

Environmental Assessment Fueling Facilities

Joint Base Lewis-McChord, *Washington*

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**US Army Corps
of Engineers**
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**ENVIRONMENTAL ASSESSMENT
FUELING FACILITIES
JOINT BASE LEWIS-MCCHORD, WASHINGTON**

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Abbreviations and Acronyms

ADP	Area Development Plan
AEC	Army Environmental Command
APE	Area of Potential Effect
AR	Army Regulation
AST	Aboveground storage tank
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH ₄	methane
CO, CO ₂ , CO _{2-e}	Carbon monoxide, Carbon Dioxide, Carbon Dioxide-equivalent
COR	Contracting Officer Representative
DLA	Defense Logistics Agency
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
GAAF	Gray Army Airfield
GHG	Green House Gas
GO-CO	Government Owned – Contractor Operated
HAP	Hazardous air pollutants
HTRW	Hazardous, Toxic and Radioactive Waste
HFC	hydrofluorocarbons
INRMP	Integrated Natural Resources Management Plan
JBLM	Joint Base Lewis-McChord
LPG	Liquid petroleum gas
Lewis – North	Sites and military units on JBLM north of I-5
Lewis – Main	Sites and military units located on main area of JBLM
MBTA	Migratory Bird Treaty Act
MOGAS	Motor gasoline

MSS	Military Service Station
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NOA	Notice of Availability
NOC	Notice of Construction
NO ₂ , N ₂ O	Nitrogen dioxide, nitrous oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O & M	Operations and Maintenance
PFC	perfluorocarbons
PM _x	Particulate matter less than x microns in diameter
POL	Petroleum, oil, and lubricants
PSCAA	Puget Sound Clean Air Agency
ROI	Region of Influence
SF ₆ , SO ₂	sulfur hexafluoride, sulfur dioxide
SIP	State Implementation Plan
SPCCP	Spill Prevention Control and Countermeasure Plan
S-BE	Supplemental Biological Evaluation
TCE	trichloroethylene
UFC	Unified Facilities Criteria
µg	microgram
USFWS	United States Fish and Wildlife Service
UST	Underground storage tank
UXO	Unexploded Ordinance
WDFW	Washington Department of Fish and Wildlife
WDOE	Washington Department of Ecology

1.0 Purpose of and Need for the Proposed Action

1.1 Introduction

The United States (U.S.) Department of the Army (Army) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] §4321-4370h), as implemented by the Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508); and Army regulations for implementing NEPA (32 CFR Part 651).

The Army proposes to construct three retail fuel facilities on three sites within the boundaries of Joint Base Lewis-McChord (JBLM), Washington. In addition, three older fuel facilities that are no longer up to standard or required will be demolished. The Defense Logistics Agency (DLA) is a cooperating agency on this project.

The two approved Environmental Impact Statements (EIS) that were the basis for improving fuel facilities at JBLM are fully incorporated by reference into this EA in accordance with CEQ regulations implementing NEPA at 40 CFR Part 1502.21. The comprehensive decision making process that the two EISs present are the basis of programmatic operations and facility information on JBLM. The two EISs are:

- Final EIS for the Fort Lewis Army Growth and Force Structure Realignment, July 2010 (JBLM 2010)
- Final Programmatic EIS for the Realignment, Growth and Stationing of Army Aviation Assets, February 2011 (U.S. Army Environmental Command (AEC) 2011).

1.2 Location

JBLM is located in Washington State and occupies portions of Pierce and Thurston Counties in the western portion of the state along the Interstate 5 corridor (Figure 1-1). JBLM is approximately 45 miles south of Seattle and 15 miles south-southwest of Tacoma. JBLM is the west coast's largest military installation covering a total area of 90,836 acres. There are two airfields located within JBLM, McChord Airfield in the northeast corner and Gray Army Airfield (GAAF) in the central area. GAAF occupies approximately 600 acres in what is known as the cantonment area and is used by fixed-wing aircraft and helicopters.

The six fuel sites are located in or near four general areas of JBLM (Figure 1-2). Two sites are in Lewis-North, one is adjacent to GAAF, two are in the Lewis-Main area, and the sixth site is further north and east in the JBLM–Main area.

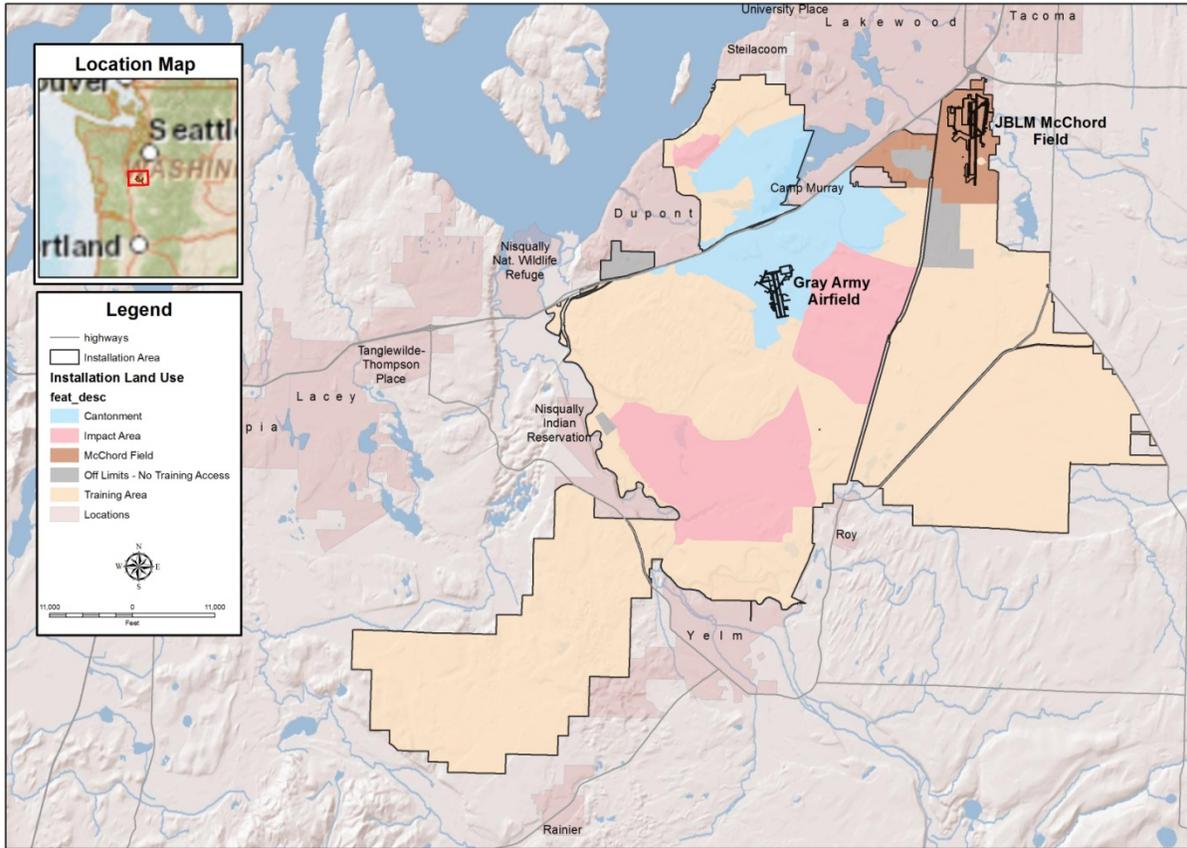


Figure 1-1. General location map of JBLM

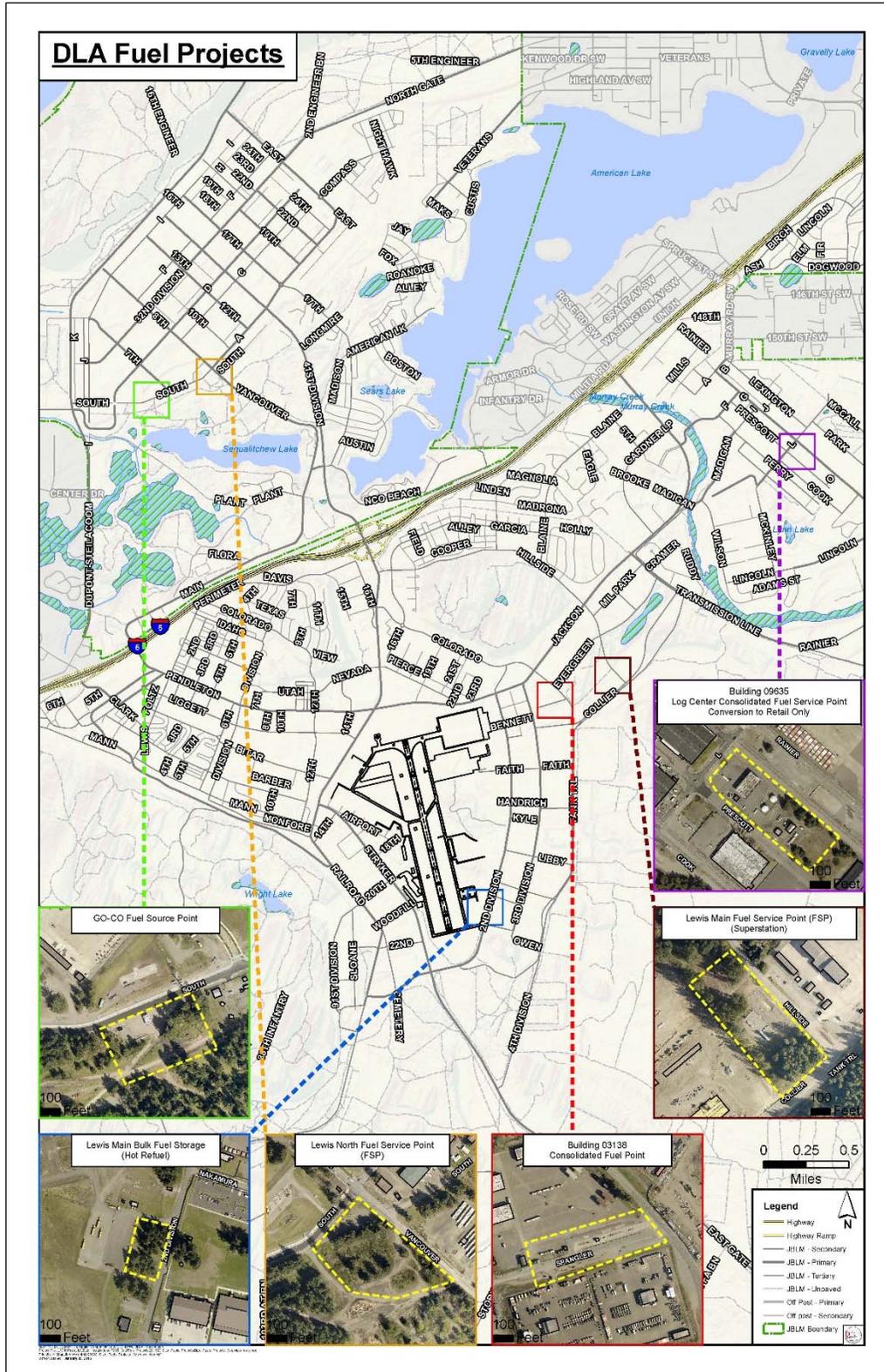


Figure 1-2. Locations of the six proposed fuel projects on JBLM, Washington

1.3 Background

JBLM is a training and mobilization center for all services and is the only Army power-projection base west of the Rocky Mountains. U.S. Northern Command (US NORTHCOM) expects JBLM to deliver strategic support from a Defense Support of Civil Authorities perspective that cannot be met with the current facilities on JBLM. The Installation Status Report – Infrastructure indicates the land vehicle capacity of the current infrastructure can service only 15 percent of the units that call JBLM home. Compared to the Unified Facilities Criteria (UFC) 3-460-01 standard of having a dispenser for every 100 vehicles, facilities at JBLM were found to be undersized for the current need. The undersized facilities promote a safety hazard as tactical vehicles block traffic by queuing on adjacent streets while waiting for service. Units are refueling in their motor pools, which increases environmental risk for Commanders since the facilities are not designed to support those types of operations (e.g., level of spill control).

Currently, fuel tanker trucks are limited to fueling two tankers trucks at a time at JBLM's only bulk fuel loading facility (9635/9636). For the brigades located on Lewis – North, this round trip task takes over an hour and requires the tanker trucks to travel through the cantonment area. Facility 9635/9636 has additional UFC 3-460-01 and National Fire Protection Association (NFPA) 30A violations: (1) bulk and retail tanks tied together performing bulk and retail functions and (2) the bulk tanks at this facility are located too close (less than 50 feet) to the active railway spur. Current fueling points are not designed efficiently for either bulk or retail functions.

Direct aircraft fueling (hot fueling) is essential for training the Aviation Brigade on safe procedures to refuel aircraft with motors running. A temporary hot refuel system is currently used to train hot refueling on two of the existing concrete pads. The temporary system is unsafe and inefficient. Aircraft wheels cannot cross the fuel lines so helicopters must hover over the lines around the taxiways to and from the hot fuel points. Propeller wash blows the fuel lines and sand bags out of place. In addition, all aircraft must be refueled using tanker trucks, which shuttle fuel between bulk fuel storage at the Logistics Center and the flight aprons where aircraft are parked. Each round trip takes approximately 50 minutes resulting in increased person-hours spent on refueling and longer aircraft turn-around times. Use of multiple tanker trucks increases operational risk by repeated maneuvering of ground vehicles around aircraft wingtips. Use of tanker trucks increases the possibility of fuel spills and accidents. It increases vapor emissions, and operating and maintenance costs for the refueling fleet. There is substantial increased operational risk and possibility of environmental contamination with continued use of the temporary hot fueling system.

It is not feasible to reconstruct the three existing hot fuel points due to multiple issues including: the western aircraft parking position is too close to the parallel taxiway and does not meet clear zone requirements; the width of the taxiways surrounding the three hot fuel points do not meet current criteria for aircraft that use GAAF, the pavement width is less than half what is required; removal of existing fuel lines, and construction of new fuel lines will require demolition of much of the existing concrete pads, taxiways, and hydrant pits.

1.4 Purpose of and Need for the Proposed Action

The purpose of this project is to provide dependable and convenient fuel storage and dispensing facilities on JBLM Lewis-Main, JBLM Lewis-North, and GAAF, and to support installation and transient tactical and non-tactical vehicles and aircraft. In addition, the Aircraft Direct Refueling System on GAAF will allow hot refueling of all Army helicopters utilizing the airfield. The existing facilities do not provide effective fueling services for existing users. The goal is to provide an environmentally safe long-term source for fueling vehicles and aircraft by replacing outdated, undersized, and poorly located facilities.

These projects are required to provide safe, efficient, expeditious, and operative means to fuel Department of Defense (DOD)/Army aviation and ground equipment, supporting five Brigade Combat Teams and one Aviation Brigade. The new facilities will replace existing facilities that are undersized, non-compliant, and pose health, safety, and environmental risks to the installation and users. Demolition of older facilities will remove the obsolete equipment and prepare the sites for future reuse or return to native conditions.

If the bulk system improvements, tanker dispensing, and hot refuel facility is not provided, all aircraft would continue to need to be fueled from fuel trucks, which causes longer operation periods due to cool down start-up cycle and long lead for trucks to travel to and from the current inadequately sized bulk storage area. Greater travel time and mixing with installation traffic increases hazard for spill contamination. Without the capability to hot refuel, aircraft required downtime to cool prior to refueling which results in time lost for training. In addition, JBLM crews will not receive critical training needed for wartime missions, peacekeeping missions, and homeland defense. Hot refueling is an inherently hazardous operation that requires a great deal of situational awareness, attention to detail and speed. Providing an engineered permanent hot refuel point that complies with UFC 3-260-01, *Airfield and Heliport Planning and Design*, reduces the inherent dangers of hot refueling.

If this project is not implemented, combat vehicles will continue to struggle to meet timely mission requirements. Additional travel required for refueling will increase wear and tear on equipment and roads, increase safety risk, as well as waste time and fuel. Units will continue to risk refueling in motor pools not designed for a refueling mission. NFPA 30A and UFC 3-460-01 violations listed earlier will not be addressed nor the safety concerns with backed up retail refueling at the current facilities since new facilities are the only way to mitigate this risk. I Corps and Special Operations units would fail to receive mobile efficient refueling operations on JBLM, which could be detrimental to their mission capabilities.

1.5 Laws, Regulations, Permits, and/or Other Consultation Requirements that Influence the Proposed Action

This EA will analyze the potential environmental effects of two alternatives: the Proposed Action and a No Action Alternative. The document analyzes direct effects (those caused by the action and occurring at the same time and place) and indirect effects (those cause by the action and occurring later in time or farther removed in distance, but that are still reasonably foreseeable). The potential for cumulative effects (effects resulting from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions) is also addressed, and mitigation measures to avoid, minimize, rectify, reduce, or compensate for impacts are identified, where appropriate.

1.6 Relationship to Statutes, Regulations, and Policies

The intent of this EA is to comply with NEPA by assessing the potential impacts of fueling facility infrastructure construction and demolition at JBLM. Additional guidance for NEPA compliance and for assessing impacts is provided in the CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and Environmental Effects of Army Actions (32 CFR Part 651).

Army decisions that affect environmental resources and conditions also occur within the framework of numerous laws, regulations and Executive Orders (EOs). Some of these authorities prescribe standards for compliance; others require specified planning and management actions, the use of which is designed to protect environmental values potentially

affected by proposed training operations. Laws and related regulations bearing on the proposed Army actions include, but are not limited to:

- Clean Air Act (CAA) (42 USC 7401 *et seq.*);
- Clean Water Act (CWA) (33 USC 1251 *et seq.*);
- National Historic Preservation Act (NHPA) (16 USC 470 *et seq.*);
- Endangered Species Act (ESA) (16 USC 1531 *et seq.*);
- Migratory Bird Treaty Act (MBTA) (16 USC 703-712);
- Bald and Golden Eagle Protection Act (16 USC 668-668d);

EOs bearing on proposed Army actions include:

- Executive Order (EO) 13175, Consultation and Coordination with Indian Tribal Governments
- EO 12898, Federal Actions to Address Environmental Justice in Minority and Low-income Populations;
- EO 11990, Protection of Wetlands;
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks;
- EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds;
- EO 12088, Federal Compliance with Pollution Control Standards; and
- EO 13148, Greening the Government through Leadership in Environmental Management.

Army actions are also governed by DOD, Army and JBLM regulations, including the following:

- Army Regulation (AR) 200-1 (Environmental Quality – Environmental Protection and Enhancement; December 13, 2007)
- JBLM Regulation 200-1 (Environmental Protection and Enhancement; November 1, 2004)
- JBLM Regulation 360-5 (Army Public Affairs – JBLM Noise and Vibration Complaint Procedure; March 13, 1998)
- AR 420-1 (Army Facility Management)
- JBLM Regulation 420-5 (Procedures for the Protection of State and Federally Listed Threatened, Endangered, Candidate Species, Species of Concern, and Designated Critical Habitat; August 9, 2004)

1.7 Public Involvement

The premise for NEPA is that providing information to the decision-maker and the public will improve the quality of final decisions concerning the environmental effects of federal actions. All persons who have a potential interest in the proposed action, including minority, low-income, and Native American groups, are urged to participate in the Army's environmental impact analysis process conducted under NEPA.

The formal opportunity to comment involved a 30-day period for public review of the draft EA and draft Finding of No Significant Impact (FONSI) starting on January 4, 2016 and ending on February 5, 2016. The Notice of Availability (NOA) of the draft EA was mailed electronically and/or hard copy to known stakeholders and interested parties on January 4, 2016. The NOA was published in two local newspapers (*Tacoma News Tribune* and *Olympia Olympian*) and

was publicized on the JBLM website. The draft EA was available for download from the JBLM website (<http://www.lewis-mcchord.army.mil/publicworks/sites/envir/eia.aspx>).

The Army reviewed all comments received during the public comment period to determine whether the proposed action has potentially significant impacts that could not be mitigated to less than significant. If impacts were found to have the potential to be significant after the application of mitigation measures, the Army would be required to publish a notice of intent to prepare an EIS in the Federal Register. If the EA results in the FONSI, the approved FONSI will be made available to the public prior to initiation of the proposed action, in accordance with 40 CFR 1506.6. If the EA does not result in a FONSI and there is no decision to prepare an EIS, the proposed action is cancelled and there is no notification requirement.

No comments received elevated the project's impacts to having a significant impact on the environment; therefore, an EIS will not need to be prepared and the decision document will be the FONSI.

2.0 Proposed Action and Alternatives

Alternatives considered under NEPA must include the proposed action (Preferred Alternative), and the No-Action alternative. The No Action alternative is included as a means of comparison to the action alternative to help distinguish the relative merits and disadvantages between alternatives. In order for any alternative to be acceptable for consideration, it must meet the purpose and need for action. Pursuant to Army Regulation 32 CFR 651, Environmental Analysis of Army Actions, the selected alternative must meet the project purpose and need and it should be environmentally acceptable, to the extent possible.

2.1 Selection Criteria

Potential alternatives that meet the purpose and need were evaluated against the following selection criteria:

- Proximity to training areas, point of use
- Land area sufficient to facilitate the number and size of fuel tanks proposed to meet mission requirements; three to four acres are required.
- GAAF flight safety zones
- Safety zones surrounding ground training areas
- Avoidance of drinking water well heads
- Avoidance of environmentally sensitive areas

2.2 No Action Alternative

Under the No Action Alternative, all fuel facilities will be left in place and existing conditions will persist. This alternative assumes that decommissioning/demolition and/or construction will not occur at any or all of the six sites. As required by CEQ guidelines, the No Action Alternative is carried forward as a baseline for the analysis in this EA.

2.3 Proposed Action

The Army proposes to construct bulk storage and retail fuel facilities on JBLM Lewis-Main and a retail fuel service station on JBLM Lewis-North to support all installation and transient tactical and non-tactical vehicles and aircraft. Facilities will include administrative space, bulk storage tanks, and fueling stations. In addition the Army proposes to construct an aircraft refueling facility, with fuel tanker and direct refuel (hot refuel) capability, consisting of bulk fuel storage, in-field tanker dispensers, a fuel hydrant system, pumps and filters, pump house, and an operations building for the helicopter hot refuel points at GAAF. Supporting facilities in the proposed construction include utilities, electric service, paving, storm drainage, oil water separators, on-site subsurface infiltration, and site improvements.

With construction of the new fuel stations, the three existing fuel facilities with equipment that is no longer up to modern standards will be decommissioned and demolished.

2.4 Alternatives Considered but Eliminated from Further Analysis

Alternate sites on JBLM were considered as locations for the fuel service and storage sites.

2.4.1 Expansion of existing retail fuel stations

Expansion of existing sites were considered; however, they did not meeting the land area requirement of three to four acres. The larger land area is required to meet demand for

increased capacity of both varieties of fuels and vehicular use, as well as room to construct required stormwater drainage improvements. The current facilities range in size from one to two acres, which was determined to be insufficient. This alternative was eliminated from further consideration because the current GO-CO facility in Lewis-North does not have room for expansion due to safety zones around ground training areas.

2.4.2 Superstation Construction at the 4th Division Drive Storm debris stockpile area

This site was considered as a location for one of the superstations; however, it was dismissed due to proximity to the mitigation area for federally threatened streaked horned larks (*Eremophila alpestris strigata*) and GAAF flight safety zones.

2.5 Alternative Carried Forward for Analysis

The Army proposes to construct three retail fuel facilities on three sites within the boundaries of JBLM. After the new facilities are operational, the three older fuel facilities that are no longer up to standard will be demolished. The proposed action includes three separable construction projects: 1) Lewis-Main Retail “Superstation”, 2) Lewis-North Retail Station, and 3) GAAF Bulk Fuel Storage and Hot Refuel. Construction at Lewis-Main “Superstation” (1) and GAAF (3) will include demolition of the existing infrastructure. Each construction project includes a demolition component, whether on the same location or facilities at another location on the base.

2.5.1 Lewis-Main Fuel Service Point

This project will construct a new Military Service Station (MSS). The 5.0-acre site is currently developed as a liquid petroleum gas (LPG) storage and distribution facility (Facility 3387) but has never been used. The site has an asphalt road, 30,000 gallon above ground storage tank (AST), concrete pads, fencing, and supporting mechanical and electrical equipment. The existing LPG tank and the entire associated infrastructure will be removed, and then the new fuel station will be constructed. New features will include:

- 2- 12,000 gallon F24 AST
- 1 - 12,000 gallon diesel AST
- 1 - 12,000 gallon motor gasoline (MOGAS) AST
- 1 - truck off-load point
- 9 - retail fuel dispensers
- 1 - petroleum, oil, lubricants (POL) operations building
- 1 - canopy over dispenser area (or multiple smaller canopies at each dispenser)
- Supporting facilities include pavement, site lighting, stormwater management, and a spill containment system.

Construction is expected to start in the spring of 2021 and is expected to take 1.5 years to complete.

2.5.2 Lewis-North Retail Station site

This project will construct a new MSS on a 4.5-acre site to improve fuel services for the northern areas of JBLM. New features will include:

- 1 - 20,000 gallon F24 AST
- 1 - 12,000 gallon MOGAS AST
- 1 - 12,000 gallon diesel AST
- 1 - Truck offload point
- 11 - retail fuel dispensers

- 1 - POL building
- 1 - canopy over dispensers (or multiple smaller canopies at each dispenser)
- New paving to cover approximately 3 acres
- Supporting facilities include pavement, site lighting, stormwater management, and a spill containment system.

After the Lewis-North Retail Station is operational, the 3 acre GO-CO Fuel Source Point (Bldg 1150), 0.4 miles away on South Drive, will be demolished in its entirety, and the site will be returned to a native state. Items to be removed include:

- Building 1150
- Retail dispensers (fuel pumps) and piping
- Bulk loading equipment
- 3 USTs
- Canopy
- Pavement
- Oil water separator

This project will be constructed in conjunction with the Lewis-Main Fuel Service Point project and on the same time line.

2.5.3 GAAF Bulk Fuel Storage and Hot Refuel

This project will construct new facilities to hot fuel military aircraft and tactical vehicles within the boundaries of GAAF. The site has the remains of a hot fuel system (Facility 3477) that was operational from 1992 to 2001. This system was damaged in the Nisqually Earthquake in 2001, and was removed or decommissioned between 2001 and 2004. Current facilities and infrastructure will be demolished, and existing vegetation within the footprint will be cleared (grass and 50-yr old trees). Fuel deliveries will be off-loaded outside the airfield perimeter fence.

Demolition work will consist of:

- Existing pavement consisting of helipads, taxiways, and parking areas (5.6 acres paved)
- Underground piping
- Building P3477 (after new POL building is operational)
- Fencing
- Clearing and grubbing of vegetation - grass and trees

Construction work consists of:

- Asphalt taxiways, shoulders, infield, roadways, and parking areas to total approximately 8 acres of paved surfaces. This pavement includes approximately 5.5 acres for the helipads and hot refueling points
- 4 - 50,000 gallon F24 ASTs
- 1 - 5,000 gallon diesel AST
- 1 - Pump house building
- 1 - POL operations building
- Underground piping
- 2 - truck offload points
- 2 - truck fill stands
- 1 - canopy over load/offload area (or smaller canopies over equipment)
- Supporting facilities include mechanical and electrical equipment; security fence; site lighting; stormwater drainage, and spill containment systems.

Construction on this fuel station is expected to start in the spring of 2020 and is expected to take approximately two years to complete.

2.5.4 Demolition of Logistics Center Consolidated Fuel Service Point (Bldg 09635)

The existing fuel storage tanks and associated piping will be removed, but undisturbed asphalt pavement will be left in place. Items to be removed include:

- 2 ATs
- 3 Underground storage tanks (USTs)
- Underground and above ground piping affiliated with the ASTs and USTs

Demolition and site repair will be completed during the years 2022-2023, after the Lewis-Main and Lewis-North projects are operational.

2.5.5 Demolition of Consolidated Fuel Point (Bldg 03138)

After the Lewis-Main Retail Superstation (Section 2.5.2) is operational in approximately 2022 to 2023, this military service station at 4th Division Drive and Spangler Avenue will be demolished and removed. All fueling equipment will be removed but undisturbed asphalt pavement and the perimeter fence will remain in place. Items to be removed include:

- Building 03138 in its entirety
- Retail dispensers (fuel pumps) and piping
- Bulk loading equipment
- 3 USTs

2.6 Design Measures, Current Practices, and Best Management Practices (BMPs)

2.6.1 Construction BMPs

To minimize environmental impacts during construction the following BMPs will be implemented:

- Clearing of existing trees and shrubs will be accomplished prior to April 1, or after September 1 to minimize adverse effects to nesting birds.
- Timber removal activities will be coordinated with JBLM Public Works Forestry Department per AR 200-1, 4-3:d8(m).
- Dust suppression methods will be utilized to minimize airborne particulate matter that is created during ground disturbing activities. Additionally, all equipment and vehicles will be required to be kept in good operating condition to minimize exhaust emissions. Standard practices, such as soil watering, keeping storage piles covered when not in use, limiting dusty work on windy days or times of day will be used to control fugitive dust during the construction phase and during daily operations and maintenance of the proposed project.
- To avoid or minimize impacts to noise, construction will occur during daylight hours, Monday through Saturday, except in emergencies. All equipment and vehicles will have properly working mufflers and be kept properly tuned to reduce backfires.
- Soil erosion-control measures, such as soil erosion-control mats, silt fences, straw bales, diversion ditches, riprap channels, water bars, or water spreaders, will be used as appropriate.

- Prior to construction starting, the contractor will complete a Stormwater Pollution Prevention Plan (SWPPP) and acquire A National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the U.S. Environmental Protection Agency (EPA)
- Provisions will be taken to prevent pollutants from reaching the soil, groundwater, or surface water. During project activities, contractors will be required to perform daily inspections of equipment, maintain appropriate spill-containment materials on site, and store all fuels and other materials in appropriate containers. Equipment maintenance activities will not be conducted on the construction site.
- Equipment will not be allowed to idle longer than 15 minutes when not in use. All motor vehicles and equipment will have mufflers conforming to original manufacturer specifications that are in good working order and are in constant operation to prevent excessive or unusual noise, fumes, or smoke.
- Temporary safety fencing will be utilized to separate work zones from sensitive areas. USTs and ASTs should undergo the normal testing and decommissioning procedures for this process.
- Monitoring wells are located in the vicinity of proposed construction sites. Any monitoring wells will be shown on design drawings for protection during construction.
- The possibility exists that unexploded ordinance (UXO) could be encountered, although because of previous ground disturbance at Lewis-North (GO-CO Fuel Source Point and Lewis-North Fuel Service Point) (located on the southern boundary of a former practice mortar range) the probability is reduced. On-call construction support will be available for the entirety of construction in the event that UXO is discovered.

2.6.2 Operations BMPs

To minimize environmental impacts during operation of the fuel stations, the following current practices and BMPs will be implemented:

- Bare ground will be reseeded as part of the final construction design along roadways, taxiways, and runways. This will allow natural dispersion of stormwater.
- Nozzles and hoses will be checked weekly for visible fuel leaks, and an inspection log will be kept.
- Any defective equipment will be removed from service until repairs can be made. The equipment defect will be reported immediately to the DWP Air Program Manager.
- A pressure-decay test will be completed every six months.
- Only certified technicians will do new installations, repairs, upgrades, and/or testing.
- All test reports will be kept at the station for at least two years after the testing date, and will be accessible for inspection.
- Check for external corrosion and structural failure in aboveground tanks. Inspect tank foundations, connections, coatings, tank walls, and piping systems. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
- Check for spills and overfills due to operator error. At least one spill kit will be kept and readily available at each fuel station. Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits

should be appropriate for the materials and the size of a potential spill. Locate spill kits within 25 feet of all fueling/fuel transfer areas, including on-board mobile fuel trucks

- Check for failure of any piping systems.
- Check for leaks or spills during pumping of liquids or gases from a truck or rail car to a storage facility or vice versa.
- Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas, subjected to pollutant material leaks or spills. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., which can contaminate stormwater.
- Visually inspect new tank or container installations for loose fittings, poor welds, and improper or poorly fitted gaskets.
- Aboveground tanks should be tested periodically for integrity by a qualified professional.
- Dry cleanup methods should be employed when cleaning up fuel-dispensing areas. Such methods include sweeping to remove litter and debris and using rags and adsorbents for leaks and spills. Water should not be used to wash these areas. During routine cleaning, use a damp cloth on the pumps and a damp mop on the pavement, rather than spraying with a hose.
- Clean oils, debris, sludge, etc. from all stormwater facilities regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems to prevent the contamination of stormwater.
- Prevent the discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground. Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local sewer authority, or to other approved treatment.
- Pressure wash impervious surfaces contaminated with oils, metals, sediment, etc. Collect the resulting washwater for proper disposal (methods will involve plugging storm drains, or otherwise preventing discharge and pumping or vactoring up washwater, for discharge to sanitary sewer or for vactor truck transport to a waste water treatment plant for disposal).
- Stencil warning signs at stormwater catch basins and drains, e.g., *"Dump no waste – Drains to waterbody."*
- Do not flush or otherwise direct absorbent materials or other spill cleanup materials to a storm drain. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.
- An Operations and Maintenance (O&M) plan will be kept at each of the stations.

2.6.3 BMPs Specific to Protected Species on GAAF

Construction of the proposed project will take longer than six months and thus will occur during the streaked horned lark nesting period (April 1 through September 15). The following actions will be initiated to minimize impacts to nesting birds during construction activities:

- A 75 foot (23 meters) buffered area around new construction sites will receive management actions to discourage birds from nesting in the buffered area. This could

include putting up a fence along the boundary of the buffered area, or grading the construction site. Any placement of material to discourage nesting will require approval from GAAF operations to address safety issues.

- The Army shall coordinate with the Service on pre-construction implementation plans and scheduling before contracts are awarded for upcoming projects.
 - Contract bidders shall be notified of the timing constraints and other criteria before accepting contracts.
 - Pre-construction implementation plans shall outline the nature of the upcoming construction activities, timing associated with each construction component, and identify which construction components can and will be done outside of the April 1 to September 15 seasonal restriction period.
 - The Army shall coordinate the pre-construction implementation plans with the Service at least 30 days before the start of construction to allow the Service time to review them and provide feedback.
- Surveys will be conducted to locate any nests within 164 ft (50 meters) of proposed construction activities.
- Maps of nest locations within 164 ft (50 meters) of construction boundary will be provided to the contracting officer representative (COR) for coordination with the contractor so that avoidance measures can be implemented to the greatest extent practical. Any activities affecting nests will be suspended or altered until nesting is complete (maximum of 35 days). Nests will be monitored throughout the nesting season to assure avoidance measures are successful in eliminating adverse impacts.
- When feasible, project activities will avoid the nesting period for the streaked horned lark (April 1 through September 15), or construction will start prior to the nesting season to help discourage nest establishment within 164 ft (50 meters) of construction sites.
- If a streaked horned lark establishes a nest within 164 ft (50 meters) of a construction project while construction activities are occurring, those activities can continue as long as no adverse effects are detected as a result of construction activity.
- Construction sites and buffer areas (less than 75 ft, 23 meters) that are graded shall be compacted unless all construction work (paving, etc.) is completed outside of the extended nesting season (April 1 through September 15). If a project spans several seasons (i.e., left vacant over a growing season), the site may need to be graded and compacted again to maintain the site in unsuitable condition for nesting and reduce the risk of fledglings entering vegetated areas and being crushed.
 - The construction site shall be monitored and ensure the site remains in unsuitable condition (un-vegetated) between April 1 through September 15.
- All equipment shall be staged on paved or recently graded and unoccupied areas (this may require surveys). Equipment shall not be within 50 meters (164 ft) of vegetated areas or edges of taxiways/runways, or anywhere that streaked horned larks may build nests (i.e., in gravelly taxiway margins).
- Barriers shall be installed before construction sites are graded and shall not be installed between April 1 through September 15. Barriers must remain in place from April 1 through September 15, or until construction is completed.

- Barrier pieces shall be installed 1 to 3 feet apart to allow flightless young to pass through and function as a visual cue to construction personnel where the boundaries of the construction activities exist.
- The Army will mark and barrier off access routes to all construction projects that occur during the nesting season prior to April 1; all marking and barrier installations shall not occur between April 1 through September 15.
- Project activities shall not generate any food or food waste that may attract corvids or other predators.

2.7 Operations and Maintenance

The fuel stations will operate seven (7) days a week to fulfill the military mission. Hours of operation depend on the type of fuel station: 1) Bulk stations normally operate between 6:30 AM to 11:30 PM; or 2) Fuel Service Points are operated at all hours as required, with keyed access.

The stations will be maintained and operated in a safe, properly equipped, and free from or protected against exposure to hazardous materials and chemicals as set forth in all the applicable regulatory documents. JBLM Regulation No. 200-1, address safety considerations for chemicals and hazardous materials used in the work areas. The procedures outlined in the *Environmental Protection Plan for Operations, Maintenance and Aircraft Refueling Services* (Doss Aviation 2015) are intended to make personnel assigned work areas better and safer places to work, and to eliminate unnecessary injury and illness due to mishandling of hazardous material or chemicals.

3.0 Affected Environment and Environmental Consequences

This chapter presents baseline data for the affected environment and an assessment of the potential impacts, or environmental consequences that could result from implementation of the proposed action. The environmental resource areas analyzed in this EA include: Air Quality, Biological; Cultural Resources; Hazardous, Toxic, and Radioactive Materials (HTRW); and Utilities, Transportation, and Infrastructure.

Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in this EA:

Geology and Hydrogeology: The proposed construction will involve ground disturbance including excavation and re-grading. No UST will be installed in these projects. Overall, the proposed action will not result in significant long-term impacts to geology and hydrogeology because of the proposed action.

Land Use: All proposed work will occur within the installation limits on JBLM in accordance with the 2012 Master Plan. This master plan identifies Area Development Plans (ADP) that has goals and plans for specified areas of the base, similar to zoning in civilian communities. The North Fort (Lewis-North) is identified as a mixed-use town center utilizing a combination of green-space, barracks, shop-front retail, and community support facilities. The Lewis-Main projects are in ADPs with identified uses that include company operations and administrative facilities. Constraints to development in the area of GAAF primarily relate to aircraft operations. The project is intended to provide infrastructure that supports operational function and will thus not change existing land uses.

Noise: Existing noise sources within the project vicinity are primarily aviation and ground based training operations and vehicular traffic. Construction activities will have a short term, localized impact to air quality and noise due to the use of heavy machinery. Any effects will be short-term, occurring only during construction.

Fisheries: None of the proposed construction and demolition projects are adjacent to streams or water bodies; therefore, the proposed work will not have direct effects to fisheries or their habitat. With the use of BMPs during construction and operation of the facilities indirect effects to fisheries or their habitat will also be avoided.

Water Quality: The proposed action is not adjacent to any waterbodies. The design footprint of the fuel stations will include improvements to the sites to allow for on-site infiltration of stormwater. All proposed construction and operations of the facilities will need to comply with applicable stormwater requirements per construction, industrial, and/or JBLM's National Pollutant Discharge Elimination System (NPDES) stormwater permit as well as those outlined in the Washington State Department of Ecology's (WDOE) Stormwater Management Manual for Western Washington (2014). In addition, the next planned revision to the installation's Spill Prevention Control and Countermeasure Plan (SPCCP) will reflect the new configurations of the facilities of the proposed action, as appropriate.

Wetlands: Wetlands are not present in or near any of the proposed construction sites, and will not be affected by the proposed work.

3.1 Air Quality

3.1.1 Regulatory Setting

Air Quality Standards. Air quality is defined as the ambient air concentrations of specific pollutants determined by the EPA, WDOE, and Puget Sound Clean Air Agency (PSCAA) to be of concern to the health and welfare of the general public. The specific pollutants include the criteria pollutants, hazardous air pollutants, and greenhouse gases (GHGs).

The criteria pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns in diameter (PM₁₀), particulate matter less than 2.5 microns in diameter (PM_{2.5}), and lead. National Ambient Air Quality Standards (NAAQS) have been established by the EPA for these criteria pollutants (EPA 2011a). Washington State has adopted the NAAQS for all criteria pollutants except for SO₂, for which the state has adopted slightly more stringent requirements (Washington Administrative Code 173-474). Table 3-1 lists the NAAQS as well as applicable state air quality standards. Depending on the type of pollutant, these maximum concentrations may not be exceeded at any time, or may not be exceeded more than once per year.

The NAAQS provide definitions of the maximum concentrations of the criteria pollutants that are considered safe, with an additional adequate margin of safety, to protect human health and welfare. Short-term standards (1-, 8-, and 24-hour periods) are established for pollutants contributing to acute health effects. Long-term standards (quarterly and annual averages) are established for pollutants contributing to chronic health effects. Air Quality Control Regions exist to assist in planning and monitoring to prevent air quality deterioration and achieve attainment status with all NAAQS.

Table 3-1. National and Washington State Ambient Air Quality Standards

Pollutant	Averaging Time	Washington Standards	National Standards	
			Primary	Secondary
Carbon Monoxide (CO)	8-hour	9 ppm	9 ppm	None
	1-hour	35 ppm	35 ppm	None
Lead	Quarterly Average	None	1.5 µg/m ³	1.5 µg/m ³
	Rolling 3-month Average	None	0.15 µg/m ³	0.15 µg/m ³
Nitrogen Dioxide (NO ₂)	Annual Average	0.05 ppm	0.053 ppm	0.053 ppm
	1-hour	None	0.100 ppm	0.053 ppm
Particulate matter less than 10 microns in diameter (PM ₁₀)	Annual Arithmetic Mean	50 µg/m ³	None	None
	24-hour	150 µg/m ³	150 µg/m ³	150 µg/m ³
Particulate matter less than 2.5 microns in diameter (PM _{2.5})	Annual Arithmetic Average	None	15.0 µg/m ³	15.0 µg/m ³
	24-hour	None	35 µg/m ³	35 µg/m ³
Ozone	8-hour (2008 standard) ^(a)	None	0.075 ppm	0.075 ppm
	8-hour (1997 standard) ^(a)	None	0.08 ppm	0.08 ppm
Sulfur dioxide (SO ₂)	Annual Average	0.02 ppm	0.03 ppm	None
	24-hour	0.10 ppm	0.14 ppm	None
	3-hour	None	None	0.50 ppm

Pollutant	Averaging Time	Washington Standards	National Standards	
			Primary	Secondary
	1-hour	0.40 ppm ^(b)	0.075 ppm ^(c)	None
Total Suspended Particulates	Annual Geometric Mean	60 µg/m ³	None	None
	24-hour average	150 µg/m ³	None	None

Notes: µg/m³= micrograms per cubic meter; ppm = parts per million

^(a) 8-hour ozone standard went into effect on September 16, 1997, but implementation is limited. The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 to the 2008 ozone standard.+

^(b) Volume average for 1-hour period more than once per 1-year period. 0.25 ppm not to be exceeded more than two times in any 7 consecutive days.

^(c) Final rule issued June 22, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitoring station within an area must not exceed 75 parts per billion. USEPA also revoked the annual and 24-hour primary standards when enacting the 1-hour standard.

Sources: USEPA 2011b; WDOE 2011.

General Conformity Rule. As described in 40 CFR Part 51, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans* (the “General Conformity Rule”), all federal actions occurring in air basins designated in nonattainment or in a maintenance area must conform to an applicable State Implementation Plan (SIP). Since the southern portions of Pierce County, including JBLM, are not designated as a non-attainment or maintenance area by the EPA, a General Conformity Rule review will not be performed (EPA 2011b).

3.1.2 Affected Environment

Air quality is protected by federal regulations administered by the EPA; state regulations administered by WDOE; and the local clean air agency, PSCAA.

3.1.2.1 Greenhouse Gas Emissions (Climate Change)

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes and human activities. The accumulation of GHGs in the atmosphere affects the earth’s climate. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Combustive emission sources are a prime source of these GHG emissions. Additionally, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) in the atmosphere threaten the public health and welfare of current and future generations. These GHGs are emitted primarily through human activities.

The CEQ issued draft guidance for considering GHG in the NEPA process. The guidance suggests that analyses of direct and indirect GHG emissions from proposed actions will be evaluated, and if alternatives would be reasonably anticipated to annually emit greater than 25,000 metric tons of CO₂-equivalent (CO₂-e), further evaluation should be considered (CEQ 2014; EPA 2011c).

3.1.2.2 Emission Sources

The PSCAA is responsible for issuing Notice of Construction (NOC) permits for proposed stationary sources. The NOC permits are required for stationary air contaminant-generating equipment and air pollution control equipment.

3.1.3 Environmental Consequences

This section evaluates potential air quality impacts resulting from implementation of the proposed action. Effects on air quality are based on estimated direct and indirect emissions associated with the action alternatives. The Region of Influence (ROI) for assessing air quality impacts is the air basin in which the project is located, the Puget Sound Air Basin.

Estimated emissions from a proposed federal action are typically compared with the relevant national and state standards to assess the potential for increases in pollutant concentrations. Air quality impacts would be considered significant if the action alternatives directly or indirectly produce significant levels of emissions (e.g. more than 25,000 metric tons of CO₂ a year) that would be the primary cause of, or would significantly contribute to, a violation of state or federal ambient air quality standards.

3.1.3.1 No-Action Alternative

Under the No-Action Alternative, construction of the new fueling stations and demolition of the old fuel stations will not occur and there will be no change to baseline air quality. Therefore, no significant impacts to air quality or air resources will occur with implementation of the No-Action Alternative.

3.1.3.2 Construction of new fuel stations and Demolition of old fuel stations

Temporary increases in air pollution may occur during the implementation of the proposed action; however, the impacts to air quality are anticipated to be localized and negligible, lasting only as long as demolition and construction activities occur.

Effects from vehicular emissions are thoroughly described in the 2010 *Growth and Force Structure Realignment EIS* (JBLM 2010, Chapter 4.7). Overall, with adequately sized infrastructure, it is anticipated that there will be a reduction in vehicle idle times as compared to the No-Action Alternative.

The fuel stations are being designed such that operations will adhere to the NAAQS for all criteria pollutants as well as the Washington State requirements for SO₂, as described above and in Table 3-1. Operation of the proposed new fuel stations including the fuel dispensing equipment will be designed to meet current industrial standards to prevent accidental spill and release of volatile organic compound emissions. An application for the notice of construction will be prepared and submitted to the PSCAA, prior to the start of construction. The application will be prepared by the contractor and fully reviewed by JBLM. Specific calculations for volatile organic compound emissions will be made as part of the application to the PSCAA once full design and construction details are available.

3.2 Biological Resources

For the purposes of this EA, biological resources are divided into three major categories: (1) vegetation, (2) terrestrial wildlife, and (3) special-status species. Special-status species are those species listed as threatened or endangered under the Endangered Species Act (ESA), and species afforded federal protection under the Migratory Bird Treaty Act (MBTA), or Bald and Golden Eagle Protection Act.

3.2.1 Affected Environment

3.2.1.1 Vegetation and Habitat

The six construction or demolition project sites are in a few distinct habitat types. Two of the fuel points (Bldgs 03138 and 09635) are in industrial areas of JBLM that do not have any natural

habitat features in that they are covered entirely by hard surfaces (pavement, buildings, and other structures).

Two of the sites (GO-CO and Lewis-Main fuel points) are partially covered by hard surfaces, but have some natural forest habitat features. The GO-CO site is immediately adjacent to coniferous forest and restored natural areas to the east and south. The Lewis-North site has mature Douglas fir (*Pseudotsuga menziesii*), open space covered with Scotch broom (*Cytisus scoparius*) and blackberries (*Rubus armeniacus*), and unimproved roads. The sites do not have open water consisting of streams or wetlands.

Vegetation at the GAAF site is mainly short grass prairie type habitat, except for the eastern portion of the project site (next to 2nd Division Drive) that contains approximately twenty 50-year-old Douglas-fir trees. No open water streams or wetlands occur in or around GAAF.

3.2.1.2 Terrestrial Wildlife

Wildlife Resources on JBLM are thoroughly discussed in the 2010 *Fort Lewis Army Growth and Force Structure Realignment EIS* (JBLM 2010) and the 2011 *Realignment, Growth, and Stationing of Army Aviation Assets Programmatic EIS* (AEC 2011) and are incorporated herein by reference.

In general, wildlife found in the industrial areas of JBLM are those habituated to living in an urban environment with minimal natural features. These include rodents (rats, mice, squirrels, and chipmunks), raccoons (*Procyon lotor*), and coyotes (*Canis latrans*). Birds found in the industrial areas are predominately pigeons, sparrows, and juncos.

The forested areas are home to more numerous wildlife species including resident and migratory birds, and several species of mammals. Smaller songbirds include black-capped chickadees (*Poecile atricapillus*), red-breasted nuthatches (*Sitta canadensis*), and brown creepers (*Certhia Americana*). Raptors known to nest in coniferous forests include red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), and the sharp-shinned hawk (*A. striatus*). Upland game birds, bluebirds, thrushes, flycatchers, and warblers use the forest edge. The forests provide cover and forage for a variety of mammal species including Columbia black-tailed deer (*Odocoileus hemionus columbianus*), raccoon, coyote, black bear (*Ursus americanus*), various bat species, Townsend chipmunk (*Tamias townsendii*), and northern flying squirrel (*Glaucomys sabrinus*).

3.2.1.3 Special-Status Species

The only Endangered Species Act (ESA) listed species found on the six project sites is the streaked horned lark (*Eremophila alpestris strigata*) which is dependent on the open grassland habitats of GAAF. This species was federally listed as threatened on November 4, 2013. In that same listing, critical habitat for the species was designated for protection. The U.S. Fish and Wildlife Service (USFWS) determined that lands on Joint Base Lewis-McChord are subject to the base's Integrated Natural Resources Management Plan (INRMP) and that conservation efforts identified in the INRMP will provide a conservation benefit to the streaked horned lark (JBLM 2012a). Therefore, lands within this installation are exempt from critical habitat designation under section 4(a)(3) of the Act. The INRMP designates lands that were proposed as critical habitat, though exempted per Section 4(a)(3)(B)(i) of ESA, as Priority Habitat. The proposed projects on the airfield are located near areas occupied by nesting streaked horned larks, and some are located within priority habitat areas for this species.

Bald eagles (*Haliaeetus leucocephalus*) are protected by both state and federal law. Bald eagles are not known to nest on any of the project sites. The closest documented bald eagle

nest site to any one of the proposed construction sites is located 1.3 miles away along the shores of American Lake (JBLM 2012a, and WDFW 2015).

3.2.2 Environmental Consequences

Impacts to biological resources would be considered significant if there was substantial removal of vegetation that reduced high value habitat areas for wildlife and if there were direct impacts to protected or endangered species.

3.2.2.1 No Action Alternative

Under the No-Action Alternative, construction of the new fueling stations and demolition of the old fuel stations will not occur and there will be no change to biological resources due to the proposed action and existing conditions are expected to persist.

3.2.2.2 Construction of new fuel stations and Demolition of old fuel stations

Construction of the military fuel stations will require felling trees, clearing underbrush, and removing grass on the three construction sites. Approximately 2.8 acres of grassland habitat and 7.8 acres forested or park-like habitat will be lost if all three new fuel stations are constructed (Table 3-2). Demolition of the GO-CO fuel site includes pavement removal and revegetation with grass or native trees and shrubs as part of the site rehabilitation (approximately 3.0 acres). AR 200-1, 4-3:d.8.(m), requires that “*agricultural and forest products are not given away, abandoned, carelessly destroyed, used to offset contract costs or traded for services, supplies, or products or otherwise improperly removed*”. For the removal of timber, advance coordination will occur with JBLM Department of Public Works Forestry.

Table 3-2. Vegetation to be removed with proposed action

Project site	Acres Grasslands*	Acres Trees/forested*
Lewis-Main Fuel Service Point	0	3.1
Lewis-North Retail Station	0	4
Demolition of GO-CO Fuel Source Point (Bldg 1150)	0	0
GAAF Bulk Fuel and Hot Refuel	2.8	0.7
Demolition of Logistics Center (Bldg 09635)	0	0
Demolition of Consolidated Fuel Point (Bldg 03138)	0	0

* Approximate number of acres

In a study by Pearson (2003), researchers found that larks on airfields appeared to become accustomed to airplane traffic. Streaked horned larks nesting on GAAF presumably are accustomed to a certain level of disturbance associated with and routine airfield use and maintenance activities. Larks may be temporarily disturbed by vehicle movement or construction noise, but the amount of disturbance expected from these activities is not anticipated to be significantly greater than routine disturbance levels associated with airfield operations. While the majority of the construction is occurring on paved areas or other unsuitable habitats (forested, paved, or developed with buildings), a loss of 2.0 acres of suitable streaked horned lark habitat is expected. These areas are grassy areas that will be converted to pavement. Portions of the overall project will pave areas that are used by streaked horned larks. Streaked horned larks are known to nest in the immediate area, and construction of the proposed work will overlap two nesting seasons. With implementation of conservation

measures (Section 2.6.3), direct effects to nests can be avoided and indirect effects to the larks will be minimized. The project also entails cutting down a stand of Douglas firs along 2nd Division Drive which will remove perch sites for predatory birds. The roofs of the new structures, office building and fuel depot canopy could provide perches, but at a lower height.

A Supplemental Biological Evaluation (S-BE), which thoroughly discusses the proposed project on GAAF and the effects to streaked horned larks, was prepared and sent to the USFWS for their concurrence on 18 November 2015. Pending any future design modifications (i.e. stormwater facilities) to the proposed site, the S-BE may require an amendment and re-submittal prior to final concurrence.

3.3 Cultural and Historical Resources

3.3.1 Affected Environment

The area of potential effect (APE) for cultural resources is the geographic area or areas within which an undertaking (project, activity, program or practice) may cause changes in the character or use of any historic properties present. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking. For this proposed action, the Army determined that the APE for historic properties includes the construction footprints as well as surrounding areas as follows in table.

Table 3-3. APE of Historic Properties

Site	Construction Footprint	APE including surrounding areas (all areas approximate)
GO-CO Fuel Source Point	3 acres	5 acres
Lewis-North Fuel Source Point	4 acres	8 acres
Building 03138 Consolidated Fuel Point	1.3 acres	1.3 acres
Gray Army Air Field Hot Refuel	12.5 acres	300+ acres (includes the entire airfield)
Lewis-Main Fuel Source Point (bldg. 3387)	6 acres	6 acres
Logistic Center Consolidated Fuel Service Point (bldg. 09635)	2 acres	200+ acres (includes the entire Logistic Center complex)

On GAAF, the area was surveyed for earlier construction work and no historic properties were found (Sadler 2004). The Integrated Cultural Resources Management Plan also identified the proposed project APE as one which has been significantly disturbed for decades thus there is not potential for eligible cultural resources to be present within the APE. Consultation with the Washington State Historic Preservation Office (SHPO) on historic properties is on-going.

3.3.2 Environmental Consequences

Impacts to cultural and historical resources would be considered significant if the proposed action would affect archeological or cultural resources identified as historic and significant to the local community or tribes.

3.3.2.1 No-Action Alternative

Under the No-Action Alternative, construction of the new fueling stations and demolition of the old fuel stations will not occur and there will be no change to cultural and historical resources due to the proposed action. Therefore, no significant impacts to cultural and historical resources will occur with implementation of the No-Action Alternative.

3.3.2.2 Construction of new fuel stations and Demolition of old fuel stations

The *Integrated Cultural Resources Management Plan* (JBLM 2012b) identified the proposed project APEs as those which has been significantly disturbed for decades thus there is not potential for eligible cultural resources to be present within the APE. The proposed demolition of fuel stations and construction of new fuel stations will have no adverse effects to historic resources.

3.4 Hazardous, Toxic, and Radioactive Wastes

The US Army is obligated under Army Regulation (AR) 200-1 to assume responsibility for the reasonable identification and evaluation of all HTRW contamination within the vicinity of proposed actions. An ASTM E 1527-13 Phase 1 Environmental Site Assessment (ESA) has been completed for the proposed fuel station projects (USACE 2015a and 2015b).

3.4.1 Affected Environment

A Phase I Environmental Site Assessment of Properties at Joint Base Lewis-McChord, Washington, was performed in conformance with the scope and limitations of ASTM Standard E1527-13:

- GO-CO Fuel Source Point located near Building B1150 and the intersection of South Drive and 7th Street (Lewis North, JBLM)
- Lewis-North Fuel Service Point near the intersection of South Drive/A Street, and 8th Street/Vancouver Road (Lewis North JBLM)
- Lewis-Main Consolidated Fuel Point located near Building 3138 on 4th Division Drive between Collier Avenue and Evergreen Avenue (Lewis-Main, JBLM)
- Lewis-Main Fuel Service Point (Superstation) located near the intersection of Hillside Drive and Collier Avenue (Lewis-Main, JBLM)
- Log Center Consolidated Fuel Service Point located near Building 9635 and the intersection of South L Street and Prescott Avenue (Logistics Center, JBLM)

The US Army Corps of Engineers Seattle District concludes that recognized environmental conditions posing risk to human or ecological health within the property boundaries were not identified during this investigation, except for the following:

- Releases of petroleum product are known to have occurred at all of the Properties except for the Lewis-Main Fuel Service Point footprint. For all known incidents, cleanup and remediation have been completed. Remaining soils at petroleum release locations have tested below regulatory limits for petroleum contamination. However, unknown or residual petroleum contamination at the Properties is possible due the long history of the

Properties as refueling locations. Unknown petroleum contamination is possible at the Lewis-Main Fuel Service Point due to its long history as a motor pool prior to demolition.

- All Properties are located within the Tacoma Smelter Plume area. Soils at the site may contain lead and arsenic derived from airborne particulates settling out of the atmosphere during the many years of smelter operation. Soils at the Properties must be tested for lead and arsenic content to determine management, reuse, or disposal options (JBLM, 2015).
- Properties at Lewis North (GO-CO Fuel Source Point and Lewis-North Fuel Service Point) are located on the southern boundary of a former practice mortar range. Since these properties have a history of prior ground disturbance, the probability UXO is reduced. Pending determination of final construction limits, on-call construction support and/or Military Munitions Recognition Training (per the JBLM Safety Office) may be required.
- The Logistic Center Consolidated Fuel Service Point is located above the trichloroethylene (TCE)-contaminated groundwater plume emanating from the Logistic Center superfund site. Buildings constructed within the plume footprint are at risk of exposing occupants to volatile organic compounds via vapor intrusion. Buildings designed for human occupancy should utilize vapor intrusion resistant or mitigating architectural features.
- Releases of petroleum product (JP-8) are known to have occurred at GAAF. For all known incidents, cleanup and remediation have been completed. Remaining soils at petroleum release locations have tested below regulatory limits for petroleum contamination. However, unknown or residual petroleum contamination at GAAF is possible due to the long history of the airfield as an aircraft refueling location.
- GAAF is located within the Tacoma Smelter Plume area. Soils at the airfield may contain lead and arsenic derived from airborne particulates settling over the property during the many years of smelter operation. Soils at GAAF should be tested for lead and arsenic content to determine management, reuse, or disposal options (JBLM, 2015)

A summary of recognized environmental hazard conditions are in Table 3-4 below.

Table 3-4. Summary of Recognized Environmental Hazard Conditions

Property	Petroleum Release	Located within Tacoma Smelter Plume Area	UXO	Located within Log Center TCE groundwater plume area
GO-CO Fuel Source Point	X	X	X	
Lewis-North Fuel Service Point	X	X	X	
Lewis-Main Consolidated Fuel Point	X	X		
Lewis-Main Fuel Service Point		X		
Logistics Center Consolidated Fuel Service Point	X	X		X
Gray Army Air Field	X	X		

3.4.2 Environmental Consequences

Impacts to HTRW resources would be considered significant if environmental conditions were created that pose risks to human or ecological health within the project boundaries.

3.4.2.1 *No-Action Alternative*

Under the No-Action Alternative, construction of the new fueling stations and demolition of the old fuel stations will not occur. Therefore, no significant impacts to HTRW resources will occur with implementation of the No-Action Alternative.

3.4.2.2 *Construction of new fuel stations and Demolition of old fuel stations*

As described above in Section 2.5 demolition activities will involve removal of previously utilized ASTs and USTs, associated piping and retail dispensers. It is possible that some residual petroleum exists within this infrastructure. Removal will be done in a manner to minimize risks that any HTRW substances are released. Mitigation measures and BMPs will be in place to ensure that in the event of a minor release it is contained and cleaned-up. All removed infrastructure will be disposed of at an approved off-site facility. The proposed construction and demolition will not require the use of hazardous materials other than common materials used by construction equipment (motor oil, lubricant, coolant, fuel). With the implementation of the BMPs outlined in Section 2.9 for construction as well as operations and management, the proposed project will not generate conditions that pose risks to human health or ecological health; therefore, impacts are less than significant.

3.5 Utilities, Transportation, and Infrastructure

3.5.1 Affected Environment

At the bulk storage/retail fuel facilities, the recent Installation Status Report indicates the land vehicle capacity of the current infrastructure can efficiently service only 15 percent of the units that call JBLM home. Compared to the UFC 3-460-01 standard of having a dispenser for every 100 vehicles, facilities at JBLM are undersized. The undersized facilities promote a safety hazard as tactical vehicles block traffic by queuing on adjacent streets while waiting for service. Units are refueling in their motor pools, which increases environmental risk for Commanders since the facilities are not designed to support those types of operations (e.g., level of spill control).

From a bulk perspective, units are limited to fueling two tanker trucks at a time at JBLM's only bulk loading facility (9635/9636). For the brigades located on Lewis-North, this round trip task takes over an hour and requires the tanker trucks to travel through the cantonment area. Facility 9635/9636 has additional UFC 3-460-01 and NFPA 30A violations: (1) bulk and retail tanks tied together performing bulk and retail functions and (2) the bulk tanks at this facility are located too close (less than 50') to the active railway spur. Current fueling points are not designed efficiently for either bulk or retail functions.

In addition to traffic concerns, locating the fuel stations must consider both above ground, and below ground utilities (electrical lines, telecommunication lines, fresh water, and waste water pipes).

3.5.2 Environmental Consequences

3.5.2.1 No-Action Alternative

Under the No-Action Alternative, construction of the new fueling stations and demolition of the old fuel stations will not occur. The installation will not comply with UFC 3-460-01 and violations will not be corrected. Extended travel times and undersized facilities will remain the status quo.

3.5.2.2 *Construction of new fuel stations and Demolition of old fuel stations*

Under this alternative, construction and demolition will result in temporary and permanent impacts to utilities, transportation and infrastructure. Temporary impacts include road closures and/or detours and presence of construction vehicles on the roadways within JBLM. Permanent impacts include alteration in refueling routes as a result of the construction of new facilities. Properly sized facilities will reduce wait times and potential for traffic blockages. Temporary impacts to transportation, utilities and public services will be highly localized, and are not expected to be significant.

3.6 Summary of Potential Environmental Consequences

Implementation of the proposed action will not constitute a "*major federal action significantly affecting the quality of the human environment*" when considered individually or cumulatively in the context of NEPA, including both direct and indirect impacts (Table 3-7). Therefore, this EA supports a FONSI for the Preferred Alternative and the preparation of an EIS is not required.

4.0 Cumulative Impacts

Evidence is increasing that the most devastating environmental effects may result not from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time (CEQ 1997). Cumulative effects address the incremental environment impacts of the proposed action, together with impacts of past, present, and reasonably foreseeable future actions. The cumulative effects address the impacts from projects that may be individually minor, but result in collectively significant impacts when taking into account actions occurring over a period of time (40 CFR §1508.7). As such, they include the impacts of this fuel facilities project considered in conjunction with current and future projects constructed or planned at JBLM and the surrounding area.

Each resource, ecosystem, and human community must be analyzed in terms of its ability to accommodate additional effects, based on its own time and space parameters. Therefore, cumulative effects analysis normally will encompass a Region of Influence or geographic boundaries beyond the immediate area of the proposed action, and a period including past actions and foreseeable future actions, to capture these additional effects.

For the proposed action to have a cumulatively significant impact to an environmental resource, two conditions must be met. First, the combined effects of all identified past, present, and reasonably foreseeable projects, activities, and processes on a resource, including the effects of the proposed action, must be significant. Second, the proposed action must make a substantial contribution to that significant cumulative impact. In order to analyze cumulative effects, a cumulative effects region must be identified for which effects of the proposed action and other past, present, and reasonably foreseeable actions would occur.

Current projects at JBLM that are currently ongoing and/or would occur in the near future are primarily maintenance driven, including infrastructure repairs, and building construction. For example, removal of Clayton Hill at GAAF in preparation for future construction of a Regional Air Support Air Support Maintenance complex is proposed. In addition, the widening of Interstate 5 through JBLM is scheduled for 2020 and would likely contribute noise and construction related emissions within JBLM and the surrounding area.

The negative environmental effects of the DLA Fueling Facilities construction and demolition are temporary and minor and are associated primarily with the actual construction of the project. The combination of BMPs and mitigation measures reduce the cumulative, short-term (e.g. construction related) impacts to an insignificant level. More importantly, the beneficial effects, particularly to transportation and traffic, compensate for these short-term negative effects. Thus, the proposed fueling facilities project will not contribute significantly to cumulative effects within JBLM.

5.0 Other Considerations Required by NEPA

In accordance with 40 CFR Section 1502.16(c), analysis of environmental consequences shall include discussion of possible conflicts between the proposed action and the objectives of Federal, regional, State and local land use plans, policies, and controls. Table 5-1 identifies the principal federal and state laws and regulations that are applicable to the proposed action, and describes briefly how compliance with these laws and regulations will be accomplished.

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

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
National Environmental Policy Act (NEPA) (42 USC §4321 <i>et seq.</i>); CEQ NEPA implementing regulations (40 CFR 1500-1508;	Preparation of this EA has been conducted in compliance with NEPA and in accordance with CEQ regulations and the Army's NEPA procedures.
Clean Air Act (42 USC §7401 <i>et seq.</i>)	Temporary increases in air pollution will occur during the implementation of the proposed action; however, the impacts to air quality are anticipated to be localized and negligible, lasting only as long as demolition and construction activities occur. The fuel stations are being designed such that operations will adhere to the NAAQS for all criteria pollutants as well as the Washington State requirements for SO ₂ . The proposed action is not anticipated to change air quality attainment status or conflict with attainment and maintenance goals established in the SIP. Operation of the proposed new fuel stations including the fuel dispensing equipment will be designed to meet current industrial standards to prevent accidental spill and release of volatile organic compound emissions. An application for the notice of construction will be prepared and submitted to the PSCAA, prior to the start of construction. The application will be prepared by the contractor and fully reviewed by JBLM
Clean Water Act (Sections 401 and 404, 33 USC 1251 <i>et seq.</i>)	Section 402 of the Act requires a NPDES permit and the associated implementing regulations for General Permit for Discharges from Large and Small Construction Activities for construction disturbance over one acre. This project will have land disturbance of over one acre and therefore a NPDES permit will be obtained by the contractor and they will prepare and implement a Stormwater Pollution Prevention Plan.
National Historic Preservation Act (Section 106, 16 USC 470 <i>et seq.</i>)	The NHPA requires federal agencies to identify, evaluate, inventory, and protect NRHP resources (or resources that are potentially eligible for listing in the NRHP) on properties that they control (54 U.S.C. 306108 <i>et seq.</i>). The Army determined that the proposed action would not adversely affect properties eligible for inclusion in the NRHP (Appendix B). In accordance with Section 106 of the NHPA, the Army initiated consultation with the Washington SHPO in December 2015, requesting concurrence on the Army's determination of no adverse effects on properties eligible for inclusion in the NRHP. In a letter dated 11 January 2016, the SHPO concurred with the determination of No Historic Properties Affected.

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
<p>Endangered Species Act (ESA) (16 USC 1531 <i>et seq.</i>)</p>	<p>The proposed action may affect and is likely to adversely affect the streaked horned lark protected under the Endangered Species Act. Implementing conservation measures and Best Management Practices will minimize impacts and lessen any take associated with the proposed action. A Supplemental Biological Evaluation for the Gray Army Airfield Hot Refuel Station was submitted to the U.S. Fish and Wildlife Service (USFWS) on 18 November 2015. In a letter dated 23 February 2016, the USFWS considered that the additional loss of suitable nesting habitat associated with the revised project design and longer duration of construction activities (two nesting seasons, rather than one) will result in adverse effects. The USFWS determined that the adverse effects associated with the revised design for the hot refueling station falls within the scope and extent of effects analyzed in their 2014 Biological Opinion for Gray Army Airfield. As part of the Terms and Conditions within the Biological Opinion, the Army agreed to establish and maintain an 84-acre mitigation site that enhances a nearby area for streaked horned lark habitat. The ESA consultation documents are provided in Appendix A.</p>
<p>Migratory Bird Treaty Act (16 USC 703-712)</p>	<p>Approximately 2.8 acres of grassland habitat and 7.8 acres forested or park-like habitat will be lost with construction of the three new fuel stations. Demolition of the GO-CO fuel site includes pavement removal and will be revegetated with grasses or native trees and shrubs as part of the site rehabilitation (approximately 3.0 acres). Clearing of existing trees and shrubs will be accomplished prior to April 1 or after September 1 to minimize adverse effects to nesting birds.</p>
<p>Bald and Golden Eagle Protection Act (16 USC 668-668d)</p>	<p>Bald eagles are not known to nest on any of the project sites. The closest documented bald eagle nest site to any one of the proposed construction sites is located 1.3 miles away along the shores of American Lake; therefore, the proposed work will have no effect to bald eagles.</p>
<p>Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-income Populations</p>	<p>Since no adverse human health or environmental effects are anticipated to result from the project, the Army has determined that no disproportional adverse impacts to low-income or minority populations will occur.</p>
<p>Executive Order 12088, Federal Compliance with Pollution Control Standards</p>	<p>Phase 1 Environmental Site Assessments were conducted in accordance with ASTM International (ASTM) Standard Practices (ASTM E1527 - 13) to identify any potential of risk to human or ecological health due to historical activities. The proposed project will be designed, constructed, and operated in compliance with the applicable pollution control standards identified in §1-102 of the EO, as well as will obtain the necessary permits required under the Clean Air Act and Clean Water Act. Therefore, the proposed project is in compliance with the EO.</p>
<p>Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks</p>	<p>Places that children generally gather include schools, parks, recreational facilities and day care centers. The proposed action is located on an active military airfield, adjacent to military training areas, or within the confines of the industrial areas. Therefore the proposed action will not generate any disproportionate environmental health or safety risks to children.</p>

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	The proposed action will not result in measurable negative effects on migratory bird populations as construction impacts are short-term and localized.

5.1 Irreversible or Irrecoverable Commitment of Natural or Depletable Resources (40 CFR Section 1502.16)

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

Implementation of the proposed action will involve human labor, the consumption of fuel, oil, and lubricants for construction vehicles and loss of natural resources. These resource commitments are necessary in order for JBLM to have adequate infrastructure to ensure that soldiers are ready for immediate deployment worldwide in support of the National Defense Mission. Implementation of the proposed action will not result in significant irreversible or irretrievable commitment of resources.

5.2 Relationship between Local Short-Term Use of the Human Environment and Maintenance and Enhancement of Long-Term Natural Resource Productivity (40 CFR Section 1502.16)

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

In the short-term, effects to the human environment with implementation of the proposed action will primarily relate to the construction activity itself. The construction and demolition of fueling facilities and subsequent operations will not significantly impact the long term natural resource productivity of the area. The proposed action will not result in any impacts that will significantly reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.

5.3 Means to Mitigate and/or Monitor Adverse Environmental Impacts (40 CFR Section 1502.16(h))

The Proposed Action will not result in any significant adverse environmental impacts with implementation of the BMPs and mitigation measures to avoid, minimize and/or mitigate impacts as described above in Section 2.6.

5.4 Any Probable Adverse Environmental Effects That Cannot Be Avoided and Are Not Amenable To Mitigation

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

6.0 List of Preparers

Beth McCasland - Biologist, NEPA coordinator. USACE, Seattle District
Jayson Osborn - HTRW, Remediation Biologist. USACE, Seattle District
Dave Clouse - Natural Resources Branch Chief, JBLM
John Howard - NEPA Specialist, JBLM
Tom Olsen - Air Program Manager, JBLM
Donna Turnipseed - Cultural Resources Program Manager, JBLM

7.0 Literature Cited

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8.0 Appendices

Appendix A – Endangered Species Act consultation

Appendix B – National Historic Preservation Act, Section 106 consultation

Appendix C – Public Notices and Comment Letters Received

Appendix A

ESA Consultation

- Coordination letter to USFWS sent November 18, 2015
- USFWS response letter dated February 23, 2016

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Public Works

November 18, 2015

Mr. Eric Rickerson, Manager
Washington State Fish and Wildlife Office
United States Fish and Wildlife Service
510 Desmond Drive SE, Suite 102
Lacey, Washington 98503

Dear Mr. Rickerson:

The Department of Army is planning to demolish several structures and construct new facilities in support of hot refueling military aircraft. Hot refueling is the process of refueling aircraft while the engines are running.

The enclosed biological evaluation entitled "Supplemental Biological Evaluation Gray Army Airfield Hot Refuel Station Joint Base Lewis McChord Pierce County, Washington" analyzes potential impacts on the streaked horned lark from the proposed actions contained in the evaluation. The biological evaluation concludes that the project may affect, but not likely to adversely affect streaked horned larks.

Therefore, the Department of Army requests informal consultation for the activities addressed in the enclosed biological evaluation.

Correspondence on this action should be directed to:

DEPARTMENT OF THE ARMY
DIRECTORATE OF PUBLIC WORKS
ATTN ENVIRONMENTAL DIVISION
2012 LIGGETT AVE BOX 339500 MS 17
JOINT BASE LEWIS-MCCHORD, WA 98433-9500
OFFICIAL BUSINESS

Please contact Dave Clouse, Joint Base Lewis-McChord Natural Resources Branch Chief at (253) 967-3474 if you require additional information or have any questions about this project.

Sincerely

Paul T. Steucke Jr.
Chief, Environmental Division



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503

FEB 23 2016

In Reply Refer To:

01EWF00-2016-TA-0166

xRef: 01EWF00-2013-F-0467

Paul T. Steucke
Department of the Army
Directorate of Public Works
Attn: Environmental Division (Clouse)
2012 Liggett Ave Box 339500 MS 17
Joint Base Lewis-McCord, Washington 98433-9500

Dear Mr. Steucke:

This letter is in response to your submittal of a Supplemental Biological Evaluation (SBE) and request for reinitiation of the consultation on proposed revisions to the hot fueling project at Gray Army Airfield (GAA). In August, 2014, the U.S. Fish and Wildlife Service (Service) completed a Biological Opinion (Opinion, Ref. 01EWF00-2013-F-0467) addressing effects to the threatened streaked horned lark (*Eremophila alpestris strigata*) (lark) associated with 21 different proposed construction projects at Gray Army Airfield. Reconstruction of the hot refueling station (Project 11) was one of the projects addressed in that Opinion.

The SBE and request for consultation for minor revisions to the project design for the hot refueling station were received in our office on November 18, 2015. The Department of the Army (Army) and the U.S. Army Corps of Engineers determined that the proposed changes in the project design would not result in adverse effects to larks, although the new design would result in the permanent loss of approximately 2 acres of suitable nesting habitat. The 2014 Opinion analyzed effects associated with the construction activities at the hot refueling station on 4.71 acres, mostly outside of priority habitat, over one construction season (6 months). The newly modified design will affect 5.5 acres, an increase in footprint of approximately 0.8 acres. Overall, the loss of habitat includes 2 acres of suitable nesting habitat for the streaked horned lark, and will take two years to complete. The change in size of the project footprint is due to slightly wider shoulders around the perimeter of the fueling station and the addition of a new

paved access ramp in suitable habitat. The Service considers the additional loss of suitable nesting habitat associated with the revised project design and longer duration of construction activities (two nesting seasons, rather than one) to result in adverse effects. Therefore, we do not concur with your “not likely to adversely affect” determination.

The 2014 Opinion addressed the combined impacts of construction activities and permanent loss of approximately 24 acres of suitable nesting habitat associated with 21 different construction projects (including the hot refueling station) at GAA over a 6-year period (2014 through 2020). To mitigate for the unavoidable permanent loss of suitable habitat and project-related impacts to the species during the nesting season (mortality, injury and disturbance), the Army is converting approximately 84 acres of currently unsuitable habitat at the southern end of the airfield into suitable nesting habitat and will maintain/manage the mitigation site as habitat into the foreseeable future. Although there have been detections of larks near the hot refueling station, this project site is not in close proximity to the areas regularly used by larks for nesting and is not expected to result in additional incidental take over that exempted in the Opinion. Therefore, reinitiation of the consultation is not warranted because the adverse effects associated with the revised design for the hot refueling station project fall within the scope and the extent of effects analyzed in the 2014 Opinion.

This concludes our review of the revised project design for the hot refueling station at GAA. The review of this action is based on the information provided by the Army in the SBE and the analysis conducted in the 2014 Opinion. We look forward to continued close collaboration with you on the implementation of measures to reduce impacts to larks at the military airfields and training areas on Joint Base Lewis-McCord. If you have any questions about this consultation, or our joint responsibilities under the Endangered Species Act, please contact Martha Jensen at (360) 753-9000 or Lindsay Wright at (360) 753-6037.

Sincerely,



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Eric V. Rickerson, State Supervisor
Washington Fish and Wildlife Office

Appendix B

Section 106 Consultation

- Coordination letter sent to Washington SHPO dated December 16, 2015
- SHPO response letter dated January 11, 2016

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DEPARTMENT OF THE ARMY
HEADQUARTERS, JOINT BASE LEWIS-MCCHORD
1010 LIGGETT AVENUE, BOX 339500, MAIL STOP 1AA
JOINT BASE LEWIS-MCCHORD, WA 98433-9500

REPLY TO
ATTENTION OF

Public Works

December 16, 2015

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

Subject: Proposed Construction of Fuel Storage and Dispensing Facilities, Joint Base Lewis-McChord, Pierce County.

Dear Dr. Brooks:

The Army proposes to construct bulk storage and retail fuel facilities on Lewis-Main and a retail fuel service station on Lewis- North. In addition the Army proposes to construct an aircraft hot refuel facility at Gray Army Airfield (see enclosed map for locations). With construction of these new facilities outdated fuel equipment will be removed. None of the new storage and fuel services facilities are in historic districts or in their viewsheds. No facilities determined eligible for listing in the National Register of Historic Places have been identified in these project areas. The construction sites have been previously disturbed.

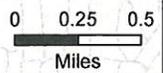
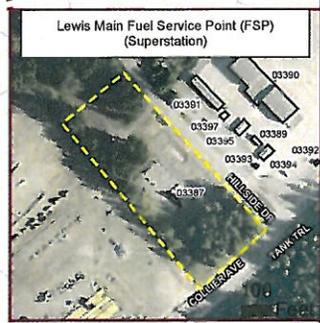
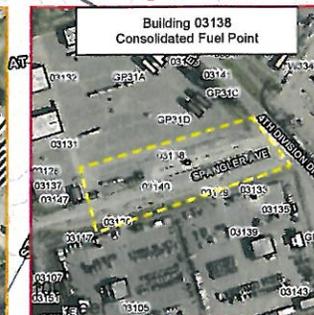
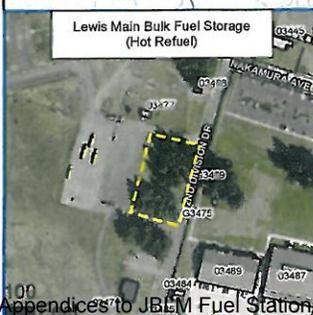
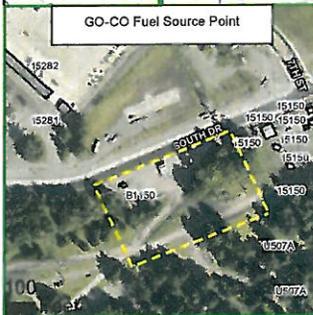
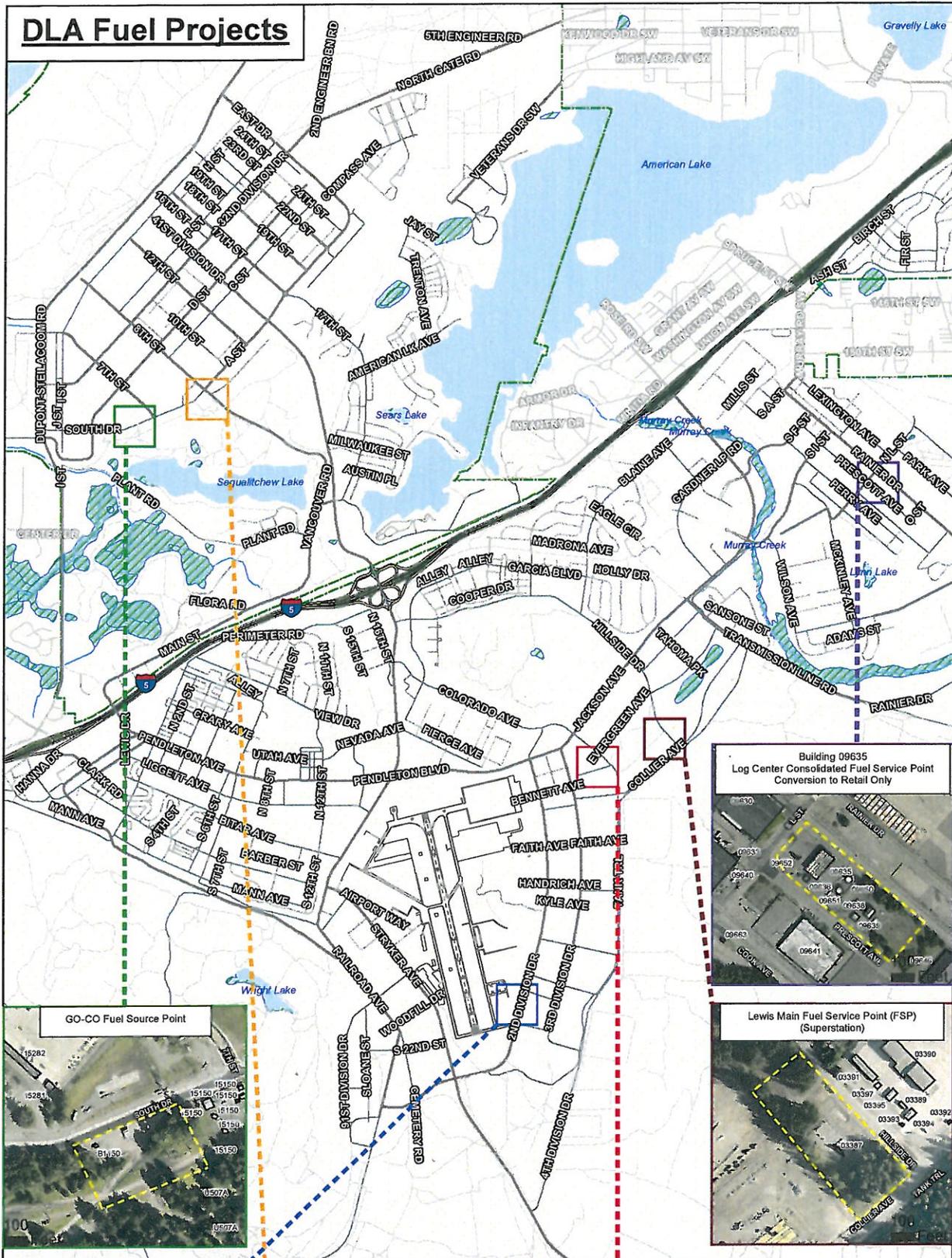
The Army has determined that no historic properties will be affected by the construction of bulk storage and fuel service facilities. Please provide comment on our determination of "no historic properties affected" in accordance with 36CFR800.4(d)(1). Should you have any questions regarding this project or desire additional information, please contact Donna Turnipseed at 253-966-1766 or email: donna.l.turnipseed2.civ@mail.mil.

Sincerely,

Donna L. Turnipseed
Cultural Resources Manager

Enclosure

DLA Fuel Projects





January 11, 2016

Ms. Donna Turnipseed
Cultural Resources Department
2012 Liggett Avenue, Rm 305
JBLM
JBLM, Washington 98433

Re: Fuel Storage & Dispensing Facilities Project
Log No.: 122215-41-DOA

Dear Ms. Turnipseed:

Thank you for contacting our Department. We have reviewed the materials you provided for the proposed Fuel Storage & Dispensing Facilities Project at Joint Base Lewis—McChord, Pierce County, Washington

We concur with your Determination of No Historic Properties Affected.

In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and the concerned tribe's cultural staff and cultural committee and this department notified.

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.

Sincerely,

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



Appendix C

Public Notices and Comment Letters Received

- Notice of Availability, mailing list, and affidavits of publication
- Environmental Protection Agency correspondence dated with JBLM response
- Washington Department of Ecology - letter with JBLM response

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NOTICE OF AVAILABILITY

ENVIRONMENTAL ASSESSMENT FOR MILITARY FUELING FACILITIES



The Department of the Army, in coordination with the Defense Logistics Agency, proposed to construct three fuel facilities on sites within the boundaries of Joint Base Lewis-McChord (JBLM), Washington. In addition, three older fuel facilities that are no longer up to standard or required will be demolished.

The proposed action includes three separable construction projects: 1) Lewis-Main Retail “Superstation”, 2) Lewis-North Retail Station, and 3) GAAF Bulk Fuel Storage and Hot Refuel. Construction of fuel depots at the Lewis-Main Superstation and Gray Army Airfield hot refuel area would include demolition of the existing infrastructure.

An Environmental Assessment and draft Finding of No Significant Impact have been prepared for this action and are now available for public review and comment. These documents and related information can be found at:

<http://www.lewis-mcchord.army.mil/publicworks/sites/envir/eia.aspx>

To submit comments, send an email to usarmy.jblm.incom.list.dpw-eis@mail.mil

Or write to: DEPARTMENT OF THE ARMY
 DIRECTORATE OF PUBLIC WORKS
 ATTN: ENVIRONMENTAL DIVISION (NEPA)
 2012 LIGGETT AVE, BOX 339500 MS 17
 JOINT BASE LEWIS-McCHORD, WA 98433-9500

**Comments must be received by
February 4, 2016 to be considered**

Environmental Protection Agency
Office of Enforcement & Compliance Assurance
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

National Marine Fisheries Service
Northwest Regional Office
510 Desmond Drive S.E., Suite 103
Lacey, Washington 98503

U.S. Fish and Wildlife Service
Western Washington Office
510 Desmond Drive S.E., Suite 102
Lacey, Washington 98503

Washington Salmon Recovery Board
P.O. Box 40917
Olympia, Washington 98504

Washington Department of Fish and Wildlife
District 11 Program Fisheries Biologist
ATTN: Larry Phillips
600 Capitol Way N.
Olympia, Washington 98501-1091

Washington Department of Ecology
Environmental Review
P.O. Box 47703
Olympia, Washington 98504

Washington Department of Fish and Wildlife
Habitat Program
ATTN: Katie Knight
600 Capitol Way N.
Olympia, Washington 98501-1091

Washington Department of Fish and Wildlife
Recreational Salmon Fishery Manager
ATTN: Tara Livingood
600 Capitol Way N.
Olympia, Washington 98501-1091

Washington Department of Fish and Wildlife
SEPA Coordinator
ATTN: Bob Zeigler
600 Capitol Way N.
Olympia, Washington 98501-1091

Pierce County
Planning and Land Services
2401 S. 35th Street
Tacoma, WA 98504

Washington Department of Fish and Wildlife
Wildlife Program, District Biologist
ATTN: Michelle Tirhi
600 Capitol Way N.
Olympia, Washington 98501-1091

Pierce County Public Works and Utilities
Surface Water Management Division
ATTN: Harold Smelt, PE
2702 South 42nd Street, Suite 201
Tacoma, Washington 98409-7322

Washington State Recreation and Conservation
Office
Salmon Recovery Funding Board
P.O. Box 40917
Olympia, Washington 98504-0917

Pierce County
Public Works
2401 S. 35th Street
Tacoma, WA 98504

Puget Sound Clean Air Agency
Compliance Services
1904 Third Avenue, Suite 105
Seattle, Washington 98101

Tacoma-Pierce Health Department
ATTN: Ray Hanowell
3629 South D Street
Tacoma, Washington 98418

The Honorable Joan K. Ortez
Chair, Steilacoom Indian Tribe
PO Box 88419
Steilacoom, Washington 98388

The Honorable Cynthia Iyall
Chair, Nisqually Indian Tribe
4820 She-Nah-Num Drive SE
Olympia, Washington 98513

The Honorable Herman Dillon, Sr.
Chair, Puyallup Tribal Council
3009 East Portland Avenue
Tacoma, Washington 98404

The Honorable James Peters
Chair, Squaxin Island Tribe
SE 10 Squaxin Lane
Shelton, Washington 98584

City of DuPont
1700 Civic Drive
DuPont, Washington 98327

City of Lakewood
10510 Gravelly Lake Dr. SW
Lakewood, Washington 98499

City of Roy
P.O. Box 700
Roy, Washington, 98580

City of Yelm
P.O. Box 479
Yelm, Washington 98597

Steilacoom Planning Department
1030 Roe Street
Steilacoom, Washington 98388

Pierce County Library, DuPont
1540 Wilmington Dr.
DuPont, Washington 98327

Pierce County Library, Lakewood
6300 Wildaire Road SW
Lakewood, Washington 98499

Pierce County Library, Parkland/Spanaway
13718 Pacific Ave S.
Tacoma, WA 98444

Pierce County Library, Tillicum Library
14916 Washington Ave SW
Lakewood, Washington 98498

The Nature Conservancy
217 Pine Street, Suite 1100
Seattle, Washington 98101

AFFIDAVIT OF PUBLICATION

Account #	Ad Number	Identification	PO	Amount	Cols	Lines
██████████	0002188966	NOTICE OF AVAILABILITY Environmental	NOA ENV ASSESMT	██████████	1	34

Attention: ██████████

**PUBLIC WORKS ENVIRONMENTAL DIVISION - JBLM US ARMY
DPW-ED (NEPA) 2012 LIGGETT AVE
ATTENTION ██████████
JBLM, WA 98433**

**NOTICE OF AVAILABILITY
Environmental Assessment for
Military Fueling Facilities**

The Department of the Army, in coordination with the Defense Logistics Agency, proposed to construct three fuel facilities on sites within the boundaries of Joint Base Lewis-McChord (JBLM), Washington. In addition, three older fuel facilities that are no longer up to standard or required will be demolished.

The proposed action includes three separable construction projects: 1) Lewis-Main Retail "Superstation", 2) Lewis-North Retail Station, and 3) GAAF Bulk Fuel Storage and Hot Refuel. Construction of fuel depots at the Lewis-Main Superstation and Gray Army Airfield hot refuel area would include demolition of the existing infrastructure.

An Environmental Assessment and draft Finding of No Significant Impact have been prepared for this action and are now available for public review and comment. These documents and related information can be found at: <http://www.lewis-mcchord.army.mil/publicworks/sites/envir/eia.aspx>

To submit comments, send an email to usarmy.jblm.incom.list.dpw-eds@mail.mil Or write to:
DEPARTMENT OF THE ARMY
DIRECTORATE OF PUBLIC WORKS
ATTN: ENVIRONMENTAL DIVISION (NEPA)
2012 LIGGETT AVE, BOX 339500 MS 17
JOINT BASE LEWIS-MCCHORD, WA 98433-9500.
Comments must be received by February 4, 2016 to be considered.
Publish: January 3, 4, 5, 2016

JANICE WASSENAAR, being duly sworn, deposes and says: That he/she is the Principal Clerk of the publication; The News Tribune, printed and published in Tacoma, Pierce County, State of Washington, and having a general circulation therein, and which said newspaper(s) have been continuously and uninterruptedly published in said County during a period of six months prior to the first publication of the notice, a copy of which is attached hereto: that said notice was published in The News Tribune, as amended, for:

3 Insertions

Published On:

January 03, 2016, January 04, 2016,
January 05, 2016



(Principal Clerk)

Subscribed and sworn on this 5th day of January in the year of 2016 before me, a Notary Public, personally appeared before me Janice Wassenaar known or identified to me to be the person whose name subscribed to the within instrument, and being by first duly sworn, declared that the statements therein are true, and acknowledged to me that he/she executed the same.


Notary Public in and for the state of Washington, residing in Pierce County
1950 S. State St., Tacoma, WA 98405

LEGAL PROOF OF PUBLICATION

Account #	Ad Number	Identification	PO	Amount	Cols	Lines
254989	0002190552	Legal #5999 NOTICE OF AVAILABILITY En		\$550.40	1	47

Attention: Elizabeth Mccasland

PUBLIC WORKS ENVIRONMENTAL DIVISION - JBLM US ARMY
DPW-ED (NEPA) 2012 LIGGETT AVE
ATTENTION ELIZABETH MCCASLAND
JBLM, WA 98433

Legal #5999
NOTICE OF AVAILABILITY
Environmental Assessment for
Military Fueling Facilities

The Department of the Army, in coordination with the Defense Logistics Agency, proposed to construct three fuel facilities on sites within the boundaries of Joint Base Lewis-McChord (JBLM), Washington. In addition, three older fuel facilities that are no longer up to standard or required will be demolished. The proposed action includes three separable construction projects: 1) Lewis-Main Retail "Superstation", 2) Lewis-North Retail Station, and 3) GAAF Bulk Fuel Storage and Hot Refuel. Construction of fuel depots at the Lewis-Main Superstation and Gray Army Airfield hot refuel area would include demolition of the existing infrastructure. An Environmental Assessment and draft Finding of No Significant Impact have been prepared for this action and are now available for public review and comment. These documents and related information can be found at: <http://www.lewis-mcchord.army.mil/publicworks/sites/environ/eia.aspx>

To submit comments, send an email to usarmy.jblm.incom.list.dpw-eis@mail.mil
Or write to:
DEPARTMENT OF THE ARMY
DIRECTORATE OF PUBLIC WORKS
ATTN: ENVIRONMENTAL DIVISION (NEPA)
2012 LIGGETT AVE, BOX 339500 MS 17
JOINT BASE LEWIS-MCCHORD, WA
98433-9500.
Comments must be received by February 4, 2016 to be considered.

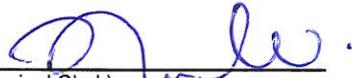
Publish: January 3, 4, 5, 2016

JANICE WASSENAAR, being duly sworn, deposes and says: That she is the Principal Clerk of The Olympian, a daily newspaper printed and published at Olympia, Thurston County, State of Washington, and having a general circulation therein, and which said newspaper has been continuously and uninterruptedly published in said County during a period of six months prior to the first publication of the notice, a copy of which is attached hereto: that said notice was published in The Olympian in accordance with RCW 65.16.020 and RCW 63.16.040, as amended, for:

3 Insertions

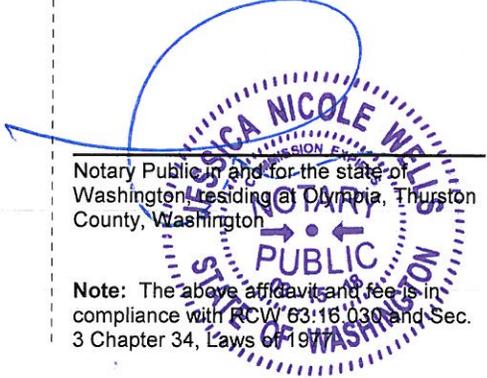
Published On:

January 03, 2016, January 04, 2016,
January 05, 2016



(Principal Clerk)

Subscribed and sworn on this 5th day of January in the year of 2016 before me, a Notary Public, personally appeared before me, Janice Wassenaar known or identified to me to be the person whose name subscribed to the within instrument, and being by first duly sworn, declared that the statements therein are true, and acknowledged to me that she executed the same.



Notary Public in and for the state of Washington, residing at Olympia, Thurston County, Washington

Note: The above affidavit and fee is in compliance with RCW 63.16.030 and Sec. 3 Chapter 34, Laws of 1977.

To: Department of the Army
Directorate of Public Works
Attn: Environmental Division (NEPA)
2012 Liggett Ave., Box 339500 MS 17
Joint Base Lewis-McChord, WA 98433-9500

Reference
Paragraph
numbers for
JBLM response

The U.S. Environmental Protection Agency has reviewed the Environmental Assessment for Military Fueling Facilities at Joint Base Lewis-McChord. In accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act, we would like to submit the following comments:

Groundwater/Pierce County Sole Source Aquifer: We are pleased to note that the new fueling facilities would install above ground fuel storage tanks (ASTs), which should be more accessible for monitoring leaks and potential contamination of soils and vulnerable groundwater supplies. This is particularly important since JBLM overlies the Central Pierce County Sole Source Aquifer. However, the EA indicates (p. 2-3) that piping would be installed underground during construction of the new fueling facilities. If feasible and safety requirements permit, we recommend considering whether or not the piping could also be installed above ground as further means to identify leaks and prevent groundwater contamination.

1

Operations Best Management Practices: The Operations BMPs (p. 2-6) include that an Operations and Maintenance plan will be kept at each of the stations. We recommend that operations/maintenance personnel also receive initial and periodic refresher training in the O&M and safety procedures for fueling facilities.

2

Vegetation Removal: Habitat losses with construction of the three new fuel stations would include 2.8 acres of grassland habitat and 7.8 acres of forested or park-like habitat (p. 5-2). The EA does not indicate whether or not oak trees would be affected, though it does mention that a number of 50-year old Douglas fir trees would be removed. If oak trees are removed, we recommend that they be replaced with new plantings in a suitable location at a 10:1 ratio of replacement, which is the mitigation commitment for oak tree removal for the McChord runway expansion. We also recommend that JBLM work closely with Center for Natural Lands Management, WDFW, and USFWS to develop and implement vegetation restoration plans where fuel stations would be removed.

3

Thank you for notifying us regarding the availability of this EA and for the opportunity to comment. If you have questions, please contact me at (206) 553-1601 or Elaine Somers of my staff at (206) 553-2966 or via email at somers.elaine@epa.gov.

JBLM Response to Environmental Protection Agency correspondence dated February 10, 2016:

1. Comment noted; however, due to operational safety, both aboveground and underground piping will be utilized.
2. An Operations and Maintenance plan will be kept at each fuel station (Ref: EA Section 2.6.2) and safety training will be routinely implemented.
3. Vegetation management will be consistent with JBLM's Integrated Natural Resources Management Plan and forest management strategies. Mitigation measures for Douglas firs would be implemented for legacy trees or those of significant wildlife value. In addition, Oregon white oaks are not known to occur on the selected project sites.



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

February 4, 2016

Department of the Army
Directorate of Public Works
ATTN: Environmental Division (NEPA)
2012 Liggett Avenue, Box 339500 MS 17
Joint Base Lewis-McChord, WA 98433-9500

Dear Environmental Division (NEPA):

Thank you for the opportunity to comment on the EA/FONSI for the Military Fueling Facilities Project located in Pierce and Thurston Counties. The Department of Ecology (Ecology) reviewed the information provided and has the following comment(s):

HAZARDOUS WASTE & TOXICS REDUCTION: Tara Davis (360) 407-6275

Spent materials and unusable equipment containing hazardous substances (such as paints, lead-acid batteries and mercury containing lamps) that may be stored at the facility will need to be managed according to WAC 173-303. Inventory control of materials stored at the facility will be helpful to ensure that regulations are met. To access the *Inventory Control for the Paint Contracting Industry* and the *Universal Waste Rule* and as well the Hazardous Waste and Toxics Reduction Program's publications, visit Ecology's website at: <http://www.ecy.wa.gov/pubs/0104006.pdf>, <http://www.ecy.wa.gov/pubs/98407.pdf> and <http://www.ecy.wa.gov/pubs.shtm>.

The applicant proposes to demolish an existing structure(s). In addition to any required asbestos abatement procedures, the applicant should ensure that any other potentially dangerous or hazardous materials present, such as PCB-containing lamp ballasts, fluorescent lamps, and wall thermostats containing mercury, are removed prior to demolition. It is important that these materials and wastes are removed and appropriately managed prior to demolition. It is equally important that demolition debris is also safely managed, especially if it contains painted wood or concrete, treated wood, or other possibly dangerous materials.

Please review the "Dangerous Waste Rules for Demolition, Construction, and Renovation Wastes," posted at Ecology's website at: http://www.ecy.wa.gov/programs/hwtr/dangermat/demo_debris_constr_materials.html. The applicant may also contact Rob Rieck of Ecology's Hazardous Waste and Toxics

Reduction Program at (360) 407-6751 for more information about safely handling dangerous wastes and demolition debris.

TOXICS CLEANUP: Thomas Middleton (360) 407-7263

If contamination is suspected, discovered, or occurs during the proposed NEPA action, testing of the potentially contaminated media must be conducted. If contamination of soil or groundwater is readily apparent, or is revealed by testing, Ecology must be notified. Contact the Environmental Report Tracking System Coordinator at the Southwest Regional Office (SWRO) at (360) 407-6300. For assistance and information about subsequent cleanup and to identify the type of testing that will be required, contact Thomas Middleton with the SWRO, Toxic Cleanup Program at the phone number given above.

TOXICS CLEANUP/TACOMA SMELTER PLUME: Eva Barber (360) 407-7094

This proposed project is located in an area that may have been contaminated with heavy metals due to the air emissions originating from the old Asarco Smelter in north Tacoma (visit Ecology's Tacoma Smelter Plume map search tool: <https://fortress.wa.gov/ecy/smeltersearch/>).

Soil contamination from the former Asarco smelter poses a risk to human health and the environment. Children are at especially high risk from direct exposure to contaminated soil. Construction workers, landscapers, gardeners, and others who work in the soils are also at risk.

Ecology recommends that the lead agency sample the soil and analyze for arsenic and lead. If lead or arsenic are found at concentrations above the Model Toxics Control Act (MTCA) cleanup levels (Chapter 173-340 WAC), Ecology recommends that:

1. Notify the construction workers and others that will have frequent contact with the contaminated soil. The MTCA cleanup level for arsenic is 20 parts per million (ppm) and lead is 250 ppm.
2. Develop soil remediation plan and enter into the Voluntary Cleanup Program with Ecology. For more information on the Voluntary Cleanup Program, visit Ecology website at: <http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm>.
3. Obtain an opinion letter from Ecology stating that the proposed soil remediation plan will likely result in no further action under MTCA.
4. Obtain a "No Further Action" determination from Ecology indicating that the remediation plans were successfully implemented under MTCA.

If soils are found to be contaminated with arsenic, lead, or other contaminants, extra precautions shall be taken to avoid escaping dust, soil erosion, and water pollution during grading and site construction. Site design shall include protective measures to isolate or remove contaminated soils from public spaces. Contaminated soils generated during site construction shall be managed and disposed of in accordance with state and local regulations,

Department of the Army
February 4, 2016
Page 3

including the Solid Waste Handling Standards regulation (Chapter 173-350 WAC). For information about soil disposal contact the local health department in the jurisdiction where soils will be placed.

The link below provides a fact sheet that explains more how the arsenic and lead clean-up levels were set and why Ecology sees that they are protective for human health: <https://fortress.wa.gov/ecy/publications/SummaryPages/1109095.html>.

For assistance and information about Tacoma Smelter Plume and soils contamination, contact, Eva Barber with the SWRO, Toxic Cleanup Program at the phone number given above or via email at Eva.Barber@ecy.wa.gov.

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(SM:16-0067)

cc: Eva Barber, TCP
Tara Davis, HWTR
Thomas Middleton, TCP

JBLM Response to Washington Department of Ecology letter dated February 4, 2016:

Construction, demolition, and material handling associated with this project will be conducted in compliance with applicable environmental regulations.