DRAFT ENVIRONMENTAL ASSESSMENT

Special Operations Forces (SOF) Facility

U.S. Army Garrison,
Fort George G. Meade, Maryland

February 2021

Special Operations Forces Facility

Draft Environmental Assessment

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FINDING OF NO SIGNIFICANT IMPACT

SPECIAL OPERATIONS FORCES (SOF) FACILITY AT U.S. ARMY GARRISON FORT GEORGE G. MEADE, MARYLAND

Introduction

Located in northwest Anne Arundel County, Maryland, roughly halfway between Baltimore and Washington, D.C., Fort George G. Meade (FMMD) is approximately 5,107.7acres in size, headquarters for United States Cyber Command (CYBERCOM) and the National Security Agency (NSA), and the largest employer in Maryland with a workforce of approximately 56,000 employees. FMMD supports over 119 tenant organizations from all military services and several federal agencies. Other major tenant units include the Defense Information School (DINFOS), the 704th Military Intelligence Brigade, 902nd Military Intelligence Group, the U.S. Environmental Protection Agency (USEPA) Science Center, Defense Media Activity (DMA), Department of Defense Consolidated Adjudication Facility (DODCAF) and Defense Information System Agency (DISA). FMMD is located near the communities of Odenton, Laurel, Columbia, and Jessup.

The Proposed Action includes design, construction and operation of a new, efficient and effective operational building on available, buildable space within a controlled access setting. The approximately 114,000 square foot, two-story building facility would accommodate approximately 196 personnel from four organizations, including Joint Cyber Operations Group (JCOG), United States Special Operations Command (SOCOM), Maryland Procurement Office (MPO), and CYBERCOM. The proposed facility includes:

- office space, operations areas, secure compartmented information facility (SCIF) spaces;
- large server areas;
- building utilities and connections;
- redundant mechanical and electrical systems;
- secure telecommunication distribution systems;
- human performance center;
- loading/dock platform; and,
- 250-space surface parking lot.

Space requirements are equivalent to the Army standard for an Echelon Above Brigade Command and Control Facility (EAB C2F). The proposed site is approximately 12 acres in size and bound by 6th Street to the north, Chamberlin Avenue to the east, Chisholm Avenue to the west, and a theoretical eastward expansion of 85th Medical Battalion Avenue to the south. Construction of a secure facility on FMMD would satisfy not only personnel space requirements, but also anti-terrorism (AT) mandatory standards and the Intelligence Community Standard Number 705 (ICS/ICS 705), Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities. The proposed project area has been determined as the

parcel upon which the Proposed Action would be constructed as shown in **Figure 2-1**. The study area within which the overall potential for impacts would be assessed is the area confined within the FMMD property boundaries.

In accordance with both Council on Environmental Quality (CEQ) and National Environmental Policy Act (NEPA) regulations (40 Code of Federal Regulations [CFR] 1508.13 and 32 CFR Part 651.21, respectively), this Finding of No Significant Impact (FNSI) hereby incorporates the entire EA by reference.

1. Purpose and Need

The **purpose** of the Proposed Action is to consolidate operations into a secure facility and meet mission requirements, which would address the issue of utilizing undersized, ill-equipped, and dispersed facilities scattered across the country. It includes not only the design and build of the remedy, but the continued operation in accordance with all applicable federal, state, and local laws and regulations. The Proposed Action would also meet the mission requirements at FMMD.

The Proposed Action is **needed** because the SOCOM currently leases land to conduct training operations throughout the country and maintains a headquarters near FMMD. Conducting the mission from multiple facilities throughout the country has resulted in fragmented operations and insufficient space for current and projected (FY22) manning levels. In addition, network operations are prevented from realizing the full potential of a collaborative and cohesive work environment. Further, these facilities are in leased spaces outside of a government-controlled base, creating potential operations security (OPSEC) vulnerabilities. This Proposed Action would enable SOCOM to consolidate operations into a secure facility and meet mission requirements.

2. Description of the Proposed Action and Alternatives

Chapter 3 of the EA presents a discussion of the alternatives evaluated. Several alternatives were dismissed as being non-viable alternatives that would be ineffective or inefficient and were eliminated from further evaluation in this EA. The non-viable alternatives eliminated from further evaluation include:

- Remove/Upgrade Existing Facilities at FMMD
- Construct Facility at Another Location on FMMD
- Construct Facilities at Another Installation
- Construct a Larger Facility

The No Action Alternative was also considered.

- **No Action Alternative -** The No Action Alternative is to continue use of multiple, leased spaces outside of the installation. This action would not address the issue of undersized, ill-equipped, and dispersed facilities scattered across the country. The unit has growth projections that would far exceed the current leased space capacity and would be forced to

relocate some of the projected growth to other leased facilities, further exasperating the current split operations. The current operation spaces do not meet physical and technical security standards and cannot accommodate a consolidated and expanding operation.

The Proposed Action Alternative - The Proposed Action includes design, construction and operation of a new, efficient and effective operational building on available, buildable space within a controlled access setting. The approximately 114,000 square foot, two-story facility would accommodate approximately 196 personnel from four organizations, including JCOG, SOCOM, MPO, and CYBERCOM. The proposed facility includes:

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- large server areas;
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Space requirements are equivalent to the Army standard for an Echelon Above Brigade Command and Control Facility (EAB C2F). The proposed site is approximately 12 acres in size and bound by 6th Street to the north, Chamberlin Avenue to the east, Chisholm Avenue to the west, and a theoretical eastward expansion of 85th Medical Battalion Avenue to the south. Construction of a secure facility on FMMD would satisfy not only personnel space requirements, but also anti-terrorism (AT) mandatory standards and the Intelligence Community Standard Number 705 (ICS/ICS 705), Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities. The proposed project area has been determined as the parcel upon which the Proposed Action would be constructed as shown in **Figure 2-1**. The study area within which the overall potential for impacts would be assessed is the area confined within the FMMD property boundaries.

3. Environmental Analysis

Environmental Consequences and Comparison of Alternatives: Chapter 5 of the EA discusses the affected environment and potential environmental consequences for the Proposed Action by resource area. The No Action Alternative serves as a baseline from which to compare the potential impacts of the Proposed Action.

The implementation of the Proposed Action is not anticipated to result in adverse significant environmental impacts. Potential permits, plans, and measures to reduce adverse impacts identified within the EA analysis are also included and support the impacts determinations presented.

Cumulative Effects: For the purposes of this EA, and in accordance with CEQ Regulation 40 CFR 1508.7, cumulative impacts result from the incremental impacts of the action when added to other

past, present, and reasonably foreseeable actions, regardless of who undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over time.

The study area for purposes of this EA has been defined for evaluation of potential impacts to human and natural resources within the perimeter boundary of the FMMD installation. This constitutes the Proposed Action's Region of Influence (ROI) for cumulative effects. This ROI includes areas where the Proposed Action's effects would most likely contribute to cumulative environmental effects.

Construction and continued development within the region would not cause the potential for significant cumulative adverse impacts to the valued environmental components (VECs) analyzed within the EA. The resource categories for which the Proposed Action would have the potential for impacts were reviewed in Chapter 5 of the EA to determine whether implementation of the Proposed Action would cause the potential for significant adverse cumulative effects. The cumulative effects analysis determined that the Proposed Action would not likely cause any appreciable significant cumulative impacts.

Proposed Impact Reduction Measures:

Various permits, plans, and measures have been identified within the EA analysis that would be undertaken by FMMD to minimize adverse effects.

4. Public Review and Comment:

The Draft EA/FNSI have been made available for a 30-day public review and comment period. Printed copies of the Draft EA typically provided to local libraries have been made available electronically in response to the COVID-19 pandemic. All materials have been provided online at www.ftmeade.army.mil and in print at the Medal of Honor Memorial Library at FMMD and the West County Area Library, Odenton, Maryland. A Notice of Availability of the release of the Draft EA for a 30-day review period was published in the *Capital Gazette*. Additionally, due to the COVID-19 pandemic, agency correspondence letters were provided via email, instead of printed and mailed.

5. Finding of No Significant Impact:

I have considered the results of the analysis in the EA, the comments received during the public comment period, and associated cumulative effects.

Based on these factors, I have decided to proceed with the Proposed Action, a long-term solution that would meet applicable federal, state, local, and installation regulations, and would be used to design, construct and operate a new SOF facility at FMMD, would meet the mission requirements at FMMD, and, along with specified permits, plans and measures, would not have a significant impact on the quality of human life or the natural environment.

This analysis fulfills the requirements of NEPA, as implemented by the CEQ regulations (40 CFR Parts 1500-1508), as well as the requirements of the *Environmental Analysis of Army Actions* (32 CFR Part 651). Therefore, issuance of a FNSI is warranted, and an Environmental Impact Statement (EIS) is not necessary.

_____ _____

CHRISTOPHER M. NYLAND Date
COL, IN Commanding

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1 INTRODUCTION

1.1 Project Background

This Environmental Assessment (EA) is prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, its implementing regulations published by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations (CFR) 1500-1508), and 32 CFR Part 651, which implements NEPA for the Army, and Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*. Pursuant to NEPA, federal agencies are required to consider the environmental consequences of their proposed actions. NEPA typically applies when the federal agency is the proponent of the action or where federal funds are involved in the action.

Located in northwest Anne Arundel County, Maryland, roughly halfway between Baltimore and Washington, D.C., Fort George G. Meade (FMMD) is approximately 5,107.7 acres in size, headquarters for United States Cyber Command (CYBERCOM) and the National Security Agency (NSA), and the largest employer in Maryland with a workforce of approximately 56,000 employees. FMMD supports over 119 tenant organizations from all military services and several federal agencies. Other major tenant units include the Defense Information School (DINFOS), the 704th Military Intelligence Brigade, 902nd Military Intelligence Group, the U.S. Environmental Protection Agency (USEPA) Science Center, Defense Media Activity (DMA), Department of Defense Consolidated Adjudication Facility (DODCAF), and Defense Information System Agency (DISA). FMMD is located near the communities of Odenton, Laurel, Columbia, and Jessup (see Figure 1-1).

This EA provides NEPA analysis and documentation for the Proposed Action, which is the design and construction of a new, efficient, and effective operational building on available, buildable space within a controlled access setting on FMMD. The approximately 114,000 square foot, two-story facility would accommodate approximately 196 personnel from four organizations, including the Joint Cyber Operations Group (JCOG), United States Special Operations Command (SOCOM), Maryland Procurement Office (MPO), and CYBERCOM. This EA evaluates the No Action Alternative. Additionally, other Alternatives were considered but eliminated and are discussed briefly in this EA.

Figure 1-1: Project Vicinity Map

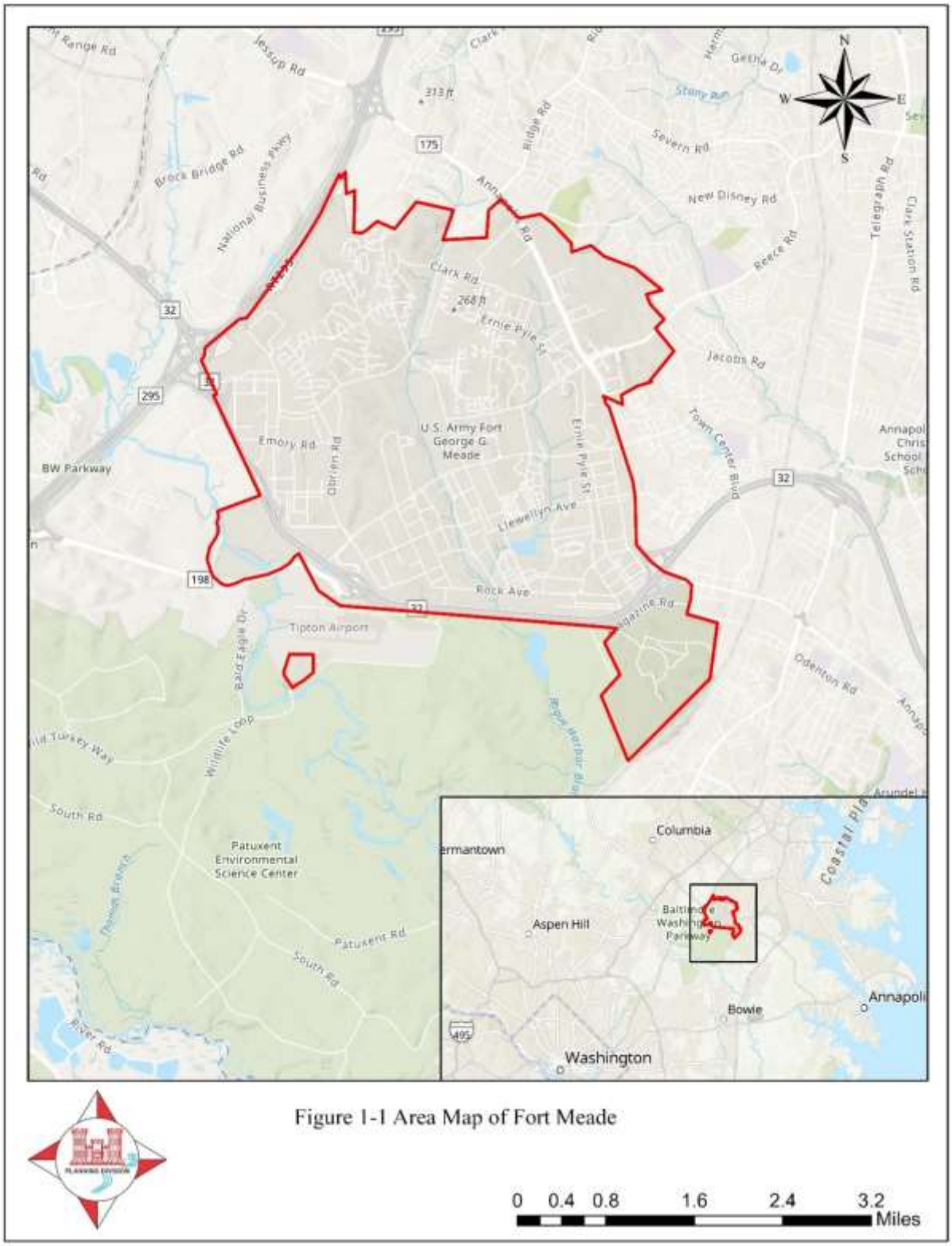


Figure 1-1 Area Map of Fort Meade

2 PURPOSE AND NEED

The SOCOM currently leases land to conduct training operations throughout the country and maintains a headquarters near FMMD. Conducting the mission from multiple facilities throughout the country has resulted in fragmented operations and insufficient space for current and projected (FY22) manning levels. In addition, network operations are prevented from realizing the full potential of a collaborative and cohesive work environment. Further, these facilities are located in leased spaces outside of a government-controlled base, creating potential operations security (OPSEC) vulnerabilities. This Proposed Action would enable SOCOM to consolidate operations into a secure facility and meet mission requirements.

2.1 Scope of the Environmental Assessment

This EA was prepared in accordance with NEPA, CEQ regulations at 40 CFR Parts 1500-1508, and 32 CFR Part 651 to assess the environmental consequences of the construction and operation of an operations facility.

The purpose of this EA is to inform decision makers and the public of the likely environmental consequences of the Proposed Action and No Action Alternative. This EA identifies, documents, and evaluates environmental effects of the proposed activity at FMMD. Environmental effects would include those related to construction and operation of the Proposed Action as well as impacts of increased personnel and traffic to FMMD. The Proposed Action and No Action Alternatives are described in Section 2.0, and other alternatives considered are described in Section 3.0.

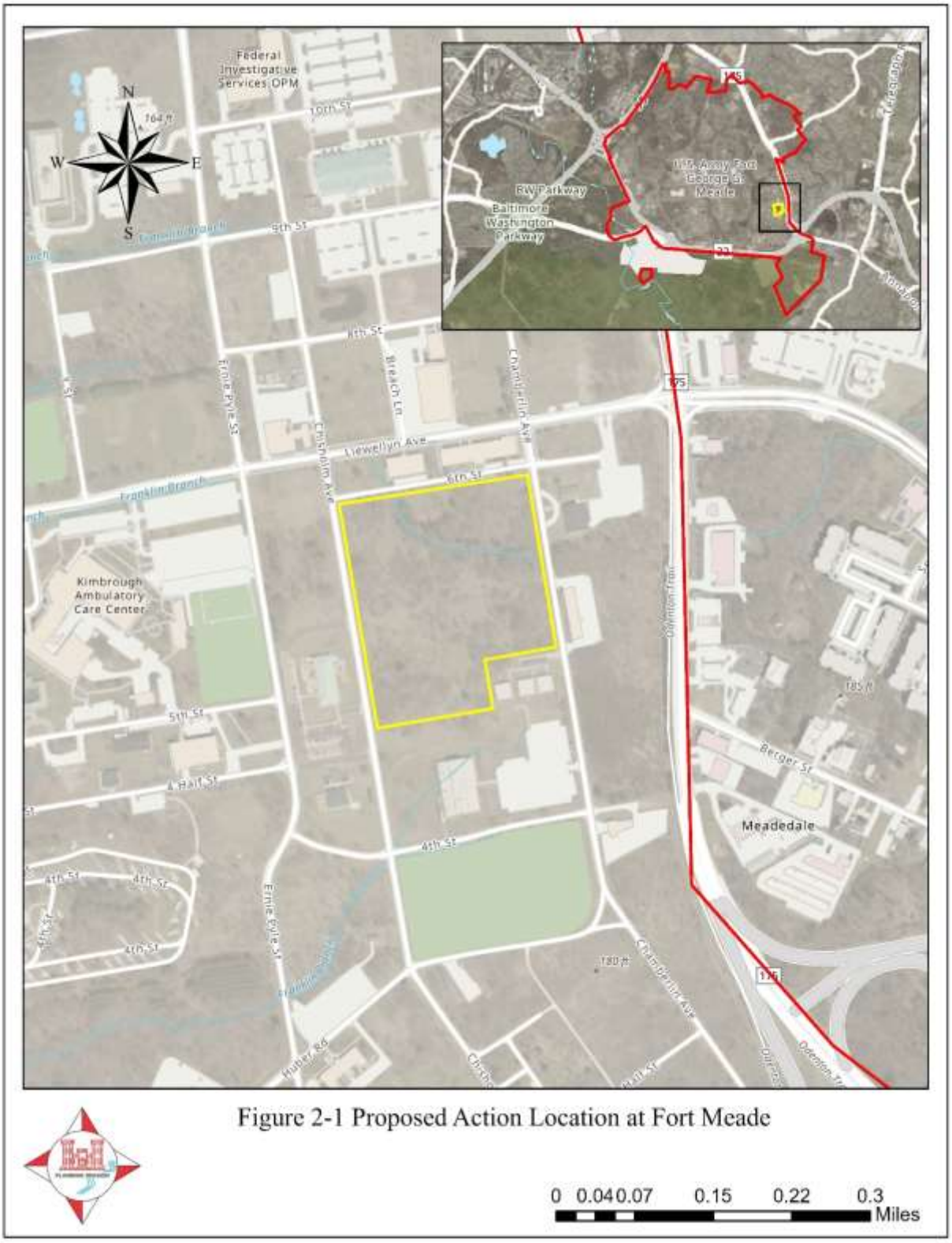
The existing conditions at FMMD are described in Section 4.0, Affected Environment, which, with information presented in the No Action Alternative, constitutes the baseline against other alternatives to be measured for the analysis of the effects of the construction of the operations facility, found in Section 5.0. The following resources are evaluated at FMMD: land use, air quality, hazardous and toxic materials and solid waste, noise, visual aesthetics, geology, soils and topography, water resources and water quality, coastal zone management, biological resources, energy and utilities, cultural resources, transportation and traffic, socioeconomics, environmental justice, and protection of children.

2.2 Public Involvement

Public participation opportunities with respect to this EA and decision making on the Proposed Action are guided by 32 CFR Part 651. Upon completion, the EA will be made available to the public for 30 calendar days, along with a draft Finding of No Significant Impact (FNSI). At the end of the 30-day public review period, the Army will consider any comments submitted by individuals, agencies, or organizations on the Proposed Action, the EA, or draft FNSI. As

appropriate, the Army may then execute the FNSI and proceed with implementation of the proposed action. If it is determined prior to issuance of a final FNSI that implementation of the proposed action would result in significant impacts, the Army will publish in the *Federal Register* a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), commit to mitigation actions sufficient to reduce impacts below significance levels, or not take the action.

Figure 2-1: Proposed Action Location at FMMD



2.3 Environmental Laws and Regulations

Army decisions that affect environmental resources and conditions occur within the framework of numerous laws, regulations, and Executive Orders (EO). Some of these authorities prescribe standards for compliance while others require specific planning and management actions to protect environmental values potentially affected by Army actions. Key provisions of appropriate statutes and EOs are described in more detail throughout the text of this EA and in Table 2-1.

TABLE 2-1: COMPLIANCE WITH FEDERAL ENVIRONMENTAL STATUTES AND EXECUTIVE ORDERS

ACTS	Compliance
Archaeological Resources Protection Act (ARPA) of 1979	FULL
Clean Air Act, as amended (42 United States Code [U.S.C.] ch. 85, subch. I §7401	FULL
Clean Water Act (CWA), as amended (33 U.S.C. ch. 23 §1151)	FULL
Coastal Zone Management Act (CZMA) of 1972, as amended	FULL
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. §9601 et seq.)	FULL
Endangered Species Act of 1973, as amended (16 U.S.C. ch. 35 §1531 et seq.)	FULL
Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e)	FULL
Migratory Bird Treaty Act (16 U.S.C §§703-712, et seq.)	FULL
National Defense Authorization Act of 2018 (Public Law 115-91)	FULL
National Environmental Policy Act of 1969 (42 U.S.C. §4321 et seq.)	FULL
National Historic Preservation Act of 1966, as amended (16 U.S.C. ch. 1A, subch.II §470 et seq.)	FULL
Noise Control Act of 1972, as amended (42 U.S.C. §§4901-4918, et seq.)	FULL
North American Wetlands Conservation Act (16 U.S.C. 4401-4412)	FULL
Resource Conservation and Recovery Act (42 U.S.C. ch. 82 §6901 et seq.)	FULL
Safe Drinking Water Act, as amended (42 U.S.C. §300f)	FULL

ACTS	Compliance
Solid Waste Disposal Act of 1965, as amended (42 U.S.C 6901 et seq.)	FULL
Toxic Substances Control Act (TSCA) of 1976 (15 U.S.C. ch.53, subch. I §§2601-	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. §1101, et seq.)	FULL
Wild and Scenic Rivers Act (16 U.S.C. 1271, et seq.)	FULL
Sikes Act, as amended (16 U.S.C. 670a-670o)	FULL
Executive Orders (EO)	
Protection and Enhancement of the Cultural Environment (EO 11593)	FULL
Floodplain Management (EO 11988)	FULL
Protection of Wetlands (EO 11990)	FULL
Environmental Justice in Minority Populations and Low-Income Populations (EO 12898)	FULL
Federal Compliance with Pollution Control Standards (EO 12088)	FULL
Protection of Children from Environmental Health Risks and Safety Risks (EO 13045)	FULL
Invasive Species (EO 13112)	FULL
Consultation and Coordination with Indian Tribal Governments (EO 13175)	FULL
Efficient Federal Operations (EO 13834)	FULL
Chesapeake Bay Protection and Restoration (EO 13508)	FULL

3 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

3.1 Proposed Action

The Proposed Action includes design, construction and operation of a new, efficient and effective operational building on available, buildable space within a controlled access setting. The approximately 114,000 square foot, two-story facility would accommodate approximately 196 personnel from four organizations, including JCOG, SOCOM, MPO, and CYBERCOM. The proposed facility includes:

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3.2 No Action Alternative

The No Action Alternative is to continue use of multiple, leased spaces outside of the installation. This action would not address the issue of undersized, ill-equipped, and dispersed facilities scattered across the country. The unit has growth projections that will far exceed the current leased space capacity and would be forced to relocate some of the projected growth to other leased facilities, further exasperating the current split operations. The current operation spaces do not meet physical and technical security standards and cannot accommodate a consolidated and expanding operation.

3.3 Other Alternatives Considered but Eliminated

3.3.1 Screening Criteria

The screening criteria established by SOCOM for the proposed headquarters compound were:

- A site of a size sufficient to provide consolidation of the necessary administrative and operational space for unit personnel and agency partners at future projected personnel numbers;
- A site within a secure military installation to ensure operations meet applicable physical and technical security standards;
- A location that affords adequate space for SCIF construction, as mission requirements necessitate that the majority of the building be built to SCIF standards, designed per the Intelligence Community Technical Specification ICS 705-1; and,
- A location proximate to other associated cyber commands.

3.3.2 Alternative 1 – Renovate/Upgrade Existing Facilities at FMMD

The SOCOM initially sought to upgrade, renovate and/or modernize existing facilities at FMMD, as is the appropriate first step in the stationing process. However, there is no existing, relatively contiguous space that could be renovated to provide adequate SCIF space as well as accommodate the expected total population and mission requirements of this SOCOM unit. Thus, Alternative 1 does not fully meet the screening criteria established by SOCOM requiring a site of sufficient size and was not carried forward for further analysis.

3.3.3 Alternative 2 – Construct Facility at Another Location on FMMD

During the initial project scoping process, other parcels within the FMMD boundaries were considered, including a site within the northeast portion of the installation near an existing antennae field. The steep slopes of this site would have rendered preparing it for construction extremely difficult from an engineering standpoint, thereby increasing construction costs to an unacceptable range. Also considered was an existing ball field within an approximately 6.5-acre area southeast of the intersection of 4th Street and Chisholm Avenue, currently used by the Directorate, Family and Morale, Welfare and Recreation (DFMWR); however, DFMWR was not willing to permanently vacate this actively-used field. Yet another site was considered along Mapes Road, but this raised concerns of siting a highly secured facility along one of the main thoroughfares on the installation. Another potential site was considered adjacent to the Army Reserve Center off Annapolis Road; however, this site is located outside of the installation's perimeter fence and therefore fails to meet the screening criteria.

3.3.4 Alternative 3 – Construct Facilities at Another Installation

No other installations were found to meet the screening criteria. FMMD serves the intelligence community and cyber missions associated with the DoD. FMMD, therefore, is an appropriate location to support this unit's mission and Alternative 3 was not carried forward for further analysis.

3.3.5 Alternative 4 – Construct a Larger Facility

The draft Department of Defense (DoD) DD Form 1391, dated 27 December 2019, had included an indoor shooting range to allow the unit to conduct firearms training as a routine part of meeting proficiency requirements for the nature of the mission, but within a unit-controlled facility housed within the same building as the day-to-day operational areas. The DD 1391 is used by DoD proponents as a planning tool to identify the scope of proposed projects and, ultimately, to submit requirements and justifications in support of funding requests for military construction to Congress. Based on discussions with the project proponent, U.S Army Corps of Engineers (USACE) military design team, USACE planning staff, and FMMD Department of Public Works (DPW) staff on 23 January 2020, it became evident that this element of the building design might result in concerns due to the child development center directly across Chisholm Avenue from the proposed range (venting of gunpowder and lead). Subsequently, the decision was made by the project proponent to eliminate the shooting range from the plans, with the knowledge that other existing ranges on the installation could support the training needs of the assigned units. Removing the indoor range allowed for more flexibility in the location of the building on the site and a better chance of keeping the budget within the original range of costs.

Also, based on the site walk that same day, designers expressed concern at the amount of earthwork necessary to provide required grading for the building as originally proposed and situated on the site. The site topography is more conducive to a slightly smaller building moved further to the south within the project area.

4 EXISTING CONDITIONS

This section of the EA describes the existing conditions of the natural and socioeconomic resources affected by the Proposed Action. Each environmental, cultural, and social resource category typically considered in an EA was reviewed for its potential to be affected by the Proposed Action. The region of influence (ROI) delineates the geographic extent of the affected environment and subsequent environmental effects analysis, which is included in Section 5.0. All activities associated with implementation of the Proposed Action would take place within the boundaries of FMMD. During times of construction, crews would display any necessary warnings of possible safety concerns within the site area.

4.1 Land Use

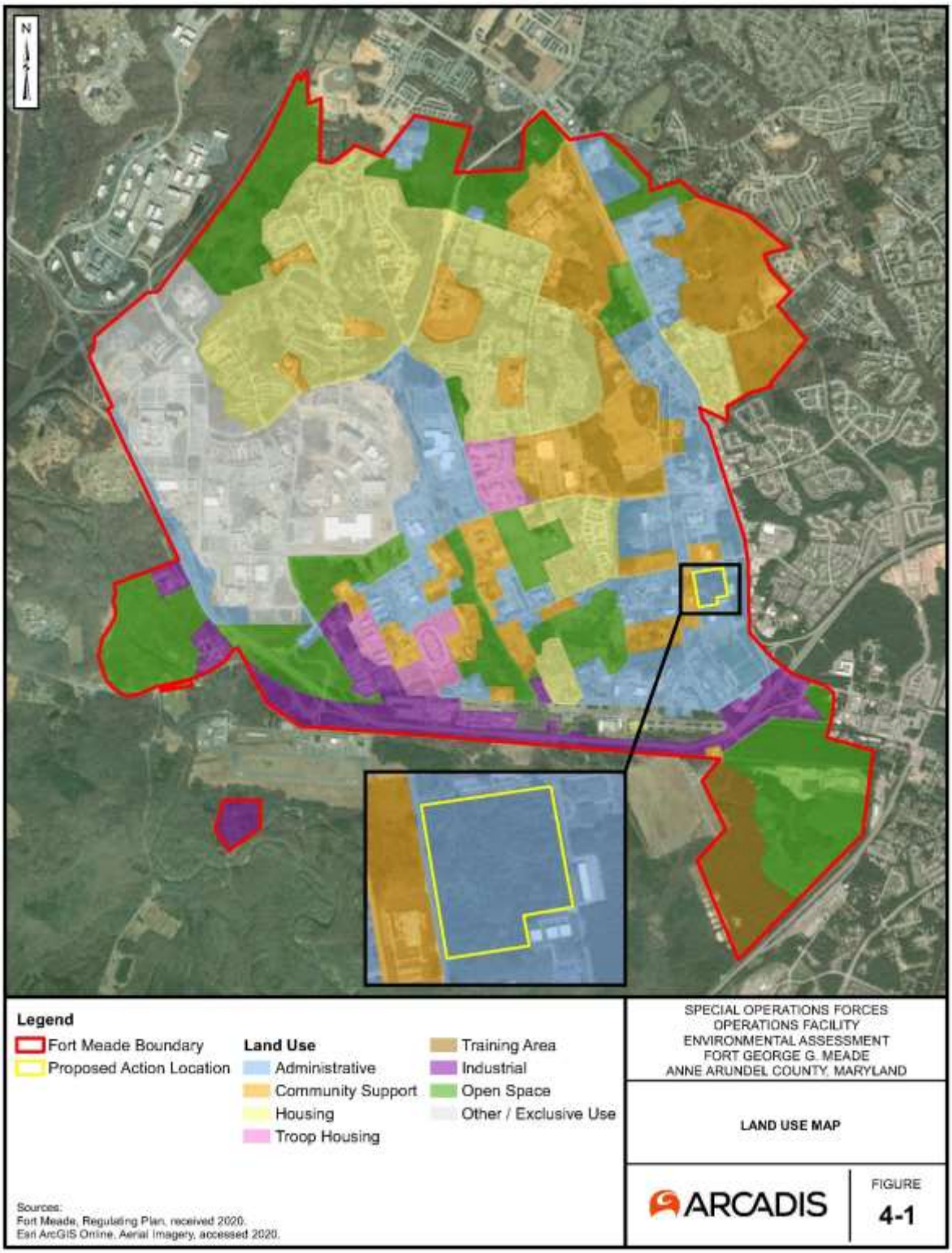
FMMD encompasses approximately 5107.7 acres and is located in the northwest corner of Anne Arundel County, Maryland. FMMD is located approximately 17 miles southwest of downtown Baltimore, Maryland, and approximately 24 miles northeast of Washington, DC. FMMD includes a main administrative area, seven Army Family Housing areas, the National Security Agency complex, an industrial and maintenance area, the exchange mall complex, and the Kimbrough Army Clinic (USACE, 2020). Privatized housing located mostly to the north, is open to active military and their families, retirees, and DOD civilian personnel. This makes up a significant portion of the installation with approximately 1,000 acres of land used exclusively for housing. The remaining areas of the installation toward the central and south primarily consists of barracks, administrative, mission, and Soldier support functions. Recreation areas include Burba Lake and Centennial Park, with training areas in the southeast portion of the installation (USACE, 2020a). Existing land uses within FMMD are displayed on **Figure 4-1**.

FMMD is bounded by the Baltimore-Washington Parkway (MD 295) to the northwest, Annapolis Road (MD 175) to the east, Patuxent Freeway (MD 32) to the south and west, and the MARC Penn Line and AMTRAK Line to the southeast. Other significant nearby transportation arteries include US Route 1 and Interstate 95, which run parallel to and just north of the Baltimore-Washington Parkway. Interstate 97, which connects Baltimore and Annapolis, is located several miles east of FMMD and can be reached by taking MD 175 or MD 32 east. FMMD is predominately surrounded to the north, west, and east by residential areas, commercial centers, a mix of light industrial uses, and undeveloped areas. Directly to the south of FMMD are the Tipton Airport and the 12,750-acre Patuxent Research Refuge, part of the U.S. Fish and Wildlife Service's (USFWS) National Wildlife Refuge System. To the southwest of FMMD is the 800-acre parcel that once housed the DC Oak Hill juvenile detention facility (USACE, 2020).

4.1.1 Land Use Controls

FMMD's Installation Action Plan (IAP) outlines the total multiyear cleanup program for the installation as directed in the Army Defense Environmental Restoration Program (DERP) Management Guidance for Active and Base Realignment and Closure (BRAC) Installations (2012). The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA). The IAP incorporates Land Use Controls (LUC) and land use restrictions for areas included in the IAP, including media specific restrictions which serve to prohibit, or otherwise manage excavation, and landfill restrictions, prohibiting activities that would impact landfill caps or cover systems and associated drainage systems (FGGM, 2016). In addition, FMMD has an active Installation Restoration Program (IRP) to investigate and clean-up past activities that have resulted in environmental contamination. The Superfund Amendments and Reauthorization Act of 1986 (10 U.S.C. 2701) requires DOD to carry out its Defense Environmental Restoration Program in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, commonly referred to as Superfund (42 U.S.C. 9620).

Figure 4-1: FMMD Land Use



4.2 Air Quality

4.2.1 National Ambient Air Quality Standards and Attainment Status

The United States Environmental Protection Agency (USEPA) Region 3 and the Maryland Department of the Environment (MDE) regulate air quality in Maryland. The Clean Air Act (CAA) (42 U.S.C. §7401–7671q), as amended, gives USEPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) acceptable concentration levels for seven criteria pollutants:

- Particulate matter less than 10 microns (PM_{10})
- Particulate matter less than 2.5 microns ($PM_{2.5}$)
- Sulfur dioxide (SO_2)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- Ozone (O_3)
- Lead (Pb)

Short-term standards (i.e., 1-, 8-, and 24-hour periods) have been established for pollutants that contribute to acute health effects, while long-term standards (i.e., annual averages) have been established for pollutants that contribute to chronic health effects. These standards identify the maximum allowable concentrations of criteria pollutants that regulatory agencies consider safe, with an additional adequate margin of safety to protect human health and welfare. Each state has the authority to adopt standards stricter than those established under the federal program. MDE is responsible for maintaining air quality standards for the State of Maryland and has adopted the NAAQS.

Primary and secondary NAAQS for the aforementioned criteria are described in **Table 4-1** for Anne Arundel County, where FMMD is located. Areas that exceed the NAAQS ambient concentration are labeled as nonattainment areas and are designated as such in accordance with federal regulations. According to the severity of the pollution problem, areas exceeding the established NAAQS are categorized as marginal, moderate, serious, severe, or extreme nonattainment or maintenance areas.

Table 4-1: National Ambient Air Quality Standards

Pollutant	Standard	Averaging Time	Ambient Concentration	Anne Arundel County Attainment Status
CO	Primary	1-hour[a] (ppm)	35	Attainment
		8-hour[a] (ppm)	9	
NO_2	Primary	1-hour[b] (ppm)	100	Attainment
	Primary and Secondary	Annual[c] (ppm)	53	
O_3	Primary and Secondary	8-hour[d](ppm)	0.070	Nonattainment
SO_2	Primary	1-hour[e] (ppb)	75	Nonattainment
	Secondary	3-hour[a] (ppm)	0.5	
$PM_{2.5}$	Primary and Secondary	24-hour[f] ($\mu g/m^3$)	35	Attainment
	Primary	Annual arithmetic mean[g] ($\mu g/m^3$)	12	
	Secondary	Annual arithmetic mean[g] ($\mu g/m^3$)	15	
PM_{10}	Primary and Secondary	24-Hour[h] ($\mu g/m^3$)	150	Attainment
Lead	Primary and Secondary	3-month arithmetic mean[i] ($\mu g/m^3$)	0.15	Attainment

Source: 40 CFR 50.1-50.12; USEPA, 2015
CO = carbon monoxide; $\mu g/m_3$ = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; NO_2 = nitrogen dioxide; O_3 = ozone; ppb = parts per billion; ppm = parts per million; $PM_{2.5}$ = particulate matter less than 2.5 microns; PM_{10} = particulate matter less than 10 microns; SO_2 = sulfur dioxide
a Not to be exceeded more than once per year.
b 98^{th} percentile, averaged over 3 years.
c Annual mean.
d Annual fourth highest daily maximum 8-hour average O_3 concentrations, averaged over 3 years.
e The 3-year average of the 99_{th} percentile of 1-hour daily maximum concentrations.
f The 3-year average of the 98th percentile of 24-hour concentrations.
g The 3-year average of the weighted annual mean.
h Not to be exceeded more than once per year, on average over 3 years.
i Maximum arithmetic 3-month mean concentration for a 3-year period.

FMMD is within the Metropolitan Baltimore Intrastate Air Quality Control Region. This air quality control region consists of these Maryland jurisdictions: Anne Arundel County, Baltimore City, Baltimore County, Carroll County, Harford County, and Howard County (40 CFR 81.28). FMMD is in Anne Arundel County which is in attainment for all pollutants except ozone and sulfur dioxide. Anne Arundel County is in moderate nonattainment for the 2008 8-hour ozone standard and marginal nonattainment for the 2015 8-hour ozone standard, (USEPA, 2020). The portions of Anne Arundel County that are within 26.8 kilometers of the Herbert A. Wagner Generating Plant Unit 3 stack are in nonattainment for the 2010 sulfur dioxide standard (USEPA, 2020a). FMMD

is approximately 19 kilometers from the Herbert A. Wagner Generating Plant and therefore lies within this sulfur dioxide nonattainment area. Additionally, Maryland is within the Ozone Transport Region (42 U.S. Code 7511c.(a)). States in this region may require controls for the pollutants that form ozone, even if the state meets the ozone standards (USEPA, 2020b).

MDE develops air quality plans, referred to as State Implementation Plans (SIPs), that are designed to attain and maintain the NAAQS, and to prevent significant deterioration of air quality in areas that meet NAAQS standards. Maryland has individual SIPs for various pollutants, including NO_2, $PM_{2.5}$, 8-hour O_3, SO_2, regional haze, lead, etc. Federal agencies must ensure that their actions conform to the SIP in a nonattainment area, and do not contribute to new violations of ambient air quality standards or an increase in the frequency or severity of existing violations, or a delay in timely state and/or regional attainment standards.

MDE has issued Permit to Operate No. 003-0322 to the DPW at FMMD. The permit includes applicable regulations and compliance requirements for emissions sources at FMMD including boilers, emergency generators, landfills, and gasoline storage tanks. The permit requires submittal of annual emission certification reports to MDE. The criteria pollutant emissions reported for the DPW permitted sources for the years 2017 through 2019 are provided in **Table 4-2**. NSA has MDE-permitted air emission sources within the confines of the installation that are not included in the table below and are not included in this analysis.

Table 4-2: Criteria Pollutant Emissions for FMMD (2017 through 2019)

Year	NO_x	SOx	PM_{10}	CO	VOC
	(tons per year)				
2017	11.5	0.49	0.91	9.6	12.5
2018	15.0	0.54	1.1	12.2	11.0
2019	13.5	0.49	0.99	11.0	11.7

NOx = nitrogen oxides; SOx = sulfur oxides; PM_{10} = particulate matter less than 10 microns; CO = carbon monoxide; VOC = volatile organic compound

Source: DPW, 2020

Any new regulated air emission activity that would be conducted at the installation would require an air permit to construct and a modification to the appropriate installation air permit. The construction permit application should demonstrate compliance with MDE's applicable control regulations. Some sources are also subject to technology-based standards which apply to specific categories of stationary sources, referred to as New Source Performance Standards (NSPS) found in 40 CFR Part 60. NSPS apply to new, modified and reconstructed affected facilities and provide emission limits, monitoring, recordkeeping, and reporting requirements for affected sources. Sources subject to NSPS may require an initial performance test or utilize continuous emission monitors or monitor control device operating parameters to demonstrate compliance with the rule.

4.2.2 Regulatory Requirements for Hazardous Air Pollutants

In addition to criteria pollutant standards, the USEPA also regulates hazardous air pollutant (HAP) emissions for each state. HAPs differ from criteria pollutants for they are known or suspected to cause cancer and other diseases or have adverse environmental impacts. The National Emission Standards for HAPs (NESHAP) found in 40 CFR Part 63 regulate 187 HAPs that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. NESHAP requires application of technology-based emissions standards referred to as Maximum Achievable Control Technology (MACT).

Sources of HAP emissions at FMMD include the boilers, fuel storage tanks, and generators. Installation-wide, FMMD is an existing minor source of HAPs, meaning total annual emissions of any single HAP are less than 10 tpy and annual emissions of combined HAP are less than 25 tpy.

4.2.3 Regulatory Requirements for Toxic Air Pollutants

The MDE toxic air pollutant (TAP) regulations were promulgated in September 1988 to protect the public from TAP emissions from stationary sources of air pollution. These regulations, while not unique in structure to other programs in the United States, are noteworthy due to the number of pollutants considered and the number of sources subject to them. For new sources (constructed or reconstructed after July 1, 1988), a TAP is any of the listed pollutants in Code of Maryland Regulations (COMAR) 26.11.16.06 and .07 plus any other air pollutant that is considered a health hazard, as defined by the Occupational Safety and Health Administration (OSHA). All new sources of TAPs in Maryland would require an air permit to construct and must apply the best available control technology for toxics (T-BACT). T-BACT is a top-down demonstration of control strategies (including pollution prevention techniques) for the equipment starting with the most effective strategy. The new sources must also demonstrate that the facility-wide TAP emissions would not adversely affect public health by complying with the benchmarks called screening levels. Screening levels are based on safe worker exposure levels with an added factor of safety to protect against multiple sources and to protect more sensitive individuals. Public health is protected when the emissions of a facility are less than the maximum allowable emissions or when off-site impact of the facility-wide emissions of each TAP is less than the screening levels for the TAP, or as determined by air dispersion modeling, if required.

4.2.4 Clean Air Act Conformity

The 1990 amendments to the CAA require federal agencies to ensure that their actions conform to the SIP in a nonattainment area. The purpose of the General Conformity Rule is to ensure that:

- Federal activities do not cause or contribute to new violations of NAAQS;
- Actions do not worsen existing violations of the NAAQS; and/or
- Attainment of the NAAQS is not delayed.

USEPA has developed two distinctive sets of conformity regulations: one for transportation projects and one for non-transportation projects. Non-transportation projects are governed by general conformity regulations (40 CFR 93). Pursuant to 40 CFR 93(b), a conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a federal action would equal or exceed threshold emissions levels provided under 40 CFR 93 (b)(1) or (2).

The Proposed Action is a non-transportation project within a nonattainment area for ozone and sulfur dioxide. Anne Arundel County is also in an Ozone Transport Region. Because ozone formation is driven by other direct emissions, the air quality analyses focus on the ozone precursors VOCs and NOx. For an ozone nonattainment area within the Ozone Transport Region, the conformity determination thresholds are 100 tpy for NO_x and 50 tpy for VOCs. For a sulfur dioxide nonattainment area, the conformity determination threshold is 100 tpy SO_2 (40 CFR 93.153(b)(1)).

Routine operation of facilities, mobile assets and equipment are exempt from the General Conformity Rule in accordance with 40 CFR 93.153(c)(2)(xiii). Therefore, operational emissions from FMMD need not be included in the applicability analysis. Pursuant to 40 CFR 93.153(d)(1), a conformity determination is not required for the portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review program or the Prevention of Significant Deterioration (PSD) program. Therefore, emissions from the routine operations of the new emergency generator are not required to be included in the applicability analysis.

The General Conformity Rule also prohibits any department, agency, or instrumentality of the Federal Government from engaging in, providing financial assistance for, approving, or supporting any activity that does not conform to applicable SIP designated for areas being in nonattainment of established NAAQS.

4.2.5 Greenhouse Gas Emissions

Greenhouse gases (GHGs) are a particular group of gases that can trap heat by absorbing infrared radiation in the atmosphere. Scientific evidence indicates a trend of increasing global temperatures over the past century which are likely due to an increase in GHG emissions from human-based activities. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide. The main source of GHGs from human activities is the combustion of fossil fuels, including natural gas, diesel fuel, gasoline, and coal. Other examples of GHGs created and emitted primarily through human-based activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride.

Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has

a value of one. For example, CH_4 has a GWP of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis.

To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and nitrous oxide have much higher GWPs than CO_2, CO_2 is emitted in such higher quantities that it is the overwhelming contributor to CO_2e from both natural processes and human activities.

4.2.5.1 Regulatory Review and Permitting

Currently the USEPA has two primary groups of GHG regulations for regulated stationary emission sources:

- 40 CFR Part 98 - requires annual GHG emissions reporting and applies to fossil fuel suppliers and industrial gas suppliers, facilities that inject CO_2 underground for sequestration or other reasons, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and engines. The rule does not require control of GHGs, rather it requires only that certain sources emitting 25,000 metric tons CO_2e or more per year monitor and report emissions.
- 40 CFR Parts 51, 52, 60, 70 and 71 – establish CO_2 emission limits to be addressed in PSD and Title V permits required for electric utility generating units that are major stationary sources for regulated pollutants other than GHG. A 75,000 tpy threshold is used by EPA as a de minimis value to determine whether a PSD permit must include an emission limitation for CO_2 and a 100,000 tpy threshold is applied for Title V permits.
- Installation-wide, FMMD is not a PSD major source (single criteria pollutant emissions at or above 250 tpy) and historical facility wide GHG emissions are well below 75,000 tpy, so the facility has not triggered PSD requirements for GHG emissions. Pursuant to the air permit at the installation, FMMD already reports their GHG emissions to the MDE. The combined GHG emissions reported for all the facility-permitted sources for the years 2017 through 2019 are provided in **Table 4-3**.

Table 4-3: Greenhouse Gas Emissions for FMMD (2017 through 2019)

Year	CO_2	CH_4	N_2O
	(tons per year)		
2017	13,250	785	0.20
2018	16,669	746	0.26
2019	15,442	816	0.23

CO_2**e** – Carbon dioxide equivalent
Source: DPW, 2020

The CEQ provides guidance to federal agencies on how to evaluate GHGs for federal actions under NEPA. The most recent final CEQ guidance available when the Proposed Action was funded and initiated is dated August 1, 2016. Among other recommendations, the guidance suggests that agencies select the appropriate level of NEPA review to assess GHG emissions and impacts, including qualitative analyses, and rely on their experience to consider environmental effects (CEQ, 2016).

4.2.5.2 Executive Orders and Federal Laws

In April 2007, the U.S. Supreme Court determined that the USEPA has the regulatory authority to list GHGs as pollutants under the federal CAA (USEPA 2007).

Additionally, federal agencies address emissions of GHGs by reporting and meeting reductions mandated in laws, executive orders, and policies. Relevant to GHGs is EO 13834, *Efficient Federal Operations*, of May 17, 2018.

The Energy Policy Act of 2005, Energy Independence and Security Act of 2007, and EO 13834 require an installation to adhere to specific energy improvements, which address waste reduction and improvements in efficiency. Specifically, the DoD Strategic Sustainability Performance Plan contains strategies to reduce energy waste and improve efficiency (DoD, 2016).

4.3 Hazardous and Toxic Materials, and Solid Wastes

A hazardous substance is defined as any substance that is:

1) listed in Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);

2) designated as a biologic agent or other disease causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic

mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring;

3) listed by the U.S. Department of Transportation (DOT) as hazardous materials under 49 CFR 172.101 and appendices; or

4) defined as a hazardous waste per 40 CFR 261.3 or 49 CFR 171 (USAG, 2019a).

The Occupational Safety and Health Administration's (OSHA's) definition of hazardous substance includes any substance or chemical which is a "health hazard" or "physical hazard," including: chemicals which are carcinogens, toxic agents, irritants, corrosives, sensitizers; agents which act on the hematopoietic system; agents which damage the lungs, skin, eyes, or mucous membranes; chemicals which are combustible, explosive, flammable, oxidizers, pyrophorics, unstable-reactive or water-reactive; and chemicals which in the course of normal handling, use, or storage may produce or release dusts, gases, fumes, vapors, mists or smoke which may have any of the previously mentioned characteristics. (Full definitions can be found at 29 CFR 1910.1200.) (USAG, 2019a)

USEPA incorporates the OSHA definition for hazardous substance and adds any item or chemical which can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment (40 CFR 355).

The DOT defines a hazardous material as any item or chemical which, when being transported or moved in commerce, is a risk to public safety or the environment, and is regulated as such under its Pipeline and Hazardous Materials Safety Administration regulations (49 CFR 100-199), which includes the Hazardous Materials Regulations (49 CFR 171-180). In addition, hazardous materials in transport are regulated by the International Maritime Dangerous Goods Code; Dangerous Goods Regulations of the International Air Transport Association; Technical Instructions of the International Civil Aviation Organization; and U.S. Air Force Joint Manual, Preparing Hazardous Materials for Military Air Shipments (USAG, 2019a).

The NRC regulates materials that are considered hazardous because they produce ionizing radiation, which means those materials that produce alpha particles, beta particles, gamma rays, x-rays, neutrons, high-speed electrons, high-speed protons, and other particles capable of producing ions. This includes "special nuclear material," by-product material, and radioactive substances. (See 10 CFR 20).

FMMD fulfills all requirements of the following federal, state, and ARs:

Federal:

- Comprehensive Environmental Response, Compensation, and Liability Act
- Superfund Amendments and Reauthorization Act (SARA)
- Toxic Substances Control Act
- Occupational Safety and Health Administration Hazard Communication Standard

- 29 CFR 1910.1200, Hazard Communication Standard, 2001
- EO 12580. Superfund Implementation
- Hazardous Waste Regulations (40 CFR Parts 260-279)
- Superfund Amendments and Reauthorization Act (Public Law 99-499)
- Spill Prevention, Control, and Countermeasure Rule (40 CFR Part 112)
- OSHA Hazardous Waste Operations and Emergency Response standard (29 CFR 1910.120 and 1926.65)
- Federal Acquisition Regulation

State:

- COMAR 26.13.03 Standards Applicable to Generators of Hazardous Waste

Army/DoD:

- DoD Directive 4140.25M, Procedures for the Management of Petroleum Products
- DoD Directive 4150.7, Pest Management Program
- DoD Directive 5030.41, Oil and Hazardous Substances Pollution Prevention and Contingency Program
- DoD Directive 4145.26M, DoD Contractors' Safety Manual for Ammunition and Explosives, 1997
- Explosives Safety Policy for Real Property Containing Conventional Ordinance
- Explosives "Army Specific" Headquarters Department of the Army (DA) Letter 385-00-2
- DoD Directive 6055.9, DoD Explosives Safety Board and Component Explosives Safety Responsibilities, July 29, 1996, Chapter 12, "Real Property Contaminated with Ammunition, Explosives or Chemical Agents"
- AR 200-1 Environmental Protection and Enhancement
- AR 700-141, Hazardous Materials Information Resource System

Specific hazardous material guidance is also covered in AR 200-1 which establishes policies and procedures to protect the environment, including environmental responsibilities for the DA, major commands, and installations. It directs Army staff to follow applicable environmental regulations of final governing standards and Army environmental quality policies pertaining to the Emergency Planning and Community Right-to-Know Act, Resource Conservation and Recovery Act (RCRA), and CERCLA, also known as the Federal Superfund Law. It also defines the Army's goal of continually managing and reducing the generation of hazardous waste, through waste identification and disposal, records management, and training programs (USAG 2019).

4.3.1 Environmental Compliance Management Plans

FMMD's Directorate of Public Works Environmental Division is responsible for managing hazardous materials and waste. The installation operates under a Spill Prevention Control and Countermeasures Plan (SPCCP)/Installation Spill Contingency Plan (ISCP) for all facilities where hazardous materials are stored. The SPCCP/ISCP Plan delineates measures and practices that require implementation to prevent and/or minimize spill/release from storage and handling of hazardous materials to protect ground and water surfaces. In accordance with state and federal law and ARs, the SPCCP/ISCP is updated at least every 3 years or when significant changes in

operations occur that could impact the likelihood of a spill. The ISCP provides emergency response instructions for spills and uncontrolled releases of hazardous materials. Instructions include notification, probable spill routes, control measures, exposure limits and evacuation guidelines. Material Safety Data Sheets (MSDS) that provide information about health hazards and first-aid procedures are included in the ISCP (USAG, 2017).

FMMD also has an Installation Hazardous Waste Management Plan. Those who handle or manage hazardous materials or hazardous waste are trained in accordance with federal, state, local and Army requirements. Each facility has appointed an emergency management coordinator who is responsible for emergency response actions until relieved by hazardous materials spill response personnel (USAG, 2017).

4.3.2 Polychlorinated Biphenyls, Lead-Based Paint, and Asbestos Containing Materials

The possibility of polychlorinated biphenyl (PCB) in electrical light ballast, capacitors, systems, and lights, as well as lead-based paint (LBP) and asbestos containing materials (ACM) exists at the installation. The installation has a continuing program to remove PCB-containing material from electrical equipment. Most lighting ballasts are expected to contain PCBs and are treated as containing PCBs unless they are labeled PCB-free (USAG, 2017).

LBP may be found in structures older than 1978. The installation's 2006 Lead Hazard Management Plan procedures and protocols are used in the identification, control, and removal of LBP from real property at FMMD (USAG, 2017).

ACM may be found within older buildings at FMMD and on buried steam lines at the installation. Some of these lines may be present within the project area. The FMMD 2008 Asbestos Management Program Standard Operating Procedure (SOP) provides the procedures for identifying, controlling, and disposing of asbestos containing materials (USAG, 2017).

4.3.3 Pesticides and Pest Management

The Integrated Pest Management Plan (IPMP) provides a framework through which pest problems can be effectively addressed at FMMD. The plan was prepared in 2007 and has been validated annually since then, because no significant changes were required. The plan was validated again for fiscal year (FY) 2017. Elements of the program, including health and environmental safety, pest identification, pest management, pesticide storage, transportation, use, and disposal are defined within the plan. Used as a tool, this plan reduces reliance on pesticides, enhances environmental protection, and maximizes the use of integrated pest management techniques. Pesticides are stored at the entomology building and used on FMMD in accordance with all applicable federal, state, and installation guidelines (USAG, 2017).

4.3.4 UXO and Munitions

The DoD developed the Military Munitions Response Program (MMRP) in 2001 to addresses munitions-related concerns, including explosive safety, environmental, and health hazards from releases of unexploded ordnance (UXO), discarded military munitions (DDM), and munitions constituents (MC) found at locations other than operational ranges on active BRAC installations and Formerly Used Defense Sites (FUDS) properties. The MMRP addresses non-operational range lands with suspected or known hazards from munitions and explosives of concern (MEC) which occurred prior to September 2002 but are not already included with an IRP site cleanup activity (USAG, 2017).

FMMD maintains an active MMRP which includes two Munitions Response Areas (MRAs): Inactive Landfill No. 2 and the Former Mortar Range. As part of the mission for training of troops, the 291-acre Former Mortar Range was reportedly used as a training mortar range and maneuver area from the 1920s until the 1940s. The majority of the former range and training area was used as a golf course from 1956 to 2010. The northwestern portion of the MRA is part of NSA's Enhanced Use Lease area that was developed with buildings and associated paved surfaces (i.e., roadways, parking lots, and walkways). As of early 2012, construction of additional buildings began on the area that had been the golf course. The Former Mortar Range MRA is bounded to the north by Rockenbach Road and residential properties, to the east by Taylor Avenue, and to the south by Mapes Road (USAG, 2017). Although no historic range areas have been identified at the site and it previously supported buildings which were subsequently removed in the early 1990's, the small potential to encounter old ammunition and ordnance items still exists.

4.3.5 Solid Waste

No active landfills are located on FMMD, and all solid waste is transported to a permitted facility located off the installation. Solid wastes are currently collected and disposed of under the base operations contract with Melwood (USAG, 2017).

4.3.6 Hazardous Waste

The EPA placed FMMD on the National Priorities List (NPL) on 28 July 1998, after an evaluation of contamination due to past storage and disposal of hazardous substances at the Defense Reutilization and Marketing Office (DRMO), Closed Sanitary Landfill (CSL), Clean Fill Dump (CFD), and Post Laundry Facility. Contaminants at these sites included solvents, pesticides, PCBs, heavy metals, waste fuels, and waste oils. Based on the Army's conclusion that all actions necessary to protect human health and the environment have been conducted for the Tipton parcel, the EPA removed the Tipton parcel from the FMMD NPL listing on 1 November 1999. The FMMD NPL includes the entire current installation, from fence line to fence line (USAG, 2017).

4.3.7 Installation Restoration Program

The DoD established the Installation Restoration Program (IRP) in 1975 to provide guidance and funding for the investigation and remediation of hazardous waste sites caused by historical disposal activities at military installations. The fundamental goal of the FMMD IRP is to protect human health, safety and the environment. The IRP is carried out in accordance with all federal, state and local laws. The primary federal laws are CERCLA and the Superfund Amendments and Reauthorization Act (SARA). In 2009, FMMD signed a Federal Facility Agreement (FFA) with the USEPA, U.S. Department of the Interior (DoI) and U.S. Architect of the Capitol. This document established the role that FMMD and the USEPA each play in the restoration of the installation and the formal mechanisms of this process. The IRP's staff works closely with the USEPA, MDE, and local government agencies to ensure that cleanup processes are conducted properly and efficiently. The staff also receives input from community groups and nearby residential areas (USAG, 2017).

4.3.8 Existing Contamination

USEPA, the Army, the DoI, and the Architect of the Capitol signed a Federal Facility Agreement (FFA) in June 2009. The FFA describes the procedures under which the Army and EPA will investigate and remediate site contamination. To more effectively manage investigations and cleanups at FMMD, the Army, the MDE, and EPA have defined separate areas, or operable units (OUs), that include various contaminated sites and areas of potential environmental concern. Remedial investigations have started at over 11 OUs, with additional environmental studies planned at areas of potential environmental concern (USEPA, 2020).

The area surrounding project site was an historic Army barracks and in previous studies and surveys the presence of underground storage tanks (USTs) have been found. Therefore, USTs should be anticipated to be encountered during construction and removed and disposed of appropriately.

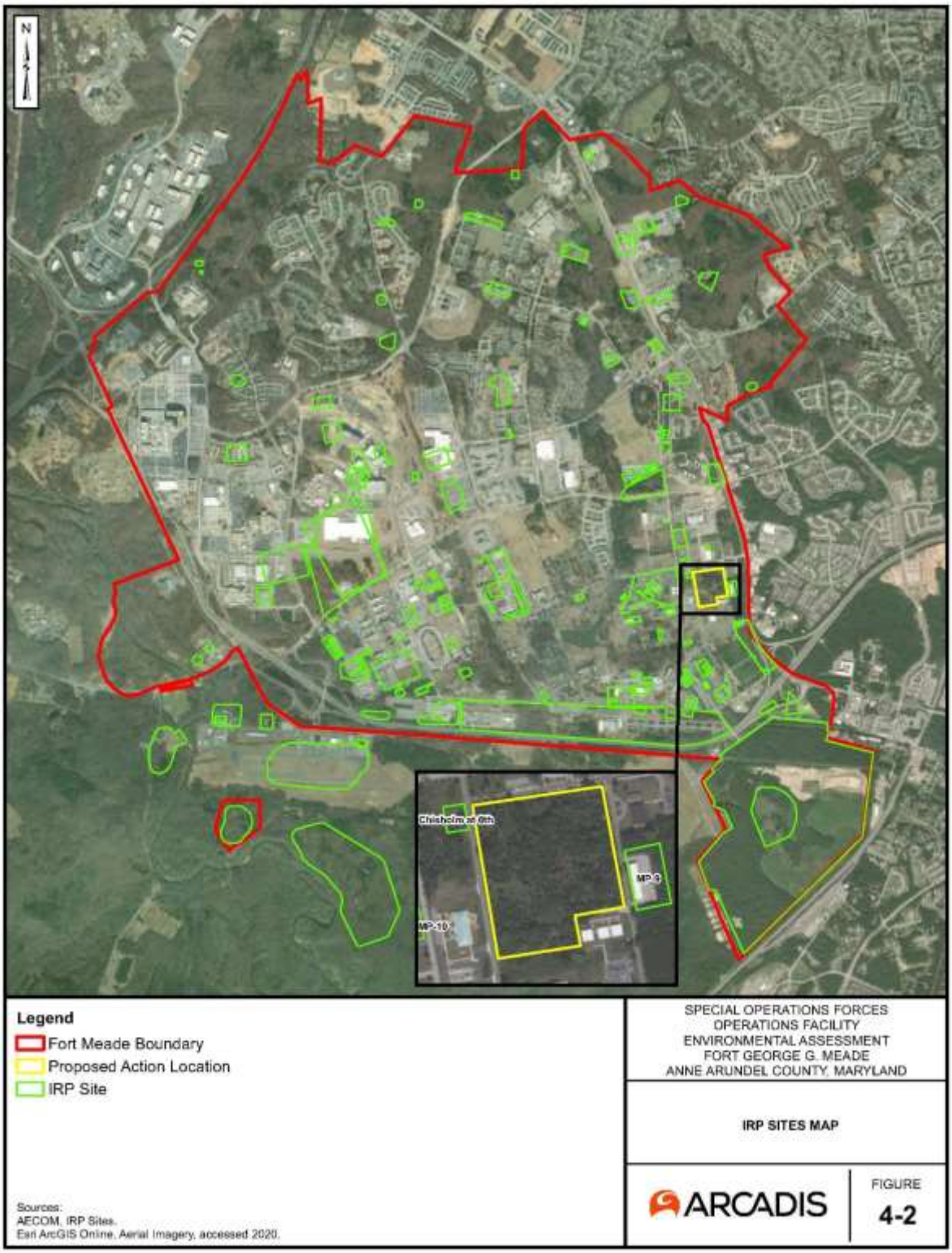
According to the Final Site Management Plan for FMMD (Stell, 2019), several IRP sites are near the proposed project location as shown on **Figure 4-2**, and as follows:

- Motor Pool (MP)-9 (FGGM 96/OU46) – located immediately adjacent to the east of the proposed project site – Closed/No Further Action (NFA);
- Chisholm at 6th (FGGM 96/OU46) - located immediately adjacent to the west side of Chisholm Avenue across from the northwest corner of the proposed project site;
- Solid Waste Management Unit (SWMU) 075 & 076 – Building 2501 – located adjacent to the north of the proposed project site;
- MP-10 (FGGM 96/OU46) – located adjacent to the west of the proposed project site – Closed /NFA;

- SWMU 072/Building 2482 - located adjacent to the west of the proposed project site – Closed /NFA; Closed Oil Control Program (OCP) and RCRA NFA;
- SWMU 071/Building 2480 (FGGM 37/OU21) – located adjacent to the west of the proposed project site – Closed/NFA;
- SWMU 073/Building 2484 – located adjacent to the west of the proposed project site – Closed/NFA;
- MP-8 (FGGM 96/OU46) – located adjacent to the southwest of the proposed project site – Closed/NFA.

A final Preliminary Assessment (PA)/Site Inspection (SI) recommended a Supplemental Site Inspection (SSI) be conducted for several Areas of Interest (AOIs). The final SSI Report 1 recommended NFA for MP-8 and approved for NFA from USEPA as a result (AECOM, 2018a). The draft SSI Report 2 recommended NFA for MP-9 and approved NFA from USEPA (AECOM, 2018b). A third SSI report for the remaining AOIs recommended NFA for MP-10, and a Remedial Investigation (RI)/Feasibility Study (FS) for Chisholm at 6th and Building 2501 (AECOM, 2020). AOIs that cannot be closed during the SSI phase will progress further through the CERCLA process beginning with an RI/FS. These RI/FS AOIs will be opened as separate sites in Headquarters Army Environmental System (HQAES). The RI/FS will evaluate risk from metals in groundwater at Building 2501 (SWMUs 75/76) and Chisholm at 6th.

Figure 4-2: FMMD IRP Sites



Records indicate that there are a number of IRP monitoring wells located to the west of the project site but no active monitoring wells on the project site (USACE, 2020b).

4.4 Noise

Noise is often defined as unwanted sound that interferes with normal activities in a way that reduces the quality of the environment. The human ear experiences sound as a result of pressure variations in the air. The physical intensity or loudness level of noise is expressed quantitatively as the sound pressure level. Sound pressure levels are defined in terms of decibels (dB), which are measured on a logarithmic scale. Sound can be quantified in terms of its amplitude (loudness) and frequency (pitch). Frequency is measured in hertz, which is the number of cycles per second. The typical human ear can hear frequencies ranging from approximately 20 hertz to 20,000 hertz. Typically, the human ear is most sensitive to sounds in the middle frequencies where speech is found and is less sensitive to sounds in the low and high frequencies.

Since the human ear cannot perceive all pitches or frequencies equally, measured noise levels in dB will not reflect the actual human perception of the loudness of the noise. Thus, the sound measures can be adjusted or weighted to correspond to a scale appropriate for human hearing. A-weighting is used most often for high frequency sounds such as vehicle traffic ("hum" sounds). C-weighting is used for low-frequency events such as large arms and explosions ("boom" sounds). Sound levels and their associated A-weighted decibels (dBA) levels are listed in **Table 4-4** below.

Table 4-4: Common Sound Levels and Relative Loudness of Common Noise Sources

Common Noise Source	Noise Levels, dB(A)	Loudness Relative to a Conversation at a Distance of 1 meter
Threshold of Pain	140	256
Jet taking off (60 meters away)	130	128
Operating heavy equipment	120	64
Night club (with music)	110	32
Construction site	100	16
Boiler room	90	8
Freight train (30 meters away)	80	4
Classroom chatter	70	2
Conversation (1 meter away)	100	1
Urban residence	50	1/2
Soft whisper (1.5 meters away)	40	1/4
North Rim of Grand Canyon	30	1/8
Silent study room	20	1/16
Threshold of human hearing (1,000 Hertz)	0	1/64

Source: U.S. Department of Labor, Occupational Safety and Health Administration 2016

dB(A) = A-weighted decibel

Noise levels decrease (attenuate) with distance from the source. A generally accepted rule is that the sound level from a stationary source would drop approximately 6 dB each time the distance from the sound source is doubled. The sound level from a moving "line" source (e.g., a train or a roadway) would drop 3 dB each time the distance from the source is doubled. Noise levels may be further reduced by natural factors, such as temperature and climate, and are reduced by barriers, both manmade (e.g., sound walls) and natural (e.g., forested areas, hills) (FTA, 2006).

Physical mitigation of noise is generally feasible for higher frequency sounds, such as small arms fire and traffic, whereby the low frequency component of impulsive "boom" noise has wave characteristics that can typically travel through obstacles.

4.4.1 Regulatory Overview

The Noise Control Act of 1972 (P.L. 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations to the fullest extent consistent with agency missions. The act requires compliance with state or local noise control regulations in off-post areas only; however, the Army often uses the time restrictions outlined in local ordinances as general guidelines for on-post activities. In 1974, the USEPA provided information suggesting that continuous and long-term noise levels in excess of 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals.

The Maryland Environmental Noise Act of 1974 established policy that states the "limitation of noise to that level which will protect the health, general welfare, and property of the people of the State." Effective October 1, 2012, MDE delegated noise enforcement authority to local governments. MDE continues to update noise control standards, but enforcement is handled by local jurisdictions.

Title 26 of the COMAR, MDE, Subtitle 02, Chapter 03 (26.02.03 Control of Noise Pollution) provides the regulatory structure for noise pollution, hazards, and control. The COMAR regulatory noise requirements set maximum allowable noise levels for industrial, commercial, and residential land uses, as depicted in **Table 4-5**.

Table 4-5: Maximum Allowable Noise Levels (dBA)

Time	Industrial	Commercial	Residential
Day	75	67	65
Night	75	62	55

Source: COMAR 26.02.03.02 Environmental Noise Standards

In addition, COMAR states that noise levels that emanate from construction or demolition site activities cannot exceed 90 dBA during daytime hours or the noise levels specified in Table 4-5 during nighttime hours. Daytime and nighttime hours are defined within the regulations as 0700 to 2200 and 2200 to 0700, respectively. Construction activities may not permit prominent discrete tones and periodic noises (dump truck tail gates banging, etc.) that exceed a level which is 5 dBA lower than the noise criteria established in this requirement. Blasting operations associated with construction and demolition activities are exempt from COMAR regulatory noise requirements (daytime hours only). OSHA occupational noise exposure limits for construction workers must be met as detailed in 29 CFR 1926.52. Any construction activities conducted outside the hours specified in this requirement must be pre-approved through the installation command. Weekend construction activities must be pre-approved through the installation command. There is no local noise ordinance that applies to the Proposed Action.

4.4.2 Existing Noise Conditions at FMMD

FMMD is generally relatively quiet with no significant noise pollution sources. The installation does not have major sources of noise such as an airfield, heavy industrial operations, or heavy weapons ranges. The main source of noise on FMMD is vehicular traffic. Other sources of noise on FMMD include the normal operation of heating, ventilation, and air conditioning (HVAC) systems); military unit physical training; lawn maintenance; snow removal; and construction activities. None of these operations or activities produces excessive levels of noise (U.S. Army Garrison, 2010).

As indicated above, vehicular traffic is the major contributor to the ambient noise levels at FMMD. Three major highways in the region are adjacent to FMMD: MD 295 (Baltimore Washington Parkway) to the north, MD 32 (Patuxent Freeway) to the west, and MD 175 (Jessup Road) to the east. MD 175 is approximately 600 feet east of the Proposed Action location (see **Figure 2-1**, Proposed Action Location at FMMD). In addition, roadways in the immediate vicinity of the proposed facility building (Llewellyn Avenue to the north, Chamberlin Avenue to the east, and Chisholm Avenue to the west) are used by FMMD personnel and contribute to the ambient noise levels in the Proposed Action area.

Another potential noise source is Tipton Airport, a public airport approximately 1.7 miles southwest of the proposed facility just south of the FMMD installation boundary. As of April 2020, approximately 104 aircraft operations per day are conducted at the airfield, primarily by local general aircraft (AirNaV 2020). Aircraft noise in the FMMD area is low, particularly because approach paths to the Tipton runway are oriented in an east-west direction, and commercial planes are not permitted to fly over the FMMD installation (U.S. Army Garrison, 2010). Occasional helicopter arrivals and departures from FMMD that are required for Naval Support Activity Washington's mission can increase the local ambient sound levels, but these events are generally of short duration (U.S. Army Garrison, 2010).

4.5 Visual Aesthetics

Visual resources can be defined as the natural and man-made features that constitute the aesthetic qualities of an area. Natural visual resources occur in the landscape typically without human assistance and include native or mostly undisturbed landforms, water bodies, vegetation, and animals, both wild and domesticated. Visual quality is defined as the impression a particular landscape has on its observers. The importance of visual resources and any changes in the visual character of an area is influenced by social considerations, including the public value placed on the area, public awareness of the area, and community concern for the visual resources in the area (USACE, 2020).

Visual resources also can include viewsheds, defined as the geographical area that is visible from a specific location. Viewsheds include all surrounding points that are in the line-of-sight with that

location and excludes any points that are beyond the horizon or obstructed by other features (USACE, 2020).

Visual resources are the natural and human-made features on the FMMD landscape. They can include cultural and historic landmarks, landforms of particular beauty or significance, water surfaces, or vegetation. Together, these features, called the "viewshed," form the overall impression that a viewer receives of the area or its landscape (USACE, 2020).

To create an efficient and modern installation while respecting the historical character of existing structures, FMMD's Draft Area Development Plan (ADP) states that FMMD must balance new development with the architectural style of the installation. New development should be compatible in size, scale, rhythm, color and material with the existing built environment (USACE, 2020a).

According to FMMD's Draft ADP, the visual appearance of a military installation is defined not only by its architectural character and built environment, but also by an attractive, organized landscape design (USACE, 2020a). The presence of plant material greatly enhances the visual character and appearance of the outdoor environment, and landscape design standards include the selection, placement, and maintenance of plant material on the installation (USACE, 2020a). Landscaping standards should reflect the natural species of plants, trees, and shrubbery that are commonly found in the region and when utilized correctly, site landscaping will bring unity, direction, and add to the morale of the Soldiers, civilians, and families (USACE, 2020a). Selection and placement of plant material should be appropriate to the context of the area as follows:

- **Building Entries** – Focal and seasonal plantings should be located near building entries, but should avoid flowering plants near entrances dues to insect problems;
- **Separation of Land Uses** – Mixture of evergreen and deciduous trees and shrubs;
- **Open Space** – Enhance with a mix of evergreen, deciduous, and flowering trees, and the same kind of trees should be planted in massive groupings to impact the vast open areas;
- **Parking Lot Plantings** – Minimum maintenance, shade tree plantings should be used at parking lots to reduce glare and moderate ambient air temperatures (USACE, 2020a).

FMMD's general landscaping and planting objectives are as follows:

- Preserve and enhance urban trees, forestlands, and detailed planting features such as shrubs and groundcovers;
- Improve the overall ecological viability of the installation through the use of native plants;
- Blend the built environment with the natural environment;
- Reinforce the hierarchy of the circulation system by defining arterial, entrances, and high-pedestrian activity roads with shade trees;
- Minimize maintenance using native plants that require less maintenance; and
- Enhance anti-terrorism capabilities (USACE, 2020a).

As previously described, FMMD is in Anne Arundel County. FMMD is surrounded by the built environment consisting generally of transportation arteries, Tipton Airport, and the Patuxent Research Refuge. Interior to FMMD is generally built environment consisting of existing buildings including offices, on-post residential areas, barracks, and industrialized areas. Areas of open space exist, segmented by built environment, generally in the northern and southern portions of FMMD. From the exterior of the installation, the interior installation-built environment is generally obscured by perimeter tree lines from all directions. The perimeter of FMMD is surrounded by chain-link security fencing topped with barbed wire.

4.6 Geology, Soils and Topography

4.6.1 Geology

FMMD lies in the Atlantic Coastal Plain Physiographic Province (MGS, 2020). FMMD is underlain by unconsolidated sediments above crystalline substrate comprised of gabbro, diorite, and other igneous and metamorphic rocks (Mach and Achmad, 1986). Sediments include interbedded, poorly sorted sand and gravel deposits up to 90 feet thick from the Pleistocene Epoch and deposits from the Potomac Group during the Cretaceous period, including the Patapsco Formation (0 to 400 feet thick), the Arundel Clay (0 to 100 feet thick), and the Patuxent Formation (0 to 250 feet thick) (MGS, 2000). The Patuxent Formation is underlain by metamorphic Precambrain bedrock to a depth of 600 feet below mean sea level (msl). The Arundel Clay serves as the limiting layer between the Lower Patapsco aquifer and the Patuxent aquifer in those formations. A layer of tough, variegated clay of red, gray, and brown grains with ironstone nodules and plant fragments lies above the Lower Potomac aquifer that also has limited permeability. FMMD's streams and wetlands are underlain by Alluvium, which consists of interbedded sand, silt, and clay with some small gravel (Mach and Achmad, 1986).

4.6.2 Soils

The U.S. Department of Agriculture (USDA) Natural Resources and Conservation Service (NRCS) has mapped 41 distinct soil types at FMMD. The most common soil types are Downer, Fort Mott, Patapsco, and Sassafras complexes. Downer soil is a well-drained soil found on knolls, interfluves, and Coastal Plain uplands. This soil type is formed from parent material consisting of loamy fluviomarine deposits. Fort Mott soil is a well-drained soil found on interfluves and Coastal Plain uplands. This soil type is formed from parent material consisting of sandy eolian deposits over loamy fluviomarine deposits. Patapsco soil is a somewhat excessively drained soil that is found on broad interstream divides and Coastal Plain uplands. This soil type is formed from parent material consisting of sandy eolian deposits over loamy fluviomarine deposits. Sassafras soil is a well-drained soil that is found on broad interstream divides and fluviomarine terraces. This soil type is formed from parent material consisting of loamy fluviomarine deposits. Other soil types that occur on FMMD include Udorthents, Russett, Christiana, Evesboro, Hammonton, Fallsington,

Zekiah, Hambrook, Croom, Woodstown, Phalanx, Galestown, Chillam, Mattapex, Matapeake, and Buttertown (USDA NRCS, 2020).

The soils mapped at FMMD include Chillium loam and Urban land complex (0 to 5% slopes); Christiana-Sassafras complex and Urban land complex (2 to 15% slopes); Downer-Hammonton complex and Urban land complex (0 to 15% slopes); Downer-Plalanx complex (5 to 15% slopes); Evesboro and Galestown soils (5 to 10% slopes); Fallsington sandy loams (0 to 2% slopes, northern coastal plain); Mattapex-Buttertown complex (5 to 10%); Patapsco-Fort Mott complex, Evesboro complex, and Urban land complex (0 to 15% slopes); Russett-Christiana-Hambrook complex and Urban land complex (0 to 15% slopes), Sassafras fine sandy loam, Croom soils, Hambrook complex, and Urban land complex (0 to 15% slopes); Udorthents loamy soils, reclaimed gravel pits, and refuse substratum (0 to 50% slopes); Woodstown sandy loam and Urban land complex (0 to 5% slopes, Northern Coastal Plain); and Zekiah and Issue soils (0 to 2% slopes, frequently flooded) (USDA NRCS, 2020).

The USDA NRCS soil survey also identified water and urban land at FMMD. Urban land includes areas in the vicinity of buildings, roadways, and other paved areas. Water includes ponds, lakes, streams, and wetland areas at FMMD (USDA NRCS, 2020).

Soils are classified by drainage class, which refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Soils at FMMD are predominately moderately well drained to well drained. A few soil types are excessively well drained, including Evesboro, Fort Mott, and Patapsco, and a few soil types are poorly drained, including Fallsington and Zekiah (USDA NRCS, 2020). Soils are also classified by flooding frequency class. Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding and not flooding. Zekiah and Issue soils, which are mainly located along streams at FMMD, are classified as "occasional" and "frequent" flooding. "Occasional" flooding indicates that flooding occurs infrequently under normal weather conditions and the chance of flooding is 5 to 50% in any year. "Frequent" flooding indicates that flooding is likely to occur under normal weather conditions and the chance of flooding is more than 50% in any year, but less than 50% in all months in any year. All other soils at FMMD are classified as "none", indicating that flooding is not probable, and the chance of flooding is nearly 0% in any year (USDA NRCS, 2020).

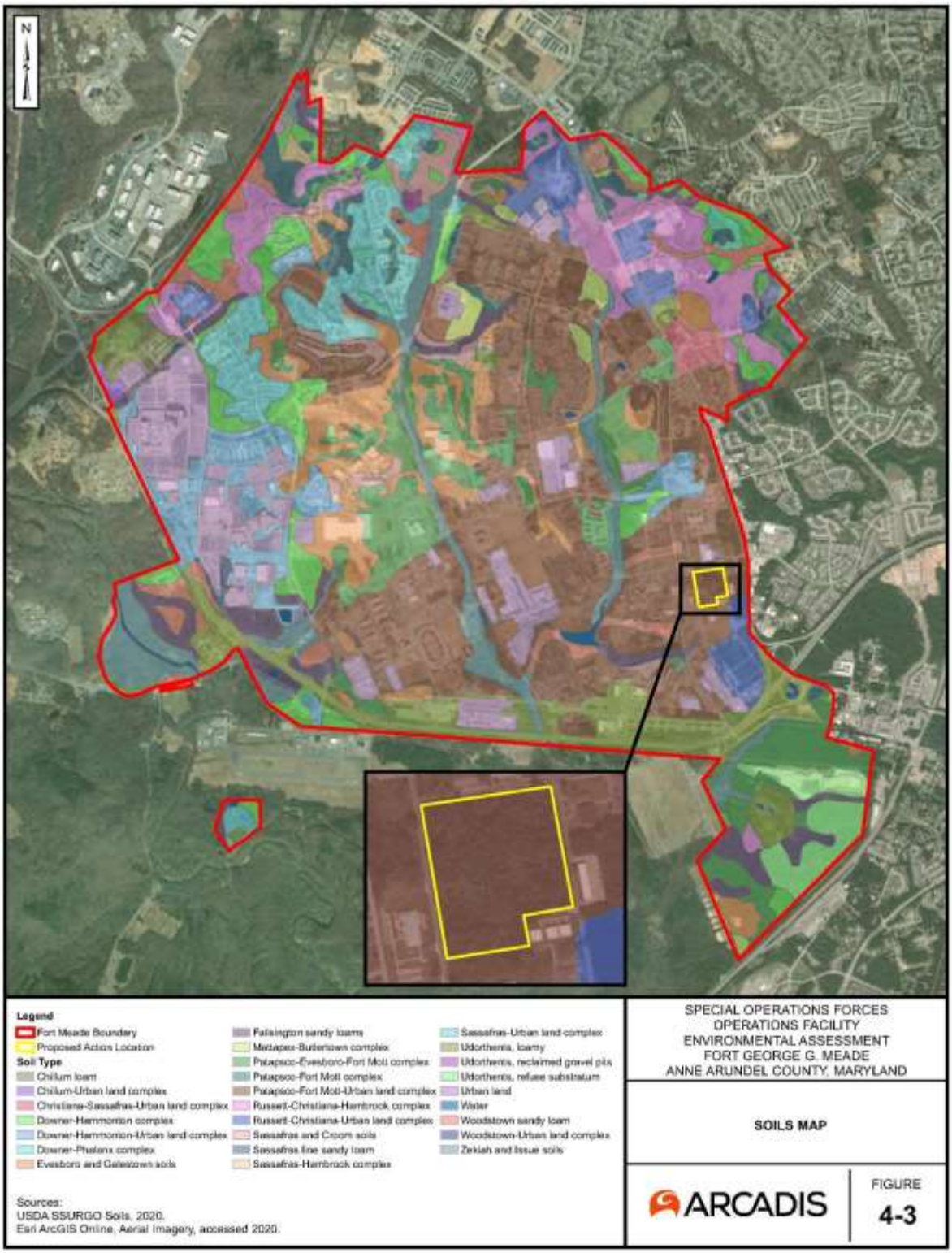
Soil types are assigned to hydrologic soil groups, which are based on estimates of runoff potential, according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Hydrologic soil groups range from Group A, which have a high rate of water transmission, to Group D, which have a very slow rate of water transmission. Soils at FMMD include all four hydrologic soil groups, but are predominately classified as Group A, with a high infiltration rate, and Group C, with a slow infiltration rate (USDA NRCS, 2020). Fallsington sandy loams, Russett-Christiana-Hambrook

complex and Russett-Christiana-Urban Land complex, Sassafras loam and Sassafras-Croom soils, Woodstown sandy loam and Woodstown-Urban Land complex, and Zekiah and issue soils are rated as hydric. Hydric soils are soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation (NRCS, 1994).

Detailed descriptions of soil series can be found online in the USDA NRCS's Soil Survey Geographic Database for Anne Arundel County (NRCS, 2020). See **Figure 4-3** for mapped soils locations in FMMD.

Soils observed at the preferred location of the proposed facility are typical of past disturbance and construction at the site. A layer of mixed gravel and sand was noted a few inches below the surface and chunks of asphalt were found at the site (FMMD, 2020a). There is no reason to expect soil contamination at the preferred site (FMMD, 2020b).

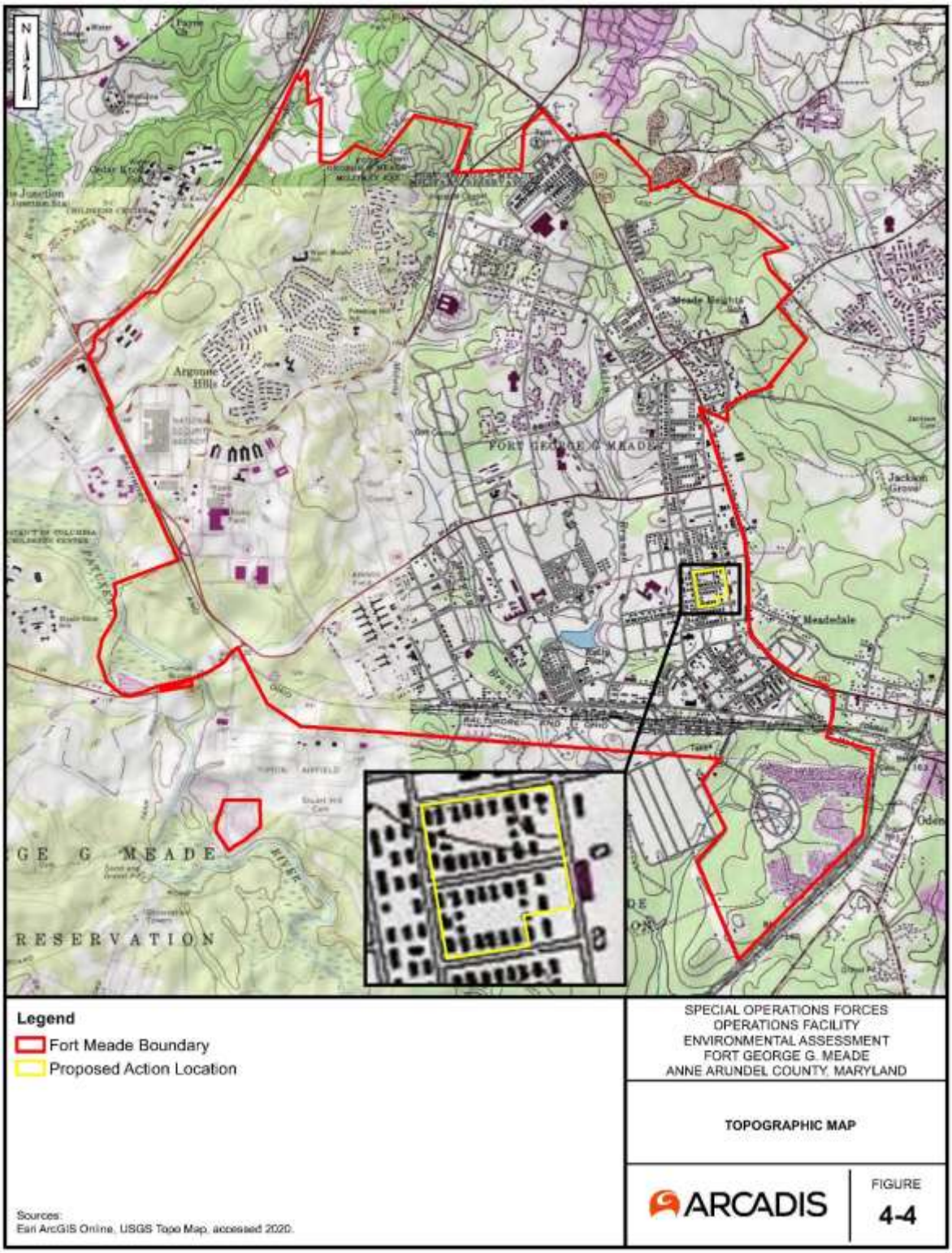
Figure 4-3: FMMD Soils Map



4.6.3 Topography

The Atlantic Coastal Plain Physiographic Province is characterized by relatively flat topography that slopes towards the east (PEA: MGS, 2020). The highest elevation at FMMD is 310 feet msl and occurs at the First Army Radio Station Tower in the north central portion of FMMD. The lowest elevation is less than 100 feet msl and occurs along the Little Patuxent River in the southwestern corner of FMMD. FMMD slopes gradually to the south and southwest, with average slopes of typically less than 10 percent. Slopes that exceed 10 percent occur mainly within natural wooded areas and along stream corridors in the north-central and central parts of FMMD (USACE, 2007). Topography at the preferred location of the proposed facility has a gradual slope of 1-4% from southwest to northeast (FMMD, 2020a).

Figure 4-4: FMMD Vicinity Topographic Map



4.7 Water Resources and Water Quality

4.7.1 Surface Water

FMMD is located almost entirely within the Little Patuxent River watershed of the Patuxent River Basin, except for a small portion of the northeast corner, which is located within the Severn Run Watershed, all of which lie within the greater Chesapeake Bay watershed. The Chesapeake Bay is North America's largest and most biologically diverse estuary and home to more than 3,600 species of plants, fish, and animals (Chesapeake Bay Program, 2020). The Patuxent River is designated a "scenic river" under the Maryland Scenic and Wild Rivers Act of 1968, which mandates the preservation and protection of natural values associated with each designated river. State and local governments are required to take whatever actions necessary to protect and enhance the qualities of designated rivers. The Little Patuxent River runs to the west and south of FMMD, with a small portion running into the installation in the southwest corner. The Little Patuxent River is listed on Maryland's list of impaired waters under Section 303(d) of the Clean Water Act (CWA) due to sediment, metals (cadmium), and biological impairments.

FMMD contains approximately 38,000 linear feet (7.2 miles) of perennial streams, as well as other intermittent and ephemeral channels (FMMD, 2017). Two major stream systems, Midway Branch and Franklin Branch, and the headwaters of Severn Run, are located on FMMD. Midway Branch and its tributaries drain approximately 60% of FMMD. The headwaters of Midway Branch are located north of the installation boundaries. Midway Branch flows north to south through the center of FMMD and exits the installation as it flows under Maryland Route 32. Midway Branch eventually drains into the Little Patuxent River. The headwaters of Franklin Branch, the primary tributary of Midway Branch, are located within the installation, just downstream of 29th street and flow north to south through the center of FMMD, east of the Midway Branch, and eventually drain into Burba Lake. Flow leaves Burba Lake through a control structure and joins Midway Branch upstream of Rock Avenue. Burba Lake is a man-made surface water reservoir used for fishing and outdoor recreation. This lake is approximately 100 years old, 8.2 acres in size, (USACE, 2020) and was dredged approximately 11 years ago. The Severn Run headwater located in the northeast corner of FMMD flows from storm drains, conveying flood flows from the west side of Maryland Route 175 to the east, and stormwater management facilities. (USACE, 2019). The headwater flows east approximately 5,000 feet before exiting the installation and ultimately discharging into Severn Run (USACE, 2020). Streams at FMMD are shown on **Figure 4-5** below.

The FMMD Comprehensive Expansion Management Plan and subsequent BRAC projects included riparian buffers to minimize impacts and degradation to waterbodies leading to the Chesapeake Bay. FMMD maintains a voluntary 100-foot riparian forest buffer along streams and abutting wetlands to the maximum extent practical (USACE, 2020).

Natural stormwater drainage at FMMD is discharged to the Little Patuxent River through three primary drainages, with most stormwater runoff conveyed via Midway and Franklin Branches.

Stormwater runoff from developed areas at FMMD is conveyed through an extensive network of drainpipes and associated drainage structures, and supplemented by swales, ditches, other drains, and retention ponds (FGGM, 2005). FMMD follows the federal and MDE environmental site design (ESD) standards for development and employs stormwater management initiatives, including low impact development (LID), such as stormwater ponds, rain gardens, and replacement of concrete storm drains with grass swales. Stormwater management best management practices (BMPs) are spread across FMMD and have been utilized in upland areas to mitigate runoff from impervious areas. Road crossings on FMMD, including Clark Road on Midway Branch and Clark Road and Ernie Pyle Street on Franklin Branch, have been modified to act as stormwater detention facilities during storm events (USACE, 2020). Stream restoration is currently the primary strategy being used by FMMD to comply with requirements under its programmatic Municipal Separate Storm Sewer System (MS4) permit. Stormwater runoff at the preferred location of the proposed facility discharges to a swale drainage feature running southeast to northwest across the northeastern portion of the parcel. This swale drainage feature originates upstream from a culvert under Chamberlin Avenue and discharges offsite via another culvert under 6th Street (FMMD, 2020a). This swale drainage feature is further discussed in Section 4.7.4 Wetlands.

Section 438 of the Energy Independence and Security Act of 2007 (EISA) directs federal agencies to "use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to runoff temperature, volumes, duration, and rate", for any project with a footprint that exceeds 5,000 square feet. The intent is to maintain or restore the pre-development site hydrology during development or redevelopment of a site. Implementation of Section 438 of the EISA can be achieved through use of stormwater management practices such as green infrastructure or LID practices.

Provisions of the COMAR 26.17.02.05 require that developments that disturb over 5,000 square feet of land or 100 cubic yards of earth require stormwater management and development of an Erosion and Sediment Control Plan (ESCP). Chapter 5 of the Maryland Stormwater Design Manual outlines ESD practices, which provide a comprehensive strategy for maintaining predevelopment runoff characteristics using a bias for natural rather than structural controls. Maryland's Stormwater Act of 2007 requires that ESD should be implemented to the maximum extent practicable. FMMD maintains a Stormwater Pollution Prevention Plan (SWPPP) that provides BMPs for controlling and preventing siltation and contaminants associated with construction and industrial activity sites from reaching surface waters (USACE, 2020).

4.7.2 Groundwater

The FMMD property lies above the Patuxent, Upper Patapsco, and Lower Patapsco aquifers (Michael Baker Jr. Inc., 2007). The Arundel Clay formation separates the Lower Patapsco and

Patuxent aquifers. The Patuxent aquifer consists of lenticular interfingerling sands, silts, and clays capable of yielding large quantities of water. This aquifer is the deepest of the three aquifers beneath FMMD, approximately 200 to 400 feet thick. The Lower Patapsco aquifer is composed of fine- to medium-grained brown sand that overlays the Arundel Clay. It can yield 0.5 to 2 million gallons per day (mgd) of water from individual wells and is a source of water for several large wells within the region (Mach and Achmad, 1986). Flow from the Patuxent and Lower Patapsco aquifers is towards the southeast in the confined portions and toward the Patuxent and Little Patuxent Rivers in the unconfined portions. Recharge to groundwater in deep artesian wells is slow because of the low permeabilities of the confining layers (USAG, 2004). The Upper Patapsco aquifer is unconfined and is considered the water table aquifer (Atkins, 2011).

American Water owns and operates the potable water system that serves FMMD and obtains the potable water from six wells under a Water Appropriation and Use permit from the MDE (Atkins, 2011). These wells draw from the Patuxent aquifer, range in depth from 500 to 800 feet below ground surface, and range in capacity from 720 gallons per minute (gpm) to 1,000 gpm (USACE, 2007). Total capacity of the wells is approximately 5,000 gpm or 2.75 mgd. The MDE Permit allows an average withdrawal of approximately 3.3 mgd from these wells (MDE Permit No. AA1969G021[7]). Water from the aquifer is soft (hardness 6 to 8.4 milligrams per Liter [mg/l] calcium carbonate), acidic (pH 4.9 to 5.0), high iron (0.77 to 2.5 mg/l), low in chlorides (5 to 8.4 mg/l), and low in total dissolved solids (38 mg/l) (Maryland Department of Natural Resources, 1987). In general, iron levels in groundwater from the Patuxent aquifer exceed federal drinking water standards and require treatment at FMMD's water treatment plant (USAG, 2004).

Groundwater at the preferred location of the Proposed Action flows from southeast to northwest, similar to surface water flow at the site. There are two monitoring wells located on the southwest area of the preferred site for the proposed facility but have since been abandoned in place by USACE. There is no reason to expect groundwater contamination at the preferred site (FMMD, 2020b).

4.7.3 Floodplains

EO 11988, Floodplain Management, requires federal agencies to determine whether a proposed action would occur within a floodplain. EO 11988 directs federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative to undertaking the action in a floodplain. According to the Federal Emergency Management Agency (FEMA), floodplains are defined as those areas that will be inundated by a flood event having a 1% chance of exceedance in any given year. This is also referred as the 100-year floodplain (Zone AE). Based on FEMA's Flood Insurance Rate Maps, there are three locations within FMMD that are located within the 100-year floodplain and associated with the three river systems located in FMMD. The 100-year floodplain of the Midway Branch runs north to south in the central portion of FMMD. The 100-year floodplain of the Franklin Branch runs north to south in the central east portion of FMMD

and includes Burba Lake and eventually connects with the 100-year floodplain of the Midway Branch. These floodplains are located west of the proposed facility location. In the northeast corner of FMMD, the 100-year floodplain of the headwaters of Severn Run follow the stream southeast and beyond the installation borders. The preferred location for the proposed facility is not located within the 100-year floodplain. **Figure 4-5** shows the locations of the 100-year floodplain in FMMD.

Figure 4-5: FMMD Floodplain Map

4.7.4 Wetlands

Wetlands are jointly defined by the USEPA and the USACE as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include "swamp marshes, bogs and similar areas" (40 CFR 230.3(t) and 33 CFR 328.3(b)). USACE regulates the discharge of dredged or fill material in waters of the United States, including jurisdictional wetlands pursuant to Section 404 of the CWA. Section 404 of the CWA requires federal regulation for most activities that impact wetlands.

EO 11990, *Protection of Wetlands,* requires federal agencies take action to minimize the destruction, loss, or degradation of wetlands. The order further requires federal agencies to ensure that there are no practicable alternatives to such construction and that the Proposed Action includes all practical measures to minimize harm to wetlands which may result from such use. In making this determination agencies may take into account economic, environmental, and other pertinent factors (USACE, 2014).

Important wetland functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, storm water attenuation and storage, sediment detention, and erosion protection. Wetlands on FMMD are beneficial to stormwater management, erosion, and sediment control. Wetlands provide habitat for wildlife and support numerous species of annual and perennial herbaceous plants.

FMMD has approximately 217 acres of wetlands that are predominately found along Midway Branch, Franklin Branch, and their tributaries, and within the southwestern portion of FMMD within the Little Patuxent River floodplain, as shown on **Figure 4-6** below (USACE, 2020). Most of the wetlands at FMMD are mapped by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Wetlands Mapper as palustrine forested and located along the Little Patuxent River and in the northwestern portion of the installation. Smaller wetlands also include areas mapped as palustrine emergent and palustrine scrub shrub (USFWS, 2020). The presence and boundaries of these mapped areas would need to be confirmed on site.

A wetland investigation was conducted at the preferred location of the proposed facility on February 11, 2020 to verify the location and delineate the extent of wetlands regulated as waters of the U.S. Two wetland features were identified and delineated during the investigation. Wetland 1 is a small depressional feature located between the swale drainage feature and 6th Street in the northwest portion of the site. Wetland 2 is a swale drainage feature that connects the culverts on Chamberlin Avenue and 6th Street (FMMD, 2020a).

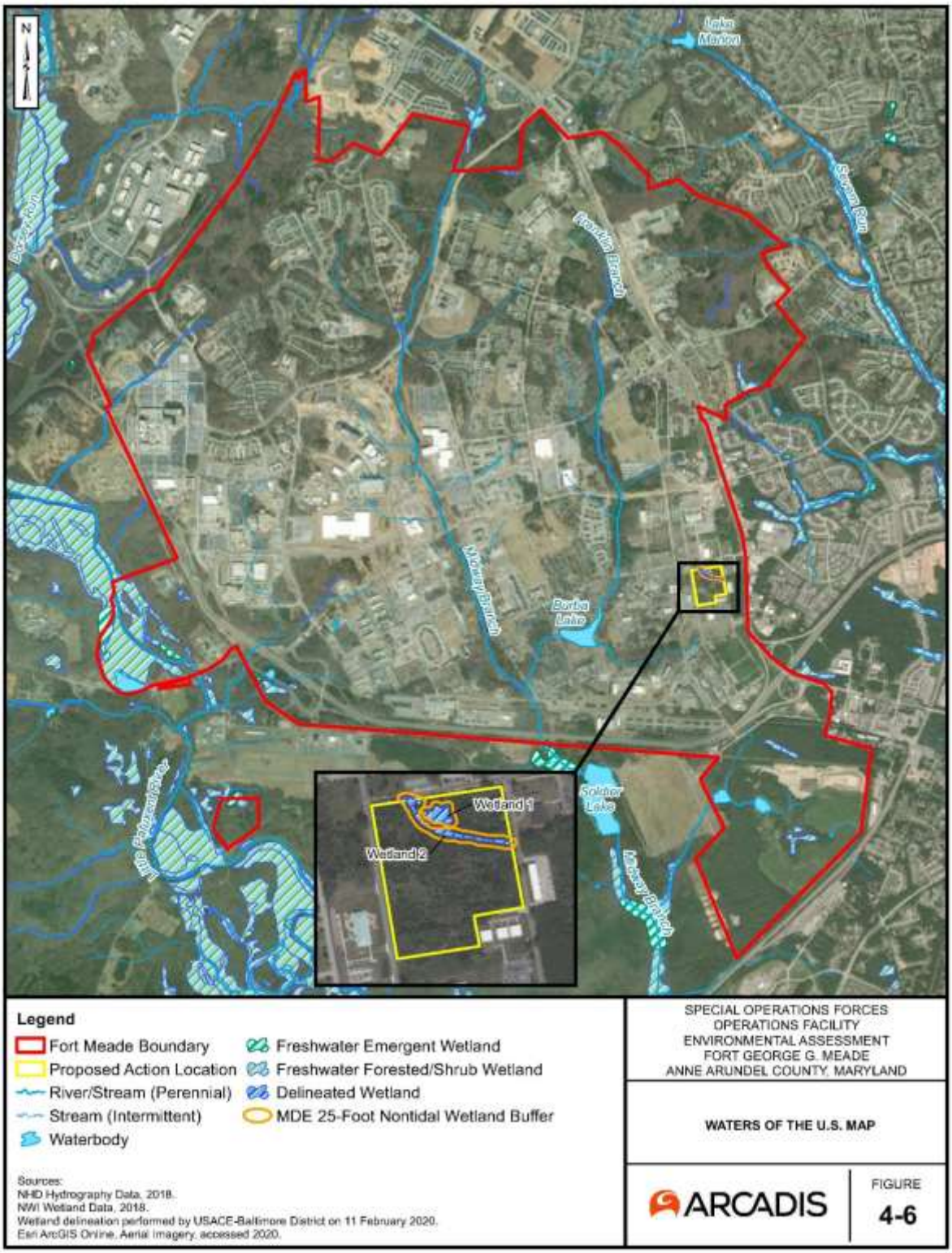
Wetland 1 is characterized as a palustrine emergent system and dominant vegetation including Japanese stilt grass (*Microstegium vimineum*), soft rush (*Juncus effusus*), and wool grass (*Scirpus cyperinus*). This depressional wetland directs surface water into the adjacent swale drainage feature (Wetland 2) through two small channel features at the northwest corner of Wetland 1 but

is separated from Wetland 2 for most of its length due to a low berm along Wetland 2 (FMMD, 2020a).

Wetland 2 is visible on past imagery and current topographic mapping. Due to sedimentation upstream and downstream of the swale from stormwater conveyances, this feature presents as a swale rather than a stream (no Ordinary High Water Mark was present to indicate jurisdiction of a stream). Wetland 2 is characterized by shallow sides and dominant vegetation including sweet gum (*Liquidambar styraciflua*), sycamore (*Platanus occidentalis*), and loblolly pine (*Pinus taeda*). A dense cover of leaf litter with water staining covers the entire swale area (FMMD, 2020a).

Wetlands 1 and 2 are subject to regulation under Section 404 of the CWA and Maryland's Nontidal Wetlands Protection Act and Program. Any proposed design or construction work that could impact these areas or their MDE-required 25-foot nontidal wetland buffer would require coordination with the USACE Regulatory Branch, Baltimore District and MDE. These delineated areas are shown on **Figure 4-6** below. Wetland data points, data forms, and photographs are included in the Site Visit for Wetland Delineation for SOF Operations Facility at Fort George G. Meade, Maryland Memorandum (dated May 6, 2020). A site visit with representatives from MDE and USACE Regulatory Branch was conducted on October 7, 2020 to verify the jurisdictional status of the identified areas. Also, during this site visit MDE and USACE Regulatory noted the characteristics of an intermittent flow in the ditch downstream of the 6th Street culvert. This surface water system discharges further downstream to an unnamed tributary to Franklin Branch.

Figure 4-6: FMMD Vicinity Waters of the US Map



4.7.5 Water Quality Certification

CWA water quality certifications (WQC) provide the opportunity to address aquatic resource impacts of federally issued permits and licenses to help protect water quality within the state. Under Section 401 of the CWA, a federal agency cannot issue a permit or license for an activity that may result in a discharge to Waters of the U.S. until they state where the discharge would originate or the federal agency has granted or waived Section 401 certification. The state has the ability to grant, with or without conditions; deny; or waive certification. Granting certification, with or without conditions, allows the federal permit or license to be issued consistent with any conditions of the certification. Denying certification prohibits the federal permit or license from being issued. Waiver allows the permit or license to be issued without state comment. States make their decisions to deny, certify, or condition permits or licenses based in part on the proposed project's compliance with USEPA-approved water quality standards.

4.8 Coastal Zone Management

Maryland's coastal zone extends from the inland boundaries of the 16 counties and the City of Baltimore that border the Atlantic Ocean, Chesapeake Bay, and Potomac River, to the District of Columbia. It extends seaward to three miles into the Atlantic Ocean. The entirety of FMMD lies within Maryland's coastal zone (**Figure 4-7**).

As required by the Federal Coastal Zone Management Act (CZMA) of 1972, Maryland established its Coastal Zone Management Program (CZMP), which was approved in 1978. Maryland's CZMP was established to protect the state's coastal zone through a network of state laws and policies. The CZMA requires that federal actions likely to affect any land or water use or natural resource within the coastal zone must be enacted to the maximum extent practicable in compliance with the state's CZMP. These actions must also go through a federal consistency review (USACE, 2014).

4.8.1 Federal Consistency

Federal consistency refers to the review process mandated by Section 307 of the CZMA. This process includes submission of a consistency determination and supporting materials by the federal proponent to the state. In Maryland, this process is carried out by the Coastal Zone Consistency Division of the Wetlands and Waterways Program of the Water Management Administration within MDE. Although the Water Management Administration is responsible for the official consistency decision, other agencies within the CZMP network will also often provide findings that are considered in the decision.

FMMD is entirely within Maryland's CZMP area. Federal agencies are required to determine whether their activities are reasonably likely to affect any coastal use or resource and to conduct such activities in a manner consistent to the maximum extent practicable with the goals and objectives of Maryland's CZMP. The Proposed Action would be subject to these requirements per the

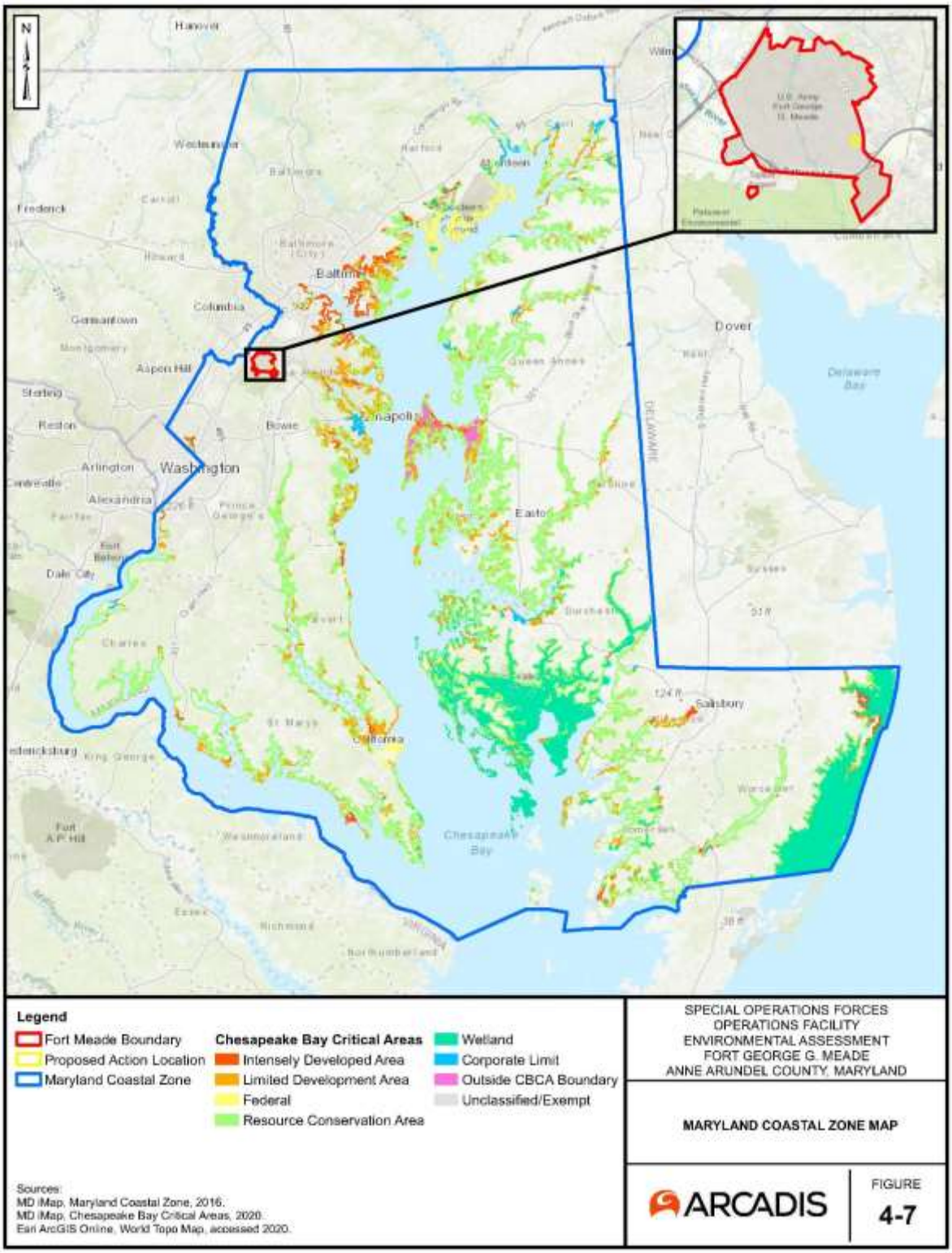
Memorandum of Agreement between the State of Maryland and the DoD for the protection of Maryland's coastal resources.

A list and description of the specific enforceable policies for Federal Consistency determination for the State of Maryland can be seen in Article II of the signed Memorandum of Agreement between Maryland and the DoD, dated May 8, 2013.

4.8.2 Chesapeake Bay Critical Area

Maryland's federally approved CZMP incorporates implementation of the Maryland Chesapeake Bay Critical Area Act (Critical Area Act). In 1984, the Maryland General Assembly conducted the Chesapeake Bay Critical Area Protection Act to help protect the Bay's environment. It also created a statewide Critical Area Commission to oversee development and implementation of local land use programs directed toward the Critical Area. The land immediately surrounding the Chesapeake Bay and its tributaries has the greatest potential to affect its water quality and wildlife habitat; therefore, all lands within 1,000 feet of the tidal waters' edge or from the landward edge of adjacent tidal wetlands and the lands under them are designated as the Chesapeake Bay "Critical Area." There are no Chesapeake Bay Critical Areas located within FMMD as shown on **Figure 4-7.**

Figure 4-7: FMMD Coastal Zone Map



4.9 Biological Resources

Biological resources include native or naturalized plants and animals, as well as federally protected species and the habitats in which they live. Protected biological resources include plants and animal species listed by the State of Maryland as rare, threatened, or endangered, or by the USFWS as threatened or endangered. Special concern species are not afforded the same level of protection as the protected species, but their presence is taken into consideration by resource agency biologists involved in reviewing projects and permit applications (USACE, 2014).

4.9.1 Vegetation

Vegetative cover at FMMD consists of forestland, open land/meadow, and developed areas with maintained grass areas and landscape trees (USACE, 2020). FMMD contains approximately 1,500 acres of forest land (FMMD, 2014). FMMD has large tracts of forested land located along the perimeter of the installation that are connected by riparian forest corridors, forest fragments, immature reforestation areas, and street and landscape trees. Forested areas on the installation are divided up into approximately 44 forest management units (FMU) and four timber types are identified and defined as:

- Cove and Mixed Hardwoods: characterized as a mixture of yellow poplar (*Liriodendron tulipifera*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), river birch (*Betula nigra*), sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), black walnut (*Juglans nigra*), black locust (*Robinia pseudoacacia*), catalpa (*Catalpa speciosa*), and persimmon (*Diospyros virginiana*).
- Upland Hardwoods: characterized by white oak (*Quercus alba*), red oak (*Quercus rubra*), black oak (*Quercus velutina*), willow oak (*Quercus phellos*), scarlet oak (*Quercus coccinea*), post oak (*Quercus stellata*), hickory species (*Carya spp*), American beech (*Fagus grandifolia*), sassafras (*Sassafras albidum*), flowering dogwood (*Cornus florida*), rhododendron (*Rhododendron maximum*), and American holly (*Ilpex opaca*).
- Pine: characterized by Virginia pine (*Pinus virginiana*), pitch pine (*Pinus rigida*), short leaf pine (*Pinus echinata*), loblolly pine (*Pinus taeda*), and white pine (*Pinus strobus*).
- Pine-Hardwood: characterized by a mixture of hardwood species and pine species identified above.

Peripheral forested areas tend to be later in successional stages, have better ecological structure, fewer invasive species, and less disease than those located within the interior of the installation where disturbance has occurred. The composition of FMMD is typical for land use of the eastern U.S. with evidence of past disturbance (FMMD, 2014).

Planning Level Surveys (PLS) were conducted at FMMD in 2013. The floristic inventory identified 450 taxa, including 28 invasive species and one state-endangered plant species: Torrey's

rush (*Juncus torreyi*). In addition to the taxa identified in the 2013 survey, a total of 711 taxa were identified from 1994 to 2013 (FMMD, 2014).

Tree species observed during the 2013 PLS includes American beech (*F. grandifolia*), American chestnut (*Castanea dentata*), black gum (*Nyssa sylvatica*), black oak (*Q. velutina*), black willow (*Salix nigra*), Callery pear (*Pyrus calleryana*; considered invasive species), chestnut oak (*Q. prinus*), chinquapin (*C. pumila*), loblolly pine (*P. taeda*), Norway maple (*Acer platanoides*; considered invasive species), pitch pine (*P. rigida*), red maple (*A. rubrum*), red oak (*Q. rubra*), sweet gum (*L. styraciflua*), tree-of-heaven (*Ailanthus altissima*; considered invasive species), tulip poplar (*L. tulipifera*), Virginia pine (*P. virginiana*), willow oak (*Q. phellos*), and yellow birch (*B. alleghaniensis*) (FMMD, 2020d).

Other herbaceous vegetation observed during the 2013 PLS includes: beefsteakplant (*Perilla frutescens*; considered invasive species), black huckleberry (*Gaylussacia baccata*), bracken (*Pteridium aquilinum*), bur-reed (*Sparganium americanum*), bush honeysuckle (*Lonicera maackii*; considered invasive species), Canada goldenrod (*Solidago canadensis*), Canada thistle (*Cirsium arvense*; considered invasive species), Chinese silvergrass (*Miscanthus sinensis*; considered invasive species), cinnamon fern (*Osmunda cinnamomea*), common mugwort (*Artemisia vulgaris;* considered invasive species), common reed (*Phragmites australis*; considered invasive species), crow garlic (*Allium vineale*; considered invasive species), crowned beggarticks (*Bidens coronata*), curly pondweed (*Potamogeton crispus*; considered invasive species), deer tongue (*Dichanthelium clandestinum*), dwarf azalea (*Rhododendron atlanticum*), eastern sedge (*C. atlantica*), ebony spleenwort (*Asplenium platyneuron*), English ivy (*Hedera helix*; considered invasive species), false nettle (*Bohemeria cylindrica*), follicle sedge (*C. folilculata*), garlic mustard (*Alliaria petiolata*; considered invasive species), greenbriar (*Smilax rotundifolia*), hay-scented fern (*Dennstaedtia punctilobula*), horseweed (*Conyza canadensis*), inkberry (*Ilex glabra*), Japanese barberry (*Berberis thunbergii*; considered invasive species), Japanese honeysuckle (*L. japonica*; considered invasive species), Japanese hops (*Humulus japonica*; considered invasive species), Japanese silverberry (*Elaegnus umbellata*; considered invasive species), Japanese stiltgrass (*Microstegium vimineum*; considered invasive species), jewelweed (*Impatiens capensis*), ladies slipper (*Cyprepidium acaule*), lowbush blueberry (*Vaccinium angustifolium*), mile-a-minute (*Persicaria perfoliata*; considered invasive species), multiflora rose (*Rosa multiflora*; considered invasive species), New York fern (*Thelypteris noveboracensis*), orange daylily (*Hemerocallis fulva*; considered invasive species), oriental bittersweet (*Celastrus orbiculatus*; considered invasive species), parasol sedge (*C. umbellata*), parrot feather (*Myriophyllum aquaticum*; considered invasive species), partridge berry (*Mitchella reprens*), possumhaw viburnum (*Viburnum nudum*), purple loosestrife (*Lythrum salicaria*; considered invasive species), red chokeberry (*Photinia pyrifolia*), royal fern (*Osmunda regalis*), sallow sedge (*C. lurida*), skunk cabbage (*Symplocarpus foetidus*), spear thistle (*C. vulgare*; considered invasive species), sphagnum mosses (*Sphagnum spp*.), spicebush (*Lindera benzoin*), spotted knapweed (*Centaurea maculosa*; considered invasive species), spotted wintergreen (*Chimpaphila maculata*), swamp

azalea (R. viscosum), sweet pepperbush (*Clethra alnifolia*), Virginia creeper (*Parthenocissus quiquefolia*), Western pearly everlasting (*Anaphalis margaritacea*), and white edge sedge (*C. debilis var. debilis*) (FMMD, 2020d).

Most of the land at the preferred location of the proposed facility was previously cleared of most of its trees at some point in the past, based on a review of aerial photography from 1993. A tree survey was performed at the preferred location on February 20, 2020 to map the locations of specimen trees. As defined by the Maryland State Forest Conservation Technical Manual (Third edition, 1997), a specimen tree is defined as greater than 30-inches diameter at breast height (dbh) for hardwoods and 25-inches dbh for conifers. **Table 4-6** below lists the specimen tree species and sizes found during the survey. It was also noted during the survey that coverage of Bradford pear (*Pyrus calleryana*), which is considered a highly invasive species, has increased at the site from past years and has encroached up to the periphery of the root systems of the larger trees (FMMD, 2020c). **Figure 4-8** shows the locations of surveyed specimen trees.

Table 4-6: Specimen Trees Surveyed at Preferred Location in February 2020

Survey Number	Common Name	Scientific Name	DBH	Condition
ST1	white oak	*Quercus alba*	39	Good
ST2	pin oak	*Quercus palustris*	35	Good
ST3	white oak	*Quercus alba*	32	Good
ST4	willow oak	*Quercus phellos*	45.5	Good
ST5	willow oak	*Quercus phellos*		Good
ST6	willow oak	*Quercus phellos*	45.5	Fair – some holes in bark
ST7	black cherry	*Prunus serotina*		Fair – Good
ST8	sycamore	*Platanus occidentalis*	41	Good
ST9	Virginia pine	*Pinus virginiana*	22.5	Fair
ST10	sweet gum	*Liquidambar styraciflua*	40.5	Good
ST11	sycamore	*Platanus occidentalis*	32	Good
ST12	sycamore	*Platanus occidentalis*	40	Good
ST13	sycamore	*Platanus occidentalis*	38	Good
ST14	sycamore	*Platanus occidentalis*	33	Good
ST15	red cedar	*Juniperus virginiana*	29	Good
ST16	willow oak	*Quercus phellos*	42	Good
ST17	southern red oak	*Quercus falcata*	48	Good

Source: FMMD, 2020c

Figure 4-8: FMMD Specimen Tree Survey

4.9.2 Wildlife Resources

Most of the wildlife species observed during the 2013 PLS are common to Anne Arundel County and the central Maryland area and were similar to those species found at the installation during previous surveys. Mammal species observed within the installation from 2013 through 2018 include big brown bat (*Eptisicus fuscus*), Eastern chipmunk (*Tamais striatus*), Eastern gray squirrel (*Sciurus carolinensis*), Eastern red bat (*Lasiurus borealis*; federal watch list and state-listed vulnerable), Eastern small-footed bat (*Myotis leibii*; federal watch list and state-listed critically impaired), evening bat (*Nycticenius humeralis*), gray fox (*Urocyon cinereoargenteus*), groundhog (*Marmota monax*), hoary bat (*Lasiurus cinereus*; federal watch list and state-listed vulnerable), Indiana bat (*Myotis sodalis*; federally-listed endangered and state-listed endangered), little brown bat *(Myotis lucifugus*; federal candidate under review and state-listed critically imperiled*)*, mouse (species unknown), Northern long-eared bat (*Myotis septentrionalis*; federally-listed threatened and state-listed threatened), Northern racoon (*Procyon lotor*), opossum (Didelphimorphia), rabbit (*Lepus curpaeums*), red fox (*Vulpes vulpes*), silver-haired bat (*Lasionycteris noctivagans*), tricolored bat (*Perimyotis subflavus*; federal candidate under review and state-listed endangered), and white-tailed deer (*Odocoileus virginianus*) (FMMD, 2020d).

Bird species observed within the installation during the 2013 PLS include American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), Canada goose (*Branta canadensis*), common grackle (*Quiscalus quiscula*), gray catbird (*Dumetella carolinensis*), green heron (*Butorides virscens*), mallard (*Anas plathyrhynchos*), mourning dove (*Zenaida macroura*), Northern cardinal (*Cardinalis cardinalis*), and red-winged blackbird (*Agelaius pheoniceus*). Additional bird species were observed during 2001, 2004, and 2005 surveys on the installation and are included in the FMMD Species Database included in the Integrated Natural Resources Management Plan, dated May 14, 2020 (FMMD, 2020d).

Amphibian and reptile species observed within the installation from 2013 through 2018 include American bullfrog (*Lithobates catesbeianus*), common five-lined skink (*Plestiodon fasciatus*), Eastern American toad (*Anaxyrus americanus americanus*), Eastern box turtle (*Terrapine carolina carolina*), Eastern cricket frog (*Acris crepitant crepitans*), Eastern garter snake (*Thamnophis sirtalis sirtalis*), Eastern hog-nosed snake (*Heterodon platirhinos*), Eastern painted turtle (*Chrysemys picta picta*), Eastern rat snake (*Pantherophis alleghaniensis*), Eastern red-backed salamander (Plethodon *cinereus*), Eastern smooth snake (*Virginia valeriae valeriae*), Eastern snapping turtle (*Chelydra serpentina serpentina*), Eastern worm snake (*Carphophis amoenus amoenus*), four-toed salamander (*Hemidactylium scutatum*), Fowler's toad (*Anaxyrus fowleri*), gray tree frog (*Hyla versicolor*), little brown skink (*Scincella lateralis*), marbled salamander (*Ambystoma opacum*), Northern brown snake (*Storeria dekayi dekayi*). Northern dusky salamander (*Desmognathus fuscus*), Northern green frog (*Lithobates clamitans melanota*), Northern red salamander (*Pseudotriton ruber*), Northern red-bellied cooter (*Pseudemys rubriventris*), Northern ring-necked snake (*Diadiphis punctatus edwardsii*), Northern rough green

snake (*Opheodrys aestivus*), Northern water snake (*Nerodia sipedon*), pickerel frog (*Lithobates palustris*), red-eared slider (*Trachemys scripta elegans*), southern leopard frog (*Lithobated sphenocephalus*), spotted salamander (*Ambystoma maculatum*), spring peeper (*Pseudacris crucifer*), and wood frog (*Rana sylvatica*) (FMMD, 2020d).

Invertebrates species observed within the installation during the 2013 PLS include black swallowtail (*Papilio polyxenes*), cabbage butterfly *(Pieris rapae)*, gypsy moth (*Lymantria dispar dispar*), monarch butterfly *(Danaus plexippus*; federal candidate), regal fritillary (*Speyeria idalida*), and tiger swallowtail (*Papilio glaucus*). All invertebrate species were observed in the Berman Tract, located along the northeastern portion of the installation (FMMD, 2020d).

Waterbodies within FMMD provide habitat for several aquatic species (FMMD PEA: USACE, 2007). Over two dozen fish species are known to occur on FMMD, including, but not limited to, the American brook lamprey (*Lampetra appendix*), American eel (*Anguilla rostrata*), bluegill (*Lepomis macrochirus*), creek chubsucker (*Erimyzon oblongu*), eastern mudminnow (*Umbra pygmaea*), glassy darter (*Etheostoma vitreum*), largemouth bass (*Micropterus salmoides*), pumpkinseed (*L. glibbosus*), redbreast sunfish (*Lepomis auratus*), smallmouth bass (*Micropterus dolomieu*), and tessellated darter (*Etheostoma olmstedi*) (USACE, 2020). During the 2013 PLS, bluegill, green sunfish (*L. cyanells*), and mosquito fish (*Gambusia afinis*) were observed on the installation (FMMD, 2020d).

4.9.3 Rare, Threatened, and Endangered Species

Protected biological resources include plant and animal species listed by the State of Maryland as rare, threatened, or endangered or by the USFWS as threatened or endangered. Special concern species are not afforded the same level of protection, but their presence is taken into consideration by resource agency biologists involved in reviewing projects and permit applications.

Under the Endangered Species Act (ESA), an “endangered species” is defined as any species in danger of extinction throughout all or a significant portion of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. The ESA also provides for recovery plans to be developed describing the steps needed to restore a species population. Special status species are listed as threatened or endangered, are proposed for listing, or are candidates for listing by the state and/or federal government.

Critical habitats, as defined by the ESA, are areas with physical or biological features essential to the preservation of a species that may require special management or protection. Federal agencies are required to take precautions to not adversely modify critical habitat. The following considerations are made when determining critical habitat for a species: space for individual and population growth and normal behavior; cover or shelter; food, water, air, light, minerals, or other nutritional or physiological requirements; sites for breeding and rearing offspring; and habitats that are protected from disturbances or are representative of the historic geographical and ecological distributions of a species (USACE, 2014).

State-listed species are not protected under the ESA; however, whenever feasible, FMMD cooperates with Maryland agencies to identify and conserve state-listed species (USACE, 2020).

Northern long-eared bat (*Myotis septentrionalis*; federally and state threatened species) has been acoustically detected on FMMD. There have been no hibernaculum or summer roost trees identified within the installation (FMMD, 2020b). FMMD recently conducted a Northern long-eared bat survey that was submitted to the USFWS (USACE, 2020). The USFWS signed a Programmatic Biological Opinion on January 5, 2016 on the Final 4(d) Rule that addresses effects to the Northern long-eared bat by federal actions and provides a streamlined Section 7 ESA consultation. The Installation Management Command (IMCOM) signed a Programmatic Agreement with the USFWS Region 3 on May 4, 2015 which assumes the presence of bats during their roosting season. There is no designated critical habitat for the Northern long-eared bat (USACE, 2020).

Indiana bat (*Myotis sodalis*; federally and state endangered species) has also been acoustically detected on FMMD (FMMD, 2020b). The presence of the Indiana bat was detected during the FMMD Northern long-eared bat survey that was submitted to the USFWS, but no hibernaculum or summer roost trees have been identified within the installation (USACE, 2020). Indiana bats congregate in winter and summer colonies, migrating each spring and fall between the two sites. They primarily live in forests and caves in the Midwest, as well as within the Northeast and Southeast. Indiana bats roost in dead standing trees and forage along river and lake shorelines, along floodplains, and within upland forested areas (USACE, 2020).

There were no federally threatened or endangered species observed during the 2013 PLS. One state endangered plant species, Torrey's rush, was encountered within the northeastern portion of the installation. Other rare plant species encountered during this survey include American chestnut and dwarf azalea, observed in the southeast corner of the installation; tiny-headed beakrush (*Rhynchospora microcephala*), observed within the northeastern portion of the installation; Western pearly everlasting (Maryland Watch List [S3] plant) and crowned beggarticks (Maryland State Rate/Watch List plan [S2S3] plant), observed within the southeastern corner of the installation (FMMD, 2014).

4.10 Energy and Utilities

The location of existing utility lines influences development. Using existing infrastructure is cost-effective, efficient, and encourages more compact development. FMMD has a well-connected grid of utilities that encompasses the entire installation. This coverage provides flexibility in locating facilities (USACE, 2020a). The proposed project location was formally a building site but was previously demolished. Some utilities still run through the site associated with the previous buildings.

4.10.1 Energy

FMMD has four planning goals that are further defined with specific and measurable objectives based on the consideration of the installation mission, analysis of the existing conditions, and the desired end state of FMMD, and these objectives will help to guide the implementation of the long-range development vision of FMMD (USACE, 2020a). Goal 4 (Enhanced Environmental Stewardship) includes the following objective:

- Meet or Exceed Leadership in Energy and Environmental Design (LEED) (USACE, 2020a).

According to the FMMD Draft ADP, installations should be planned following the LEED neighborhood principles, which are the basis of Unified Facilities Criteria (UFC) 2-100-01, Installation Master Planning, and provide for opportunities to construct facilities that meet at least LEED Silver Certification requirements (USACE, 2020a).

Electrical power is supplied to FMMD by Baltimore Gas and Electric (BG&E) through four distribution substations. The primary source for FMMD is a 110 kilovolt (kV) redundant feeder pair from the BG&E Waugh Chapel Power Station along the south and east sides of FMMD along MD Route 32 that terminates at Substation #3. A second pair of 110 kV feeders originates in the BG&E High Ridge Power Station west of FMMD and back feeds the substation utilizing the Waugh Chapel distribution line. FMMD also has 18 engine-driven emergency standby generators at 15 locations should there be a BGE power outage (USACE, 2020).

Natural gas is supplied by BG&E to the Defense Energy Support Center, a DoD agency, which in turn provides it to FMMD. Natural gas is supplied via high-pressure (100-pound force per square inch gauge) mains owned by BG&E, which form a loop at FMMD. The extensive natural gas distribution system includes BG&E and government owned systems. Most buildings are within a few hundred feet of an active supply line (USACE, 2020).

4.10.2 Potable Water

American Water owns and operates the potable water system that serves FMMD. Water is drawn from six groundwater wells located throughout FMMD to American Water's water treatment plant, which is in the southwest quadrant of the cantonment area near the intersection of Mapes and O'Brien Roads. The maximum allowed draw capacity permitted by MDE is 3.3 MGD, or approximately 1,200 million gallons per year (Permit No. AA1969G021 (07), effective 1 June 2012, expires 1 June 2024) (USACE, 2020).

4.10.3 Stormwater

Stormwater is defined as rainwater that flows overland; accumulates in gutters, ditches, and culverts; and travels through storm drains to streams.

Provisions of COMAR 26.17.02.01 require that all jurisdictions in Maryland implement a stormwater management program to control the quality and quantity of stormwater runoff resulting from new development (MDE, 2010). The primary goals of the state and local stormwater management programs are to maintain after development, as nearly as possible, the predevelopment runoff characteristics, and to reduce stream channel erosion, pollution, siltation and sedimentation, and local flooding by implementing environmental site design to the maximum extent practicable and using appropriate structural best management practices only when necessary.

COMAR Title 26.17.02.05 (when stormwater management is required) exempts any developments that do not disturb more than 5,000 square feet of land area or 100 cubic yards of earth. Conversely, developments disturbing more than 5,000 square feet of land or 100 cubic yards of earth require stormwater management. The Stormwater Management Plan requirements are outlined in COMAR 26.17.02.09.

Stormwater runoff at FMMD is conveyed to the three primary drainages, with the majority carried by Midway and Franklin Branches. All the natural drainages discharge into the Little Patuxent River, which ultimately drains into Chesapeake Bay. Runoff from developed areas at FMMD is conveyed through an extensive network of drainpipes and associated drainage structures, supplemented by swales, ditches, other drains, and retention ponds (FGGM, 2005). In recent years, FMMD has followed federal and MDE environmental site design standards for development. Additionally, FMMD employs several stormwater management initiatives, including LID, to manage stormwater. Some examples of these include rain gardens and stormwater ponds and replacing concrete storm drains with grass swales at FMMD (USACE, 2020).

4.10.3.1 Energy Independence and Security Act of 2007

Section 438 of the Energy Independence and Security Act of 2007 (EISA) instructs federal agencies to "use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow," for any project with a footprint that exceeds 5,000 square feet (USACE, 2020).

In December 2009, USEPA issued the "Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act" focusing on a step-by-step framework that helps federal agencies maintain pre-development site hydrology by retaining rainfall on-site through infiltration, evaporation/transpiration, and re-use to the same extent as occurred prior to development. Implementation of Section 438 of the EISA can be achieved using stormwater management practices often referred to as “green infrastructure” or “LID” practices which are described in the guidance. The intent of the statute is to maintain or restore the pre-development site hydrology during the development or redevelopment process. More specifically, this requirement is intended

to maintain or restore stream flows such that receiving waters are not negatively impacted by changes in runoff temperature, volumes, durations, and rates. Site designers must account for the design and subsequent construction and maintenance of stormwater management practices to preserve or restore the hydrology of the site during the development or redevelopment process in compliance with Section 438. Site designers have two options to meet this standard. Option 1 provides a process to design, construct, and maintain stormwater management practices that manage rainfall on-site, and prevent the off-site discharge of stormwater from all rainfall events less than or equal to the 95th percentile rainfall event. Option 2 allows for the design, construction, and maintenance stormwater management practices using a site-specific hydrologic analysis to determine pre-development runoff conditions instead of using the estimated volume approach of Option 1. Under Option 2, pre-development hydrology would be determined based on site-specific conditions and local meteorology by using continuous simulation modeling techniques, published data, studies, or other established tools (USACE, 2020).

Federal agencies have many alternatives for meeting the requirements of Section 438, including green infrastructure or LID management approaches and technologies that enhance or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration, and use. Federal agencies can also use footprint-reduction practices (e.g., building up instead of out) to reduce their stormwater impact. Practices that agencies can use to meet Section 438 include but are not limited to the following:

- Rain gardens, bioretention, and infiltration planters to promote infiltration of stormwater, and allow for evapotranspiration to occur.
- Porous pavements allow stormwater to infiltrate where traditional impervious pavements would otherwise be used.
- Vegetated swales and bioswales treat stormwater runoff as it flows through these channels.
- Green roofs absorb and store rainfall, thereby reducing runoff volume. Green roofs also help reduce energy costs.
- Trees and tree boxes help break up the landscape of impervious surfaces and absorb stormwater runoff.
- Pocket wetlands are small wetland systems designed to treat stormwater.
- Reforestation/revegetation practices help restore areas to more natural vegetative cover, which promotes infiltration.
- Protection and enhancement of riparian buffers and floodplains ensures that streams are protected and shaded, improving water quality.
- Rainwater harvesting (e.g., irrigation, air conditioning cooling water, non-potable indoor uses such as watering plants) uses cisterns and rain barrels to capture and use stormwater (USACE, 2020).

4.10.4 Wastewater

Sanitary sewer service is provided and maintained by American Water (USACE, 2020). The sanitary sewer collection and pumping system at FMMD is comprised of 58 miles of piping on and around the installation, 55 miles of gravity sewers, three miles of force mains, and nine pumping stations. The pipe diameter of the gravity sewers, installed between 1941 and 1987, ranges from four inches to 30 inches. The force mains have pipe diameters that range from three inches to 24 inches. Wastewater from the gravity sewers and force mains flow to two major pump stations: the Leonard Wood and the East Side pump stations. Each station has three pumps, each rated at approximately 1,500 GPM, at average operating head, thereby providing total station capacity of 4,500 GPM (9,000 GPM between the two stations). The wastewater treatment plant (WWTP) has a design flow of 12.3 MGD. The average flow of the WWTP is approximately 2.5 MGD.

4.10.5 Other Utilities

4.10.5.1 Telecommunications

The Network Enterprise Center has oversight for the communication system at FMMD. Fiber-optic cable is used exclusively at FMMD (USACE, 2020).

4.10.5.2 Natural Gas

Natural gas is provided and maintained by Baltimore Gas and Electric (BGE).

4.11 Cultural Resources

Cultural resources are “historic properties” as defined by the National Historic Preservation Act of 1966 (NHPA), “cultural items” as defined by the Native American Graves Protection and Repatriation Act of 1979 (NAGPRA), “archaeological resources” as defined by the Archaeological Resource Protection Act of 1979 (ARPA), “sacred sites” as defined by EO 13007, to which access is afforded under the American Indian Religious Freedom Act of 1987 (AIRFA), and collections and associated records as defined in 36 CFR 79 (USAG, 2019).

Archeological resources consist of locations where prehistoric or historic activity measurably altered the earth or produced deposits of physical remains. Architectural resources include standing buildings, districts, bridges, dams, and other structures of historic significance. Traditional cultural properties include locations of historic occupations and events, historic and contemporary sacred and ceremonial areas, prominent topographical areas that have cultural significance, traditional hunting and gathering areas, and other resources that Native Americans or other groups consider essential for the persistence of their traditional culture (USAG, 2019).

Several federal laws and regulations, including NHPA, ARPA, NAGPRA, and AIRFA, have been established to manage cultural resources. For a cultural resource to be considered significant, it

must meet one or more of the following criteria for inclusion on the National Register of Historic Places (NRHP):

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and associated and: 1) that are associated with events that have made a significant contribution to the broad patterns of our history; or 2) that are associated with the lives or persons significant in our past: or 3) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or 4) that have yielded, or may be likely to yield, information important to prehistory or history (USAG, 2019).

Cultural resources are finite, non-renewable, and often fragile, and are frequently threatened by development activities. In accordance with AR 200-1, Cultural Resources Management, FMMD maintains an Integrated Cultural Resources Management Plan (ICRMP) that serves as a guide for compliance with the NHPA, and other applicable federal laws and regulations. The most recent Integrated Cultural Resources Management Plan (ICRMP) for FMMD was finalized in October 2019 by USACE, Baltimore District as an update to the existing 2011 ICRMP. The new ICRMP covers the period from 2018 through 2022 and provides guidelines and procedures to enable FMMD to meet its legal responsibilities related to historic preservation and cultural resources management at FMMD (USACE, 2020).

The entirety of FMMD has undergone Phase I-level archaeological investigations for the presence of archaeological resources; therefore, no new archaeological fieldwork was completed for the 2020 ICRMP update.

4.11.1 Architectural Resources

4.11.1.1 Buildings

According to the FMMD Draft PEA, previous investigations identified and evaluated all buildings located on FMMD that were built prior to 1960 for National Register of Historic Places (NRHP) eligibility. The BRAC of 2005 led to a variety of construction actions, which required cultural resource reviews and some field investigations, however no new cultural resources were identified during these projects (USACE, 2020).

Twenty-four buildings were evaluated for the NRHP from 2015 to 2018 and draft forms submitted to the Maryland Historical Trust (MHT) for their concurrence. The Maintenance Guidelines for the Historic District were updated in 2018 and FMMD also did an exhaustive review of their complete building inventory from 2017 to 2018 to confirm which buildings had been evaluated for the NRHP and found ineligible, with clear concurrence from the MHT. Twenty-three buildings

were then evaluated in 2019 as part of the effort to clear up any discrepancies between MHT and FMMD's records (USACE, 2020).

4.11.1.2 Historic Properties

According to the Draft PEA and NHRP online database, there are currently no properties on FMMD listed in the NRHP, although FMMD has six eligible historic properties which are therefore subject to the regulatory requirements of the NHPA. Two eligible properties are the water treatment plant (Building 8688) and the FMMD Historic District, which is comprised of a mix of barracks and administrative and support buildings. In 2003, ownership and management of 113 historic family housing units were transferred to a private, non-federal entity, as part of the 1996 Military Housing Privatization Initiative (USACE, 2020).

According to the NHRP online database, one historic property is located outside the boundaries of, but adjacent to FMMD. This property is in proximity to, but outside of the study area for this EA:

- Epiphany Chapel and Church House (listed in 2001); NRHP Inventory Number AA-1029

  Epiphany Chapel and Church House is significant for its association with the mobilization for World War I. Constructed adjacent to Camp Meade (now Fort George G. Meade), a major training camp for troops bound for the front, the Chapel and Church House provided facilities for religious services and also accommodations for visitors to the camp, including soldiers and their families. It achieves significance at the state level as the only known World War I-era resource in Maryland that combined these functions (MHT, 2020).

4.11.1.3 Culverts

A portion of the southwestern portion of FMMD was utilized as a POW camp during WWII. The first group of POWs, consisting of 1,632 Italian and 58 German soldiers, arrived at FMMD in September of 1943. In May 1944, the FMMD POW camp was expanded to house 2,000 German POWs. In 1944, the German POWs began operating the laundry at FMMD and may have been involved in conducting maintenance and repair work in the military family housing residences on FMMD. Additionally, German POWs constructed three culverts at FMMD, all of which were designed by the USACE. The culverts are located at stream crossings on Llewellyn, Redwood, and Leonard Wood Avenues where they cross over Franklin Branch Creek. These culverts are among the few tangible reminders of the POW presence at FMMD and in Maryland during WWII (USACE, 2020).

4.11.2 Archaeological Sites and Cemeteries

There are 41 known archaeological sites on FMMD, but none are listed in the NRHP. The sites have been evaluated for NRHP eligibility and only one site, 18AN1240, was found to be eligible.

Thirty-three other sites have been evaluated for NRHP eligibility and were found ineligible. The remaining seven sites are historic cemeteries, which were evaluated in the 2007 ICRMP update and found to be ineligible for the NRHP, although they will be maintained due to the presence of buried human remains and recommended for avoidance (USACE, 2020).

4.12 Transportation and Traffic

FMMD is in Anne Arundel County and is served by the surrounding roadway network:

- Baltimore-Washington Parkway (Maryland [MD] Route 295).
- MD Route 175 (Annapolis Road).
- MD Route 32.
- MD Route 198.
- FMMD is accessible from the following five access control gates:
    - Gate 1: Mapes Road and MD Route 32,
    - Gate 2: Mapes Road and MD Route 175
    - Gate 3: Rockenbach Road and MD Route 175,
    - Gate 5: Llewellyn Avenue and MD Route 175 (currently closed), and
    - Gate 7: Reece Road and MD Route 175 (Demps Visitor Control Center).

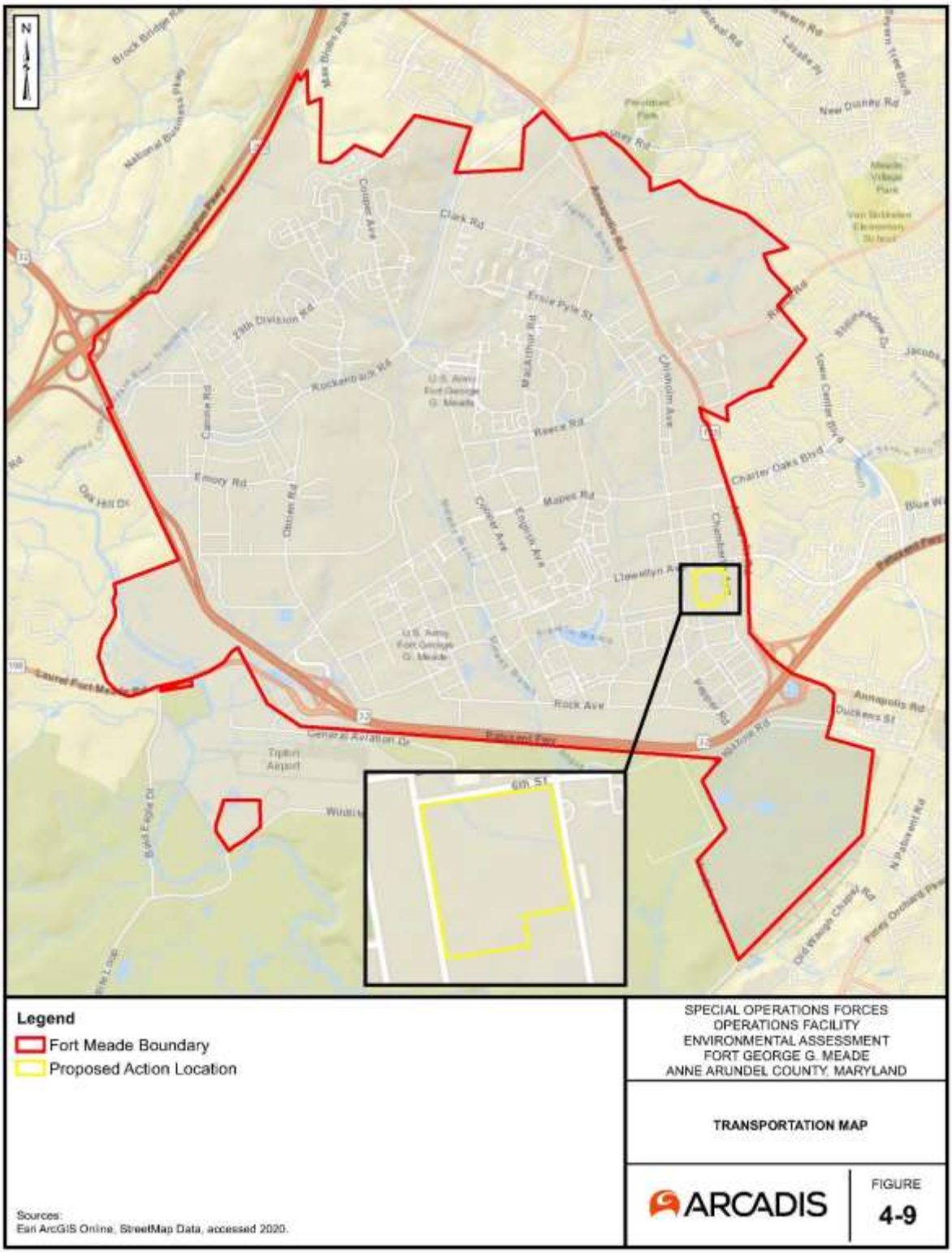
The proposed project site can be accessed on three sides: 6th Street along the north, Chisholm Avenue on the west, and Chamberlin Avenue on the east. Access to these streets would likely occur from Mapes Road. Mapes Road is planned to be widened and both the east and west entrance gates onto Ft Meade are planned to be upgraded as part of a different planned project at FMMD. The existing transportation network at FMMD is shown in **Figure 4-9**.

As previously stated, FMMD has four planning goals that are further defined with specific and measurable objectives based on the consideration of the installation mission, analysis of the existing conditions, and the desired end state of FMMD, and these objectives will help to guide the implementation of the long-range development vision of FMMD (USACE, 2020a). Goal 3 (Connected Transportation Network) includes the following objectives:

- Maintain Relationships with Regional Transportation Providers
- Increase Capacity of the Internal Road Network Throughout FMMD
- Promote Ride Sharing on the Installation
- Develop Parking Systems and Structures to Serve Campuses and Interconnected Networks
- Construct Running, Walking, and Biking Trails for Physical Fitness and Leisure Activities
- Design and Build Complete Streets (USACE, 2020a)

FMMD's Real Property Planning Vision includes a connected transportation network to provide improved circulation through an expanded transportation network integrated with regional development that includes pedestrian and bicycle paths (USACE, 2020a).

Figure 4-9: FMMD Existing Transportation Network



4.13 Socioeconomics, Environmental Justice, and Protection of the Children

Socioeconomics describes a community by examining its social and economic characteristics. Demographic variables such as population size, level of employment, and income range assist in analyzing the fiscal condition of a community and its government, school system, public services, healthcare facilities and other amenities.

Socioeconomic data are provided in this section to establish baseline conditions. Data consist primarily of publicly available information about Anne Arundel County.

EO 12898 declared that each federal agency will make environmental justice part of its mission. Environmental justice focuses on the protection for racial and ethnic minorities and/or low-income populations to be disproportionately affected by project-related impacts. Analysis of environmental justice is initiated by determining the presence and proximity of these segments of the population relative to the specific locations that would experience adverse impacts to the environment. As defined for the purposes of identifying relevant populations, minority areas are census block groups with a 50 percent or greater proportion of the population consisting of racial minorities, including those of Hispanic origin. Poverty areas are defined as census block groups where 20 percent or more of the population lives in households with incomes below the poverty line.

EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, requires federal agencies to identify, assess, and address disproportionate environmental health and safety risks to children from federal actions.

4.13.1 Population Trends

Table 4-7 shows population in Anne Arundel County, the State of Maryland, and the United States from 1990 to 2010.

Table 4-7: Population, 1990-2010

Area	1990	2000	2010	Change 1990 to 2000 (%)	Change 2000 to 2010 (%)	Change 1990 to 2010 (%)
Anne Arundel County	427,239	489,656	537,656	15	10	26
Maryland	4.8 million	5.3 million	5.8 million	10	9	19
United States	249.6 million	282.2 million	309.3 million	13	10	21

Sources: Maryland Department of Planning Maryland State Data Center, Census 2010 Demographic Profiles of Population and Housing Characteristics: Comparison between Census 2010, Census 2000 and Census 1990 Profiles (Anne Arundel County); USAG 2020.

4.13.2 Demographics

Table 4-8 shows Anne Arundel County race in comparison to Maryland and the United States, according to the 2010 U.S. Census.

Table 4-8: Race, Alone or in Combination[1], 2010

Area	White (%)	Black or African American (%)	Asian (%)	Hispanic or Latino (%)	American Indian or Alaska Native (%)	Native Hawaiian or Other Pacific Islander (%)
Anne Arundel County	75.4	15.5	3.4	6.1	0.3	0.1
Maryland	60.4	30.9	6.4	8.2	1	0.2
United States	74.8	13.6	5.6	16.3	1.7	0.4

Source: Maryland Department of Planning, Projections and Data Analysis / State Data Center, 2010 Census Profile of General Population and Housing Characteristics; US Census Bureau, Census 2010.

Table 4-9 below presents data on educational attainment for Anne Arundel County, the State of Maryland, and the United States as of the 2014-2018 5-year estimates.

Table 4-9: Educational Attainment[2], 2014-2018, 5-year Estimates

Level of Education	Anne Arundel County (%)	Maryland (%)	United States (%)
High school graduate or higher	92.1	90	87.7
Bachelor's degree or higher	40.9	39.6	31.5

Source: U.S. Census Bureau, Quick Facts, United States; Maryland; Anne Arundel County, Maryland.

[1] Respondents were able to identify themselves as one or more races, so percentage totals may exceed 100 percent.
[2] Educational attainment for individuals aged 25 years or older

4.13.3 Employment and Economy

Anne Arundel County's three largest employers are FMMD, Anne Arundel County Public Schools, and the State of Maryland (AAEDC, 2020). FMMD is the Army's second largest installation by population with more than 56,000 employees that represent the Army, Navy, Air Force, Marines and Coast Guard (USACE, 2020a). FMMD and the National Security Agency together generate a total of $17.8 billion in economic activity in Maryland, or 49.4 percent of the total $36 billion in economic impact from all of the military installations (Fort Meade Alliance, 2020). It is the largest level of employment, payrolls and purchases in Maryland. FMMD and the NSA create or support 125,729 jobs earning an estimated $9.2 billion in employee compensation. The direct FMMD and NSA employment of 48,389 accounts for 1.4 percent of all employment in Maryland and when multiplier impacts are included, the 125,729 jobs in, created or supported by FMMD and the NSA account for 3.6 percent of all employment in Maryland (USACE, 2020a).

4.13.4 Housing

Under a $7.9 million project, FMMD became the recipient of 56 then-newly designed noncommissioned officer family housing units. The initial design authority was received on September 5, 1996, and the project design was completed in December 1997. Since then, many more family quarters have been built under the Residential Communities Initiative (RCI) which partners private firms with the installation (FMMD, 2020). Soldier housing on FMMD has been privatized through a project known as the RCI. The statutory authority for RCI is 10 United States Code, Section 2878. In general terms, RCI allows previously government owned soldier housing to be conveyed to a private company through a 50-year ground lease. Under RCI, the federal government retains the land and the private company manages the day to day needs of the project, such as the leasing of each unit and regular maintenance (USAG, 2020). At FMMD, the private company that manages the RCI project is Corvias Property Management, which offers on-post housing to eligible personnel and their families (USAG, 2020a).

Under phased Military Construction initiatives, the USACE, Baltimore District, has overseen the construction of a total of eight new barracks buildings. The new barracks facilities are designed to provide high-standard living space to more than 400 Soldiers.

The multi-phase barracks replacement project resulted in the construction and refurbishing of more than 96,000 square feet of living space for Soldiers. The accommodations were based on the improved standard R-1 module. Every unit in the complex is outfitted with a living room, a bedroom, semi-private bathroom facilities, walk-in closets, storage, laundry and general service areas (FMMD, 2020).

At FMMD, the existing, available barracks are Korean War era buildings, built in 1954, and are dilapidated and unhealthy. The newer Freedom Center Barracks Complex, completed in 2001, can only accommodate one third of the requirement to provide on-post housing for the total population of E1-E5 ranks, leaving a deficit for approximately 1,600 to 1,800 personnel. The shortage of on-

post housing for Service Members requires them to locate off-post. Design and construction of nine barracks buildings at FMMD is planned to supplement the current on-site housing capacity.

4.13.5 Environmental Justice

Three Presidential EOs: *EO 12898, Federal Actions to address Environmental Justice in Minority and Low-Income Populations; EO 13084, Consultation and Coordination with Indian Tribal Governments; and EO 13045, Protection of Children from Environmental Health Risks and Safety Risks* apply to required compliance at FMMD. The purpose of each of these EOs is to avoid disproportionately high and adverse environmental, economic, social, or health impacts from federal actions and policies on these population groups.

On February 11, 1994, President Clinton issued EO 12898, the purpose of which was to avoid the disproportionate placement of adverse environmental, economic, social, or health impacts from federal actions and policies on minority and low-income populations or communities. An element emanating from this EO was the creation of an Interagency Federal Working Group on Environmental Justice composed of the heads of 17 federal departments and agencies, including the Army. Each department or agency was to develop a strategy and implementation plan for addressing environmental justice.

It is the Army's policy to comply fully with EO 12898 (Environmental Justice in Minority Populations) and requires that proponents of federal projects assess potential impacts of proposed projects on low income or minority populations. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to identify, assess, and address disproportionate environmental health and safety risks to children from federal actions. The term minority refers to people who classified themselves as African Americans, Asian or Pacific Islanders, American Indians, Hispanics of any race or origin, or other non-white races. Minority communities may be defined as areas where racial minorities comprise 50 percent or more of the total population or minority races comprise less than 50 percent of the total population. Low-income communities may be defined as those where 25 percent or more of the population is characterized as living in poverty (USAG, 2019).

The boundaries of FMMD are located entirely within Census Tracts 7406.01, 7406.02, 7406.03, and 7515, as shown on **Figure 4-10**.

Error! Reference source not found.4-10 provides information characterizing the minority and b elow poverty line populations located within the study area's census tracts.

Table 4-10: Minority Population and Poverty Areas within Proposed Project Study Area

Census Tract	Total Population	Minority Population	Percentage Minority (%)	Percentage Below Poverty Line (%)
7406.01	4,335	2082	48.03%	2.54%
7406.02	3,998	1744	43.62%	11.41%
7406.03	1,827	614	33.61%	0.62%
7515	7,024	4,316	61.45%	5.04%

Source: 2020 FFIEC Census Report – Summary Census Demographic Information (Anne Arundel County); 2020 FFIEC Census Report – Summary Census Income Information (Anne Arundel County).

Figure 4-10: FMMD Vicinity Census Tracts

5 SUMMARY OF ENVIRONMENTAL IMPACTS

The following section describes the anticipated environmental impacts associated with implementing the Proposed Action and the No Action Alternative. The No Action alternative acts as a baseline condition, assuming the Proposed Action would not take place and the use of multiple, leased spaces outside of FMMD would continue.

The method used to evaluate the overall importance of each impact was based on the following criteria:

1. **Nature** (beneficial, neutral, or adverse, direct, indirect, or cumulative)

   The nature of the impact can be described as positive (beneficial) or negative (adverse). Positive impacts enhance the quality or access to a resource, while negative impacts degrade the quality or limit access to the resource. Impacts are also described as direct or indirect. A direct impact is as an immediate result of an activity. An indirect impact arises from a project activity at the secondary level.

2. **Duration** (temporary or permanent)

   The duration of an impact can be temporary or permanent.

3. **Areal extent** (regional, local, or isolated)

   The areal extent of an impact refers to its area of influence and can be regional, local, or isolated to a particularly small and well-defined area. An impact of regional extent exerts an influence far beyond the surroundings of the project area. The local area of influence refers to the communities located near FMMD that could be affected by the project. An isolated impact is limited in extent to a small, readily defined area.

4. **Intensity**

   The intensity of an impact concerns the scale or size of the impact on a resource. Intensity is evaluated as negligible, minor, moderate, or significant. A description of each measure of intensity is as follows:

- *Negligible:* This term indicates that the environmental impact is barely perceptible or measurable, remains confined to a single location, and would not result in a sustained recovery time for the resource impacted (days to months).
- *Minor:* This term indicates that the environmental impact is readily perceptible and measurable; however, the impact would be temporary and the resource should recover in a relatively short period of time
- *Moderate:* This term indicates that the environmental impact is perceptible and measurable, and/or may not remain localized, thus impacting areas adjacent to the

Proposed Action. Under the impact, recovery of the resource may require several years or decades.

- *Significant:* This term indicates significant impacts would occur. Under a significant impact, a resource may not recover and mitigation measures are considered to reduce the impact.

This section is organized by resource area following the same sequence as in the preceding Section 4.0. This section, however, also includes a discussion of other environmental effects, including cumulative impacts and irretrievable commitment of resources that requires mitigation.

5.1 Land Use

5.1.1 Environmental Criteria

The Proposed Action would be considered to have a significant effect on land use if:

- It is inconsistent with existing land use plans or policies;
- It eliminates the viability of existing land use;
- Surrounding land use would be expected to change substantially in the short or long-term;
- It conflicts with adjacent land use to the extent that public health or safety is threatened; and/or
- It is incompatible with planning criteria that ensures the safety and protection of human life and property.

5.1.2 Impacts from the Proposed Action

The Proposed Action would not result in significant impacts to land use within FMMD. The proposed location for the new SOF facility is currently vacant and forested and is considered to have a designated "Administrative" land use. The proposed location is in the southeast portion of FMMD near the FMMD property boundary. Although the land parcel proposed for the new construction and operation of the SOF facility is currently unused and forested, the nature of the proposed SOF facility would be consistent with the "Administrative" land use category designation for the parcel. The nature of the SOF facility would be consistent with the nature of other facilities located in the same area. It is anticipated that the proposed SOF facility would be constructed in an area which is already generally served by existing utilities for extension and connection to the proposed facility. The SOF facility would be site adapted with a footprint that optimizes land use and compliance with the FMMD master plan guidelines (USACE, 2020b). The Proposed Action would add approximately 5.5 acres of permanent impervious surface at the proposed site due to proposed construction of the SOF facility building and parking area, facility access roads, and a hardstand around the service/loading area.

The Proposed Action would not create a land use incompatibility and is anticipated to comply with existing land uses located in proximity to activities associated with the Proposed Action. The proposed action would not impact any land use control areas identified by the IRP. It is anticipated that as a result of the consolidation of personnel from Special Operations Command and its mission partners into a single facility would serve to allow for the current locations of the numerous leased spaces located throughout the country to be repurposed and potentially improve land use in those areas.

The Proposed Action is anticipated to have negligible or minor long-term impacts on land use. The Proposed Action would ensure that activities associated with the construction and operation of the SOF facility would take place on-site, except for daily transportation of offsite personnel to the new facility. All activities, including transport, are anticipated to be compatible with the existing land uses where activities occur, and therefore, no activities associated with the Proposed Action would take place within land use areas that are officially categorized for residential, neighborhood commercial, park, or similarly sensitive land uses. During the construction process, short-term, minor impacts could occur to land use from construction vehicles but would cease once construction activities associated with the Proposed Action are complete.

5.1.3 Impacts from the No Action Alternative

The No Action Alternative would not address the issue of undersized, ill-equipped and dispersed facilities scattered across the country. The No Action Alternative could provide for continued moderate, short-term or long-term impacts to land use outside of the FMMD study area due to the various locations and the projections for growth that would exceed the current leased space capacity. This could, in turn, force the relocation of some of the projected growth to other leased facilities, further exasperating the current split operations and extending the number of locales utilized. However, no impacts to land use are anticipated within the FMMD study area as a result of the No Action Alternative.

5.2 Air Quality

5.2.1 Environmental Criteria

The Proposed Action would be considered to have a significant effect on air quality and greenhouse gases if it resulted in and impact that:

- Caused the Proposed Action to not conform with the state's implementation plan purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of the NAAQS; or
- Causes any new violation of any standard in any area; or
- Increases the frequency or severity of any existing violation of any standard; or

- Causes a delay in timely attainment of any standard or any required interim emission reductions or other milestones in any area; or
- Substantially increased GHG emissions such that there would be a noticeable increase in overall global temperature, independent of cumulative impacts.

5.2.2 Impacts from the Proposed Action

A General Conformity Applicability Analysis was performed for the Proposed Action, which included estimated levels of potential NOx, VOC, SO_2, CO, PM_{10}, and $PM_{2.5}$ air emissions from construction activities. Emissions of NOx and VOCs were evaluated as precursors to ozone for which Anne Arundel County is in nonattainment of the 2008 and 2015 8-hour ozone NAAQS. Emissions of SO_2 were evaluated because the portion of Anne Arundel County that includes FMMD is in nonattainment for the 2010 SO_2 NAAQS. The analysis is only required for nonattainment and maintenance pollutants. Anne Arundel County is in attainment for the CO, NO_2, lead (Pb), $PM_{2.5}$, and PM_{10} NAAQS, so these pollutants are not required to be included in the analysis. **Table 5-1** below shows the estimated NOx, VOC, and SO_2, CO, PM_{10}, and $PM_{2.5}$ construction emissions for a 12-month period for the Proposed Action. Emissions of CO, PM_{10}, and $PM_{2.5}$ are provided for reference only since they are not required for the General Conformity Applicability Analysis. Construction emissions include construction worker commuting to the project site, delivery of non-road equipment to the project site, and operation of construction-related equipment at the site. Calculations were derived from estimated combustion equipment activities in one fiscal year. See Appendix B for detailed emissions calculations. The Proposed Action is not anticipated to result in any adverse effects to Air Quality. As demonstrated, the estimated emissions are well below the de minimis thresholds.

Table 5-1: Estimated Annual Construction Emissions from Proposed Action

Pollutants	**VOC**	**NO_X**	**SO_2**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Proposed Action Emissions (tons/year)	1.05	10.3	0.81	5.59	9.69	9.67
De minimis threshold (tons/year)[1]	50	100	100	100	100	100
Exceeds de minimis thresholds?	No	No	No	No	No	No

[1] Anne Arundel County is in moderate nonattainment for the 2008 8-hour ozone standard and marginal nonattainment for the 2015 8-hour ozone standard (USEPA, 2020). (VOCs and NO_x are precursors to the formation of O_3) The portions of Anne Arundel County that are within 26.8 kilometers of the Herbert A. Wagner Generating Plant Unit 3 stack are in nonattainment for the 2010 sulfur dioxide standard (USEPA, 2020a). FMMD is approximately 19 kilometers from the Herbert A. Wagner Generating Plant and therefore lies within this sulfur dioxide nonattainment area. *De minimis* thresholds are defined in 40 CFR 93 Section 153. VOC *de minimis* established for nonattainment areas located in an Ozone Transport Region.

Operational emissions for the Proposed Action are not included in the General Conformity Applicability Analysis because they are subject to local agency new source review air permitting requirements and are therefore excluded from the General Conformity Applicability Analysis pursuant to 40 CFR 93.153(d)(1). Under this regulation, a conformity determination is not required

for the portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review program or the prevention of significant deterioration program. Therefore, emissions from the routine operations of the new SOF facility need not be included in the General Conformity Applicability Analysis. Operational emissions are provided for informational purposes in **Table 5-2**. See Appendix B for detailed emissions calculations.

Table 5-2: Estimated Operational Emissions from Proposed Action

Pollutants	**VOC**	**NO_X**	**SO_2**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Proposed Action Emissions (tons/year)	1.07	3.40	1.08	0.91	0.11	0.11

The Proposed Action would result in temporary, localized changes to air quality because of emissions from the construction equipment, worker transport, and highway traffic. Criteria and hazardous air pollutant emissions from the operation of construction vehicles would be temporary and localized. The Proposed Action would be undertaken in compliance with state and federal standards for air quality. Applicable NEPA considerations would be made and the resulting documentation (if any) would be kept on file.

Coordination with MDE prior to project initiation would determine the applicability of permits required. The Proposed Action would be initiated only after the environmental review has been completed and the appropriate air permits are acquired. The Proposed Action would require two separate permitting actions with MDE related to the emergency generator: 1) apply for and obtain an air Permit to Construct and 2) incorporate the new generator and associated compliance requirements into the FMMD Permit to Operate No. 003-0322. The permitting process would include MDE regulatory and technical review of the proposed generator and opportunity for EPA and the public to review and comment.

As part of the air permitting process, the draft Permit to Construct and the draft modified Permit to Operate (before being issued as final) would be made available to the general public and other interested parties for review and opportunity to provide written comments or request a public hearing. Affected states' air pollution control departments are provided an opportunity to review and comment on the permit. The USEPA is provided a 45-day review period to comment on proposed revised permits. After the 45-day USEPA review, citizens are provided an opportunity to petition the EPA and object to the proposed permit.

It is anticipated that the Proposed Action would not cause a perceivable impact to GHG emissions because the increase would be temporary and would not contribute long-term to FMMD's overall CO_2e emissions. Mitigation efforts to reduce GHGs can be implemented by maintaining emission control technology on construction equipment. FMMD would include GHG emissions from the

emergency generator operations and continue to report GHG emissions in the future as part of the Permit to Operate requirements.

5.2.3 Impacts from the No Action Alternative

Under the No Action Alternative, no activities would take place and general emissions would stay at their current rate.

5.3 Hazardous and Toxic Materials, and Solid Wastes

5.3.1 Environmental Criteria

The Proposed Action would result in significant adverse impacts to the environment if construction or operational activities resulted in:

- A long-term (i.e., five years or more beyond completion of construction) increase in the amount of hazardous materials or wastes to be handled, stored, used or disposed;
- Non-compliance with the existing FMMD Integrated Solid Waste Management Plan;
- Non-compliance with applicable federal and state regulations; and/or
- Increased site contamination that could preclude future use of the proposed site.

5.3.2 Impacts from the Proposed Action

5.3.2.1 Pesticides

No impact concerning pesticides is anticipated. Pesticide-contaminated soils and sediments, if encountered, would be handled in accordance with federal, state, and FMMD regulations. Pesticides are normally well controlled and are subject to rigorous management controls, thus the Proposed Action is not anticipated to result in significant adverse impacts associated with pesticides.

5.3.2.2 Solid Waste

It is not anticipated that the Proposed Action would result in a substantial quantity of construction debris or wastes. Contractors, with government oversight and coordination, would be legally responsible for the proper disposal of these wastes in accordance with federal, state and FMMD regulations. The increase in personnel at FMMD resulting from operations activities at the proposed SOF facility is anticipated to increase the amount of everyday waste from usual office-based processes. These wastes would be transported to the municipal waste landfills currently utilized by FMMD for non-hazardous solid wastes. It is anticipated that the currently utilized landfills have capacity to handle the increase for the foreseeable future. Therefore, it is not anticipated that the Proposed Action would cause significant adverse impacts with respect to solid waste.

5.3.2.3 Hazardous Waste

Based on FMMD's potential for contaminated soils and groundwater, it is possible, though unlikely, that construction workers may encounter hazardous materials when working at the proposed SOF facility location. Contractual obligations in the construction documents would require contractors to adhere to applicable local, state and federal regulations pertaining to contaminated and hazardous materials, including, but not limited to, those regarding handling, transport, and proper disposal.

It is not anticipated that the Proposed Action would result in a substantial quantity of construction or operation debris or wastes and/or wastes containing hazardous substances. Contractors, with government oversight and coordination, would be legally responsible for the proper disposal of these wastes in accordance with federal, state, and FMMD regulations. Therefore, it is not anticipated that the Proposed Action would cause significant adverse impacts regarding hazardous wastes, and it is anticipated that the Proposed Action would have negligible impacts with respect to hazardous wastes.

5.3.2.4 Installation Restoration Program and Existing Contamination

No significant adverse impacts are anticipated in regard to the IRP sites under the Proposed Action. Any new discoveries of previous contamination would be added to the IRP and could be subject to the CERCLA process. Based on investigations completed to date, there is no evidence of past environmental contamination present on the proposed project site that would impact the construction of the proposed project. However, since the area surrounding the project site was an historic Army barracks and in previous studies and surveys, the presence of USTs has been found, USTs should be anticipated to be encountered during construction, and removed and disposed of appropriately. FMMD has an IRP due to historic activities. If a release does not occur, no impacts are expected from the Proposed Action. Any spills that have the potential to occur would be properly handled under state, federal, and FMMD guidelines. Should any unusual odor, soil condition or waste/storage tank/buried debris of any kind be encountered during site work activities, a "stop work" would be executed and the condition would be immediately reported to the DPW Environmental Division (DPW-ED) to get further instructions. It is anticipated that workers on site would wear appropriate PPE and follow appropriate and required local, state, and federal requirements for handling, sampling, and disposing of potentially contaminated soils and/or groundwater encountered during construction activities. Although there is no known contamination present that would impact construction of the proposed project, in the event that contaminated soils and/or groundwater are discovered, encountered and removed soils and groundwater would be stockpiled on liners and/or containerized, as appropriate, for hauling and disposal at a licensed upland facility, in accordance with applicable local, state, and federal regulations. In addition, an operations and maintenance plan would be drafted and utilized for safety training of staff working within the proposed facility. Therefore, it is not anticipated that

the Proposed Action would result in significant adverse impacts to the IRP or areas of existing contamination.

5.3.3 Impacts from the No Action Alternative

Under the No Action Alternative, multiple leased spaces would continue to exist outside of the installation and the continuance of using dispersed facilities scattered across the country would continue to result in the use of varied waste disposal locations throughout the country to accommodate the unconsolidated personnel locations. Unit growth projections may result in increased operational wastes due to the increase in personnel scattered throughout the country. However, within the FMMD study area and surrounding community, the No Action Alternative would result in no change regarding generation or transport of wastes resulting from everyday operations. Therefore, no impacts to hazardous and toxic materials and solid wastes are anticipated to result from the No Action Alternative.

5.4 Noise

5.4.1 Environmental Criteria

The Proposed Action would be considered to have a significant effect to noise impacts if:

- It would raise the ambient noise level to such a state that it would be seriously incompatible with adjacent noise receptors; or
- It would substantially increase the number of people disturbed by the heightened noise levels on FMMD installation and off-post areas.

5.4.2 Impacts from the Proposed Action

Noise impacts from implementation of the Proposed Action would be minor and mitigable. Under the Proposed Action short-term negative effects are expected to occur throughout the construction process. Operation of heavy equipment and machinery as well as increases in construction traffic would result in a temporary increase in noise level in the immediate vicinity of the facility building, including the loading/dock platform area and the 250-space surface parking lot. Noise due to construction activities would vary depending on the construction method, the types of construction equipment employed, the amount of each type of construction equipment, and the duration of construction equipment use. Heavy equipment produces the greatest amount of noise disturbances and should be of special concern. Noise impacts on the health of construction workers would be mitigated by adherence to OSHA standards for occupational noise exposure associated with construction (29 CFR 1926.52). Noise impacts on nearby residents would be mitigated by adherence to the regulatory limit for construction activities of 90 dBA at the boundaries of the site (COMAR 26.02.03.03 A(2)(a)).

Operation of the facility would generate noise levels in their immediate vicinity, particularly from HVAC units, truck and forklift operations at the loading dock, and vehicles moving in and out of the surface parking lot. The increase in noise levels from the HVAC units and vehicle movements within the surface parking lot would be localized and minimal and would be typical of a two-story administrative building for approximately 196 personnel. The delivery schedule and items delivered would be on the level of a typical administrative building of that size. Noise impacts from the delivery trucks and forklifts and associated backup alarms would generate some noise; however, the noise would be infrequent. Therefore, long-term impacts related to the vehicle traffic noise at the surface parking lot and truck traffic noise at the loading dock are anticipated during the operation phase, but such impacts would be minor.

The potential noise impacts would be mitigated by adherence to design criteria for the proposed facility building and associated HVAC units to ensure that sound levels as measured in dBA at the boundaries of the study areas do not exceed limitations set forth in Maryland regulations for noise control (COMAR 26.02.03.03). Mitigation measures may include use of sound-absorbing materials within the proposed facility building, ensuring vehicles moving in and out of the surface parking lot do not exceed posted speed limits, avoiding unnecessary idling of trucks and forklifts at the loading dock platform, and restricting truck traffic to daylight hours when increases in noise levels are more tolerable.

5.4.3 Impacts from the No Action Alternative

No effect on the noise environment would be expected under the No Action Alternative. No construction activities would be undertaken, and thus no changes in operations or increases to overall noise levels would take place.

5.5 Visual Aesthetics

5.5.1 Environmental Criteria

The Proposed Action would be considered to have a significant effect to visual impacts if:

- Long-term alteration of the viewshed that would require mitigation would occur;
- Substantial negative alterations to the viewshed of a historical resource would be expected; and/or
- Non-compliance with the overall viewshed of adjacent areas occurred.

5.5.2 Impacts from the Proposed Action

The proposed location for construction of the proposed SOF facility is interior to FMMD and surrounded by existing buildings of similar style and nature, including laboratories. It is anticipated that from areas off-post where views of the interior areas of FMMD are obstructed by perimeter fencing and vegetation, the proposed SOF facility would not be easily visible. From areas off-post

where views of the interior of FMMD may not be obstructed, it is anticipated that if the proposed SOF facility is visible, it may be indistinguishable from other existing buildings located in its proximity due to its design. It is anticipated that the facility façade would be constructed of materials similar in nature to those of existing surrounding buildings.

Interior to FMMD, it is anticipated that there would be a moderate impact to aesthetics since the parcel upon which the proposed SOF facility would be built is currently vacant and forested. Tree removal would be required, and a built environment would take the place of the current forested area. However, in accordance with the Fort George G. Meade Forest Conservation Act and Tree management Policy (Revision 1: SEP 04, Revision 2: OCT 09), 2.4 acres of forested area is required to be preserved or reforested. This preservation/reforestation would occur within the 12-acre site, to the extent possible. Additional details regarding required tree preservation/reforestation are included in Section 5.10.2 below. Therefore, the impact to visual aesthetics is anticipated to be mitigated through tree preservation and reforestation.

The delivery schedule and items delivered would be on the level of a typical administrative building of the proposed building size. It is not anticipated that the delivery trucks travelling to and from the proposed SOF facility would constitute enough of an increase in vehicular presence to be noticeable to communities located outside of FMMD. This increase in vehicular presence would not vary greatly from the current scenario.

Therefore, the Proposed Action would not result in long-term, significant adverse impacts to visual aesthetics.

Short-term minor impacts are expected under the Proposed Action during construction due to the presence of construction vehicles and materials.

5.5.3 Impacts from No Action Alternative

Under the No Action Alternative, no construction would take place and therefore, there would be no change to visual aesthetics, and therefore, no anticipated adverse impacts. However, the absence of construction would allow for the current forested area to remain in place at the proposed project location.

5.6 Geology, Soils and Topography

5.6.1 Environmental Criteria

The Proposed Action would be considered to have a significant effect with respect to geology, soils and topography if:

- It causes the substantial loss of soils, or compaction to the extent that makes it impossible to establish native vegetation within two growing seasons;
- It disturbs a land area larger than 1,000 acres;

- It causes a permanent loss of soil productivity that results from converting previous soils into impervious ground on more than 5% of installation land;
- It results in topography that does not comply with the overall topography of adjacent land; and
- It removes or alters soils and causes structural instability to surrounding buildings or infrastructure.

5.6.2 Impacts from the Proposed Action

The Proposed Action would result in placement of approximately 5.5 acres of permanent impervious surface at the proposed site due to proposed construction of the SOF facility building and parking area, facility access roads, and a hardstand around the service/loading area. This new impervious surface would be placed over previously disturbed soils that includes a layer of mixed gravel and sand and chunks of asphalt. It is not anticipated that any contamination would be encountered when soils are disturbed during construction activities. If soil contamination is encountered during construction work, sampling and analysis of contamination would occur and would be disposed of at an offsite, licensed disposal facility in accordance with applicable federal, state, and local regulations. Areas where soils are temporarily disturbed during construction and laydown activities would be stabilized and restored with native vegetation and landscape plantings. It is not anticipated that these changes would cause a substantial loss of soils or compaction at FMMD, would remove or alter soils and cause structural instability to surrounding buildings or infrastructure, or cause a permanent loss of soil productivity. Therefore, it is anticipated that long-term impacts to soils from the Proposed Action would be negligible.

Final site plans for the Proposed Action would include measures to minimize the total area of land disturbed, prevent soil erosion and sediment runoff at the site, and re-stabilize any temporarily disturbed areas during construction. It is assumed that disturbance to greater than 5,000 square feet of soils would occur and, therefore, an MDE-approved erosion and sediment control plan would be prepared pursuant to COMAR 26.17.01, an MDE stormwater management permit pursuant to COMAR 26.17.02, and a National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Construction Activities would be obtained. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas, and meeting performance standards established by MDE. With implementation of erosion and sediment controls, it is anticipated that short-term impacts from the Proposed Action during construction would be negligible.

The topography at the site is anticipated to minimally change due to construction of impervious surfaces, including the proposed building, parking lot, and loading dock and equipment layout area and site grading that would occur when construction work has been completed and the site is stabilized. As the site's existing topography is relatively flat, experiencing a gradual slope from 1-4% from southeast to northwest, it is anticipated that minor changes to the site's topography would occur from implementation of the Proposed Action. These changes are not anticipated to

substantially alter the overall topography of the installation or the greater community. As a result, it is anticipated that the Proposed Action would not result in short-term or long-term impacts to topography area. Construction of the new building would not penetrate the earth to the depth in which a disturbance to local geology would be anticipated.

5.6.3 Impacts from the No Action Alternative

As there is no construction or land disturbance proposed under the No Action Alternative, no short-term or long-term impacts to soil, topography, or geology would occur under this alternative.

5.7 Water Resources and Water Quality

5.7.1 Surface Water and Groundwater

5.7.1.1 Environmental Criteria

The Proposed Action would be considered to have a significant impact on surface water or groundwater if:

- It could cause an exceedance of a Total Maximum Daily Load (TMDL);
- It could cause a change in the impairment status of a surface water;
- It could cause an unpermitted direct impact on a water of the United States;
- It could substantially deplete groundwater supplies;
- It could interfere with groundwater recharge; and/or
- It could cause a detrimental impairment to groundwater quality.

5.7.1.2 Impacts from the Proposed Action

Depth to groundwater at the preferred site of the Proposed Action is shallow and it is anticipated that construction of the building and associated site improvements under the Proposed Action may encounter groundwater. There is no expectation for groundwater encountered to be contaminated. If groundwater contamination is encountered during construction work, sampling and analysis of contamination would occur and contaminated groundwater would be removed and disposed of at an offsite, licensed disposal facility in accordance with applicable federal, state, and local regulations to prevent contaminants from entering the underlying aquifer or the spread of any existing groundwater contamination. Careful measures, including implementation of BMPs to minimize erosion and sediment runoff at the site, would be taken to prevent any detrimental impacts to groundwater quality during implementation of the Proposed Action. As a result, it is expected that no short-term or long-term impacts to groundwater quality would result from the Proposed Action

Disturbance to the existing wetlands on site may temporarily impact groundwater recharge in the short-term. It is anticipated that a constructed wetland would be installed as a stormwater management feature adjacent to the drainage swale and would support groundwater recharge at

the site. As a result, it is expected that no long-term impacts to groundwater recharge or supplies would result from the Proposed Action.

Construction of the Proposed Action, specifically construction of the parking lot, would overlap a portion of the existing drainage swale that runs southeast to northwest across the northeastern portion of the parcel and collects stormwater runoff from the site. The final design of the Proposed Action would include plans to reroute offsite stormwater drainage via a pipe under the parking lot and route onsite stormwater to stormwater management features that would be constructed throughout the site and discharge to the stormwater pipe. The stormwater pipe would connect with the remaining portion of the existing drainage swale and convey stormwater to the culvert north of the parking lot. Potential permitting and mitigation requirements for impacts from the Proposed Action to the drainage swale are discussed in **Section 5.8.3.2**.

Final site plans for the Proposed Action would include measures to minimize the total area of land disturbed during construction. Stormwater runoff during construction would be controlled through use of BMPs to minimize erosion and sediment runoff at the site. All temporarily disturbed areas would be graded and re-vegetated upon completion of construction, in accordance with a construction general permit for stormwater and an MDE-approved erosion and sediment control plan would be prepared pursuant to COMAR 26.17.01. Additionally, an MDE stormwater management permit pursuant to COMAR 26.17.02 and a NPDES General Permit for Stormwater Discharges from Construction Activities would be obtained. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas, and meeting performance standards established by MDE.

The Proposed Action would result in placement of approximately 5.5 acres of permanent impervious surface at the proposed site due to proposed construction of the SOF facility building and parking area, facility access roads, and a hardstand around the service/loading area. Final designs would incorporate LID and green infrastructure to maximize rainfall retention onsite to maintain pre-development site hydrology to the maximum extent practicable. A mixture of asphalt, concrete, and pervious concrete would be utilized for the parking and roadway areas and stormwater management features would be placed throughout the site.

The Proposed Action may result in short-term minor impacts to stormwaters and surface waters during construction. It is anticipated that through implementation of BMPs under the erosion and sediment control plan, incorporation of LID and green infrastructure in the final design, adherence to any permitting and mitigation requirements stipulated by regulatory agencies that any short-term impacts would be negligible and no long-term impacts would occur. Therefore, it is not anticipated that the Proposed Action would cause an exceedance of a TMDL, change the impairment status of a surface water, or cause an unpermitted direct impact on a water of the United States.

5.7.1.3 Impacts from the No Action Alternative

Under the No Action Alternative, no construction or land disturbance would occur. Therefore, no erosion, sedimentation, stormwater runoff, or increase in impervious surface would occur, and no short-term or long-term impacts to groundwater or surface waters would be expected from the No Action Alternative.

5.7.2 Floodplains

5.7.2.1 Environmental Criteria

The Proposed Action would be considered a significant adverse impact if it:

- Threatens or damages unique hydrologic characteristics;
- Endangers public health by creating or worsening health hazard conditions; or
- Violates established laws or regulations adopted to protect floodplains.

5.7.2.2 Impacts of the Proposed Action

EO 11988 directs that any new construction must avoid floodplains as much as possible, and if construction in the floodplain cannot be avoided, flood protection measures must be undertaken to reduce the risk of flood-associated damages. The preferred location for the Proposed Action is not located within the 100-year floodplain in FMMD and would comply with EO 11988. Therefore, it is not anticipated that the Proposed Action would threaten or damage the hydrologic characteristics of the installation, endanger public health, or violate floodplain laws and regulations. As a result, there are no short-term or long-term impacts from the Proposed Action on floodplains.

5.7.2.3 Impacts from the No Action Alternative

Under the No Action Alternative, there would be no construction or land disturbance that would impact floodplains. Therefore, no short-term or long-term impacts with respect to floodplains would result from this alternative.

5.7.3 Wetlands

5.7.3.1 Environmental Criteria

Significant adverse impacts to wetlands would occur as a result of the Proposed Action if it:

- Fills or alters a portion of wetland that would cause irreversible negative impacts to species or habitats of high concern;
- Irreversibly degrades the quality of a unique or pristine wetland; and/or
- Results in reductions of population size or distribution of species of high concern.

5.7.3.2 Impacts of the Proposed Action

It is anticipated that the footprint of the Proposed Action would overlap two delineated wetland features at the site. The proposed layout for the Proposed Action includes construction of the parking lot through both wetland features, which would permanently impact approximately 0.46 acre of wetlands and 1.25 acres of MDE-required 25-foot nontidal wetland buffer. These wetland areas are considered low quality wetlands due to past soil disturbance, poor site drainage, and presence of invasive vegetative species. Both are subject to regulation under Section 404 of the CWA and Maryland's Nontidal Wetlands Protection Act and Program. Impacts to these wetlands and the required permitting actions to authorize impacts to these areas and their MDE-required wetland buffer have been discussed with the USACE Regulatory Branch, Baltimore District and MDE. Mitigation would be required to offset impacts to these areas and would be coordinated with the USACE Regulatory Branch, Baltimore District, and MDE prior to construction.

Final site plans for the Proposed Action would include measures to minimize the total area of disturbance to existing wetlands on site. BMPs would be implemented to minimize erosion and sediment runoff to wetland areas that are not impacted by construction. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas with native and habitat appropriate species after disturbance, and meeting performance standards established by MDE. It is anticipated that a constructed wetland would be installed as a stormwater management feature adjacent to the existing drainage swale.

As the Proposed Action would require adherence with permitting regulations and conditions and implementation of mitigation to offset disturbance to impacted wetlands, it is anticipated that short-term minor impacts to wetlands during construction would occur; however, as wetlands constructed as a result of mitigation would be considered higher quality wetlands than those existing on site, no long-term, significant impacts to wetlands are anticipated. It is not anticipated that the Proposed Action would cause irreversible negative impacts to species or habitats of high concern as there are none known to exist at the site. As wetlands onsite are considered low-quality wetlands, no irreversible short-term or long-term impacts to unique or pristine wetland would occur from the Proposed Action.

5.7.3.3 Impacts from the No Action Alternative

There would be no direct short-term or long-term impact to wetlands resulting from the No Action Alternative. No construction or grading work would occur within wetlands under this alternative and no erosion, sedimentation, or stormwater runoff would occur near wetlands.

5.7.4 Water Quality Certification

5.7.4.1 Environmental Criteria

Significant adverse impacts to water quality certifications would occur because of the Proposed Action if compliance with USEPA-approved water quality standards would not be met.

5.7.4.2 Impacts of the Proposed Action

As part of compliance with the CWA, consideration of water quality would be incorporated into the planning of the Proposed Action, and measures would be taken to minimize impacts wherever possible. A Water Quality Certification would be requested through the Joint Permit Application under Section 404 of the CWA and would be prepared by MDE. BMPs implemented under an MDE-approved erosion and sediment control plan would minimize soil erosion and sedimentation from stormwater runoff. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas with native and habitat appropriate species after disturbance, and meeting performance standards established by MDE. Final design would incorporate LID components and green infrastructure where possible to offset potential impacts from an increase in stormwater runoff discharging to nearby watercourses.

As the Proposed Action would obtain a Water Quality Certification and comply with EPA-approved water quality standards, there are no expected short-term or long-term adverse impacts from construction or operation of the Proposed Action to water quality certification.

5.7.4.3 Impacts of the No Action Alternative

Under the No Action Alternative, there would be no construction or land disturbance, so no permits would be needed, and in turn, no Water Quality Certification would be needed. Therefore, the No Action Alternative would comply with USEPA-approved water quality standards and no short-term or long-term adverse impacts from this alternative are anticipated with respect to water quality certification.

5.8 Coastal Zone Management

5.8.1 Environmental Criteria

Significant adverse impacts to coastal zones would occur because of the Proposed Action if permits and mitigation required for construction within coastal zones were not obtained.

5.8.2 Impacts from the Proposed Action

Factors considered in evaluating coastal zone management impacts include the potential for the Proposed Action to be inconsistent with the federal and state enforceable policies.

As part of compliance with the Federal CZMA, the State of Maryland's CZMP, and Maryland's Chesapeake Bay Critical Area Protection Act, consideration of the location of coastal zone and critical areas would be incorporated into the planning of projects, and measures would be taken to avoid these areas, or minimize impacts wherever possible.

All design and construction aspects of the Proposed Action would be completed in accordance with relevant Maryland CZMP policies. CZMA compliance is achieved by obtaining all applicable permits and providing mitigation, where required by MDE. Therefore, it is expected that implementation of the Proposed Action would not result in short-term or long-term adverse impacts to resources within the coastal zone.

5.8.3 Impacts from the No Action Alternative

Under the No Action Alternative, there would be no work that would occur within the Maryland coastal zone. As a result, no short-term or long-term adverse impacts are anticipated to resources in the coastal zone.

5.9 Biological Resources

5.9.1 Environmental Criteria

The Proposed Action would be considered to have a significant impact on the biological environment if:

- It could result in a permanent net loss of habitat at a landscape scale;
- It could cause a long-term loss or impairment of a substantial portion of local habitat on which native species depend; and/or
- It could result in the unpermitted "take" of bald eagles or a threatened or endangered species.

5.9.2 Impacts from the Proposed Action

It is anticipated that approximately 14 of the 17 specimen trees would be removed during construction of the Proposed Action. Tree clearing of smaller caliper trees from the site to facilitate construction and grading activities is also anticipated to occur. In addition, Bradford pear, an invasive tree species that has overtaken the project site, and other invasive vegetation, would be removed from the project footprint as well as from on and off/site reforestation areas. To offset specimen tree removal at the site and in accordance with the current Fort George G. Meade Forest Conservation Act and Tree Management Policy, 20% of the limit of disturbance (LOD) area must be preserved or established. The LOD for the Proposed Action is 12 acres; therefore, 2.4 acres of trees are required to be preserved or established. The final design for the Proposed Action would include the requirement for onsite reforestation as much as possible within the available 15-acre parcel. Any additional acreage of reforestation required to meet 20% that cannot be located onsite

would be located offsite at designated land areas within FMMD as needed. It is anticipated approximately half of the required reforestation acreage (approximately 1.25 acres) would be located onsite, with the other half located offsite. Reforestation planting would include native and dominant plant species, at least 2 inches in caliper. Also required would be a 1:1 tree replacement for street trees removed by the project and the requirement to plant street trees on Chisolm, and Chamberlin Avenues and in the parking lot islands.

Wildlife species that may utilize the site on a transient basis would be expected to utilize other available habitat at FMMD, including the larger tracts of forested land. There are two federal protected species, Indiana bat (federal and state listed endangered species) and Northern long-eared bat (federal and state listed threatened species) that have been acoustically detected on FMMD. Per correspondence received on September 11, 2020, the USFWS has determined that although the Proposed Action is within the range of listed species, it is unlikely that the species would occur at the site and therefore, the Proposed Action would have no effect on any threatened or endangered species. Per correspondence received on September 25, 2020, the Maryland Department of Natural Resources (MDNR) Wildlife and Heritage Service has determined that there are no state or federal records for listed plant or animal species within the site and there are no concerns regarding potential impacts from the Proposed Action.

It is anticipated that short-term, minor impacts to vegetation species could occur from the Proposed Action due to tree clearing to facilitate construction and grading activities. Tree clearing would be minor in scale compared to the forest habitat on other areas of the installation and it is not anticipated it would result in a permanent net loss of habitat at a landscape scale. As there is other available, similar habitat on the installation, it is anticipated that any native species that could utilize habitat on the site would be able to utilize habitat in other areas on the installation and, therefore, impairment to a substantial portion of local wildlife habitat is not anticipated. It is anticipated that reforestation under the current Fort George G. Meade Forest Conservation Act and Tree Management Policy would contribute to the local forested habitat that would be available to wildlife species. As it is unlikely that any threatened or endangered species occur at the site, no unpermitted "take" of a threatened or endangered species is anticipated to occur from the Proposed Action. As a result of these measures, it is anticipated that short-term impacts would be negligible, and no long-term impacts would occur to biological resources.

5.9.3 Impacts from the No Action Alternative

Under the No Action Alternative, there would be no disturbances that would impact existing wildlife within the study area. As discussed in Section 4.9.1, coverage of Bradford pear, a tree species which is considered highly invasive, has increased at the site from past years and is encroaching on several of the root systems of larger specimen, non-invasive trees. Within the past five years, aerial photography shows a rapid increase in coverage of this species at the site. Bradford pear dominates the vegetative layers from ground-level to approximately 10-feet in

height and often establishes a thick monoculture that crowds out saplings of native vegetation Under the No Action Alternative, it is anticipated that coverage of Bradford pear would continue to increase, would limit native saplings from establishing at the site, and would begin to outcompete other larger native tree species. It is anticipated that the No Action Alternative would have no short-term impacts to biological resources at the site as no work would occur that would remove vegetation. Overall, it is anticipated that this alternative could have long-term adverse impacts to native vegetation on the site as Bradford pear would remain at the site and would continue to increase in population if unchecked, which would limit native vegetation from establishing and dominating at the site.

5.10 Energy and Utilities

5.10.1 Environmental Criteria

The Proposed Action would result in significant adverse impacts to utilities if:

- It reduces water availability or supply to existing users;
- It overdrafts ground water basins; and
- It exceeds safe annual yield of water or energy supply sources.

5.10.2 Impacts from the Proposed Action

Several existing on-site utilities are located in close proximity to the proposed SOF facility location, including sanitary sewer, potable water, natural gas, electric, and communication utilities. Utilities extending to the project site would be sized to account for the anticipated loads associated with the Proposed Action.

It is anticipated that given the proximity of the existing utility infrastructure near the proposed SOF facility location, extensions of each utility would be made for connection to the proposed SOF facility with minimal ground disturbance required. Any required ground disturbance associated with the extension of existing utilities for connection to the proposed SOF facility would take place in an area that is, or was previously, comprised of built environment and previously disturbed soils. It is anticipated that an MDE erosion and sediment control permit pursuant to COMAR 26.17.01, an MDE stormwater management permit pursuant to COMAR 26.17.02, and an NPDES permit pursuant to the General Permit for Construction Activities would be required and obtained prior to the start of proposed construction activities. Utilities required for use by the proposed SOF facility are in existence within the boundaries of FMMD and therefore, no new utilities would be brought on site as part of the Proposed Action. Therefore, no off-site disturbance associated with utilities would be required.

Prior to project implementation, the locations of existing underground utilities within the project areas would be determined. All utilities would be identified and clearly marked throughout the duration of project activities.

The SOF facility building would include sustainability features certified at LEED-NC Silver by the US Green Building Council's LEED program (USACE, 2020b).

5.10.2.1 Potable Water

Domestic service and fire water lines would extend from the existing main to serve the building with an approximate diameter of six (6) inches. The existing 12-inch watermain traversing the western portion of the site would require relocation to avoid conflicts with the proposed building footprint. Potable water utilities associated with the Proposed Action would be designed in conformance with UFC 3-230-01 Water Storage, Distribution and Transmission (USACE, 2020b).

5.10.2.2 Stormwater

The project stormwater management strategy would comply with federal, state and local environmental requirements, including Environmental Site Design (ESD), as well as sustainable design strategies under the LEED and conformance to Energy Independence and Security Act (EISA) Section 438 requirements. The project would be defined as "new development" as it relates to the MDE stormwater management calculations. Applicable environmental permits would be obtained prior to start of construction (USACE, 2020b).

Stormwater management and LID facilities serving the proposed SOF facility would be located on the proposed project site. Possible ESD planning techniques that may be utilized include, but are not limited to, reducing impervious footprint, alternative surfaces and implementing micro-scale practices. It is anticipated that the site would be categorized by MDE as a new development and would meet MDE requirements. The stormwater management strategy would be to include micro-scale practices and alternative surfaces providing the required quality and quantity storage to the maximum extent practical and feasible. Potential facilities for stormwater management include, but are not limited to, disconnection of non-rooftop runoff, landscape infiltration, bio-swales and micro-bio-retention (USACE, 2020b).

The storm drainage system would be sized to convey the 10-year storm frequency per UFC 3-201-01. Roof drainage not taken to ESD facilities would be conveyed to the underground storm system. Storm conveyance is anticipated to be 15-inch to 18-inch reinforced concrete piping (RCP) with associated manholes and grate inlet structures (USACE, 2020b).

5.10.2.3 Wastewater

The sanitary sewer utilities associated with the Proposed Action would be gravity-fed to the maximum extent possible but may require a lift station. New 6-inch sanitary laterals would extend from the main to service the proposed SOF facility building. The sanitary sewer service would maintain two independent connections for purposes of redundancy. Sanitary sewer utilities

associated with the Proposed Action would be designed in conformance with UFC 3-240-01 Wastewater Collection (USACE, 2020b).

5.10.2.4 Other Utilities

The Proposed Action includes connecting to the existing natural gas main located along the adjacent road and extending a two-inch service line into the proposed project site to service the proposed SOF facility building. It is anticipated that the installation from the main to the gas meter would be completed by BG&E and the service from the gas meter to the proposed building would be completed by the contractor. Gas services would maintain two independent connections for purposes of redundancy (USACE, 2020b).

Although it is anticipated that most of the anticipated new personnel at the proposed facility would move to the area from other regions, it is expected that the Proposed Action would not increase the long-term demand for public utility services and would not affect regional or local water or energy supplies. In addition, the number of new personnel anticipated at the proposed facility is less than one percent of the current total number of employees at FMMD. FMMD has taken several facilities off-line permanently in recent years which utilized public utilities, including natural gas. Therefore, the addition of a new proposed single facility operating primarily on natural gas would not be expected to increase the overall demand on the utility. No deviation from FMMD's normal stormwater utility management is anticipated because of the Proposed Action.

No significant adverse impacts to utilities are anticipated under the Proposed Action.

5.10.3 Impacts from the No Action Alternative

Under the No Action Alternative there would be no significant anticipated effect on utilities. No construction activities would be undertaken, and thus no changes in operations or impacts to existing utilities would take place.

Therefore, the No Action Alternative would result in no impacts regarding utilities.

5.11 Cultural Resources

5.11.1 Environmental Criteria

Adverse effects on historic properties as a result of the Proposed Action include the following:

- Physical destruction of or damage to all or part of the property;
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous substance remediation, and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines;
- Removal of the property from its historic location;

- Change of the character of the property's use or of physical features within its setting that contribute to its historic significance;
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features; and
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

5.11.2 Impacts from the Proposed Action

In accordance with Section 106 of the NHPA, MHT has been consulted prior to any ground disturbance and/or construction activities associated with the Proposed Action to determine the potential impacts to cultural resources, including historic buildings, districts, tribal assets, and archaeological sites. Through consultation, efforts have been made to avoid, minimize, and mitigate adverse impacts to historic properties.

A response from the MHT, dated September 8, 2020, indicated that the MHT has determined that the Proposed Action would have no adverse effect on historic properties. Fifteen Federally Recognized Indian Tribes with aboriginal/ancestral homelands in the FMMD area were contacted regarding details of the proposed project and to solicit responses from the Tribes concerning the proposed project. A response from the Eastern Shawnee Cultural Preservation Department dated August 27, 2020 indicated that no known properties of historical and/or cultural significance to the Tribe would be impacted by the proposed project. See Appendix A – Agency Correspondence for a list of Tribes contacted and copies of the response letters received.

Excavation and earth moving has the potential to damage known and unknown archeological sites that may be near or underneath the ground surface. If such a site was discovered during implementation of the Proposed Action, Standard Operating Procedures in the installation's ICRMP would be followed to comply with the NHPA. Although the parcel proposed for use in constructing and operating the SOF facility is currently vacant, undeveloped, and forested, it was previously developed, and the area surrounding the proposed project location is previously disturbed and currently developed. Cultural resources have not been discovered during the construction of the roadways and buildings located in proximity to the proposed SOF facility location, therefore, the proposed project site is not anticipated to contain cultural resources. Therefore, it is anticipated that no impacts to cultural resources would occur as a result of the Proposed Action.

5.11.3 Impacts from the No Action Alternative

Under the No Action Alternative, there would be no ground disturbance that could impact archaeological, architectural, or Native American resources; therefore, there would be no impacts to cultural resources.

5.12 Transportation and Traffic

5.12.1 Environmental Criteria

The Proposed Action would result in significant adverse impacts to transportation if it:

- Contributes to a long-term increase in vehicle traffic that could not be accommodated by the existing roadway network; and,
- Results in long-term traffic circulation problems within FMMD and/or off-post.

5.12.2 Impacts from the Proposed Action

As previously stated, the proposed project site can be accessed on three sides: 6th Street along the north, Chisholm Avenue on the west, and Chamberlin on the east. Access to these streets would likely occur from Mapes Road. Mapes Road is planned to be widened and both the east and western entrance gates onto FMMD are planned to be upgraded as part of a different planned project at FMMD. Vehicles would likely then head south on Ernie Pyle Street to Lewellyn and then to Chisholm Avenue to reach the site (USACE, 2020b).

The project site has frontage along Chisholm Avenue and would require an entrance to access the drop-off area and supporting off-street parking (USACE, 2020b).

Most of the vehicular traffic is anticipated to use Chisholm Avenue to access the parking area. A surface parking lot would be located on the north and east sides of the site. The parking lot would provide 250 spaces, based on the building occupancy (USACE, 2020b), including 7 Americans with Disabilities Act (ADA)-compliant spaces.

A VIP drop-off area would be provided in front of the building entrance. The drop-off area would only be used on limited occasions and would be restricted using retractable bollards (USACE, 2020B).

The loading dock and access driveway would be accessible off Chamberlin Avenue. It is anticipated this entrance would be used by delivery and other government passenger vehicles. The loading dock area would be a paved surface and designed to be accessible by two-way American Association of State Highway and Transportation Officials (AASHTO) SU-30 design vehicle and HS-20 loading. The pavement serving the loading dock would be sized to accommodate vehicle turn around without impeding traffic. The service entrance would be a controlled access (USACE, 2020b).

The pedestrian pavements would provide direct and convenient access to the building's main entrance and connect to the surface parking lot. Sidewalks designated as handicap accessible would be designed to comply with ADA and Architectural Barriers (ABA) guidelines (USACE, 2020b).

The new building would provide fire department access on three sides of the building. The emergency access would be a minimum of 20-feet wide and a stabilized surface (grasscrete) designed to accommodate the appropriate emergency vehicles. The pedestrian sidewalk can be used as the fire department access providing the sidewalk is designed in accordance with the applicable requirements (USACE, 2020b).

The roadway network within FMMD provides sufficient access for heavy equipment that might be needed to perform construction and operation of the Proposed Action. No modifications to roadways or temporary travel restrictions would be required for roadways within or outside of FMMD (USACE, 2020).

Short-term, minor, adverse impacts to transportation and traffic leading up to the access gates would be expected during construction due to the presence of construction vehicles if the Proposed Action were implemented. Temporary increases in traffic congestion would likely occur at access gates during peak construction periods. The Proposed Action would likely temporarily, adversely impact adjacent roads including 6th Street, Chisholm Avenue, and Chamberlin Avenue during construction activities. No construction of additional access roads beyond the boundaries of the proposed project site would result from the Proposed Action, and only existing roadways would be utilized off-site, and interior to FMMD for both construction and operation of the proposed SOF facility.

Long-term, negligible or minor impacts are anticipated to result from the Proposed Action, as 196 personnel are expected to be employed full time at the proposed SOF facility, and it is anticipated that most of the new facility personnel would be moving into the area and commuting to FMMD daily from off-post locations. Since the number of new personnel commuting on local roadways daily to FMMD and utilizing existing FMMD gates is a small portion of the current number of commuters to FMMD, it is anticipated that the impacts to traffic on local roadways and at FMMD gates would be minimal. A parking area would be located at the proposed SOF facility for use only by the proposed SOF facility personnel. The delivery schedule and items delivered would be on the level of a typical administrative building of the proposed building size. It is not anticipated that the delivery trucks travelling to and from the proposed SOF facility would constitute enough of an increase in vehicular presence to be noticeable to communities located outside of FMMD. This increase in vehicular presence would not vary greatly from the current scenario.

5.12.3 Impacts from the No Action Alternative

The implementation of the No Action Alternative would not result in impacts to transportation, traffic, or parking.

5.13 Socioeconomics, Environmental Justice, and Protection of the Children

5.13.1 Environmental Criteria

Significant environmental impacts to socioeconomics, environmental justice and protection of the children would occur if:

- It results in a substantially disproportionate share of adverse environmental or social impacts borne by minority or low-income populations;
- Health, safety, social structure, or economic viability of an environmental justice population are affected;
- Mitigation efforts could not eliminate substantially disproportionate effects to minority or low-income populations; and
- Activities would disproportionately raise risks to children through environmental or health hazards.

5.13.2 Impacts from the Proposed Action

The Proposed Action is expected to result in both minor short-term beneficial and negative impacts to socioeconomics. Minor short-term beneficial impacts are expected by the stimulation of the local economy caused by the increase of employment and income generated by the Proposed Action during construction. Temporary adverse impacts to socioeconomics are expected due to the slight increase in noise and traffic related to construction activities. Noise and traffic impacts are expected to be minimal but can cause minor negative impacts due to temporary increased ambient noise levels and traffic congestion. Long-term negligible impacts are anticipated resulting from the influx of new personnel to the area surrounding FMMD who would seek permanent housing and who would commute daily on local roadways to FMMD. The number of new personnel anticipated at the proposed facility is less than one percent of the current total number of employees at FMMD.

Site walkways and handicap accessible routes are to be graded in accordance ABA standards. The pedestrian pavements would provide direct and convenient access to the building main entrance and connect to the surface parking lot. Sidewalks designated as handicap accessible would be designed to comply with ADA and ABA guidelines (USACE, 2020b).

An environmental justice analysis determines whether a disproportionate share of adverse environmental or social impacts from implementing a federal action would be borne by minority or low-income populations. The census tracts in which the project areas are located have minority levels of less than 50 percent of the total population of that census tract, except for census tract 7515, located to the west of FMMD. No project activities associated with the Proposed Action are anticipated to take place within this census tract. Implementation of the Proposed Action would not be expected to adversely impact any demographic group working or living in the economic region of influence. The Proposed Action would not cause significant changes in population, regional, industrial, or commercial growth.

The Proposed Action would not be expected to impact children's safety, and no adverse effects to children are predicted. Applicable local jurisdictional safety requirements would be implemented during construction activities, to ensure the protection of the public, including children. Coordination with MDE prior to project initiation would determine the applicability of permits required. The Proposed Action would be initiated only after the environmental review has been completed and the appropriate permits are acquired. As such, it is anticipated that the permitting process would result in assurance of safety and protection of the public, including children. In addition, proper precautions including the placement of fencing, signage, and other types of barriers would be used to prevent potential harm to all civilians, including children.

5.13.3 Impacts from the No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed or operated. Existing conditions would be unchanged, and there would be no impacts to socioeconomics.

5.14 Cumulative Effects

The CEQ regulations (40 CFR 1508.7) require assessment of cumulative impacts in the decision-making process for federal projects.

For the purposes of this EA, cumulative impacts result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable actions, regardless of who undertakes such actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. The study area for purposes of this EA has been defined for evaluation of potential impacts to human and natural resources within the perimeter boundary of the FMMD installation. This constitutes the Proposed Action's ROI for cumulative effects. This ROI includes areas where the Proposed Action's effects would most likely contribute to cumulative environmental effects.

The Army considered a wide range of past, present, and reasonably foreseeable future actions in the ROI that could contribute to cumulative environmental effects, regardless of the nature of the actions or the Army's jurisdiction.

Each resource section addresses cumulative effects for each alternative. This analytical approach provides a more complete understanding of resource conditions that the Proposed Action could magnify, amplify, exacerbate, or benefit.

Only "reasonably foreseeable" projects (well-developed, in mature planning stages, and/or with secure funding) are considered in the cumulative impact analysis. Conceptual projects, broad goals, objectives, or ideas listed in planning documents that do not meet the above criteria are not considered reasonably foreseeable for the purposes of this analysis.

For purposes of this EA document, the following reasonably-foreseeable future actions expected to take place within a five-year timeframe of the proposed SOF facility construction are included in the evaluation of potential cumulative effects:

Project	**Description**
FMMD Barracks Construction	Design and construction of up to nine new barracks buildings to house 1,600 to 1,800 unaccompanied enlisted personnel, to be constructed in three phases as three sites in close proximity to the existing Freedom Center barracks on FMMD. Phase I (site 1) encompasses two buildings and is located south of the existing Freedom Center barracks complex and Dutt Road, situated between Zimborski Avenue and Taylor Avenue and north of Hodges Street. Phase II (site 2) is located between Zimborski Avenue and 6th armored Cavalry Road and would span Dutt Road. Phase III (site 3) is located south of Simonds Street, between Taylor Avenue and York Avenue, and west of the outdoor running track associated with Gaffney Fitness Center. Also included in the study area is an existing stormwater management pond, east of Taylor Avenue and south of Gaffney Fitness Center. Current stormwater infrastructure serving the Freedom Barracks uses this facility as a downstream discharge point, and construction of Phase I would necessitate redesign of the stormwater management facilities to accommodate the additional discharges.
Cooper Avenue Improvements	Proposed widening of Cooper Avenue from Rockenbach Road to Mapes Road from two to four lanes, to increase traffic flow. In addition, Reece Road would be widened from Cooper Avenue to the point east of Rose Street, where the new four lane road from the Reece ACP ends. Rose Street would be widened from two to four lanes, to ensure the timely, efficient, and safe transit throughout this area. In addition, this project would connect the three primary east-west roads on the installation with a primary route of similar capacity. Cooper Avenue would be constructed to prevent major delays and ensure security and emergency response are able to access areas of the installation within required response times. The proposed project would connect the improved intersection at Rockenbach Road to the improved intersection at Mapes Road. It is anticipated that construction contractor award would occur in August 2021, and construction would be complete in approximately November 2023.

Project	Description
Rockenbach Road ACP	Rockenbach Road is four lanes and connects to a new ACP, currently under construction at the time of this EA document preparation. The project would connect to the new funded ACP at Reece Road and MD-175. The program is designed to ultimately improve access for the local road network of multi-lane and/or limited access highways from the north, east, and west. There would be two through lanes in each direction, and dedicated turn lanes at each major intersection. Oncoming traffic would be separated by a curbed median strip. Sidewalks would be rebuilt in accordance with Army Design Standards and the Installation Regulating Plan and Installation Design Guidelines. Landscaping and street trees would be provided. Infrastructure for street lighting would be provided by FMMD, but the actual lights, wiring, and poles would be provided by BGE under a utility privatization contract. Street furniture would also be provided.

5.14.1 Land Use

The major foreseeable construction at FMMD is outlined in the Draft ADP for FMMD. The Proposed Action contributes in a beneficial way to FMMD's mission by allowing network operations to realize the full potential of a collaborative and cohesive work environment. All activities are anticipated to be compatible with the existing land uses where activities occur, and therefore, no activities associated with the process of constructing and operating the proposed SOF facility would take place within land use areas that are categorized for residential, neighborhood commercial, park, or similarly sensitive land uses. The Proposed Action will comply with the ADP and with the Anne Arundel County Zoning requirements. No changes to or incompatibilities with existing land uses are planned due to the Proposed Action; therefore, no cumulative impacts related to land use are anticipated.

5.14.2 Air Quality and Greenhouse Gases

The cumulative impacts on air quality from implementation of the Proposed Action would be minor. Short-term emissions from construction activities would impact air quality temporarily and the impact would cease after construction is completed. In accordance with the CAA, a General Conformity Analysis has been prepared concurrently with this EA and demonstrates that implementation of the Proposed Action would not result in emissions above the thresholds for regulated criteria pollutants. Estimated operational emissions from the Proposed Action (**Table 5-2**) would increase overall emissions from FMMD to a very small degree. This would contribute

minor cumulative impacts to air quality. Air emissions from the proposed facility operations would comply with MDE air quality regulations and permit limits, which are designed to be protective of human health.

5.14.3 Hazardous and Toxic Materials, and Solid Wastes

The Proposed Action would not generate additional hazardous, industrial, or possibly radioactive wastes. Wastes resulting from construction and operation activities are not anticipated to cause a significant capacity increase for the landfills currently utilized by FMMD in consideration of other, unrelated wastes disposed there. The proposed location for the building that would house the proposed SOF facility would not be located in an area known for contamination from past projects or past actions at FMMD, and it is not anticipated that the extension of utilities to the proposed project site would require excavation in areas known for existing contamination. As such, it is not anticipated that land disturbance would uncover contamination within the soils during construction of the building. However, contractual obligations in the construction documents would require contractors to adhere to all applicable local, state, and federal regulations pertaining to contaminated and hazardous materials, including, but not limited to, those regarding handling, transport, and proper disposal. It is not anticipated that the Proposed Action would result in a substantial quantity of construction or operation debris or wastes and/or wastes containing hazardous substances. Contractors, with government oversight and coordination, would be legally responsible for the proper disposal of these wastes in accordance with federal, state, and FMMD regulations. Because all materials would be handled in accordance with federal and state regulations, the Proposed Action is not anticipated to cause significant adverse impacts to hazardous materials. No foreseeable cumulative impacts to hazardous, toxic, or radioactive substances and/or wastes are anticipated as a result of the Proposed Action.

5.14.4 Noise

The noise resulting from construction equipment is an unavoidable condition. Although construction noise would occur under the Proposed Action, noise would be temporary and cease upon the completion of the project. Therefore, no cumulative impacts related to noise are anticipated during the construction phase.

The Proposed Action would increase overall noise levels at the facility building (HVAC units and vehicle traffic noise at the surface parking lot); however, the increase in noise levels would be localized and minimal and typical of a two-story administrative building for approximately 196 personnel. The delivery schedule and items delivered would be on the level of a typical administrative building of that size. The routine truck deliveries, backup alarms, and associated movements of forklifts at the loading dock would generate some noise; however, the increase in noise would be localized and minimal. Additionally, the truck and forklift traffic would not occur during nighttime. Therefore, long-term cumulative impacts related to the facility building HVAC

units, vehicle traffic noise at the surface parking lot, and truck/forklift traffic noise are anticipated during the operation phase, but such impacts would be minor.

5.14.5 Visual Aesthetics

Short-term minor impacts are expected under the Proposed Action during the construction process due to the presence of construction vehicles and materials. This would be combined with the expected short-term, minor impacts anticipated to result from the presence of construction vehicles and materials associated with the above-mentioned projects. However, since the various projects are not located in close proximity to each other within the FMMD boundaries, it is not anticipated that they would result in significant cumulative impacts associated with their construction periods. After construction, it is anticipated that the proposed SOF facility and the proposed new barracks would be mostly visible from inside FMMD and would be heavily obstructed by perimeter fencing and vegetation from areas off-post. However, from areas off-post where views of the interior of FMMD may not be obstructed, it is anticipated that if the proposed SOF facility and proposed new barracks are visible, they may be indistinguishable from other existing buildings located in their proximity due to their design. It is anticipated that the facility façades would be constructed of materials similar in nature to those of existing surrounding buildings. In addition, though tree removal would be required for both projects, and a built environment would take the place of land that is currently vacant and forested, tree preservation/reforestation is expected, which would serve to mitigate the impact to visual aesthetics. Therefore, both the SOF facility and the proposed new barracks are expected to visually blend into the surrounding built environments.

The aesthetic setting of the military installation has been altered over the course of FMMD history and would likely continue to change as new military initiatives are carried out within its boundaries. Views of the installation are generally limited to personnel, contractors, resident and visiting families, and civilians working on or visiting the installation, who are cognizant of the missions that occur at or near FMMD and have become accustomed to scenery characteristic of military installations. It is anticipated that the construction of the new barracks buildings and the Cooper Avenue Improvements and Rockenbach ACP projects would not result in long-term impacts to visual aesthetics. Therefore, no cumulative impacts related to visual aesthetics are anticipated.

5.14.6 Geology, Soils and Topography

The Proposed Action would implement BMPs under an MDE-approved erosion and sediment control plan, pursuant to COMAR 26.17.01, to minimize erosion and sedimentation, control stormwater runoff from the site, and stabilize and re-vegetate temporarily disturbed areas during construction. Similarly, it is anticipated that the FMMD Barracks Construction, Cooper Ave Improvements, and Rockenbach Road ACP projects would also utilize BMPs to minimize erosion and sedimentation from disturbed land. As it is not anticipated that the Proposed Action would

cause a substantial loss or compaction of soils, result in significant changes to overall topography, or reach depths in which disturbance to geology would occur, it is not anticipated that any cumulative short-term or long-term adverse effects to these resources from implementation of the Proposed Action would occur.

5.14.7 Water Resources and Water Quality

The Proposed Action would disturb the existing wetlands located in the northern portion of the site. Permitting requirements and required offsite mitigation for impacts from the Proposed Action to disturbed wetlands are being coordinated with USACE and MDE. Construction of approximately 5.5 acres of new impervious surface on the site would increase stormwater runoff. During the final design of the Proposed Action, offsite stormwater would be rerouted via a pipe under the parking lot and onsite stormwater would be routed to stormwater management features that would be constructed throughout the site and discharge to the stormwater pipe. The stormwater pipe would connect with the remaining portion of the existing drainage swale and convey stormwater to the culvert north of the parking lot. BMPs would be implemented during construction in accordance with an MDE-approved erosion and sediment control plan in order to minimize the effects from erosion, sedimentation, and stormwater runoff to surface water quality. Green infrastructure and LID would also be incorporated into the final design to increase rainfall infiltration and minimize impacts to the site's hydrology. A mixture of asphalt, concrete, and pervious concrete would be utilized for the parking and roadway areas and stormwater management features would be placed throughout the site. It is anticipated that all stormwater runoff from the Proposed Action would be appropriately handled and discharged from the site. It is anticipated that the FMMD Barracks Construction, Cooper Ave Improvements, and Rockenbach Road ACP projects would also implement BMPs, green infrastructure, and LID to minimize impacts from stormwater to surface water quality. In addition, the existing stormwater management facilities for the Freedom Barracks would be redesigned to accommodate future stormwater discharges from that project. With implementation of these measures, it is anticipated that the Proposed Action would result in short-term negligible cumulative adverse impacts to water resources and water quality, and no long-term impacts.

5.14.8 Coastal Zone

The Proposed Action takes place within Maryland's coastal zone. The Proposed Action is in compliance with relevant Maryland CZM policies and would obtain any relevant permits and adhere to all permit conditions and mitigation requirements, as necessary. As a result, it is anticipated that the Proposed Action would not result in short-term or long-term adverse impact resources within the coastal zone. Similarly, it is not anticipated that the Proposed Action would contribute to any cumulative adverse impacts from any past, present, or reasonably foreseeable future projects at FMMD.

5.14.9 Biological Resources

Impacts to biological resources from the Proposed Action include removal of vegetation during construction, which would include tree clearing, loss of approximately 14 of the 17 specimen trees onsite, and removal of a significant portion of the Bradford pear onsite, an invasive tree species. As required by the current Fort George G. Meade Forest Conservation Act and Tree Management Policy, 20% of the LOD area of the Proposed Action (12 acres) would be preserved or established onsite as much as possible, with the remaining offsite. It is anticipated approximately half of the restoration requirement would occur onsite, with the remaining half located offsite. It is assumed that wildlife species that may utilize these forested areas on a transient basis would utilize other available forested habitat at FMMD, which include larger tracts of forested land. In addition, per correspondence with the USFWS and MDNR Wildlife and Heritage Service, no state or federally threatened or endangered species utilize the site as habitat.

It is assumed that the proposed locations for the Cooper Ave Improvements and Rockenbach Road ACP projects do not involve large tracts of forested land and associated wildlife habitat. In addition, the proposed locations of Phases I and III of the FMMD Barracks Construction project contain little to no forested areas. The proposed location of Phase II contains forested areas and work under this phase may result in removal of these areas. Any tree removal under this phase would require preservation or establishment of forested area in accordance with the current Fort George G. Meade Forest Conservation Act and Tree Management Policy. As such, it is assumed all potential impacts to forested areas would be mitigated as required. Given the proposed tree clearing at the site under the Proposed Action is minimal compared to the remaining forested areas at FMMD, it is not anticipated that short-term or long-term cumulative impacts to vegetation and wildlife would occur under the Proposed Action.

5.14.10 Energy and Utilities

It is anticipated that given the proximity of the existing utility infrastructure near and on the proposed SOF facility and the proposed new barracks locations, extensions of each utility would be made for connection to the proposed SOF facility and the proposed new barracks with minimal ground disturbance required. Any required ground disturbance associated with the extension of existing utilities for connection to the proposed SOF facility and to the proposed new barracks would take place in an area that is, or has been in the past, comprised of built environment and previously disturbed soils. It is anticipated that an MDE erosion and sediment control permit pursuant to COMAR 26.17.01, an MDE stormwater management permit pursuant to COMAR 26.17.02, and a NPDES permit pursuant to the General Permit for Construction Activities would be required and obtained prior to the start of proposed construction activities. All utilities required for use by the proposed SOF facility and the proposed new barracks are in existence within the boundaries of FMMD and therefore, no new utilities would be brought on site as part of the Proposed Action. Therefore, no off-site disturbance associated with utilities would be required. FMMD has taken several facilities off-line permanently in recent years which utilized public utilities, including natural gas. Therefore, the addition of a new proposed single facility operating primarily on natural gas would not be expected to increase the overall demand on the utility. No deviation from FMMD's normal stormwater utility management is anticipated as a result of the Proposed Action or the new construction and operation of the proposed barracks. Drinking water would be supplied by the existing utility supplier and distribution system and wastewater would be discharged into FMMD's existing sanitary sewer system. Therefore, there are no direct or foreseeable cumulative effects on utilities resulting from a combination of these actions. No deviation from FMMD's normal utility management is anticipated as a result of the Proposed Action.

5.14.11 Cultural Resources

It is anticipated that no cultural resources would be impacted as a direct or indirect result of implementation of the Proposed Action, and consequentially, no foreseeable cumulative effects are expected.

5.14.12 Transportation and Traffic

The temporary traffic increases and increased wear on roadways associated with the Proposed Action are anticipated to be minor. The cumulative effect of the Proposed Action and other projects would be minor-to-moderate increased traffic on local roads during construction. However, this is expected to be temporary. The number of new SOF Facility personnel commuting to FMMD daily combined with the number of military personnel newly living on-post as a result of the FMMD Barracks Construction project would increase the total number of people on-post and utilizing the FMMD road network daily. However, it is anticipated that the Rockenbach Road Improvements

and Cooper Avenue ACP projects would serve to ultimately alleviate current traffic congestion within the installation boundaries. Therefore, it is expected that these improvements would offset any potential long-term traffic impacts associated with the increase in new commuting personnel to the proposed SOF facility combined with the new military population living on-post. Therefore, there would be no overall long-term cumulative effects anticipated to the transportation network.

5.14.13 Socioeconomics, Environmental Justice, and Protection of the Children

Minor short-term impacts are expected by the stimulation of the local economy caused by the increase of employment and income generated by a combination of the construction of the Proposed Action along with construction of the other actions evaluated in this Cumulative Effects analysis. Temporary adverse impacts to socioeconomics are expected due to the slight increase in noise and traffic during construction activities. While the Proposed Action may result in a positive impact as the construction personnel patronize nearby businesses, and a negative impact due to increased noise and traffic, these impacts would be both minor and short-term, and would not contribute to an overall cumulative effect of socioeconomic conditions in the area.

6 CONCLUSIONS

This EA analyzes the potential environmental and social consequences associated with the activities required for the design, construction and operation of a new, efficient and effective operational building on available, buildable space within a controlled access setting to house personnel from four organizations, including JCOG, SOCOM, MPO, and CYBERCOM. The purpose of the Proposed Action is to consolidate operations into a secure facility and meet mission requirements, which would address the issue of utilizing undersized, ill-equipped, and dispersed facilities scattered across the country. It includes not only the design and build of the remedy, but the continued operation in accordance with applicable federal, state, and local laws and regulations. The Proposed Action would also meet the mission requirements at FMMD.

The EA was prepared in accordance with the NEPA and implementing regulations issued by the CEQ and 32 CFR Part 651.

The Proposed Action would result in short-term minor impacts to land use, hazardous and toxic materials and solid wastes, noise, visual aesthetics, soils, geology and topography, stormwater and surface waters, wetlands, biological resources, transportation and traffic, and socioeconomics. The Proposed Action would result in long-term minor or negligible impacts to land use, noise, hazardous and toxic materials and solid wastes, visual aesthetics, transportation and traffic, and socioeconomics. The Proposed Action Alternative would have no impact on air quality, groundwater, floodplains, Water Quality Certification, Coastal Zone Management, utilities, and cultural resources.

Under the No Action Alternative, no design or construction activities would occur. Long-term adverse impacts resulting from the No Action Alternative could occur to biological resources. The No Action Alternative would have no impact on land use, air quality, hazardous and toxic materials and solid wastes, noise, visual aesthetics, geology, soils, and topography, surface water and groundwater, floodplains, wetlands, Water Quality Certification, Coastal Zone Management, utilities, cultural resources, transportation and traffic, and socioeconomics.

Based on the evaluation of environmental effects described in Chapter 5 and summarized in **Table 6-1**, the Proposed Action would not result in a significant impact to the environment. Therefore, an EIS will not be necessary for this Proposed Action. This conclusion is documented in the FNSI found at the beginning of this report.

Table 6-1: Summary of the Effects of the Proposed Action and No Action Alternative

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
Land Use	No Impact	Minor Short-Term Negligible or Minor Long-Term	Land use compatibility and compliance with FMMD's overall ADP and Anne Arundel County's zoning requirements would be maintained.
Air Quality and Greenhouse Gases	No Impact	Minor, Adverse, Short-Term No Impact	All activities would be required to comply with federal, state, and current FMMD versions of regulations designed to support compliance with CAA, OSHA, and TSCA. Coordination with MDE prior to project initiation would determine the applicability of permits required. The Proposed Action would be initiated only after the environmental review has been completed and the appropriate air permits are acquired. Short-term impacts would be temporary and long-term impacts would be minor. The Proposed Action would require two separate permitting actions with MDE: 1) apply for and obtain an air Permit to Construct and 2) incorporate the new generator and associated compliance requirements into the FMMD Permit to Operate No. 003-0322. The permitting process would include MDE regulatory and technical review of the proposed generator and opportunity for EPA and the public to review and comment.
Hazardous and Toxic Materials	No Impact	Minor, Short-Term	Pesticide-contaminated soils and sediments, if encountered, would be handled in accordance with federal, state, and FMMD regulations.

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
		Negligible, Long-Term	Contractors, with government oversight and coordination, would be legally responsible for the proper disposal of these wastes in accordance with federal, state and FMMD regulations. Contractual obligations in the construction documents would require contractors to adhere to applicable local, state and federal regulations pertaining to contaminated and hazardous materials and wastes, including, but not limited to, those regarding handling, transport, and proper disposal. No significant adverse impacts are anticipated regarding the IRP sites under the Proposed Action. A discovery of a previous contamination would have to be added to the IRP and could be subject to the CERCLA process. Should any unusual odor, soil condition or waste/storage tank/buried debris of any kind be encountered during site work activities, a "stop work" would be executed and the condition would be immediately reported to the DPW Environmental Division (DPW-ED) to get further instructions. Based on investigations completed to date, there is no evidence of past environmental contamination that would impact the construction of the proposed project. Since the area surrounding the project site was an historic Army barracks and in previous studies and surveys, the presence of USTs have been found, USTs should be

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			anticipated to be encountered during construction and removed and disposed of appropriately. Any spills that have the potential to occur would be properly handled under state, federal, and FMMD guidelines. It is anticipated that workers on site would wear appropriate PPE and follow appropriate and required local, state, and federal requirements for handling, sampling, and disposing of potentially contaminated soils and/or encountered groundwater during construction activities. Although there is no known contamination present that would impact construction of the proposed project, in the event that contaminated soils and/or groundwater are discovered, encountered and removed soils and groundwater would be stockpiled on liners and/or containerized, as appropriate, for hauling and disposal at a licensed upland facility, in accordance with applicable local, state, and federal regulations. In addition, an operations and maintenance plan would be drafted and utilized for safety training of staff working within the proposed facility.
Noise	No Impact	Minor, Short-Term Negligible or Minor, Long-Term	Noise impacts on the health of construction workers would be mitigated by adherence to OSHA standards for occupational noise exposure associated with construction (29 CFR 1926.52). Noise impacts on nearby residents would be mitigated by adherence to the regulatory limit for construction

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			activities of 90 dBA at the boundaries of the site (COMAR 26.02.03.03 A(2)(a)). The potential noise impacts would be mitigated by adherence to design criteria for the proposed facility building and associated HVAC units to ensure that sound levels as measured in dBA at the boundaries of the study areas do not exceed limitations set forth in Maryland regulations for noise control (COMAR 26.02.03.03). Mitigation measures may include use of sound-absorbing materials within the proposed facility building, ensuring vehicles moving in and out of the surface parking lot do not exceed posted speed limits, avoiding unnecessary idling of trucks and forklifts at the loading dock platform, and restricting truck traffic to daylight hours when increases in noise levels are more tolerable.
Visual Aesthetics	No Impact	Minor, Short-Term Negligible or Minor, Long-Term	The proposed location for construction of the proposed SOF facility is interior to FMMD and surrounded by existing buildings of similar style and nature, including laboratories. It is anticipated that from areas off-post where views of the interior areas of FMMD are obstructed by perimeter fencing and vegetation, the proposed SOF facility would not be easily visible. From areas off-post where views of the interior of FMMD may not be obstructed, it is anticipated that if the proposed SOF facility is visible, it may be indistinguishable from other existing buildings located in its proximity due to its design. It is anticipated that the facility

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			façade would be constructed of materials similar in nature to those of existing surrounding buildings. In accordance with the Fort George G. Meade Forest Conservation Act and Tree management Policy (Revision 1: SEP 04, Revision 2: OCT 09), 2.4 acres of forested area is required to be preserved or reforested. This preservation/reforestation would occur within the 15-acre site, to the extent possible.
Geology, Soils, and Topography	No Impact	Minor or Negligible, Short-Term	If soil contamination is encountered during construction work, sampling and analysis of contamination would occur and would be disposed of at an offsite, licenses disposal facility in accordance with applicable federal, state, and local regulations. Areas where soils are temporarily disturbed during construction and laydown activities would be stabilized and restored with native vegetation and landscape plantings. Final site plans for the Proposed Action would include measures to minimize the total area of land disturbed, prevent soil erosion and sediment runoff at the site, and re-stabilize any temporarily disturbed areas during construction. It is assumed that disturbance to greater than 5,000 square feet of soils would occur and, therefore, a MDE-approved erosion and sediment control plan would be prepared pursuant to COMAR 26.17.01, an MDE stormwater management permit pursuant to COMAR 26.17.02, and a National Pollutant Discharge Elimination

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			System (NPDES) General Permit for Stormwater Discharges from Construction Activities would be obtained. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas after disturbance, and meeting performance standards established by MDE.
Water Resources (Surface Water and Groundwater)	No Impact	No Impact	If groundwater contamination is encountered during construction work, sampling and analysis of contamination would occur and would be disposed of at an offsite, licensed disposal facility in accordance with applicable federal, state, and local regulations to prevent contaminants from entering the underlying aquifer or the spread of any existing groundwater contamination. Careful measures, including implementation of BMPs to minimize erosion and sediment runoff at the site, would be taken to prevent any detrimental impacts to groundwater quality during implementation of the Proposed Action. Disturbance to the existing wetlands on site may temporarily impact groundwater recharge in the short-term. It is anticipated that a constructed wetland would be installed as a stormwater management feature adjacent to the drainage swale and would support groundwater recharge at the site. The final design of the Proposed Action would include plans to reroute offsite

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			stormwater drainage via a pipe under the parking lot and route onsite stormwater to stormwater management features that would be constructed throughout the site and discharge to the stormwater pipe. The stormwater pipe would connect with the remaining portion of the existing drainage swale and convey stormwater to the culvert north of the parking lot. Potential permitting and mitigation requirements for impacts from the Proposed Action to the drainage swale are discussed in Section 5.8.3.2. Final site plans for the Proposed Action would include measures to minimize the total area of land disturbed during construction. Stormwater runoff during construction would be controlled through use of BMPs to minimize erosion and sediment runoff at the site. All temporarily disturbed areas would be graded and re-vegetated upon completion of construction, in accordance with a construction general permit for stormwater and an MDE-approved erosion and sediment control plan, prepared pursuant to COMAR 26.17.01. Additionally, an MDE stormwater management permit pursuant to COMAR 26.17.02 and a NPDES General Permit for Stormwater Discharges from Construction Activities would be obtained. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas after disturbance, and meeting performance standards established by MDE.

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			Final designs would incorporate LID and green infrastructure to maximize rainfall retention onsite in an effort to maintain pre-development site hydrology to the maximum extent practicable. A mixture of asphalt, concrete, and pervious concrete would be utilized for the parking and roadway areas and stormwater management features would be placed throughout the site. It is anticipated that through implementation of BMPs under the erosion and sediment control plan, incorporation of LID and green infrastructure in the final design, adherence to any permitting and mitigation requirements stipulated by regulatory agencies that any potential impacts would be temporary in nature and would be mitigated.
Floodplains	No Impact	No Impact	EO 11988 directs that any new construction must avoid floodplains as much as possible, and if construction in the floodplain cannot be avoided, flood protection measures must be undertaken to reduce the risk of flood-associated damages. The preferred location for the Proposed Action is not located within the 100-year floodplain in FMMD and would be in compliance with EO 11988.
Wetlands	No Impact	Short-Term, Minor	Both wetlands anticipated to be impacted are subject to regulation under Section 404 of the CWA and Maryland's Nontidal Wetlands Protection Act and Program. Impacts to these wetlands and the required permitting actions to authorize impacts to these areas and their MDE-required wetland buffer have been discussed with the USACE Regulatory Branch, Baltimore District. Mitigation would be required to offset impacts to these areas and

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			would be coordinated with the USACE Regulatory Branch, Baltimore District prior to construction. Final site plans for the Proposed Action would include measures to minimize the total area of disturbance to existing wetlands on site. BMPs would be implemented to minimize erosion and sediment runoff to wetland areas that are not impacted by construction. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas after disturbance, and meeting performance standards established by MDE. It is anticipated that a constructed wetland would be installed as a stormwater management feature adjacent to the existing drainage swale.
Water Quality Certification	No Impact	No Impact	As part of compliance with the CWA, consideration of water quality would be incorporated into the planning of the Proposed Action, and measures would be taken to minimize impacts wherever possible. A Water Quality Certification would be requested through the Joint Permit Application under Section 404 of the Clean Water Act and would be prepared by MDE. BMPs implemented under an MDE-approved erosion and sediment control plan would minimize soil erosion and sedimentation from stormwater runoff. Erosion and sediment controls that could be used during construction include installing silt fencing and sediment traps, revegetating disturbed areas after disturbance, and meeting performance standards established by MDE. Final design would incorporate LID components and green infrastructure where

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			possible to offset potential impacts from an increase in stormwater runoff discharging to nearby watercourses.
Coastal Zone Management	No Impact	No Impact	As part of compliance with the Federal CZMA, the State of Maryland's CZMP, and Maryland's Chesapeake Bay Critical Area Protection Act, consideration of the location of coastal zone and critical areas would be incorporated into the planning of projects, and measures would be taken to avoid these areas, or minimize impacts wherever possible. All design and construction aspects of the Proposed Action would be done in accordance with relevant Maryland CZMP policies.
Biological Resources	Long-term, Adverse	Short-term, Minor	To offset specimen tree removal at the site and in accordance with the current Fort George G. Meade Forest Conservation Act and Tree Management Policy, 20% of the LOD area must be preserved or established. The LOD for the Proposed Action is 12 acres; therefore, 2.4 acres of trees are required to be preserved or established. The final design for the Proposed Action would include the requirement for onsite reforestation as much as possible within the available 15-acre parcel. Any additional acreage of reforestation required to meet 20% that cannot be located onsite would be located offsite at designated land areas within FMMD as needed. It is anticipated approximately half of the reforestation acreage (approximately 1.25 acres) would be located onsite, with the other half located

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			offsite. Reforestation planting would include native and dominant plant species, at least 2 inches in caliper. Per correspondence received on September 11, 2020 from the USFWS and on September 25, 2020 from the MDNR Wildlife and Heritage Service, the Proposed Action would have no effect on any state or federal threatened or endangered species.
Energy and Utilities	No Impact	No Impact	It is anticipated that given the close proximity of the existing utility infrastructure near the proposed SOF facility location, extensions of each utility would be made for connection to the proposed SOF facility with minimal ground disturbance required. Any required ground disturbance associated with the extension of existing utilities for connection to the proposed SOF facility would take place in an area that is, or was previously, comprised of built environment and previously disturbed soils. It is anticipated that an MDE erosion and sediment control permit pursuant to COMAR 26.17.01, an MDE stormwater management permit pursuant to COMAR 26.17.02, and a NPDES permit pursuant to the General Permit for Construction Activities would be required and obtained prior to the start of proposed construction activities. All utilities required for use by the proposed SOF facility are in existence within the boundaries of FMMD and therefore, no new utilities would be brought on site as part of the Proposed Action.

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			Prior to project implementation, the locations of all existing underground utilities within the project areas would be determined. All utilities would be identified and clearly marked throughout the duration of project activities. Potable water utilities associated with the Proposed Action would be designed in conformances with UFC 3-230-01 Water Storage, Distribution and Transmission. The project stormwater management strategy would comply with all federal, state and local environmental requirements, including ESD of the MDE, as well as sustainable design strategies under the LEED and conformance to EISA Section 438 requirements. The project would be defined as "new development" as it relates to the MDE stormwater management calculations. All applicable environmental permits would be obtained prior to start of construction. Stormwater management and LID facilities serving the proposed SOF facility would be located on the proposed project site. Possible ESD planning techniques that may be utilized include, but are not limited to, reducing impervious footprint, alternative surfaces and implementing micro-scale practices. It is anticipated that the site would be categorized by MDE as a new development and would meet MDE requirements. The stormwater management

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			strategy would include micro-scale practices and alternative surfaces providing the required quality and quantity storage to the maximum extent practical and feasible.
Cultural Resources	No Impact	No Impact	In accordance with Section 106 of the NHPA, MHT and tribal communities have been consulted prior to any ground disturbance and/or construction activities associated with the Proposed Action to determine the potential impacts to cultural resources, including historic buildings, districts, and archaeological sites. In accordance with Section 106 of the NHPA, MHT has been consulted prior to any ground disturbance and/or construction activities associated with the Proposed Action to determine the potential impacts to cultural resources, including historic buildings, districts, and archaeological sites. Through consultation, efforts have been made to avoid, minimize, and mitigate adverse impacts to historic properties. A response from the MHT, dated September 8, 2020, indicated that the MHT has determined that the Proposed Action would have no adverse effect on historic properties. Fifteen Federally Recognized Indian Tribes with aboriginal/ancestral homelands in the FMMD area were contacted regarding details of the proposed project and to solicit responses from the Tribes concerning the proposed project. A response from the Eastern Shawnee Cultural Preservation Department dated August 27, 2020 indicated that no known properties of historical and/or

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			cultural significance to the Tribe would be impacted by the proposed project. Excavation and earth moving has the potential to damage known and unknown archeological sites that may be near or underneath the ground surface. If such a site was discovered during implementation of the Proposed Action, Standard Operating Procedures in the installation's ICRMP would be followed to comply with the NHPA. Although the parcel proposed for use in constructing and operating the SOF facility is currently vacant, undeveloped, and forested, it was previously developed, and the area surrounding the proposed project location is previously disturbed and currently developed.
Transportation and Traffic	No Impact	Minor, Adverse, Short-Term Minor or Negligible, Long-Term	The loading dock area would be a paved surface and designed to be accessible by two-way American Association of State Highway and Transportation Officials (AASHTO) SU-30 design vehicle and HS-20 loading. The pavement serving the loading dock would be sized to accommodate vehicle turn around without impeding traffic. No modifications to roadways or temporary travel restrictions would be required for roadways within or outside of FMMD. No construction of additional access roads would result from the Proposed Action, and only existing roadways would be utilized off-site, and interior to FMMD for both

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts
			construction and operation of the proposed SOF facility.
Socioeconomics, Environmental Justice, and Protection of Children	No Impact	Minor or Negligible, Beneficial Short-Term Short-Term, Adverse Negligible, Long-Term	All applicable local jurisdictional safety requirements would be implemented during construction of the Proposed Action, to ensure the protection of the public, including children. Coordination with MDE prior to project initiation would determine the applicability of permits required. The Proposed Action would be initiated only after the environmental review has been completed and the appropriate permits are acquired. As such, it is anticipated that the permitting process would result in assurance of safety and protection of the public, including children. In addition, proper precautions including the placement of fencing, signage, and other types of barriers would be used to prevent potential harm to all civilians, including children.

7 REFERENCES

40 CFR 81.28 Designation of Air Quality Control Regions https://www.law.cornell.edu/cfr/text/40/81.28

42 U.S. Code 7511c.(a) Control of interstate ozone air pollution, ozone transport regions https://www.law.cornell.edu/uscode/text/42/7511c

2020 FFIEC Census Report – Summary Census Demographic Information (Anne Arundel County). Website accessed on September 10, 2020: https://www.ffiec.gov/census/report.aspx?year=2020&state=24&msa=&county=003&tract=&report=demographic

2020 FFIEC Census Report – Summary Census Income Information (Anne Arundel County). Website accessed on September 10, 2020: https://www.ffiec.gov/census/report.aspx?year=2020&state=24&msa=&county=003&tract=&report=income

AAEDC, 2020. Anne Arundel Economic Development Corporation. Major Employers. Website accessed on September 9, 2020: https://www.aaedc.org/business/county-profile/top-employers/

AECOM, 2018a. Final Supplemental Site Investigation, Areas of Interest #1, Recommended for No Further Action, March 2018.

AECOM, 2018b. Final Supplemental Site Investigation, Areas of Interest #2, Recommended for No Further Action, November 2018.

AECOM, 2020. Final Supplemental Site Investigation, Areas of Interest #3, August 2020.

Atkins, 2011. Fort Meade Real Property Master Plan Update, Long Range Component, Fort Meade, Maryland. October 2011.

CEQ, 2016. Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change on National Environmental Policy Act Reviews. Council on Environmental Quality, August 1, 2016.

Chesapeake Bay Program, 2020. Discover the Chesapeake, Facts and Figures. 2020. Available online at: https://www.chesapeakebay.net/discover/facts.

DPW, 2020. Directorate of Public Works email communications to Arcadis 2020.

Fort Meade Alliance, 2020. Fort Meade. Info. Website accessed on September 9, 2020: https://www.ftmeadealliance.org/about/fort-george-g-meade/

FGGM, 2005. Fort George G. Meade Comprehensive Expansion Master Plan. May 2005.

FGGM, 2016. Fort George G. Meade Army Defense Environmental Restoration Program Installation Action Plan. FY 2016. Printed 02 June 2017.

FMMD, 2014. U.S. Army Garrison Fort George G. Meade DPW, Environmental Division. Planning Level Vegetation Surveys. Prepared by EEE Consulting, Inc. September 4, 2014.

FMMD, 2017. Final Environmental Assessment, Proposed Road Improvements at US Army Garrison, Fort George G. Meade, Maryland. November 2017.

FMMD, 2019. Fort George G. Meade Army Cleanup Program. Installation Action Plan. February 2019.

FMMD, 2020. MILCON: Meade Prepares for New Tenants. Website accessed on September 10, 2020: https://www.army.mil/article/8010/milcon_meade_prepares_for_new_tenants

FMMD, 2020a. Site Visit for Wetland Delineation for SOF Operations Facility at Fort George G. Meade, Maryland Memorandum for Mr. Dave Robbins, Project Manager, Programs and Project Management Division, U.S. Army Corps of Engineers, Baltimore District. 6 May 2020.

FMMD, 2020b. Identification of Site and Environmental Considerations for Design Initiation of SOF Operations Building, FY2022 – DoD Special Operations, PN 92746 Memorandum for U.S. Army Corps of Engineers, Programs and Project Management Division, Military Branch (Project Manager David Robbins), P.O. Box 1715 Baltimore, MD 21203-1715. 16 June 2020.

FMMD, 2020c. Results of Tree Survey for SOF Operations Facility at Fort George G. Meade, Maryland (FGGM) Memorandum for Mr. Dave Robbins, Project Manager, Programs and Project Management Division, U.S. Army Corps of Engineers, Baltimore District. May 5 2020.

FMMD, 2020d. Fort Meade Species Database for INRMP. May 14, 2020.

Mach, F.K., and G. Achmad, 1986. Evaluation of the Water-Supply Potential of Aquifers in the Potomac Group of Anne Arundel County, Maryland. Report of Investigation No. 46. Prepared in cooperation with the U.S. Department of the Interior Geological Survey and Anne Arundel County Office of Planning and Zoning. Cited in CH2MHill, 1999.

Maryland Department of Natural Resources, 1987. *The Quality and Natural Quality of Ground Water in Maryland*. Prepared by the Maryland Water Resources Administration.

MHT, 2020. Department of Planning Maryland Historical Trust. *Maryland's National Register Properties. Epiphany Chapel and Church House.* Website accessed on August 26, 2020: https://mht.maryland.gov/nr/NRDetail.aspx?FROM=NRDBList.aspx&NRID=1284&COUNTY=&SEARCHTYPE=keywordSearch&PROPNAME=&STREETNAME=&CITYNAME=&KEYWORD=George%20G.%20Meade

MGS, 2000. Coastal Plain Rocks and Sediments. Accessible online at http://www.mgs.md.gov/esic/geo/lgcp.html.

MGS, 2020. Generalized Geology of Maryland Pamphlet Series. Available online at http://www.mgs.md.gov/geology/index.html. Accessed in March 2020.

Michael Baker Jr., Inc., 2007. Integrated Natural Resources Management Plan for U.S. Army Garrison Fort George G. Meade, 2008-2012. June 2007.

NRCS, 1994. Natural Resources Conservation Service. *Changes in hydric soils of the United States.* Federal Register. July 13, 1994. Website accessed on July 27, 2020: https://www.federalregister.gov/documents/1994/07/13/94-16835/changes-in-hydric-soils-of-the-united-states

NRCS, 2020. Soil Surveys online. Available online at http://Websoilsurvey.nrcs.usda.gov/app/.

Stell, 2019. Final Site Management Plan Fort George G. Meade, Maryland. Prepared by Stell for U.S. Army Corps of Engineers, Baltimore District. September 2019.

USACE, 2007. U.S. Army Corps of Engineers, Mobile District. Environmental Impact Statement Implementation of Base Realignment and Closure 2005 and Enhanced Use Lease Actions at Fort George G. Meade, Maryland.

USACE, 2014. *Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) Environmental Assessment.* USACE, Baltimore District, Baltimore, MD.

USACE, 2019. U.S. Army Corps of Engineers, Baltimore District. *Fort George G. Meade Stream Assessment.* January 31, 2019.

USACE, 2020. U.S. Army Corps of Engineers, Baltimore District. *Programmatic Environmental Assessment for Proposed Stream Restoration Program at U.S. Army Garrison Fort George G. Meade, Maryland*. May 2020.USDA

USACE, 2020a. U.S. Army Corps of Engineers, Baltimore District. *Draft Fort Meade Area Development Plan*. January 2020.

USACE, 2020b. U.S. Army Corps of Engineers, Baltimore District. *Joint Cyber Operations Group Planning Charrette Report of Findings*. Final Submission. 7 April 2020.

USAG, 2004. U.S. Army Garrison, Fort Meade. *Final Integrated Natural Resource Management Plan Fort George G. Meade, Maryland 1999-2004*. Prepared by CH2M Hill, Reston, Virginia.

USAG, 2017.U.S. Army Garrison, Fort Meade. *Proposed Road Improvements at U.S. Army Garrison, Fort George G. Meade, Maryland Final Environmental Assessment*. November 2017.

USAG, 2019. *Environmental Assessment Decommissioning and Demolition of Steam Sterilization Plant and Laboratory Sewer System.* U.S. Army Garrison Fort Detrick, Maryland. February 2019.

USAG, 2020. *Environmental Assessment Medical Waste Incineration Options*. U.S. Army Garrison Fort Detrick, Directorate of Public Works, Environmental Division. August 2020.

USAG, 2020a. Fort George. G. Meade. Housing Services Office. *Tenant Bill of Rights*. Website accessed on September 10, 2020: https://home.army.mil/meade/index.php/about/Garrison/directorate-public-works/housing-services-office

U.S. Census Bureau, Quick Facts, United States; Maryland; Anne Arundel County, Maryland. Website accessed on September 9, 2020: https://www.census.gov/quickfacts/fact/table/US,MD,annearundelcountymaryland#

USDA, 2000. *Prime Farmland*. December 19, 2000. U.S. Department of Agriculture, Natural Resources Conservation Service. Website accessed August 3, 2020: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/null/?cid=nrcs143_014052

USEPA 2020. *Superfund Site: Fort George G. Meade, Odenton, Maryland Cleanup Activities.* Website accessed July 30, 2020: https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0300435

USEPA 2020a. USEPA Nonattainment Areas for Criteria Pollutants (Green Book) https://www.epa.gov/green-book

USEPA 2020b. Nonattainment and Ozone Transport Region (OTR) SIP Requirements https://www.epa.gov/ground-level-ozone-pollution/nonattainment-and-ozone-transport-region-otr-sip-requirements

USFWS, 2020. National Wetlands Inventory Wetlands Mapper – Version 2. Website accessed on July 27, 2020: www.fws.gov/wetlands/data/mapper.HTML.

8 ACRONYMS AND ABBREVIATIONS

ADP	Area Development Plan
AIRFA	American Indian Religious Freedom Act of 1987
AOC	Area of Concern
AOI	Area(s) of Interest
AR	Army Regulation
ARPA	Archaeological Resources Protection Act
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO2 equivalent
COMAR	Code of Maryland Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DA	Department of the Army
dB	decibels
dBA	A-weighted decibels
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
DOT	Department of Transportation
DPW	Department of Public Works
EA	Environmental Assessment

EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EO	Executive Order
ESA	Endangered Species Act
ESD	Environmental Site Design
ESCP	Erosion and Sediment Control Plan
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
FY	Fiscal Year
GHGs	Greenhouse Gases
GWP	global warming potential
HAP	hazardous air pollutant
IAP	Installation Action Plan
ICRMP	Integrated Cultural Resources Management Plan
IMCOM	Installation Management Command
IRP	Installation Restoration Program
LID	low impact development
LOD	limits of disturbance
LUC	Land Use Controls
MACT	Maximum Achievable Control Technology
MDNR	Maryland Department of Natural Resources
mg/L	milligrams per liter
MDE	Maryland Department of the Environment
MHT	Maryland Historic Trust
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966

NO_x	Nitrogen oxides
NOI	Notice of Intent
NPL	National Priorities List
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NWI	National Wetlands Inventory
O_3	ozone
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PA	Preliminary Assessment
PLS	Planning Level Survey
$PM_{2.5}$	particulate matter less than 2.5 microns
PM_{10}	particulate matter less than 10 microns
ppb	parts per billion
ppm	parts per million
PSD	Prevention of Significant Deterioration
RA	Remedial Action
RCI	Residential Communities Initiative
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SARA	Superfund Amendments and Reauthorization Act
SIP	State Implementation Plan
SOx	sulfur oxides
SO_2	sulfur dioxide
SSI	Supplemental Site Inspection
T-BACT	Best Available Control Technology for Toxics
TAP	Toxic Air Pollutant
TMDL	Total Maximum Daily Load

TSCA	Toxic Substances Control Act
UFC	Unified Facilities Criteria
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USTs	underground storage tanks
VOC	volatile organic compound
WWTP	Wastewater Treatment Plant

APPENDIX A

Agency Coordination

Request for Early Input

Environmental Assessment
Proposed Actions and Alternatives for Construction of the SOF Operations Facility
at Fort G. Meade, Maryland

All Interested Parties: The U.S. Army Garrison, Fort George G. Meade, Maryland (FMMD) is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969 (42 United States Code Section 4321 *et seq.*), herein known as NEPA. The Council on Environmental Quality (CEQ) is responsible for issuing regulations (40 Code of Federal Regulations [CFR] 1500-1508) and implementing the provisions of NEPA. CEQ regulations, in turn, are supplemented by procedures adopted on an agency-specific basis. For the Department of the Army (DA), the pertinent regulations are contained in 32 CFR Part 651, which specifically includes in its list of Army actions, military construction exceeding five contiguous acres as normally requiring an EA [32 CFR 651.33 (b)]. While required to assess environmental impacts and evaluate their significance, an EA is routinely used as a planning document to evaluate environmental impacts, develop alternatives and mitigation measures, and allow for agency and public participation (32 CFR 651.20). This EA was developed pursuant to these laws and regulations. NEPA requires all Federal agencies to give appropriate consideration to potential environmental effects of proposed and alternative major actions in the planning and decision-making processes.

The EA is being prepared to evaluate the environmental impacts associated with the Proposed Action to design and construct a new, efficient and effective operational building on available, buildable space within a controlled access setting at FMMD. The approximately 114,000 square foot, two-story facility would accommodate up to approximately 196 personnel from Special Operations Command and its mission partners that are currently performing their mission in numerous leased spaces located across the country. The current situation does not provide a secured cohesive environment and operations are fragmented and split. The new proposed facility at FMMD would provide space for all personnel and allow mission operations to run 24/7 behind a secured fence line.

The proposed facility includes:

- office space, operations areas, secure compartmented information facility (SCIF) spaces;
- large server areas;
- building utilities and connections;
- redundant mechanical and electrical systems;
- secure telecommunication distribution systems;
- human performance center;
- loading/dock platform; and,
- 250-space surface parking lot.

The proposed site is approximately 12 acres in size and bound by 6th Street to the north, Chamberlin Avenue to the east, 4th Street to the south, and Chisholm Avenue to the west. Construction of a secure facility on FMMD would satisfy not only personnel space requirements, but also anti-terrorism (AT) mandatory standards and the Intelligence Community Standard Number 705 (ICS/ICS 705),

Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities. The study area is shown in Enclosure 1 (Figure 2-1).

The EA will also consider a **No Action Alternative**, which would continue the use of multiple, leased spaces outside of the installation. This action would not address the issue of undersized, ill-equipped and dispersed facilities scattered across the country. The unit has growth projections that will exceed the current leased space capacity and would be forced to relocate some of its projected growth to other leased facilities, further exasperating the current split operations. The current operation spaces do not meet physical and technical security standards and cannot accommodate a consolidated and expanding operation. While the No Action Alternative would not meet the project purpose, CEQ requires the analysis of the No Action Alternative; it also provides a benchmark for enabling decision-makers to compare the magnitude of environmental effects of the Proposed Action.

In accordance with 40 CFR 1500-1508, the Army invites you to provide early input on the Proposed Action that should be considered in our analysis of each alternative in the forthcoming EA. Due to continuing restrictions in response to the COVID-19 quarantine, this early agency correspondence notice is being provided via email instead of a mailed letter. This notice is also being distributed to other organizations known to have an interest in natural resource conditions at FMMD.

Additionally, once the draft EA is completed, your organization and the public will have an opportunity to review and provide comment during a 30-day public review period, which will be announced in a notice published in local newspapers and on the FMMD website. Printed copies of the draft EA are typically provided to local libraries and every attempt will be made to satisfy this procedure while complying with the most up-to-date local COVID-19 safety guidelines. All materials will be provided online on the FMMD website under Environmental Public Notices at the following link https://home.army.mil/meade/index.php/my-fort/all-services/environmental.

We appreciate your attention to this matter and request your review and written comment within 30 days of receipt of this letter. Should you require any additional information or have any questions, please contact the US Army Corps of Engineers, Baltimore District Project Manager, Ms. Connie Ramsey, Connie.L.Ramsey@usace.army.mil. Thank you for your patience and understanding during this unprecedented time.

Enclosure 1: Figure 2-1
Enclosure 2: Contact List

Enclosure 1

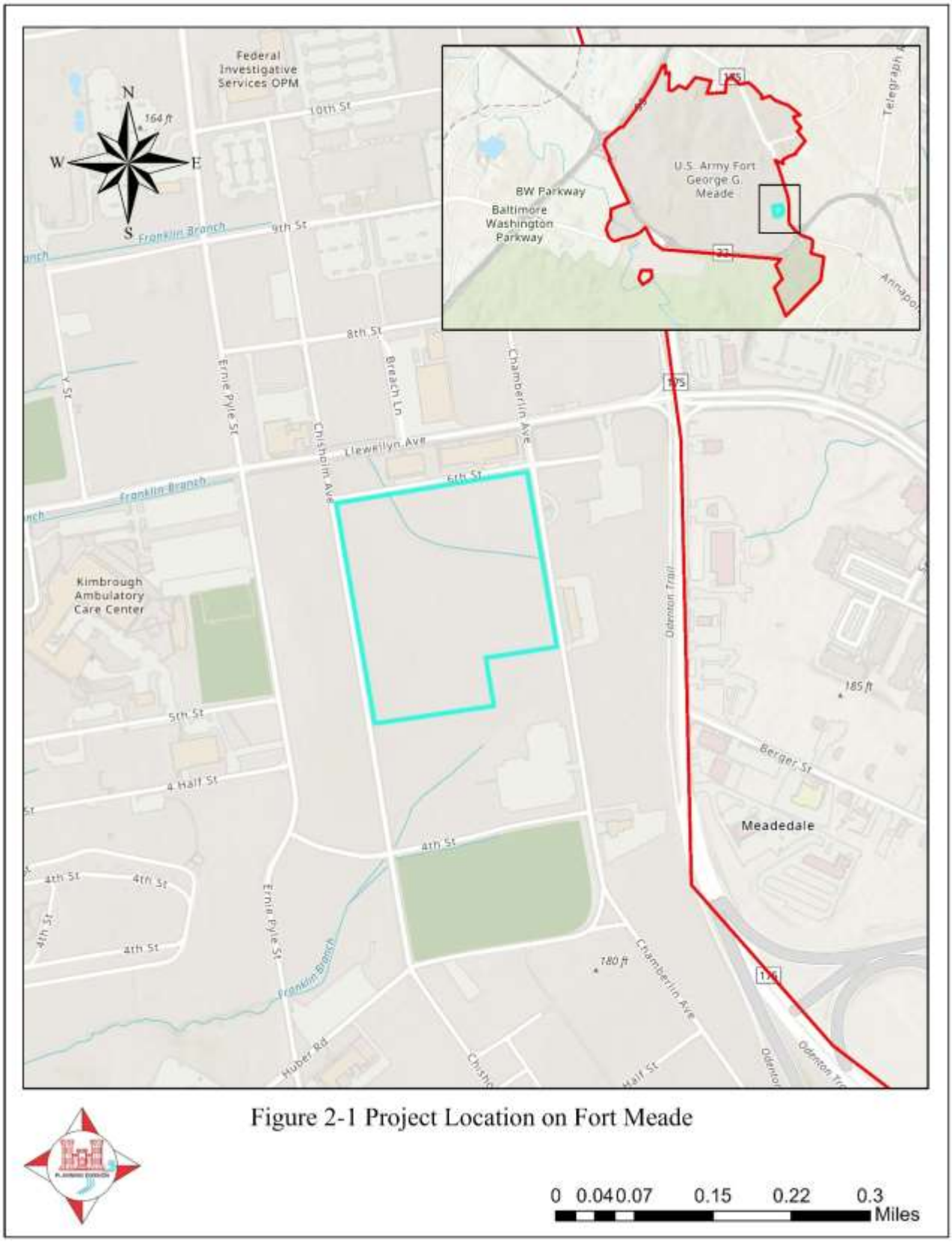


Figure 2-1 Project Location on Fort Meade

Enclosure 2 - Contact List

Mr. Jason Dubow
Manager, Resource Conservation and Management
Maryland State Clearinghouse
Maryland Office of Planning, Room 1104
301 West Preston Street
Baltimore, MD 21201-2365
mdp.clearinghouse@maryland.gov

Ms. Genevieve La Rouche
U.S. Fish and Wildlife Service
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
genevieve_larouche@fws.gov

Mr. Phillip King
United States Department of Agriculture
339 Busch's Frontage Road, Suite 301
Annapolis, MD 21409-5543
phillip.king@usda.gov

Ms. Carrie Traver
Life Scientist
Office of Communities, Tribes, & Environmental Assessment
U.S. Environmental Protection Agency, Region 3
1650 Arch Street - 3RA10
Philadelphia, PA 19103
215-814-2772
traver.carrie@epa.gov

Ms. Lori Byrne
Maryland Department of Natural Resources
Wildlife and Heritage Service
Tawes State Office Building
580 Taylor Avenue
Annapolis, MD 21401
LBYRNE@dnr.state.md.us

Ms. Kathy Bishop
Office of the Secretary
Maryland Department of the Environment
1800 Washington Blvd.
Baltimore, MD 21230
kathy.bishop@maryland.gov

Mr. John French
U.S. Fish and Wildlife Service
Patuxent Research Refuge
National Wildlife Visitor Center
10901 Scarlet Tanager Loop
Laurel, MD 20708-4027
jbfrench@usgs.gov

From: Ramsey, Connie L CIV USARMY CENAB (USA)
To: mdp.clearinghouse@maryland.gov
Cc: Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)
Subject: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)
Date: Monday, August 10, 2020 3:50:00 PM
Attachments: Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf

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CLASSIFICATION: UNCLASSIFIED

Dear Mr. Dubow:
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

_____
Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

CLASSIFICATION: UNCLASSIFIED

August 19, 2020

Ms. Connie Ramsey, Biologist, Installation Support Branch
U.S. Army Corps of Engineers, Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: **MD20200811-0696**
Reviewer Comments Due By: September 15, 2020
Project Description: Pre-Environmental Assessment (EA) Early Input: Proposed Action Includes Design and Construction of a New, Efficient and Effective Operational Building—an Approximately 114,000-Square-Foot, Two-Story Facility That Would Accommodate up to Approximately 196 Personnel; EA Includes a No-Action Alternative
Project Address: 6th Street and Chisholm Avenue, Fort Meade, MD 20755-0000
Project Location: Anne Arundel County
Clearinghouse Contact: Sylvia Mosser

Dear Ms. Ramsey:

Thank you for submitting your project for intergovernmental review. Participation in the Maryland Intergovernmental Review and Coordination (MIRC) process helps ensure project consistency with plans, programs, and objectives of State agencies and local governments. MIRC enhances opportunities for approval and/or funding and minimizes delays by resolving issues before project implementation.

Maryland Gubernatorial Executive Order 01.01.1998.04, Smart Growth and Neighborhood Conservation Policy, encourages federal agencies to adopt flexible standards that support "Smart Growth." In addition, Federal Executive Order 12072, Federal Space Management, directs federal agencies to locate facilities in urban areas. Consideration of these two Orders should be taken prior to making final site selections. A copy of Maryland Gubernatorial Executive Order 01.01.1998.04, Smart Growth and Neighborhood Conservation Policy is available upon request.

We have forwarded your project to the following agencies and/or jurisdictions for their review and comments: the Maryland Departments of Natural Resources, the Environment, Transportation, and General Services; the Maryland Military Department; Anne Arundel County; and the Maryland Department of Planning, including the Maryland Historical Trust. A composite review and recommendation letter will be sent to you by the reply due date. Your

project has been assigned a unique State Application Identifier that you should use on all documents and correspondence. Please be assured that we will expeditiously process your project.

If you need assistance or have questions, contact the State Clearinghouse staff noted above at 410-767-4490 or through e-mail at sylvia.mosser@maryland.gov. Thank you for your cooperation with the MIRC process.

Sincerely,

Jason Dubow, Manager
Resource Conservation and Management

JD:SM

20-0696_NFP.NEW.docx

From: Ramsey, Connie L CIV USARMY CENAB (USA)
To: lori.byrne@maryland.gov
Cc: Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)
Subject: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)
Date: Monday, August 10, 2020 3:50:00 PM
Attachments: Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf

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CLASSIFICATION: UNCLASSIFIED

Ms. Byrne,
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

_____
Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

CLASSIFICATION: UNCLASSIFIED

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Jeannie Haddaway-Riccio, Secretary

September 25, 2020

Ms. Connie Ramsey
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201

RE: Environmental Review for Early Stakeholder Input - Fort Meade Special Operations Command (SOCOM) headquarters facility at Fort Meade, Anne Arundel County, Maryland.

Dear Ms. Ramsey:

The Wildlife and Heritage Service has determined that there are no official State or Federal records for listed plant or animal species within the delineated area shown on the map provided. As a result, we have no specific concerns regarding potential impacts or recommendations for protection measures at this time. Please let us know however if the limits of proposed disturbance or overall site boundaries change and we will provide you with an updated evaluation.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.
.

Sincerely,

Lori A. Byrne

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2020.1369.aa

From: Ramsey, Connie L CIV USARMY CENAB (USA)
To: genevieve_larouche@fws.gov
Cc: Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)
Subject: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)
Date: Monday, August 10, 2020 3:50:00 PM
Attachments: Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf

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CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

Dear Ms. La Rouche:
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

_____

Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

CLASSIFICATION: UNCLASSIFIED
CLASSIFICATION: UNCLASSIFIED
CLASSIFICATION: UNCLASSIFIED

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

September 11, 2020

Army Corps of Engineers
2 Hopkins Plaza
Baltimore, MD 21201

RE: SLI 1795 SOF Operations Facility

Dear Connie Ramsey:

This responds to your letter, received September 9, 2020, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

This project as proposed will have "no effect" on the endangered, threatened, or candidate species listed on your IPaC species list because while the project is within the range of the species, it is unlikely that the species would occur within the project area that was submitted. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Chesapeake Bay's remaining wetlands, and the long term goal of increasing the quality and quantity of the Chesapeake Bay's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Kathleen Cullen at (410) 573-4579.

Sincerely,

G. LaRouche

Genevieve LaRouche
Supervisor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127
http://www.fws.gov/chesapeakebay/
http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html

In Reply Refer To: February 01, 2021
Consultation Code: 05E2CB00-2020-SLI-1795
Event Code: 05E2CB00-2021-E-01442
Project Name: SOF Operations Facility

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2020-SLI-1795
Event Code: 05E2CB00-2021-E-01442
Project Name: SOF Operations Facility
Project Type: DEVELOPMENT
Project Description: Construct ~114,000 square foot, 2-story administrative building on Fort Meade.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.09809032495666,-76.72376698995326,14z

Counties: Anne Arundel County, Maryland

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis*	Threatened

No critical habitat has been designated for this species.

This species only needs to be considered under the following conditions:

- Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key

Species profile: https://ecos.fws.gov/ecp/species/9045

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

From: Ramsey, Connie L CIV USARMY CENAB (USA)
To: traver.carrie@epa.gov
Cc: Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)
Subject: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)
Date: Monday, August 10, 2020 3:50:00 PM
Attachments: Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf

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CLASSIFICATION: UNCLASSIFIED

Dear Ms. Traver:
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

_____
Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

CLASSIFICATION: UNCLASSIFIED

From:	Traver, Carrie
To:	Ramsey, Connie L CIV USARMY CENAB (USA)
Cc:	suzanne.m.kopich.civ@mail.mil; Rudnick, Barbara
Subject:	[Non-DoD Source] RE: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)
Date:	Wednesday, September 9, 2020 4:15:45 PM

Dear Ms. Ramsey:

The U.S. Environmental Protection Agency (EPA) has reviewed your August 10, 2020 email and Request for Early Input regarding preparation of an Environmental Assessment (EA or Study) for the Special Operations Command (SOCOM) headquarters building at the U.S. Army Garrison, Fort George G. Meade, Maryland (FMMD). As described, the EA is being prepared to evaluate the environmental impacts associated with design and construction of a new building for the Special Operations Command and its mission partners within a controlled access setting at FMMD. The approximately 114,000 square foot, two-story facility would accommodate up to approximately 196 personnel.

Thank you for providing this notice. In response, we have recommendations for your consideration in the development of the EA in compliance with the National Environmental Policy Act (NEPA) of 1969, the CEQ regulations implementing NEPA (40 CFR 1500-1508) and Section 309 of the Clean Air Act:

Purpose and Need, Alternatives
We recommend that the purpose and need of the project be clearly identified in the EA along with a discussion of any alternatives evaluated.

The Request for Early Input states that the No Action Alternative would continue the use of multiple, leased spaces outside of the installation and would not address the issue of undersized, ill-equipped, and dispersed facilities across the country. A number of sites could potentially provide the necessary physical and technical security standards along with the required space. We recommend that the EA discuss which other sites or potential locations were evaluated, criteria used and how the Fort Meade site was selected.

Aquatic Resources
As visible on aerial imagery and topographic maps, at least one watercourse is present on the site. This watercourse appears to be enclosed downstream of the site. We suggest the document evaluate any proposed potential aquatic resource impacts, discuss resource type and condition, including impairment status, and consider the project's contribution to degradation or improvement of existing conditions (e.g. habitat, passage for aquatic life, and water quality.)

We recommend that the EA outline measures to protect surface waters during construction, including erosion control measures. To assess and avoid impacts, we recommend that the boundaries of any streams and wetlands present on or immediately surrounding the site be delineated. In accordance with the Clean Water Act Section 404, we recommend avoiding and minimizing impacts to Waters of the United States.

Water Quality, Stormwater, and LID
Stormwater runoff is one of the leading sources of water pollution in the United States and high percentages of impervious surfaces are linked to aquatic resource degradation and impairment. Given the size of the facility, the developed nature of the area, and the proximity of watercourses, the addition of stormwater infrastructure and green infrastructure or Low Impact Development (LID) components could be beneficial for water quality.

Where possible, please consider exploring opportunities to minimize impervious areas and its impacts from buildings, parking, and other appurtenances. Currently, the proposal is a two-story building. The Request for Early Input also indicates that a 250-space surface parking lot will be constructed. We suggest evaluating whether it would it be feasible to construct additional floors either above or below ground, and whether the footprint of the parking area could be reduced by incorporating some parking into the building footprint and/or constructing structured parking as a separate facility.

A suite of other measures that may reduce the impact from the facility could be considered. Roof areas represent a large impervious area that creates runoff; measures such as green roof installation and rainwater harvesting from roof areas could substantially reduce the impacts. Water collection and storage from roofs could be used for purposes such as irrigation to reduce water consumption from the facility as well. Other beneficial uses of roof areas include installation of solar arrays.

We recommend evaluating parking, sidewalks, and roadways for opportunities to incorporate green infrastructure enhancement and stormwater best management practices (BMPs) to reduce runoff volume, improve water quality, and provide aesthetic enhancement. For example, tree pits or trenches along parking areas and sidewalks can provide shade as well as stormwater retention. Rain gardens, bioswales, planter boxes, and other vegetation-based BMPs can provided aesthetic enhancement, protect water quality, and also provide foraging habitat for pollinators.

Guidance and resources for implementing green infrastructure practices and LID can be found at the following sites:

- Blockedhttps://19january2017snapshot.epa.gov/sites/production/files/2015-09/documents/eisa-438.pdf <Blockedhttps://19january2017snapshot.epa.gov/sites/production/files/2015-09/documents/eisa-438.pdf>
- Blockedwww.epa.gov/greeninfrastructure <Blockedhttp://www.epa.gov/greeninfrastructure>
- Blockedwww.epa.gov/nps/lid <Blockedhttp://www.epa.gov/nps/lid>
- Blockedwww.epa.gov/smartgrowth <Blockedhttp://www.epa.gov/smartgrowth>
- Blockedhttp://www.bmpdatabase.org

In summary, EPA recommends the incorporation of LID design features where possible for building design, parking, paving, landscaping, and stormwater management. We also encourage incorporating energy efficient features and infrastructure into the building design and construction. Please consider recommendations such as those included in the LEED (Leadership in Energy and Environmental Design) Green Building Rating System. LEED is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. For more information, please review information from the U.S. Green Building Council at: Blockedhttp://www.usgbc.org/leed.

Habitat and Vegetation

A number of young trees and/or shrubs appear to be currently present on the site. We recommend discussing the type, size/age of vegetation to be cleared along with the acreage.

We also recommend that the EA consider the possibility of bird mortality from the building design and suggest considering landscaping enhancements that may provide for pollinator habitat.

Air Quality- General Conformity

A general conformity rule analysis should be conducted according to the guidance provided by the EPA in Determining Conformity of General Federal Actions to State or Federal Implementation Plans. Under the general conformity rule, reasonably foreseeable emissions associated with all operational and construction activities, both direct and indirect, must be quantified and compared to the annual de minimis levels for those pollutants in nonattainment for that area.

Hazardous Wastes and Contamination

We recommend that the NEPA document include an analysis of any hazardous sites or materials in the vicinity and assess any potential effects that may occur during construction. Any known soil or groundwater contamination on the site should be described in the document; this should include the known extent of the pollution and any remediation actions that may have been taken or are planned in the project area. If contamination is present, earth-disturbing activities should be carefully planned to prevent the potential mobilization of contaminants.

Utilities

The Study would benefit from a discussion of effects associated with utilities and/or utility upgrades required for the Project, and whether existing infrastructure has sufficient capacity for project needs.

Environmental Justice

We recommend that an assessment be conducted to identify whether areas of potential environmental justice (EJ) concern are present and may be disproportionately impacted by Project activities. This identification should inform appropriate outreach to affected communities to assure that communication regarding project development reaches

citizens in an appropriate way and feedback from the affected communities is fully considered.

Methodologies are discussed by several agencies including CEQ. Please consider application of a tool developed by EPA to help users to identify areas with EJ populations: Blockedhttps://www.epa.gov/ejscreen. Additionally, please consider referring to "Promising Practices for EJ Methodologies in NEPA Reviews": Blockedhttps://www.epa.gov/environmentaljustic/ej-iwg-promising-practices-ej-methodologies-nepa-reviews <Blockedhttps://www.epa.gov/environmentaljustic/ej-iwg-promising-practices-ej-methodologies-nepa-reviews> .

Socioeconomic and Community Impacts
The Request for Early Input indicates that the facility would accommodate up to 196 personnel from Special Operations Command and its mission partners that are currently performing their mission in numerous leased spaces located across the country. We recommend that potential impacts associated with relocation of personnel be addressed, including a discussion of socioeconomic and community impacts of relocating the workforce and its effect on tax base, local housing, job markets, schools, utilities, businesses, property values, etc. We recommend an evaluation of positive and negative impacts such as whether the relocation will create additional employment opportunities, impacts on housing prices and availability, and potential impacts on local businesses.

In addition, it is stated that the unit is projected to grow. We suggest that it be clarified if additional personnel are expected in the foreseeable future or if the number of196 personnel is based on the long-term or short-term projected workforce need.

We recommend an evaluation of potential beneficial and negative community impacts during construction and operation of the facility, including possible increases in traffic. Other impacts may include noise, air quality, lighting or other impacts on homes, businesses, and institutions in the vicinity. The new facility would allow for mission operations to run 24/7; would operation at night and on weekends create additional impacts to neighborhoods in the vicinity?

We encourage efforts to inform and engage potentially impacted communities to address concerns that may arise from the proposal.

Traffic and Transportation
We suggest current availability of public transit and pedestrian and bike access to the site be evaluated as part of the transportation analysis. We recommend that opportunities for improving access, including shuttles, ride sharing, or incentives for public transit be evaluated along with opportunities to improve pedestrian or bike access.

We look forward to working with you as more information becomes available. Please feel free to reach out to me if you have any questions on the topics listed above. I also request that you provide a copy or link to the EA when it is available for review.

Thank you,
Carrie

Carrie Traver
Life Scientist
Office of Communities, Tribes, & Environmental Assessment
U.S. Environmental Protection Agency, Region 3
1650 Arch Street – 3RA10
Philadelphia, PA 19103
215-814-2772
traver.carrie@epa.gov

-----Original Message-----
From: Ramsey, Connie L CIV USARMY CENAB (USA) <Connie.L.Ramsey@usace.army.mil>
Sent: Monday, August 10, 2020 3:51 PM

To: Traver, Carrie <Traver.Carrie@epa.gov>
Cc: Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA) < >
Subject: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Dear Ms. Traver:
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

_____
Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

CLASSIFICATION: UNCLASSIFIED

From: Ramsey, Connie L CIV USARMY CENAB (USA)
To: jbfrench@usgs.gov
Cc: Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)
Subject: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)
Date: Monday, August 10, 2020 3:22:00 PM
Attachments: Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf

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Dear Mr. French:
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

_____
Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

From: Ramsey, Connie L CIV USARMY CENAB (USA)
To: kathy.bishop@maryland.gov
Cc: Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)
Subject: Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)
Date: Monday, August 10, 2020 3:23:00 PM
Attachments: Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf

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Dear Ms. Bishop:
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

_____
Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

From:	Jesse Bergevin
To:	Ramsey, Connie L CIV USARMY CENAB (USA)
Subject:	[Non-DoD Source] U.S. Army Garrison, Fort George G. Meade - Environmental Assessment for the Proposed Actions and Alternatives for Construction of the SOF Operations Facility
Date:	Wednesday, August 26, 2020 1:49:08 PM

VIA E-MAIL Connie.L.Ramsey@usace.army.mil <mailto:Connie.L.Ramsey@usace.army.mil>

Ms. Connie Ramsey

U.S. Army Corps of Engineers, Baltimore District

Dear Ms. Ramsey,

On August 26, 2020, the Oneida Indian Nation (the "Nation") received an email and documentation from the U.S. Army Corps of Engineers, Baltimore District concerning the U.S. Army Garrison, Fort George G. Meade Environmental Assessment for the Proposed Actions and Alternatives for Construction of the SOF Operations Facility (the "Project"). Your letter invites the Nation to provide early input on the Project. The Project appears to fall outside of the Nation's aboriginal territory and, therefore, the Nation has no comments to provide.

If you have any questions, please call me at (315) 829-8463.

Thank you,

Jesse Bergevin | Historic Resources Specialist
Oneida Indian Nation | 2037 Dream Catcher Plaza, Oneida, NY 13421-0662
jbergevin@oneida-nation.org <mailto:jbergevin@oneida-nation.org> | Blockedwww.oneidaindiannation.com <Blockedhttp://www.oneidaindiannation.com>
315.829.8463 Office | 315.829.8473 Fax

EASTERN SHAWNEE
CULTURAL PRESERVATION DEPARTMENT
70500 East 128 Road, Wyandotte, OK 74370

August 27, 2020
US Army Garrison - Fort George G Meade
4551 Llewellyn Avenue
Fort Meade, MD 20755

RE: ***SOF Operations Facility, Anne Arundel County, MD***

Dear Mr. Glodek,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Anne Arundel County, MD. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, after further research and review of our records, we find that **No Known Properties** of Historical and/or Cultural significance to the Tribe will be impacted by this project. Please continue Project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Brett Barnes,

Tribal Historic Preservation Officer (THPO)
Eastern Shawnee Tribe of Oklahoma
12755 S. 705 Road
Wyandotte, OK 74370
(918) 666-5151 Ext:1845

From:	Glodek, Jerald W CIV USARMY USAG (USA)
To:	epaden@delawarenation-nsn.gov
Cc:	Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)
Subject:	Section 106 Project Notification SOF Operations Facility
Date:	Wednesday, August 26, 2020 11:34:35 AM
Attachments:	Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf

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To:
Delaware Nation of Anadarko, OK
P.O. Box 825
Anadarko, OK 73005

Tribal Spokesperson,

On behalf of the Directorate of Public Works at Fort George G. Meade, we are initiating consultation with your office as required by Section 106 of the National Historic Preservation Act, regarding a proposed undertaking on our installation. Your Tribe has previously been determined to have "ancestral connections" to Fort Meade lands. Please see the attached project.

Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.

Feel free to contact me with any questions you might have.

Thank you,
Jerry Glodek
Cultural Resource Manager Fort Meade
(443) 962-3784

20200 3839

F Army

Maryland

Beth Cole -MDP- <beth.cole@maryland.gov>

DLH

Early Input Stakeholders Letter Special Ops. Com. Headquarters

1 message

Glodek, Jerald W CIV USARMY USAG (USA) <jerald.w.glodek.civ@mail.mil> Wed, Aug 26, 2020 at 8:52 AM
To: Beth Cole - MHT <beth.cole@maryland.gov>
Cc: Dixie Henry -MDP- <dixie.henry@maryland.gov>, "Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)" <suzanne.m.kopich.civ@mail.mil>

Beth,

On behalf of the Directorate of Public Works at Fort George G. Meade, we are initiating consultation with your office as required by Section 106 of the National Historic Preservation Act, regarding a proposed undertaking.

Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.

Feel free to contact me with any questions you might have.

AnV G.

AUG 26 2020

BY:_____

Thank you,
Jerry

Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf
197K

The Maryland Historical Trust has determined that this undertaking will have no adverse effect on historic properties.

Dixie Henry Date 9/8/2020

Archeo DLH 9/8/2020

Maryland

Sophia Richardson -MDP- <sophia.richardson@maryland.gov>

Early Stakeholder Input - Fort Meade SOF Operations Facility NEPA (UNCLASSIFIED)

1 message

Ramsey, Connie L CIV USARMY CENAB (USA) <Connie.L.Ramsey@usace.army.mil> Mon, Aug 10, 2020 at 3:50 PM
To: "mdp.clearinghouse@maryland.gov" <mdp.clearinghouse@maryland.gov>
Cc: "Kopich, Suzanne M CIV USARMY ID-SUSTAINMENT (USA)" <suzanne.m.kopich.civ@mail.mil>

CLASSIFICATION: UNCLASSIFIED

Dear Mr. Dubow:
Please find the attached request for agency coordination as part of the Environmental Assessment, pursuant to the National Environmental Policy Act (NEPA), for the design, construction and operation of the Special Operations Command (SOCOM) headquarters building on Fort Meade.
Feel free to contact me with any questions you might have.
Thank you,
Connie

Connie Ramsey, Biologist
Installation Support Branch
Planning Division
Baltimore District USACE
2 Hopkins Plaza
Baltimore, MD 21201
Desk: 410.962.7783
Cell: 410.209.7589

CLASSIFICATION: UNCLASSIFIED

Early Input Stakeholder Letter 2020 SOF Bldg (10 Aug).pdf
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APPENDIX B

General Conformity – Record of Non-Applicability

GENERAL CONFORMITY – RECORD OF NON-APPLICABILITY

Project/Action Name:	**SOF Operations Facility**
Project/Action Point of Contact:	**David Robbins** **(410) 962-0685** **David.W.Robbins@usace.army.mil**
Begin Date (Anticipated): Winter 2021	**End Date (Anticipated): Fall 2022**

The Proposed Action includes design, construction and operation of a new, efficient and effective operational building on available, buildable space within a controlled access setting on Fort Meade, Maryland. The approximately 113,296 square foot, two-story facility would accommodate approximately 196 personnel and a 250-space parking lot on a 13.5-acre site.

Emissions for Building Construction:

Volatile Organic Compounds (VOC)	1.05 tons per year (tpy)[(1)]
Nitrogen Oxides (NO_x)	10.3 tpy
Sulfur Oxides (SO_x)	0.81 tpy
Carbon Monoxide (CO)	5.59 tpy
Particulate Matter Less than 2.5 µm ($PM_{2.5}$)	9.67 tpy

[(1)] Values were obtained by dividing the calculated total emissions by 2, assuming a construction window of approximately 2 years, to obtain the tons per year (tpy) value.

Emissions for Building Operation (Generator):

Volatile Organic Compounds (VOC)	1.07 tons per year (tpy)[(2)]
Nitrogen Oxides (NO_x)	3.40 tpy
Sulfur Oxides (SO_x)	1.08 tpy
Carbon Monoxide (CO)	0.91 tpy
Particulate Matter Less than 2.5 µm ($PM_{2.5}$)	0.11 tpy

[(2)] Calculations performed using an extremely conservative estimate of 8,760 hours of run-time per year at maximum output.

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project/action because the highest annual emissions from this project/action have been estimated to be under the applicability thresholds as below:

Conformity Threshold Rate	
VOC	50 tpy
NO_x	100 tpy
SO_x	100 tpy
CO	100 tpy
$PM_{2.5}$	100 tpy

Supporting documentation and emissions estimates are attached.

John W. Houchins
Chief, Environmental Division

Date

RECORD OF NON-APPLICABILITY (RONA)
SUPPORTING DOCUMENTATION
For SOF Operations Facility

The purpose of this documentation is to support General Conformity applicability determinations under the Clean Air Act, Section 176 for the Special Operations Forces (SOF) Operations Facility located on Fort George G. Meade, Anne Arundel County, Maryland. This document provides an estimate of worst-case emissions from the proposed construction and operation of a 2-story administration building. The emission estimates for which this documentation was developed were based on the following assumptions:

Project Characteristics and Area Disturbed

- Construction and operation of an approximately 114,000 square foot, 2-story building to accommodate 196 personnel and a 250-space surface parking lot.

- A total of approximately 13.5 acres will be cleared and grubbed.

- The LOD will be cleared of all vegetation, topsoil, and unsuitable material in order to prepare the site for construction. Topsoil will be reserved for use in final grading of the site.

- As construction activities will occur throughout the project to varying degrees, a project duration of approximately 510 days (2 years) was used.

Contractor and Equipment Assumptions

- Assumed sixty contractor staff would be on-site for 510 working days to complete this work. Approximately 20% would commute to the site each day in a light duty diesel truck, with a round trip of 30 miles.

- Assumed two heavy duty diesel trucks would come to the site (again, 30 mile roundtrip) each construction day, to mobilize and demobilize the equipment.

- Assumed durations of operation for heavy equipment are explicitly identified in the Excel spreadsheet where air emissions are quantified for this project. This includes the following:

    - Estimated equipment to be used includes skid steer (bobcat), cement mixers, plate compactors, lifts, excavators, backhoes, asphalt pavers, paving equipment, graders and dumpers/tenders. To develop a conservative estimate, it was assumed that three skid steers would be used 8 hours a day for one year. Also, it was assumed two each of the remaining equipment would be used for approximately 8 hours a day for two years.

Project Duration

- Assumed to be 510 working days, or two years, which will dictate contractor travel to the site, and the number of 8-hour days over which fugitive dust emissions will be generated as a result of the work performed.

- Operational emissions will result from the project (i.e., permanent air emissions sources from the generator).

Emissions

The emission calculations to quantify these values are presented in the Excel spreadsheet, and were performed using methodology and information provided in the *Air Emissions Guide for Air Force Mobile Sources, U.S. Air Force Installations, 2020, Air Emissions Guide for Air Force Transitory Sources, 2016, and Air Emissions Factor Guide to Air Force Stationary Sources, 2020.*

Emissions for Building Construction:

Volatile Organic Compounds (VOC)	1.05 tons per year (tpy)[(1)]
Nitrogen Oxides (NO_x)	10.3 tpy
Sulfur Oxides (SO_x)	0.81 tpy
Carbon Monoxide (CO)	5.59 tpy
Particulate Matter Less than 2.5 µm ($PM_{2.5}$)	9.67 tpy

[(1)] Values were obtained by dividing the total calculated construction emissions by 2, assuming a construction window of approximately 2 years, to obtain the tons per year (tpy) value.

Emissions for Building Operation (Generator):

Volatile Organic Compounds (VOC)	1.07 tons per year (tpy)[(2)]
Nitrogen Oxides (NO_x)	3.40 tpy
Sulfur Oxides (SO_x)	1.08 tpy
Carbon Monoxide (CO)	0.91 tpy
Particulate Matter Less than 2.5 µm ($PM_{2.5}$)	0.11 tpy

[(2)] Calculations performed using an extremely conservative estimate of 8,760 hours of run-time per year at maximum output.

Conformity Threshold Rate

VOC	50 tpy
NO_x	100 tpy
SO_x	100 tpy
CO	100 tpy
$PM_{2.5}$	100 tpy

$PM_{2.5}$ is some fraction of PM_{10} and to be conservative, it was assumed that PM_{10} is equal to $PM_{2.5}$ where a $PM_{2.5}$ emission factor was not available. Therefore, if the predicted PM_{10} emissions do not exceed regulatory thresholds, then neither will $PM_{2.5}$. Fugitive dust emissions are presented as PM_{10} in the emission calculations.

Construction Equipment Air Quality Emissions Factors

Diesel Equipment	Average Rated HP[1]	Loading Factors[2]	Emissions Factors (lb/ 1000 HP-hr)[2]						Emissions Factors (lbs/hr)[3]					
			CO	NOx	VOC	PM_{10}	$PM_{2.5}$	SOx	CO	NOx	VOC	PM_{10}	$PM_{2.5}$	SOx
Asphalt Pavers	91	59%	4.76	10.72	0.90	0.88	0.84	0.84	0.26	0.58	0.05	0.05	0.05	0.05
Plate Compactors	8	43%	9.92	14.99	2.43	1.72	1.68	0.90	0.03	0.05	0.01	0.01	0.01	0.00
Concrete Pavers	130	59%	4.76	10.72	0.90	0.88	0.84	0.84	0.37	0.82	0.07	0.07	0.06	0.06
Rollers	99	59%	5.78	11.09	1.01	0.99	0.97	0.86	0.34	0.65	0.06	0.06	0.06	0.05
Scrapers	311	59%	4.70	10.98	0.66	0.68	0.66	0.82	0.86	2.01	0.12	0.12	0.12	0.15
Paving Equipment	99	59%	6.26	11.69	1.15	1.06	1.04	0.86	0.37	0.68	0.07	0.06	0.06	0.05
Signal Boards	6	43%	7.32	13.08	2.03	1.35	1.30	0.90	0.02	0.03	0.01	0.00	0.00	0.00
Trenchers	60	59%	8.05	11.95	1.32	1.32	1.28	0.88	0.28	0.42	0.05	0.05	0.05	0.03
Bore/Drill Rigs	209	43%	5.49	15.37	1.32	1.06	1.01	0.84	0.49	1.38	0.12	0.10	0.09	0.08
Excavators	183	59%	3.75	10.03	0.75	0.71	0.68	0.84	0.40	1.08	0.08	0.08	0.07	0.09
Concrete/Indust. Saw	56	59%	8.78	11.69	1.41	1.46	1.41	0.90	0.29	0.39	0.05	0.05	0.05	0.03
Cement Mixers	11	43%	7.17	15.79	1.81	1.35	1.30	0.86	0.03	0.07	0.01	0.01	0.01	0.00
Cranes	194	43%	3.02	12.06	0.84	0.64	0.62	0.82	0.25	1.01	0.07	0.05	0.05	0.07
Graders	172	59%	3.33	10.05	0.75	0.68	0.66	0.82	0.34	1.02	0.08	0.07	0.07	0.08
Off-Highway Trucks	489	59%	3.66	11.27	0.64	0.57	0.55	0.82	1.06	3.25	0.18	0.16	0.16	0.24
Crushing/Proc Equip.	127	43%	4.21	12.72	0.99	0.79	0.77	0.84	0.23	0.69	0.05	0.04	0.04	0.05
Rough Terrain Lifts	93	59%	7.30	11.71	1.23	1.21	1.17	0.88	0.40	0.64	0.07	0.07	0.06	0.05
Rubber Tired Loaders	158	59%	4.87	11.75	0.86	0.82	0.79	0.84	0.45	1.10	0.08	0.08	0.07	0.08
Tractor/Loader/Backhoe	77	21%	14.64	15.61	3.42	2.36	2.27	1.01	0.24	0.25	0.06	0.04	0.04	0.02
Crawler Tractors/Dozer	157	59%	4.50	11.09	0.77	0.73	0.71	0.84	0.42	1.03	0.07	0.07	0.07	0.08
Skid Steer Loader	42	21%	19.58	16.01	4.85	3.11	3.02	1.06	0.17	0.14	0.04	0.03	0.03	0.01
Off-Highway Tractor	214	59%	6.11	12.97	0.93	0.84	0.82	0.82	0.77	1.64	0.12	0.11	0.10	0.10
Dumpers/Tenders	23	21%	18.74	16.43	5.01	3.11	3.00	1.04	0.09	0.08	0.02	0.02	0.01	0.01
Forklifts	83	59%	6.50	9.97	0.90	0.90	0.93	0.88	0.32	0.49	0.04	0.04	0.05	0.04
Other Const. Equip.	161	59%	6.46	13.01	0.99	0.95	0.88	0.82	0.61	1.24	0.09	0.09	0.08	0.08

Note: The above information was selected from the following tables provided in the *Nonroad Engine and Vehicle Emission Study--Report*, US EPA Doc 21A-2001, 1991.

1. Table 2-04 for Inventory A (Inventory A generally gives higher results and is, therefore, more conservative than Inventory B)
2. Table 4-1 provided in the Air Emissions Guide for Air Force Mobile Sources, U.S. Air Force Installations, 2020.
3. **Emission Factors** (lbs/hr) = **Average Rated HP** X **Loading Factors** X E**mission Factors** (lb/ 1000 HP-hr) / **1,000**

Fugitive Dust from Site Preparation for SOF Operations Facility

Description:	
Total disturbed area (square feet):	588,060
Total disturbed area (acres):	13.5
Assumed number of 8-hr work days:	130

Equation for Fugitive Dust Emissions (PM_{10})

E_{PM10} (lb/yr) = 20 (lb/acre day) * GA (acres) * WD (days)

Where:

20 = factor converting acre-day to lb
GA = grading area (acres)
WD = work days

Calculation

E_{PM10} =	35,100	lb/yr
	1.76E+01	tpy

Assumptions

1. Construction and operation of an approximately 113,296 square foot operations building. The limits of disturbance (LOD) will be minimized to reduce erosion and sediment control requirements. A total of approximately 13.5 acres will be cleared and grubbed. The LOD will be cleared of all vegetation, topsoil, and unsuitable material in order to install the perimeter trail. Topsoil will be reserved for use in final grading of the site.

2. It was assumed that the majority of the site preparation work would be completed within the first 6 months of construction, approximately 127.5 hours which were rounded up for a conservative estimate.

3. It was conservatively assumed that $PM_{10} = PM_{2.5}$.

Source of Equation

Air Emissions Guide to Air Force Transitory Sources, July 2016, Section 4, Equation 4.4.

Personal Vehicle Emissions for SOF Operations Facility

Personal Vehicles	Number of Vehicles	Calendar Year	Emissions Factors (grams/mile)					
			CO	NOx	VOC	PM_{10}[1]	$PM_{2.5}$[1]	SOx
Heavy Duty Diesel Trucks	2	2021/2022	4.089	0.339	0.221	0.007	0.006	0.004
Light Duty Diesel Trucks	12	2021/2022	2.503	0.126	0.104	0.004	0.004	0.003

Personal Vehicles	Number of Days	Number of Vehicles	Miles/Day	Emissions (lbs/year)					
				CO	NOx	VOC	PM_{10}[1]	$PM_{2.5}$[1]	SOx
Heavy Duty Diesel Trucks	510	2	30	275.85	22.87	14.91	0.47	0.41	2.70E-01
Light Duty Diesel Trucks	510	12	30	1013.14	51.00	42.10	1.62	1.62	1.21

Assumptions:

- Up to sixty contractor personnel on-site on any one day, with approximately 20% driving light duty diesel trucks.
- Assume two heavy duty trucks for material and equipment hauling for the duration of the project.
- The project duration is approximately 510 days, which is two years of work.
- Average round trip is 30 miles/day.

Source: Emissions factors and methodology from *Air Emissions Factor Guide to Air Force Mobile Sources, June 2020, Section 5, Tables 5-10 and 5-20*.

Note: [1] $PM_{10/2.5}$ factors derived from combining PM combustion and fugitive emission factors on paved surfaces (EF Combustion + EF Fugitive). The PM_{10} and $PM_{2.5}$ fugitive emission factors for diesel trucks (both light and heavy duty) are 0.058 and 0.014 grams/mile, respectively. The calendar year 2021 combustion emission factors (grams/mile) from the Air Force guidance, Table 5-20 (On-Road Vehicle Emission Factors - 2021) are being used in the emissions calculation. The fugitive emission factors will remain unchanged.

Total Air Emissions – SOF Operations Facility

Construction Equipment	Usage (hrs)	Emissions (lbs)					
		CO	NOx	VOC	PM_{10}	$PM_{2.5}$	SOx
Asphalt Pavers (Paving)	8160	2085.41	4696.54	394.30	385.54	368.01	368.01
Plate Compactors (Soil/Stone Compaction)	8160	278.46	420.78	68.21	48.28	47.16	25.26
Rollers (Soil/Stone/Paving Compaction)	8160	2754.90	5285.78	481.39	471.86	462.33	409.90
Excavators (Dig Holes)	8160	3303.88	8836.78	660.78	625.53	599.10	740.07
Cement Mixers (Mixes Concrete Ingredients)	8160	276.74	609.44	69.86	52.11	50.18	33.19
Graders (Push soils to make flat)	8160	2757.50	8322.17	621.06	563.09	546.53	679.02
Rough Terrain Lifts (Either a man lift or material lift)	8160	3268.496	5243.026	550.719	541.764	523.855	394.010
Tractor/Loader/Backhoe	8160	1931.707	2059.696	451.259	311.395	299.520	133.267
Skid Steer Loader (Big Tired Fork Lift/Bobcat)	6120	1056.897	864.194	261.795	167.873	163.015	57.217
Dumpers/Tenders (Concrete Delivery Vehicle)	8160	738.596	647.552	197.458	122.574	118.238	40.989
Forklifts	8160	2597.369	3983.964	359.636	359.636	371.624	351.644
Other Construction Equipment		0.000	0.000	0.000	0.000	0.000	0.000
Site Preparation (Tree/Overgrowth Removers)	-	-	-	-	35100	35100	-
POVs - Contractors	-	1288.993	73.871	57.005	2.091	2.024	1.484
Total - Construction Phase (tons)		**11.17**	**20.52**	**2.09**	**19.39**	**19.33**	**1.62**
Operation Phase (tpy) (Generator)		0.906	3.400	1.065	0.107	0.107	1.076