Solid Waste Handling	If EA is managing the waste transport and disposal (that is, waste is not turned over to the BEO upon completion), EA will assist the BEO with process and generation information to prepare profiles. The BEO completes all manifests for all waste encountered at the site. **1. Profiles**—The BEO will complete all waste profiles and characterize all waste per the contract. EA will assist the BEO by providing process related information for their completion of land ban forms and profiles. **2. Manifests**—All shipments of dangerous or hazardous waste must be manifested. The BEO will generate and sign all manifests. After the waste has been designated and the disposal facility and transporter have been approved, the manifest will be generated. At the request of NAVFAC Northwest, EA may contract CHEMTREC (or equivalent) as a 24-hour emergency response communication service on the manifest and have designated personnel standing by if CHEMTREC needs assistance describing waste characterization questions. All transporters must have certified tare weights, and the truck will be weighed per the BEO instructions. **3. DOT Requirements**—All DOT-related functions must be performed by DOT-trained personnel who will properly classify, describe, package, mark, and label all waste for shipment as required by 49 CFR 171. **4. Certificate for Disposal (CFD)**—Within 10 working days after the final disposal of hazardous waste, ensure that the Treatment, Storage, or Disposal facility has submitted a CFD. The CFD will include the following: – Waste profile sheet number; – Manifest number and ship date; – Quantity disposed; – All waste disposed; – Disposal facilities (EPA I.D. number, name, location, telephone number); – Disposal method; – Date of final disposal; and – Signature of the person responsible for adequate and appropriate disposition of the waste.
Non-Hazardous Waste	WAC 173-304 BEO	**1. Profiles or Certification Sheets**—the non-hazardous waste generated will be disposed of per the approved BEO WISs (either by a Waste Coordinator contractor WIS Request or through use of the BEO's most recent Predesignated WIS Book).

Table 3-1. Waste Management Procedures and Requirements

Project Activity	Potential Regulatory Requirements	Compliance Procedures
Waste Disposal	Washington Dangerous Waste Regulations RCRA BEO CERCLA Off-Site Rule	**1.** Each disposal facility will be evaluated by the Navy and under the Subcontractor Qualification Procedures to ensure they are approved for use. The facility must demonstrate a properly designed system and must currently operate (and historically have operated) in a manner that controls the types of materials accepted for disposal. These procedures apply to hazardous, non-hazardous, and recycling facilities. **2.** Some wastes (e.g., well drilling and redevelopment water and sediment, sample purge water and decontamination water) may be approved by the BEO for onsite disposal, either at the site in accordance with CERCLA or at one of the onsite wastewater treatment plants.
Hazardous Material Storage and Usage	OSHA EM3851-1 Navy Instructions	**1.** Hazardous Materials—An inventory of all hazardous materials to be used onsite will be maintained for the project activities. Hazardous materials will be tracked throughout the project using a CHMI. **2.** Hazardous materials shall be managed and stored in accordance with all applicable regulatory requirements.

Table 3-2. Primary Investigation-Derived Waste and Estimated Quantities

Waste Name	Waste Type	Waste composition Examples	Site	Frequency	Estimated Quantity Per Event	Estimated Designation
Well Development Water	Recurring	Water	Site A, Site F	Annually	1,000 gallons	RU
Well Redevelopment Water	One Time	Water	OU 8	Annually	55 gallons x 40 drums = 2,200 gallons	D
Well Development Sediment	Recurring	Sand and silt soils from wells	Site A, Site F	Annually	1 cubic yard	RU
Well Redevelopment Sediment	One Time	Sand and silt soils from wells	OU 8	Annually	One 55-gallon drum	R
Soil Cuttings	One Time	Soil cuttings with petroleum	OU 8	Annually	10 cubic yards	R
Disposable Water Sampling Materials	Recurring	Filters, tubing, and test kit materials	Site A, Site F, OU 8	Quarterly, Semiannually, Annually	200 pounds	R
Purge Water with Gasoline	Recurring	Well sampling purge water with trace gasoline	OU 8	Daily, Weekly, Monthly	200 gallons	D
Well Water with Free Product	Recurring	Well water with gasoline	OU 8	Daily, Weekly, Monthly	25 gallons	D
Personal Protective Equipment (PPE)	Recurring	PPE used during drilling, well development, and groundwater sampling	Site A, Site F, OU 8	Quarterly, Semiannually, Annually	25 pounds	R
Refuse	Recurring	Common trash	Site A, Site F, OU 8	Quarterly, Semiannually, Annually	500 pounds	R

Notes:
Estimated Designation: D = dangerous, R = refuse, RU = reuse
This table does not take the place of a WIS form. The above table is included to provide estimated government waste designations for wastes originating from the project site during site preparation, demolition, construction, and other operations. Additions or mixing of wastes by EA into the wastes listed above shall most probably result in the estimated designations being changed during the WIS process and such wastes will be disposed of at EA's expense. Waste must have an approved WIS prior to disposal. If you do not know, ask your Waste Coordinator to help you find the proper WIS. Final WIS designations shall be provided by the BEO within 2 weeks of receiving a completed WIS form/side one from EA, unless lab sample or other additional data is required, which requires up to an additional month. Mixing or co-mingling of waste is prohibited unless approved by the BEO and supported by a Value Engineering Change Proposal.
Completed WIS forms are kept on file at EA's Bangor field office.

This page intentionally left blank.

Table 3-3. Quick Reference of Approved LTM WIS Forms

Waste Name	Site Location	Estimated Quantity	Hazard Class	Estimated Designation	WIS #
Gasoline and Water (Flammable (Petroleum Liquid (Product))	OU 8	20 gallons	3	D	81504871
Gasoline and Water (Flammable) (Purge Water with Gasoline)	OU 8	50 gallons	N/A	D	88904371
Debris/Heavy Metal (Non-flammable) (Toxic) (Soil Cuttings)	OU 8	<55 gallons	N/A	I	89550172
Petroleum Contaminated Soil (Soil Contaminated with Hydraulic Fluid - Petroleum Contaminated Soil)	Site A	<1 gallon	N/A	I	09400821
Liquids to Sanitary Sewer (Non-Hazardous Purge Water)	OU 8	200 gallons	N/A	I	48990000
Metal/Ferrous and Non-Ferrous Mixture/Recyclable (Scrap Metal)	OU 8	NA	N/A	RU	00200981
Acid Waste with Metals (Hydrogen Sulfide - Acid Waste with Metals)	Site F, Site A, OU 8	1 gallon	8	D	81507601
Non-Recyclable Solids Fire Extinguisher Waste (Refuse Debris) (Non-Hazardous)	Site F, Site A, OU 8	<3 pounds	N/A	R	38990000
Liquids to Sanitary Sewer (Ferrous Iron Field Test Kit)	Site F, Site A, OU 8	1 gallon	N/A	D	48990000
Lead Acid (Car) Battery (Corrosive) (Sealed Lead Acid Batteries)	Site F, Site A, OU 8	<10 pounds	8	I	09907111
Universal Waste Batteries (Alkaline) (Corrosive)	Site F, Site A, OU 8	<10 pounds	8	I	00900111
Liquids to Sanitary Sewer (Well Water Treated for Discharge)	OU 8	100,000 gallons	N/A	I	48990000
Street Sweeping Debris/Nonindustrial (Roadway Dirt/Soil)	OU 8	5 gallons	N/A	I	39800821
Asphalt/Concrete (No Rebar) (Painted Cement Block)	Site F	200 pounds	N/A	RU	09400101
IR Soil Place on IR Site (Well Sand - IR Soil Place on IR Site)	Site A	100 gallons	N/A	I	01800821
Non-Recyclable Solid Bentonite	Site F	50 pounds	N/A	R	38990000

Notes:
Estimated Designation: D = Dangerous, I = Industrial, R = Refuse, RU = Reuse
This table does not take the place of a WIS form. The above table is included to provide estimated government waste designations for wastes originating from the project site during site preparation, demolition, construction, and any other operations. Any additions or mixing of wastes by EA into the wastes listed above shall most probably result in the estimated designations being changed during the WIS process and all such wastes disposed of at EA's expense. Final WIS designations shall be provided by the BEO within 2 weeks of receiving a completed WIS form/side one from EA, unless lab sample or other additional data is required, which requires up to an additional month. Mixing or co-mingling of waste is prohibited unless approved by the BEO and supported by a value Engineering Change Proposal.
Completed WIS forms are kept on file at EA's Bangor field office.

3.1.4 Well Installation

Well installation is not planned for this task order but may be added later in a modification. Wells are installed periodically for monitoring at Site A, Site F, and OU 8. Soil is contained and analyzed during drilling. At Site A, soil outside the leach basin and above the water table will be spread onsite, as will sediment from well development. Soil from within the leach basin and below the water table will be contained while analysis is pending and will be managed following the WIS process. Water from well development at Site A and Site F is processed through the water treatment plants.

Soils associated with well installations in 2010 at OU 8 were contained and analyzed, and then managed following the WIS process for transport of soil from NAVBASE Kitsap, Bangor for disposal at a regulated waste landfill. Future work will follow the same approach, including submittal of a new WIS. Water produced during well installation was contained and treated onsite with a portable granular activated carbon (GAC) unit due to the presence of dissolved petroleum and chlorinated volatile organics. Laboratory analysis of the treated water supported discharge to the sanitary sewer. Designation of spent carbon per the WIS process allows its disposal as HW to an approved offsite regeneration facility.

Bentonite is used during well installation. Excess used bentonite from around the developed well will be collected in bags and disposed of in the solid waste dumpster at the Site F treatment plant, per the WIS. Drillers will collect and manage excess unused bentonite material.

For new well installation at Site F, soil above the water table will be spread onsite, while soil below the water table as well as sediment from well development will be contained and analyzed for ordnance compounds, with contained soil retained at each well location while analysis is pending for waste management following the WIS process. Well installation soil cuttings, from well F-DW01 installed at Site F in Fall 2013, were characterized through sampling and laboratory analysis for possible site contaminants which resulted in an approved WIS that allowed spreading the soil cuttings on the ground. Well F-DW02 installed in 2015 is located approximately 20 feet from existing well F-DW01. Due to this proximity, the approved WIS for F-DW01 was applied to F-DW02. Well installation soil cuttings from wells F-DW03 and F-DW04 installed in 2015 were characterized through sampling and laboratory analysis for possible site contaminants. This resulted in an approved WIS that allows spreading soil cuttings on the ground.

3.1.5 Well Cleaning and Redevelopment

Well cleaning/redevelopment is not planned for this task order but may be added later

in a modification. Wells included in the active groundwater treatment systems at Site A and Site F require periodic cleaning and redevelopment that yields water and sediment. Extraction well cleaning and redevelopment produces sediment and water removed from the well that contains trace ordnance compounds. Recovered water is processed through the water treatment plant. A surfactant (such as CETCO SC-200) along with a mild acid and chelating agent (such as CETCO LBA and DPA) may be used to remove mineral and bacterial buildup during redevelopment of extraction wells. When these additives are used, pumping from the extraction wells will follow immediately afterward to capture the cleaning fluids for processing through the Sites A and F water treatment systems. In 2011, sediment from redevelopment of Site F extraction wells F-EW2, F-EW5, F-EW6, and F-EW10 was shown—through sampling and laboratory analysis—to be below detection for possible site contaminants, and has been approved through the WIS process for spreading on the ground.

Wells F-EW1, F-EW3, F-EW4, F-EW7, and F-EW8 were redeveloped in fall 2013 and sediments were submitted for laboratory analysis. Sediments from these wells were characterized as non-hazardous due to very low detections of ordnance analytes. For redevelopment waste for Site F extraction wells not yet characterized, WIS forms with lab analysis will be generated separately for waste from each well to determine whether the soil can be spread onsite. For Site F infiltration wells, which receive potable water from the treatment plant, no chemicals will be added to perform mechanical cleaning of wells, and water and sediment will be discharged to the ground in a manner that does not create surface runoff.

For well maintenance, EA may pull dedicated sampling pumps in some wells to determine the total depth to bottom. Pumps may also be pulled for maintenance if they falter during operation. Minor common trash may be generated and disposed of properly as solid waste during well maintenance.

3.2 WASTE STREAMS AND MANAGEMENT

LTM, free product recovery, and IC inspection field activities will generate several types of IDW. This HMWMP describes:

- The type and estimated quantities of IDW anticipated;
- The procedures that will be used to contain, store, document, and characterize the IDW; and
- The presumed disposal and recycling options.

Subcontractors managed by EA will manage their waste generated on this project including any potential hazardous or dangerous waste in accordance with this HMWMP and all applicable regulatory requirements pertaining to transportation, recycling, and disposal.

IDW generated during LTM field activities will include the following:

- Well purge and decontamination water
- Disposable sampling materials
- Waste resulting from field test sampling kits
- Recovered petroleum product, such as gasoline
- Soil cuttings from well installation, and sediment from development/redevelopment
- Well development and redevelopment water and associated decontamination water
- PPE
- Common trash and construction debris.

Table 3-1 lists the waste management procedures and requirements pertinent, or potentially applicable, to IDW that is anticipated to be generated during field activities. All waste (except spent ferrous iron test kit material, OU 8 recovered product, OU 8 purge water, OU 8 redevelopment water, and OU 8 decontamination water) is presumed to be non-hazardous based on previous site data. However, Table 3-1 includes procedures and requirements that will be followed if HW is encountered during field activities.

Waste management will follow the WIS process at NAVBASE Kitsap, Bangor. Contractor personnel have completed the NAVBASE Kitsap, Bangor WO course and will take the course refresher when their year-long approval expires. Waste management activities and associated documentation will comply with the policies and requirements for contractors as described in NAVBASEKITSAPINST 5090.3 (DON 2017). Table 3-2 lists the estimated IDW quantities. Dangerous and industrial wastes will be managed as identified in the WIS, contained and packaged per 49 CFR 172.101, and turned in to NAVBASE Kitsap Environmental Office by following the originator instructions on side two of the WIS. EA will follow the WIS process to coordinate with the WSBOSC, currently Jacobs Technologies, at the HW Retention/Transfer Facility (360-396-6918) for pickup and disposal. Per NAVBASE Kitsap Environmental requirements, the WO will:

- Complete a Contract Satellite Accumulation Area Establishment Checklist signed by EA's Task Order Manager (TOM) or designee and submit to the BEO. Blank forms are provided in Appendix D.
- Conduct SAA inspections every 7 calendar days and forward copies of inspection forms to the BEO monthly.

- Contact the WSBOSC when 55 gallons of HW is accumulated at the SAA.
- Contact the WSBOSC to ensure that the HW is picked up within 72 hours. Small quantities of HW or managed non-hazardous waste may be managed as 'day' use and dropped at the WSBOSC the same day. Contact WSBOSC for onsite pickup for small quantities 'accumulated' overnight in an SAA.

Table 3-3 provides a quick reference of approved LTM, free product recovery, and IC inspection WIS forms at the time of this plan preparation. Non-hazardous waste generated will be disposed of per the approved BEO WISs (either by a Waste Coordinator contractor WIS Request or through use of the BEO's most recent Predesignated WIS Book). A blank WIS form is provided in Appendix A; approved WIS forms (including those approved after this plan is finalized) are to be maintained in files at EA's Bangor field office. The original WIS request will be used when turning in waste.

The BEO has established SAAs at Site A, Site F, and OU 8. An SAA is a waste location at or near the point of generation where HW is initially accumulated in containers before it is collected and transferred to a 90-day waste processing area. EA will accumulate waste related to LTM, free product recovery, and IC inspection activities at Site A, Site F, and OU 8 that will follow the SAA requirements listed in Appendix D. Waste that is not allowed to be placed in refuse dumpsters or discharged to the sanitary sewer will be placed in approved waste accumulation areas to await pickup. Waste accumulation will follow the procedure by which WOs turn in unwanted HM, empty HM containers, and hazardous and industrial wastes.

The following sections summarize the management practices that will be followed for the various types of IDW. Relevant WIS forms and SDS are included as Appendices B and C, respectively, and are also maintained in files at EA's Bangor field office.

3.2.1 Well Purge and Decontamination Water

Purge water is a recurring waste that will be generated during the five groundwater sampling events at Site A, Site F, and OU 8 with durations that last from 1 day to 2 weeks. Wells will be purged of groundwater prior to sampling, and some deionized or distilled water will be used for cleaning equipment. Surface water is occasionally found inside the flush-mounted well monuments and is disposed of with the purge water for each site as described below. If a sheen is observed, the water is collected and controlled per the product recovery WIS.

Site A

Site A purge and decontamination water will be generated during the sampling events and aquifer testing. Purge water generated from the Site A field sampling activities will be processed through the onsite GAC units at the Site A Treatment Plant.

Site F

Site F purge and decontamination water will be generated during the sampling events. Purge water generated from the Site F field sampling activities will be processed through the onsite GAC units at the Site F Treatment Plant.

OU 8

For OU 8, EA will place purge water from monitoring locations in 55-gallon, sealed, bung-top drums. Drums will be staged at the OU 8 SAA within the OU 8 treatment plant fenced area. Well purge and decontamination water collected from wells with lab results that indicate benzene concentrations above 500 micrograms per liter (e.g., wells MW08, 8MW24, 8MW47, MW05, 8MW48, and 8MW06) will be collected, labeled, and disposed of as hazardous groundwater. Well purge and decontamination water collected from wells with lab results that indicate benzene concentrations below 500 micrograms per liter (e.g., wells 8MW42, 8MW33, 8MW35, 8MW03, 8MW25, 8MW13, 8MW37, and 8MW19) will be collected, labeled, and disposed of as non-hazardous groundwater. If a sheen or strong petroleum odor is present, purge water from OU 8 wells will be collected, labeled, and turned over to the base BEO for disposal as hazardous groundwater.

3.2.2 Disposable Sampling Materials, Test Kit Waste (Non-hazardous), and Personal Protective Equipment

IDW generated from sampling is a recurring waste that typically consists of disposable sampling materials, ferrous iron test kit waste (non-hazardous), and PPE. Disposable sampling material, including inline groundwater filters, and PPE will be contained in plastic garbage bags. The garbage bags will be sealed and placed into an approved NAVBASE Kitsap, Bangor refuse receptacle (trash dumpster). Approximately four 33-gallon plastic trash bags of waste are anticipated for well redevelopment activities. Approximately one 33-gallon plastic trash bag of waste is anticipated per sampling round. Per the approved WIS, non-hazardous ferrous iron test kit waste from Site A and OU 8 will be collected in a metal container to be picked up by the WSBOSC within 72 hours of the end of accumulation.

3.2.3 Free Product Recovery

Free product at OU 8 is a recurring waste generated 25 to 40 times a year. Free product encountered in a well may be recovered using the appropriate method (bailer/peristaltic pump) based on product thickness. The quantity of product recovered will be estimated and stored at the SAA located at the OU 8 treatment plant. Disposal will occur via the WIS process by notifying the WSBOSC for pickup within 72 hours of the end of accumulation or within three days of accumulating 55 gallons (maximum) of HW. Samples of product that are collected for characterization by a laboratory may require short-term accumulation in order to obtain sample volume.

Surface water is occasionally found inside the flush-mounted well monuments. If a sheen is observed, the water is collected and controlled per the product recovery WIS.

3.2.4 Well Installation and Development Soil or Sediment

Recurring soil and well sediment waste is generated at Site A, Site F, and OU 8 as new wells are installed. The approved WIS for Site A and Site F provides for spreading of soil from well installation onsite once ordnance concentrations are confirmed non-hazardous by analytical testing. Sediment from Site A well development has been approved for spreading onsite based on previous analytical results. The same process will be followed through the WIS process for Site F, wherein soil from well installation and sediment from extraction well redevelopment will be retained pending analysis. If non-hazardous, the soil will be disposed of by spreading it on the ground. Infiltration well water and redevelopment sediment may be spread on the ground.

OU 8 soil generated by well installation, once shown by analytical testing to be non-hazardous, will be transported from NAVBASE Kitsap, Bangor for disposal at a regulated waste landfill as provided in the approved WIS. While analytical results for characterization are pending, OU 8 soil generated by well installation may be stored at the site by placing it in covered or closed containers, such as 55-gallon drums or lined rolloff containers, or placed on plastic and covered by plastic. Should any soil exhibit HW characteristics, the NAVBASE Kitsap Environmental Office will be notified to arrange for acceptance and disposal of the waste in rolloff containers, or NAVFAC Northwest may contract with EA to arrange for offsite HW transport and disposal. An approved WIS with directed designation by the NAVBASE Kitsap BEO will be provided prior to onsite soil spreading or offsite disposal.

Water from installation and development is a recurring waste at Site A, Site F, and OU 8. Water from Site A and Site F well installation and development activities is processed through their respective treatment systems. OU 8 installation and

development water is processed through a portable GAC system, and the WIS allows discharge to the sanitary sewer following analytical testing.

3.2.5 Common Trash

Common trash will be collected and disposed of using the trash and recycling receptacles available for use in the vicinity of OU 8 or Site F. In most cases, common trash will be disposed of at the Site F dumpster upon completion of each field activity.

This page intentionally left blank.

4. HAZARDOUS MATERIALS SPILL RESPONSE

A spill is any unauthorized release, including leaking, pumping, emitting, emptying, discharging, injecting, escaping, leaching, disposing, or dumping of oil or hazardous substance. The Navy has defined spills in two manners: non-emergency and emergency. These are defined below with the procedures to be implemented for each.

A guide to determining the difference between an emergency and non-emergency spill is provided in the following sections.

4.1 NON-EMERGENCY SPILL EVENT

Non-emergency spills are defined as follows:

- Is not an immediate threat to human health or the environment.
- Is a known material or hazardous substance that can be cleaned up as normal house cleaning by the person who discovered the spill.
- Has not entered and does not have immediate potential of entering a waterway or waterway inlet (storm drain, sanitary sewer manhole, etc.) and remains on Navy property.
- Can be cleaned up safely by Contractor personnel without assistance from the Navy.
- Is fewer than 10 gallons.

In the event of a non-emergency spill, these procedures will be followed:

- Stop the source of the spill, if safe to do so.
- Contain the spill by keeping it away from drains or waterways and blocking off drains located near the spill if there is a chance the spill will reach them.
- Use the onsite spill response kit and wear the proper PPE to clean up the spilled material.
- Handle the spill debris or material in accordance with NAVBASEKITSAPINST 5090.3 (DON 2017).
- Immediately notify EA's Task Order Manager (TOM). The TOM will notify the NTR or Remedial Project Manager (RPM) as soon as practical, but no later than 24 hours.
- Initiate the incident reporting process using the SharePoint incident reporting system as soon as practical, but no later than 24 hours after the incident occurred.

4.2 EMERGENCY SPILL EVENT

Emergency spills are defined as follows:

- Is any release of a known or unknown material or hazardous substance that poses an immediate threat to human health, property, or the environment.
- Is not classified as a non-emergency spill event.
- Has the immediate potential to enter or has entered a drain or waterway or migrate off property.
- Requires assistance from the Navy for cleanup.
- Is more than 10 gallons if on land or any amount to any waterway.

In the event of an emergency spill, EA will do the following:

- Immediately notify Regional Dispatch by dialing 360-396-4444 or 911.
- Immediately notify the TOM, then the NTR to report the event.
- Immediately after completing short-term corrective action, report the event to the Environmental Safety Coordinator (office) or Project Manager (project/field).
- Complete incident reports to the client, as directed by the Project Manager, when working on the client's property.
- Initiate the incident reporting process using the SharePoint incident reporting system as soon as practical, but no later than 24 hours after the incident occurred.

Personnel working at NAVBASE Kitsap, Bangor are responsible for taking proper action when confronted with a spill. Depending on the size and nature of the spill, a person may attempt to clean up the spill himself or herself, but only if trained to do so. A person should ask themselves the following questions:

1. Are sufficient personnel available to clean up the spill?
2. Do I know the hazards of the spilled material?
3. Do I know how to protect myself from those hazards?
4. Is the spill contained within a building or within secondary containment? (Material entering the air, spilled onto the land, spilled into the water or any drain or outlet, or spilled onto the tidelands is not considered contained.)

If the answer is "NO," or "I DON'T KNOW," to any of these questions, then LEAVE THE SPILL ALONE and contact Regional Dispatch Center at 360-396-4444 or 911 (from a base phone) and follow the procedures listed Table 4-1.

Figure 4-1. NAVBASE Kitsap Emergency Procedures

1. EVACUATE the building or area, if required, to an upwind and upgradient location. Notify any other personnel in the area.
2. NOTIFY REGIONAL DISPATCH BY DIALING 360-396-4444 or 911. If calling from a cellular phone, call 360-396-4444.
3. REPORT THE FOLLOWING INFORMATION as applicable:
   a. Name, Organization, Phone Number
   b. Type of Emergency (Fire, Spill, Flooding, etc.)
   c. Location of Emergency
   d. Hazardous Substance(s) Involved
   e. Corrective Actions Taken (if any)
   f. Any Other Relevant Information (operations in the area, personnel injured, storm drains involved, area affected, etc.)

*Do not hang up the telephone until instructed to do so by the dispatcher.

4. AVOID CONTACT with any spilled material without proper knowledge of hazards and appropriate personal protective equipment.
5. IF POSSIBLE:
   a. Remove Injured Persons
   b. Extinguish Flame or Contain Spill
   c. Cover or Protect Drains
   d. Use a Spill Kit
6. REMAIN AT A SAFE DISTANCE AND REPORT TO THE INCIDENT COMMANDER (FIRE CHIEF) to direct emergency response personnel and provide information.

4.3 EMERGENCY SPILL RESPONSE PROCEDURES

In the event of an emergency spill, EA will immediately call the Regional Dispatch Center at 360-396-4444 or 911. The spill area will be isolated, and personnel will stay upwind and uphill of the spill, and wait for direction from the NAVBASE Kitsap, Bangor Fire Department. Contractor personnel will maintain a safe distance and attempt initial spill containment only if it can be done without endangering the safety and health of the workers.

Any spill or release to a culvert or storm drain will be considered an emergency spill event, even though it may not constitute a safety or health hazard to workers. EA will assist in the cleanup of a spill during this work.

In addition to the notification above, EA will immediately notify the NAVFAC Northwest NTR and RPM of the spill as well as the TOM. If asked, EA may assist the Navy in making notifications to Ecology, the National Response Center, or Washington State Department of Emergency Management by providing necessary information on the spill for making any required notifications.

4.4 HAZARDOUS MATERIALS MANAGEMENT

Small amounts of HM will be used in support of project activities. The HM used during the course of this project will include gasoline and lubricating oils for equipment operations as well as test kits for groundwater monitoring. These items are included on the CHMI log provided in Appendix C. The following measures will be implemented for proper HM handling:

- HM needed for the LTM, free product recovery, and IC inspection activities will be identified and tracked on a CHMI log prior to project mobilization and the material being brought onsite. In accordance with Unified Facilities Guide Specifications (Department of Defense 2021) 01 57 19 Section 3.8.1, an updated CHMI with actual hazardous material usage quantities will be submitted no later than January 31 of each calendar year during the life of the contract, or upon completion of the project (whichever occurs sooner). EA will not use HM composed of the following chemicals or substances: lead, chromium, mercury, phenol, trichloroethene, chlorofluorocarbon, halon, PCBs, asbestos, silica sand (for use as blasting agent), Class I Ozone Depleting Substances, volatile organic compounds, radioactive materials, or instruments capable of producing ionizing radiation, or the chemicals listed in 40 CFR 355.50.
- HM will be tracked throughout the project.

- Any material that needs to be brought on the installation after corrections are made to the CHMI in Appendix C, will require the submission of a new CHMI (only new material needs to be included on that CHMI).
- Unused HM will be removed from the installation for future use.
- Expected container size will generally range from approximately 1 quart to 55 gallons, and approved storage devices such as safety cans for gasoline and truck-mounted tanks for diesel will be used.
- HM will be stored in the original containers in the project support staging area, according to fire safety and environmental regulatory requirements.
- Incompatible materials will be segregated, and flammable materials will be kept in flammable materials storage lockers when not in use.
- A spill kit will be on hand for cleanup should a spill occur.

Personnel will be responsible for ensuring that HM is properly maintained and not spilled. If a spill should occur, the spill response procedures described above must be adhered to, including notification requirements. An SDS for each HM will be maintained onsite and readily available. WIS, SDS, and CHMI for the anticipated HM are included as Appendices A, B, and C, respectively, and are also maintained in files at EA's Bangor field office.

4.5 HAZARDOUS MATERIALS TRANSPORT

Staff involved in HM transportation or who are performing a DOT function onsite, such as selecting packaging, marking, labeling, or filling out DOT HM paperwork for DOT regulated HM (including any HW), must have current training in DOT Hazardous Materials Regulations, including Hazardous Materials Security Awareness. The training is good for 3 years.

Prior knowledge of site conditions suggests that most waste will be non-hazardous, although testing will be conducted to confirm the designation. In the event that IDW is identified as HW from drilling and development, the field activities will be halted while Navy personnel are alerted, including the RPM and Contracting Officer, to determine the appropriate course of action. Should HW be generated, the personnel handling the marking, labeling, profiling, manifesting, or packaging of HW must have current RCRA HW training. This training is required annually. This training is not synonymous with having a 40-hour HAZWOPER Certification. HW cannot be transported over public highway unless performed by an approved and licensed HW transporter. Under no circumstances should HW be transported over public highway by EA personnel.

A Hazardous Materials Security Plan is not required because the field activities will not include transportation of explosives.

This page intentionally left blank.

5. REFERENCES

Department of the Navy (DON). 1991. Final Record of Decision for Site A, SUBASE, Bangor. Prepared Hart Crowser. 20 December.

DON. 1994. Declaration of the Record of Decision, Decision Summary, and Responsiveness Summary for Final Remedial Action, Naval Submarine Base Bangor Site F (Operable Unit 2), Silverdale, Washington. Prepared by Hart Crowser. 1 September.

DON. 2000. Final Record of Decision, Naval Submarine Base Bangor, Operable Unit 8, Kitsap County, Washington. September.

DON. 2017. Naval Base Kitsap Instruction 5090.3, Hazardous and Industrial Waste Management. 15 October or most recent version.

DON. 2018. Institutional Controls Management Plan, Naval Base Kitsap Bangor, Silverdale, Washington. Prepared by Sealaska Environmental Services, LLC under Contract No. N44255-14-D-9011, Task Order N4425518F4370. October 19.

DON. 2019. Environmental Readiness Program Manual, OPNAV-M-5090.1, issued under Secretary of the Navy Instruction 5090.8A. September 3.

DON. 2021a. Final Accident Prevention Plan, 2021 Bangor Long-Term Monitoring, Free Product Recovery, and Institutional Control Inspection, Naval Base Kitsap Bangor, Silverdale, Washington. Prepared by EA Engineering, Science, and Technology, Inc., PBC under Contract No. N44255-20-D-6006, Task Order N4425521F4100. In preparation.

DON. 2021b. Tier II Uniform Federal Policy Sampling and Analysis Plan, Long-Term Monitoring for Site A, 2021 Bangor Long-Term Monitoring, Free Product Recovery, and Institutional Control Inspection, Naval Base Kitsap Bangor, Silverdale, Washington. Prepared by EA Engineering, Science, and Technology, Inc., PBC under Contract No. N44255-20-D-6006, Task Order N4425521F4100. In preparation.

DON. 2021c. Tier II Uniform Federal Policy Sampling and Analysis Plan, Long-Term Monitoring for Site F and Site E/11, 2021 Bangor Long-Term Monitoring, Free Product Recovery, and Institutional Control Inspection, Naval Base Kitsap Bangor, Silverdale, Washington. Prepared by EA Engineering, Science, and Technology, Inc., PBC under Contract No. N44255-20-D-6006, Task Order N4425521F4100. In preparation.

DON. 2021d. Tier II Uniform Federal Policy Sampling and Analysis Plan, Monitored Natural Attenuation for Operable Unit 8, 2021 Bangor Long-Term Monitoring, Free Product Recovery, and Institutional Control Inspection, Naval Base Kitsap Bangor, Silverdale, Washington. Prepared by EA Engineering, Science, and Technology, Inc., PBC under Contract No. N44255-20-D-6006, Task Order N4425521F4100. In preparation.

DON. 2021e. Quality Control Plan, 2021 Bangor Long-Term Monitoring, Free Product Recovery, and Institutional Control Inspection, Naval Base Kitsap Bangor, Silverdale, Washington. Prepared by EA Engineering, Science, and Technology, Inc., PBC under Contract No. N44255-20-D-6006, Task Order N4425521F4100. In preparation.

EA Engineering, Science, and Technology, Inc., PBC. 2020. Quality Control Management Plan for Naval Facilities Engineering Command, Northwest Long-Term Monitoring and Operations and Maintenance Environmental Services. February.

Department of Defense. 2021. Unified Facilities Guide Specifications. Master Updated May 15, 2021; Posted May 27, 2021. https://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs.

Appendix A
Blank Waste Information Specification Forms

This page intentionally left blank.

Appendix B
Safety Data Sheets

This page intentionally left blank.

Appendix C
Contractor Hazardous Materials Inventory Log

This page intentionally left blank.

Appendix D
Satellite Accumulation Area Requirements

This page intentionally left blank.