Notice of Availability

Draft Environmental Assessment for the Proposed Navy Marine Forces Cyberspace Command (MARFORCYBER) Fort George G. Meade, Maryland

All Interested Parties: The U.S. Army Garrison, Fort George G. Meade (FMMD), Maryland 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. For the Department of the Army, the pertinent regulations are contained in 32 CFR Part 651, *Environmental Analysis of Army Actions*. The Draft EA evaluates the potential environmental, cultural, and socioeconomic effects associated with the Proposed Action, which is to design and construct of a new three-story cyber warfare operations facility with associated surface parking, which will house the new headquarters operations for Marine Corps Cyberspace Warfare Group (MCCYWG). This project would take place on the southeastern corner of FMMD atop an existing soccer field.

Based on the Draft EA, the Army has determined that implementation of the Proposed Action would have no significant adverse direct, indirect, or cumulative effects on the quality of the human or natural environment. Therefore, at the conclusion of the public comment period, it is anticipated that a Finding of No Significant Impact (FNSI) would be appropriate and would be signed for the construction of the cyber facility. An Environmental Impact Statement, therefore, is not deemed necessary to implement the Proposed Action.

The Draft EA is available for review and comment for 30 days from publication of this notice. Copies may be found online at https://home.army.mil/meade/index.php/my-fort/all-services/environmental. The documents can also be found at the following locations: Medal of Honor Memorial Library on Fort Meade and Odenton Regional Library, 1325 Annapolis Road, Odenton, MD. Additionally, copies of the Draft EA may be obtained by writing to the address below. Please submit all comments on the Draft EA in writing within 30 days from the publication of this notice to: US Army Corps of Engineers, Baltimore District, 2 Hopkins Plaza, ATTN: Planning Division, 10th Floor, Baltimore, MD 21201; or Ms. Rebecca Marson, US Army Garrison Fort George G. Meade DPW, Environmental "Fort Meade Division at rebecca.j.marson.civ@army.mil. Please reference Proposed MARFORCYBER Facility Environmental Assessment (P002)" in all correspondence.

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Enclosure 1 – Stakeholder Contact List

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DRAFT Navy Marine Forces Cyberspace Command (MARFORCYBER) Environmental Assessment (EA)

Fort George G. Meade, Maryland



December 2023

Written By: U.S. Army Corps of Engineers Baltimore District - Installation Support Branch 2 Hopkins Plaza, Baltimore, MD 21201 THIS PAGE LEFT INTENTIONALLY BLANK

ENVIRONMENTAL ASSESSMENT

DEPARTMENT OF THE ARMY

Fort George G. Meade

Fort Meade, Maryland 20755-5115

FINDING OF NO SIGNIFICANT IMPACT

Navy MARFORCYBER Project at Fort George G. Meade

INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the potential environmental, cultural, and socioeconomic effects associated with construction and operation of a new Navy Marine Forces Cyberspace Command (MARFORCYBER) cyber warfare communications facility in the southeastern corner of Fort George G. Meade, Maryland (hereinafter referred to as FMMD). This EA and Finding of No Significant Impact (FNSI) were prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 *et seq.*); the Council on Environmental Quality (CEQ) regulations that implement NEPA (Title 40 Code of Federal Regulations [CFR], Parts 1500 to 1508); and the U.S. Army's NEPA regulations at 32 CFR Part 651.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The *purpose* of the Proposed Action is to provide a cybersecurity operations facility for MARFORCYBER and a new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) that is cost-effective, spacious, and secure.

The *need* for the Proposed Action is to serve the MCCYWG more efficiently. MCCYWG needs to consolidate its workforce into one facility within a secure fence line. Current MCCYWG spaces are not spacious enough and/or are not secure.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Proposed Action would include the construction and operation of a three-story cyberoperations facility with an associated surface parking area on a soccer field in the southeastern corner of Fort Meade, Maryland. The Proposed Action would include open office spaces, operational areas, large server area, telecommunication distribution systems, a loading dock area, and stormwater features. Mission support areas include joint staff offices, executive offices, cybersecurity training spaces, collaborative spaces, meeting rooms; electrical/mechanical service and distribution components and systems; fire suppression, alarms; information technology infrastructure, communications, and security systems infrastructure. The parking lot would include approximately 300 surface parking spaces. There would also be an additional, paved laydown/staging area used solely during construction, located on the south side of Huber Road.

This EA analyzes two courses of action: the Proposed Action and the No Action Alternative. Alternatives considered but eliminated from further evaluation are also listed below.

No-Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented. This results in MCCYWG continuing its operations from its current spaces. The No Action Alternative would not allow MCCYWG to fully meet its increasing mission requirements due to the heightened demands of fighting cyber-attacks. MCCYWG would not consolidate its personnel into one secure working space or have room for future operations expansion. The absence of a dedicated sole-use facility would negatively affect the performance of MCCYWG's dynamic and rapidly changing mission and hinder operations.

Alternative 1

Under Alternative 1, a facility at FMMD would be renovated/modernized to accommodate the growing needs of MCCYWG. Alternative 1 was eliminated from consideration due to the lack of available space at FMMD that would meet MCCYWG's requirements.

Alternative 2

Under Alternative 2, further space would be leased for MCCYWG's needs. Alternative 2 was eliminated from consideration due to a 2020 memo from the Assistant Secretary of the Navy that directed a moratorium on all lease considerations for the purpose of an economic analysis.

SUMMARY OF ENVIRONMENTAL IMPACTS

As detailed in this EA, construction activities associated with the Proposed Action would generate adverse impacts to natural resources, but no significant adverse impacts would occur. These impacts would be temporary, lasting approximately only during the construction phase. The intensity of the adverse impacts would be limited to the area immediately surrounding the Proposed Action area.

During operation, long-term, minor, direct, adverse impacts would occur. On a cumulative basis, the Proposed Action would also have minor adverse impacts. **Table FNSI-1** below summarizes the potential consequences the Proposed Action and No Action Alternative would have on resources evaluated in the EA.

Resource Construction Operation		No Action		
	Short-term, minor,	Long-term, minor, direct adverse effects on		
Land Use	on land. Short-term.	land use from the	No impact	
	direct, negligible	removal of a		
	adverse viewshed	recreational area. Long-		
	impacts from the	term, direct, negligible		
	removal of recreational	adverse effects on		
	area.	viewshed.		
Geology, Topography, and Soils	No impacts to topography or geology. Short-term, minor, direct, adverse effect on soils from erosion.	No impacts to topography or geology. Long-term, minor, direct, adverse impact to soils from soil profile and topsoil loss.	No impact	
Water Resources	Short-term, negligible, direct, adverse impacts to surface water from sedimentation of stormwater runoff. Short-term, minor, direct adverse impacts to stormwater from increased runoff. No impacts to floodplains, wetlands, or coastal zones. Short-term, indirect, negligible impacts to groundwater from potential construction-based fluid runoff.	Long-term, negligible, direct, adverse impacts to surface water from increased surface water runoff. Long-term, moderate, direct, beneficial impacts on stormwater quality due to the re-design of current stormwater systems. No impacts to floodplains, wetlands, or coastal zone resources. Long-term, indirect, negligible, adverse impacts to groundwater from reduced groundwater recharge.	No impact	
Biological Resources	Long-term, minor, direct adverse impacts to vegetation from removal of landscape trees. Short-term, negligible, minor, direct adverse impacts to wildlife from removal of habitat. No impacts to RTE species.	Long-term, negligible, direct, beneficial, adverse impacts to vegetation from loss of grasses and mature trees, but with the planting of new native landscape trees. Negligible, long- term, minor, direct, adverse impacts to wildlife and RTE species from loss of habitat for	Long-term, minor, direct adverse impacts to vegetation from existence of invasive trees on site and lack of benefits from vegetation to wildlife. No impacts to RTE species.	

Table FNSI-1. Summary of Environmental Consequences

Resource Construction		Operation	No Action	
		the proposed facility.		
Cultural Resources	No impact	No impact No impact		
Hazardous and Toxic Materials and Waste	No impact	No impact	No impact	
Utilities	Short-term, negligible, direct, adverse impacts to wastewater from construction worker requirements. Short- term, negligible, direct, adverse impacts to solid waste from landfill usage for construction waste. Short-term, negligible, direct, adverse impacts to electricity from construction usage.	Long-term, negligible, minor, direct, adverse impact on wastewater, solid waste, and electric from increased demands and quantities of a normal operating facility.	No impact	
Transportation and Traffic	Short-term, negligible, direct, adverse impact from construction traffic and transportation.	Long-term, minor, direct, adverse impacts on traffic and transportation from the slight increase in traffic from the MARFORCYBER workforce.	No impact	
Noise	Short-term, direct, minor, adverse impacts from construction activity.	Long term, negligible, direct, adverse impacts from operational noises.	No impact	
Air Quality and Climate Change	Short-term, minor, direct, adverse impacts from GHGs produced from construction equipment.	Long-term, negligible, direct, adverse impacts from increased GHGs associated with the operation of a facility.	No impact	
Human Health and Safety	No impact	No impact	No impact	
Socioeconomics	Short-term, minor, direct, beneficial impacts to socioeconomics from construction jobs. Minor, short-term, indirect, adverse impacts to EJ communities from quality-of-life decreases. No impacts to protection of children.	Long-term, minor, indirect, beneficial impacts to socioeconomics from decreased commute times and economy stimulation with an increased workforce. No impact to EJ communities or	No impact	

Resource	Construction	Operation	No Action
		protection of children.	
		Long-term, minor, direct	
		adverse impacts to	
		quality-of-life of FMMD	
		residents due to the loss	
		of a recreational field.	
Cumulative Imposts	Naimmaat	Minor, long-term,	Naimmaat
Cumulative Impacts	no impact	direct, adverse impacts	No impact

PUBLIC INVOLVEMENT

The Draft EA made available for public review online was at https://home.army.mil/meade/index.php/my-fort/all-services/environmental and via a hard copy available at the FMMD Medal of Honor Memorial Library and the Odenton Regional Library, Odenton, Maryland. The Notice of Availability for the Draft EA was published in the Capital Gazette. All comments received during this public review period, which include agency responses but no public comments, will be considered and incorporated into the Final EA

CONCLUSION AND FINDING OF NO SIGNIFICANT IMPACT

I have reviewed the EA and find that the Proposed Action for the MARFORCYBER cyber warfare communications facility on Fort George G. Meade will have no significant impacts on the natural environment, cultural resources, or the human environment. Based on these findings, an Environmental Impact Statement is not required for this project and this FNSI shall be issued.

COL MICHAEL A. SAPP COL, IN Commanding

Date

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1. INTRODUCTION

1.1. PROJECT BACKGROUND

This Environmental Assessment (EA) has been prepared to identify, analyze, and document the potential impacts associated with the Proposed Action to implement a cyber warfare operations facility at Fort George G. Meade (FMMD), Maryland. Included herein by reference are the prospective physical, environmental, cultural, and socioeconomic impacts.

FMMD is approximately 5,107.7 acres in size and is located in northwest Anne Arundel County, Maryland, roughly halfway between Baltimore and Washington, D.C. FMMD is located near the communities of Odenton, Laurel, Columbia, and Jessup, Maryland.

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 as revised and published in the Federal Register on March 29, 2002, as Environmental Analysis of Army Actions. 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.

This EA provides NEPA analysis and documentation for the Proposed Action, which includes the construction and operation of a new cyber warfare operations facility which will house the new headquarters operations for Marine Corps Cyberspace Warfare Group (MCCYWG) located in the southeastern corner of Fort Meade, Maryland. In addition, this EA evaluates the No Action Alternative.

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2. PURPOSE AND NEED

The *purpose* of the Proposed Action is to provide a cybersecurity operations facility for Marine Corps Forces Cyberspace Command (MARFORCYBER) and a new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) that is cost-effective, spacious, and secure.

The *need* for the Proposed Action is to serve MCCYWG more efficiently. MCCYWG needs to consolidate its workforce into one facility within a secure fence line. There has been an increase in workforce since 2016 which requires larger and updated facilities for operations. The current facilities do not provide enough space for current or future operations/expansion and some of the space is not entirely secure.

2.1. SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This EA informs decision makers and the public of the likely environmental impacts of the Proposed Action and the 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, No Action Alternative, and other alternatives considered but eliminated are detailed in Section 3.0.

The existing conditions at FMMD are described in **Section 4.0**, **Affected Environment and Environmental Consequences**. These existing conditions, along with the No Action Alternative, serve as a baseline against which other alternatives will be measured to evaluate the effects of the construction and operation of the solar array. The evaluation of potential impacts from the Proposed Action can also be found in Section 4.0, following the descriptions of each resource area. The following resources are evaluated in this EA: land use; geology, topography, and soils; water resources; biological resources; cultural resources; hazardous and toxic materials and waste; utilities; transportation and traffic; noise; air quality and climate change; human health and safety; socioeconomics, and cumulative impacts.

To the extent possible, analyses of the resources presented in this EA are streamlined based on the anticipated level of potential impact. The following resource areas are not analyzed in this EA because the Proposed Action either has no potential to affect them, or the potential impacts would be negligible:

Airspace. No impacts to airspace from construction or operation activities related to the Proposed Action are expected to occur.

Designated Natural Areas. No Wild or Scenic Rivers, Natural Areas, or National Forests are present in the Proposed Action area.

Prime and Unique Farmlands. There are no prime and unique farmland soils located within the Proposed Action area.

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 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, if applicable. 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.

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. Compliance with the following environmental regulations and EOs include but are not limited to the EOs and regulations presented in **Table 2-1** below.

Acts	Compliance
Archaeological Resources Protection Act (ARPA) of 1979	FULL
Clean Air Act, as amended (42 United States Code [U.S.C.]	FULL
Clean Water Act, 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	FULL
1980, as amended by the Superfund Amendments and Reauthorization Act of	
1986 (42 U.S.C. §9601 et seq.)	
Section 438 of the Energy Independence and Security Act (42 U.S.C. ch. 152	FULL
§17001 et seq.)	
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,	FULL
subch. II §470 et seq.)	
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
Solid Waste Disposal Act of 1965, as amended (42 U.S.C 6901 et seq.)	FULL

 Table 2-1 Compliance with Federal Environmental Statutes and Executive Orders

Acts	Compliance
Toxic Substances Control Act of 1976 (15 U.S.C. ch.53, subch. I §§2601-2629)	FULL
Watershed Protection and Flood Prevention Act of 1954 (16 U.S.C. §1101, et	FULL
seq.)	
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	FULL
(EO 12898)	
Federal Compliance with Pollution Control Standards (EO 12088)	FULL
Protection of Children from Environmental Health Risks and Safety Risks (EO	FULL
13045)	
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
Strengthening Federal Environmental, Energy, and Transportation Management	FULL
(EO 13514)	

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3. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Proposed Action and alternatives to the Proposed Action. In accordance with CEQ guidance in 40 CFR 1502.14, the purpose of this chapter is to sharply define the differences between the alternatives.

3.1. PROPOSED ACTION

The Proposed Action would include the construction and operation of an approximately 120,000 square feet (SF) three-story cyberoperations facility with an associated surface parking area on a soccer field in the southeastern corner of Fort Meade, Maryland. The Proposed Action would include open office spaces, operational areas, a large server area, telecommunication distribution systems, a loading dock area, and stormwater features. Mission support areas include joint staff offices, executive offices, cybersecurity training spaces, collaborative spaces, and meeting rooms; electrical/mechanical service and distribution components and systems; fire suppression, alarms; information technology infrastructure, communications, and security systems infrastructure. The parking lot will include approximately 300 surface parking spaces. In addition, a paved, laydown area on the south side of Huber Road will be solely used during construction.

3.2. NO ACTION ALTERNATIVE

Under the No Action Alternative, the Proposed Action would not be implemented. This results in MCCYWG continuing its operations from its current spaces. The No Action Alternative would not allow MCCYWG to fully meet its increasing mission requirements due to the heightened demands of fighting cyber-attacks. MCCYWG would not consolidate its personnel into one secure working space or have room for future operations expansion. The absence of a dedicated sole-use facility would negatively affect the performance of MCCYWG's dynamic and rapidly changing mission and hinder operations.

3.1.1. Alternative 1

Under Alternative 1, a facility at FMMD would be renovated/modernized to accommodate the growing needs of MCCYWG. Alternative 1 was eliminated from consideration due to the lack of available space at FMMD that would meet MCCYWG's requirements.

3.1.2. Alternative 2

Under Alternative 2, further space would be leased for MCCYWG's needs. Alternative 2 was eliminated from consideration due to a 2020 memo from the Assistant Secretary of the Navy that directed a moratorium on all lease considerations for the purpose of an economic analysis.

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4. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section presents the affected environment at the Proposed Action area and analyzes the environmental consequences of implementing the Proposed Action and No Action Alternative. The impacts of a proposed action can vary in duration. Two levels of impact duration could occur: short-term and long-term. Short-term impacts are temporary and generally occur during construction with the resource returning to preconstruction condition almost immediately afterward or represent impacts that could last up to two years following construction. Impacts considered long-term would occur if the resource would require more than five years to recover or result in a permanent change from an activity that affects a resource for the life of the project or beyond.

4.1. LAND USE

4.1.1. Affected Environment

4.1.1.1. Regional Land Use

FMMD encompasses approximately 5,107 acres and is located in the northwest corner of Anne Arundel County, Maryland approximately 17 miles southwest of downtown Baltimore and 24 miles northeast of Washington, DC. The state capitol, Annapolis, lies approximately 14 miles southeast of the installation. FMMD includes administrative areas, Army Family Housing areas, industrial and maintenance areas, the exchange mall complex, and the Kimbrough Ambulatory Care Clinic.

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 Maryland Area Regional Commuter (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 is the Tipton Airport and Patuxent Research Refuge, part of the U.S. Fish and Wildlife Service's (USFWS) National Wildlife Refuge System.

4.1.1.2. Land Use within FMMD

Privatized family housing 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 primarily consists of barracks, administrative, industrial, mission headquarters, range and training, parks and recreation, schools, retail, and soldier support functions. Recreation areas include Burba Lake and Centennial Park, with training areas in the southeast portion of the installation (USACE, 2020). Existing and

future use of Army installations are guided by each installation's Real Property Master Plan (RPMP).

The Proposed Action area is an approximately eight-acre parcel located within the southeast section of FMMD and is predominantly comprised of mowed grasses and landscape trees. It is currently categorized as an administrative and operational area but is primarily used as a military parade and exercise field. Soccer fields, physical training stations, and portable seating are located on the site. Primarily, the field is used for recreational soccer. There is a small, additional laydown/staging area that would be used for construction located south of Huber Road. This is an approximately 0.5-acre paved area that currently serves no function; however, the area is also categorized as administrative/operational.

Other facilities immediately surrounding the Proposed Action area include administrative, communication, and research buildings. Community resources include a child development center (CDC), baseball park, Recreational Vehicle (RV) camping site, and the Kimbrough Ambulatory Center. There are industrial and residential areas east of the FMMD boundary.

The Proposed Action is consistent with other proposed projects in the draft FMMD Area Development Plan in the immediate vicinity of the site (FMMD, 2020a). Short-range projects (0-5 years) include the renovation of Administration Building 2234, located at Humber Road and Morrison Street, demolitions of World War II (WWII) buildings located at Pepper Road and 2nd Street, and the renovation of Storage Building 2234 located at ¹/₂ Street and Chisholm Avenue. Mid-range projects (6-15 years) include the demolition of Building 1978 and construction of a new Network Enterprise Center located on the northwest corner of Ernie Pyle Street and Llewellyn Avenue, and the construction of a Department of Public Works (DPW) Base Operations Complex, located at 1 ¹/₂ Street and Chamberlin Avenue. Long-range projects (16-20 years) include the construction of a general-purpose auditorium at 3rd Street and Chisholm Avenue.

Although viewsheds are not a land use, for the purposes of this EA, a discussion of viewshed will be included in this section. Defined as the geographical area that is visible from a specific location, this definition includes everything visible from the Proposed Action area. 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. They can include cultural and historic landmarks, landforms of aesthetic value or significance, water surfaces, or vegetation. The viewshed informs the overall impression that a viewer receives of an area or its landscape. The visual characteristics of FMMD are dominated by areas with buildings, roadways, parking areas, landscaped grounds, and pockets of forest surrounded by development. The Proposed Action area is surrounded by other buildings, roadways, and wooded areas.

4.1.2. Environmental Consequences

4.1.2.1. Impacts from Construction of the Proposed Action

Negligible adverse, short-term, direct impacts would occur to land use from construction of the Proposed Action. Land use impacts are based on the level of land use sensitivity in areas affected by a proposed action and compatibility of proposed actions with existing and future planned

conditions. Factors considered in evaluating land use impacts include the potential for the Proposed Action to be incompatible with surrounding land uses, resulting in a change of land use that would degrade mission-essential activities; or be inconsistent or in conflict with the environmental goals, objectives, or guidelines of an installation or community comprehensive plan for the affected area.

Impacts to land use would be considered significant if the Army actions are substantially incompatible with existing military land uses and land use designations or have major conflicts with Army land use plans, policies, or regulations, or create a considerable land use conflict with off-post land use. Included are discussions regarding possible conflicts between the Proposed Action and the objectives of land use plans, policies, and controls for off-post lands potentially impacted. The Region of Influence (ROI) for this resource area is land use within the boundaries of FMMD and immediately surrounding communities, to include regional viewsheds. As the surrounding areas are already developed and new utilities and transportation networks are already in place, additional land acreage is not needed outside the Proposed Action area.

The Proposed Action would have the potential to affect the viewshed within the area. The facility is currently designed as a three-story building and would have a visual impact at the ground level. However, the surrounding area is already developed with several facilities of similar height and design aesthetics, and the impact to the viewshed would be negligible.

4.1.2.2. Impacts from Operation of the Proposed Action

Long-term, minor, direct, adverse effects on FMMD land use would be expected from implementing the Proposed Action due to the loss of the community soccer field. However, land use in the limit of disturbance (LOD) is currently designated as administrative/organizational and the facility would be compatible with the FMMD RPMP. In addition, the loss of a recreational resource on FMMD will be tempered by the availability of the other existing recreational facilities located on FMMD.

4.1.2.3. Impacts from the No Action Alternative

Implementation of the No Action Alternative would result in no impacts to land use in and around FMMD. The recreational and training fields would remain in use, and the site would continue to be available for further development projects as guided by the current designated land use.

4.2. GEOLOGY, TOPOGRAPHY, AND SOILS

4.2.1. Affected Environment

4.2.1.1. Topography

FMMD lies in the Atlantic Coastal Plain Physiographic Province, which is characterized by relatively flat topography that slopes towards to the east (MGS, 2020). FMMD has approximately 210 feet (ft) of topographic relief. The highest point is at 310 ft above mean sea level (msl) and occurs at the First Army Radio Station Tower, located in the northern most central portion of FMMD. The lowest elevation, less than 100 ft, occurs in the southwestern corner of FMMD, along

the Little Patuxent River. Most of the FMMD property slopes gradually to the south and southwest. Topography affects where development is feasible on the post. Where slopes are 10% or greater, the post should take care to maintain safe setback distances or regrade, as necessary. Slopes exceeding 10% are rare and occur primarily in pockets in the north-central and central parts of FMMD and along stream corridors (USACE, 2007). These steep slopes usually occur in natural wooded areas and are ideally suited as vegetated buffer zones for more developed areas.

The Proposed Action area is in the southeast corner of FMMD. The elevation of the Proposed Action area ranges from 156 ft above msl in the northeast corner to 176 ft above msl in the southeast corner with a slope of less than 1%. The laydown area varies from 162 ft above msl to 168 on the southernmost end.

4.2.1.2. Geology

The geologic history of the eastern United States (U.S.) is characterized by mountain-building processes and the cyclical opening and closing of a proto-Atlantic Ocean (USGS, 2000). During the mountain building event called the Alleghenian Orogeny, shallow water marine sediments were uplifted, forming the Blue Ridge-South Mountain anticlinorium. During the Cenozoic Era (1.65 million years before present to recent), the Blue Ridge-South Mountain anticlinorium began to erode, depositing Atlantic Coastal Plain sediments. Unconsolidated sand, clay, and silt compose the Atlantic Coastal Plain physiographic province. These sediments thicken towards the southeast, forming a wedge. Precambrian crystalline rocks underlie the sediments and are exposed along the boundary between the Coastal Plain and Piedmont provinces several miles to the west of FMMD.

4.2.1.3. Soils

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) has mapped two distinct soil types within the study area. Patapsco-Fort Mott-Urban soils is the dominant (80.1%) soil type in the LOD, with Russett-Christiana-Urban (19.9%) soils comprising the rest of the site (**Table 4-1**). These well-drained soils are found in the coastal plain regions and often in urban environments. Both soil types are non-hydric and not highly erodible soils as defined by NRCS. The soils have been disturbed in the Proposed Action area, as it is believed that the site was previously developed with a personnel barracks facility that has since been demolished and backfilled (USACE, 2022). The soils of the proposed laydown area remain disturbed from the pavement atop of them.

Map Unit Symbol	Map Unit Name	Acres in LOD	Percent of LOD	Hydric
PgB	Patapsco-Fort Mott-Urban land complex, 0 to 5% slopes	6.2	80.1%	No
RkB	Russett-Christiana-Urban land complex, 0 to 5% slopes	1.5	19.9%	No

Table 4-1 Soils within the Proposed Action Area

Source: USDA NRCS, 2022

4.2.2. Environmental Consequences

4.2.2.1. Impacts from Construction of the Proposed Action

Topography

Impacts to topography would be considered significant if the construction and operation of the Proposed Action alters the topography of the surrounding area. Under the Proposed Action, construction of the new MARFORCYBER facility would have no adverse impacts on topography.

Geology

Impacts to geology would be considered significant if the Proposed Action removes or alters bedrock resulting in structural instability to surrounding buildings or infrastructure. There would be no bedrock blasting or impacts to bedrock outcrops during the construction of the proposed building that would impact the geology of FMMD.

<u>Soils</u>

The construction of the Proposed Action would have short-term, minor, direct, adverse impacts on soils in the immediate area of proposed MARFORCYBER buildings. Early consultation was initiated with the USDA NRCS and their reply received on November 22, 2022, confirmed the soils in the Proposed Action area are non-hydric. They also stated that "the Russet soil which is mapped to the east has a seasonally high-water table at about 1.5 ft in the wettest time of the year most years. Therefore, during construction water may be an issue and any subsurface part of the structure may need to be water-proofed or have a properly designed drainage system to overcome this limitation."

Ground-disturbing activities would include vegetation and topsoil removal, the removal of mature landscape trees, and grading. An underground 12-inch water main that traverses the site north to south would be removed. Soils would be compacted, and soil layer structure would be disturbed and modified. Exposed soils would be susceptible to wind and surface runoff, which may lead to erosion and additional loss of soil. Soil productivity would be eliminated in the footprint of the building, entrance roads, loading docks, sidewalks, and parking areas, and decline in the remaining disturbed areas.

Proper construction management and planning and the use of appropriate best management practices (BMPs) for controlling runoff, erosion, and sedimentation during construction activities, would minimize adverse impacts to soils. Erosion and sediment controls, including a stabilized construction entrance, silt fencing, earth dikes and/or diversion fencing, and sediment traps, would be installed during construction. Areas disturbed outside of the new construction footprints would be reseeded, replanted, and/or re-sodded following construction activities, decreasing the overall erosion potential of the site and improving soil productivity.

Because the Proposed Action would disturb more than one acre of ground surface, either a General or Individual Permit for Stormwater Associated with Construction Activity would be applied to from Maryland Department of Environment (MDE). As the Proposed Action is expected to exceed 5,000 SF, an Erosion and Sediment Control Plan (ESCP) and Stormwater Pollution Prevention Plan (SWPPP) would be required. The contractor or organization constructing the MARFORCYBER facility would prepare and submit these erosion and sediment plans on behalf

of FMMD to the MDE, Water Management Administration for review and approval prior to the start of any construction activities. Additional soil erosion environmental protection measures may also be required in the associated state-issued construction permit (e.g., the National Pollutant Discharge Elimination System [NPDES] permit).

4.2.2.2. Impacts from Operation of the Proposed Action

Operation of the proposed MARFORCYBER facility would have long-term, minor, direct, adverse impacts at the Proposed Action area due to the disturbance of the soil layer profile and loss of topsoil in the new impervious areas. However, the impact to the soil profile would be minimal, as it was already disturbed due to the previous development of the site. These areas will be stabilized with the planned development and landscaping of the new facility. The operation of the MARFORCYBER facility would not affect topography or geology. There are no bedrock blasting or impacts to bedrock outcrops during either the operation of the proposed building that would impact the geology of FMMD.

4.2.2.3. Impacts from the No Action Alternative

Implementation of the No Action Alternative would have no impacts on topography, geology, or soils. The facility would not be constructed, and there would be no activities that would change the topography, geology, the existing soil quality of the site.

4.3. WATER RESOURCES

Water resources are defined as sources of water available for use by humans, flora, or fauna, including surface water, groundwater, near-shore waters, wetlands, and floodplains. Water resources are broken down into the groups below, each of which is defined individually.

4.3.1. Affected Environment

4.3.1.1. Surface Water

Surface water resources, including but not limited to, storm water, ponds, lakes, streams, rivers, and wetlands, are important for economic, ecological, recreational, and human health reasons. Year-round presence of water in surface water features varies, falling into the categories of perennial, intermittent, and ephemeral. Perennial surface waters normally have water year-round. Intermittent surface waters flow only when they receive water from rainfall or springs, or from some surface sources such as melting snow. Ephemeral surface waters flow in direct response to precipitation; they receive little to no water from springs, melting snow, or other source and its channel is over the water table at all times (USGS, 2013). Surface water systems are typically described in terms of watersheds, a land area bounded by topography that drains water to a common destination.

FMMD is located within the greater Chesapeake Bay watershed. The Chesapeake Bay is North America's largest and most biologically diverse estuary, home to more than 3,600 species of plants, fish, and animals (Chesapeake Bay Program, 2022). To protect and restore this valuable ecosystem, Maryland joined a consortium of state and federal agencies to establish the Chesapeake

Bay Program partnership. The Army's conservation mission supports the Chesapeake Bay Programs, and FMMD is implementing BMPs that support the guidelines established by the partnership.

FMMD lies almost entirely within the Little Patuxent River watershed (Maryland watershed code number 02131105) of the Patuxent River Basin. A small area in the northeast corner of the FMMD drains to the Severn River. The Patuxent River is approximately two miles from FMMD and drains an area of 932 square miles before emptying into the Chesapeake Bay on the western shore and is designated a "scenic river" under the Maryland Scenic and Wild Rivers Act of 1968. The Act mandates the preservation and protection of natural values associated with each designated river, and state and local governments are required to take whatever actions necessary to protect and enhance the qualities of the designated rivers. The Little Patuxent River was listed on Maryland's list of impaired waters under Section 303(d) of the CWA in 2011. Impairments include sediments, metals (cadmium) and biological. An Anne Arundel County DPW sampling in 2019 confirmed, the majority of the Little Patuxent River remains impaired (Anne Arundel DPW, 2019). There are currently two final approved Total Maximum Daily Loads (TMDLs) within the Little Patuxent River; a total suspended solids (TSS; sediment) TMDL from urban stormwater sources approved in 2011; and a TMDL for polychlorinated biphenyls (PCB) for the Patuxent River, which includes the Little Patuxent approved in 2017. Due to this, it is assumed that stormwater runoff from new development will be treated to the maximum extent practicable to achieve 90% sediment removal (Anne Arundel DPW, 2020).

FMMD contains approximately 7.2 miles of perennial streams as well as other intermittent and ephemeral channels. The major water resources on FMMD are Burba Lake and the Midway Stream Branch along with its primary tributary, the Franklin Branch, both of which are tributaries of the Little Patuxent River. The majority of FMMD is drained by Midway Branch, which flows for the entire length of FMMD from the northern end to the southern end, then confluences with the Little Patuxent River off-site.

Riparian buffers were incorporated into the FMMD Comprehensive Expansion Management Plan and subsequent Base Realignment and Closure (BRAC) projects to minimize impacts and degradation to waterbodies leading to the Chesapeake Bay. FMMD maintains a voluntary 100foot riparian forest buffer along streams and abutting wetlands to the maximum extent practical.

There are no streams located on the Proposed Action area. Approximately 250 ft west of the site is an unnamed tributary to the Franklin Branch of the Little Patuxent River. Surface water on the site drains from south to north to the northwest corner of the site. In addition, there is a swale flowing east to west just south of Fourth Street that connects to the northwest corner of the site.

4.3.1.2. Floodplains

Floodplains are defined as relatively flat areas adjacent to rivers, streams, watercourses, bays, or other bodies of water subject to inundations during flood events. The likelihood of these flood events is categorized by Federal Emergency Management Agency (FEMA). The 500-year floodplain has a 0.2% change of flooding each year and is considered a moderate flood hazard area. If a project site is determined to be located within a 100-year floodplain (1% chance of annual flooding), any federal development at that site is subject to EO 11988, *Floodplain Management*.

On January 30, 2015, EO 11988 was amended by EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input.* EO 13690 provides three approaches that federal agencies can now use to establish the flood elevation and hazard area for consideration in decision-making: climate-informed science approach, adding two to three ft of elevation to the 100-year floodplain, and using the 500-year floodplain. In response to EO 13690, FEMA issued floodplain management guidelines for implementing EOs 11988 and 13690, dated October 8, 2015.

The proposed site is within FEMA flood map areas 4003C0126E effective on 16 October 2012 (FEMA, 2012). These maps indicate that the Proposed Action area is entirely within Zone X, defined as an area determined to be outside the 500-year flood and protected by levee from 100-year flood.

4.3.1.3. Wetlands

Wetlands are protected under the CWA. Jurisdictional wetlands are those wetlands subject to regulatory protection under Section 404 of the CWA and EO 11990 *Protection of Wetlands*.

The United States Army Corps of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR Part 328). Important wetland functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, storm water attenuation and storage, sediment detention, and erosion protection. If a formal wetland delineation has already been determined for the Army installation for the Proposed Action area, this can be used to determine the occurrence of jurisdictional wetlands or other regulated Waters of the U.S. within the footprint of the construction area for any proposed new facilities and associated infrastructure.

FMMD has approximately 217 acres of wetlands, most of which occur along the Little Patuxent River floodplain in the southwestern portion of FMMD and along Midway Branch, Franklin Branch, and their tributaries. Most of the wetlands on FMMD are palustrine forested, which typically include sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), white oak (*Quercus alba*), tulip popular (*Liriodendron tulipifera*), loblolly pine (*Pinus taeda*), and black gum (*Nyssa sylvatica*) along the Little Patuxent River and in the northwestern portion of FMMD. Smaller areas of wetland within FMMD include palustrine emergent and palustrine scrub-shrub. In addition to the 100-foot riparian forest buffer along streams and abutting wetlands FMMD maintains (**Section 4.3.1.1– Surface Waters**), the state of Maryland requires a 25-foot buffer for non-tidal wetlands under the Maryland Nontidal Wetlands Protection Act.

There are no wetland areas as classified by the USFWS National Wetland Inventory or MDNR within the Proposed Action area. This was confirmed during a site visit conducted by USACE Baltimore District staff on 29 August 2022. There are wetlands associated with the Franklin Branch tributary, west of the Proposed Action area. In addition, according FMMD DPW data, there are two small, isolated wetlands south of 2 ½ Street. An additional site visit in August of 2023 confirmed the additional laydown/staging area does not contain wetlands.

4.3.1.4. Groundwater

Groundwater is classified as any source of water beneath the ground surface and may be used for potable water, agricultural irrigation, and industrial applications. Near-shore waters can be directly affected by human activity and are important for human recreation and subsistence.

The Patuxent, Upper Patapsco, and Lower Patapsco aquifers lie under the FMMD property (FMMD, 2004). The Lower Patapsco and Patuxent aquifers are separated by the Arundel Clay formation. The Patuxent Aquifer consists of lenticular interfingering sands, silts, and clays capable of yielding large quantities of water. This aquifer is 200 to 400 ft thick and is the deepest of the three aquifers beneath FMMD. The Upper Patapsco Aquifer is unconfined and is considered the water table aquifer.

The wells draw from the Patuxent Aquifer and range in depth from 500 to 800 ft below ground surface. Individual wells range in capacity from 720 gallons per minute (GPM) to 1,000 GPM (USACE, 2007). Total capacity of the wells is 5,000 GPM or 2.75 million gallons per day (MGD). The Water Appropriation and Use Permit (Permit Number AA1969G021[7]) allows an average withdrawal of approximately 3.3 MGD from these wells.

4.3.1.5. Stormwater

Stormwater runoff at FMMD is conveyed to the three primary drainages, with the majority of stormwater runoff 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 (FMMD, 2005). In recent years, FMMD has followed federal and MDE environmental site design standards for development. Additionally, FMMD has a stormwater management plan and employs a number of stormwater management initiatives, including low impact development (LID), manage stormwater. Some examples of these include creating rain gardens, replacing concrete storm drains with grass swales, installing tree box filters, and creating stormwater retention ponds.

Two culverts on the northeast corner direct stormwater under Chamberlin Avenue to the site and into a drainage ditch that runs east to west south of Fourth Street. Stormwater drains off the site through an outlet on the northwest corner and through the stormwater drainage system, eventually discharging into the unnamed tributary of Franklin Branch.

Energy Independence and Security Act of 2007

Army stormwater management practices are also required to comply with Section 438 of the Energy Independence and Security Act (EISA) of 2007, which directs federal agencies sponsoring development or redevelopment of over 5,000SF in size 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 water flow. This requirement is further emphasized by Army policy which states development projects of 5,000 SF (1,524 square meters) or greater must be planned, designed, and constructed to manage any increase in stormwater runoff (i.e., the difference between pre- and post-project runoff) within the LOD.

Code of Maryland Stormwater Regulations

Provisions of Code of Maryland Regulations (COMAR) 26.17.02.01 *Maryland Department of the Environment, Water Management, Purpose and Scope* require that all jurisdictions in Maryland implement a stormwater management program to control the quality and quantity of stormwater runoff resulting from new development. The regulations state:

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.

These regulations for stormwater management apply to the development or redevelopment of land for residential, commercial, industrial, or institutional use, but do not apply to agricultural land management practices. These provisions specify the minimum content of county and municipal ordinances, responsibilities of the Administration regarding the review of the county and municipal stormwater management programs, and approval of State-constructed projects for stormwater management by MDE. These provisions apply to all new development and redevelopment projects that do not have final approval for erosion and sediment control and stormwater management plans by May 4, 2010.

COMAR Title 26.17.02.05 *When Stormwater Management is Required* exempts any developments that do not disturb over 5,000 SF of land area or 100 cubic yards of earth. Conversely, developments disturbing over 5,000 SF of land or 100 cubic yards of earth require stormwater management. The stormwater management plan requirements are outlined in COMAR 26.17.02.09.

Environmental site design (ESD) requires a developer to demonstrate that all reasonable opportunities for meeting stormwater requirements using ESD have been exhausted by using natural areas and landscape features to manage runoff from impervious surfaces and that structural BMPs have been used only where absolutely necessary. The 2015 Stormwater Management Guidelines for State and Federal Projects would be implemented to the maximum extent technically feasible for the Proposed Action.

<u>Municipal Separate Storm Sewer System Phase II</u>

Section 402(p) of the CWA addresses the unique permitting needs for Municipal Separate Storm Sewer System (MS4s) under NPDES. The USEPA's first National Pollution Discharge Elimination System (NPDES) regulation, finalized in 1973, recognized the challenges of regulating stormwater under the CWA and exempted most stormwater discharges from the NPDES permit requirement. In 1977, a federal court ordered the USEPA to develop permitting regulations for stormwater discharges. However, those regulations still had not been issued a decade later. Congress, in 1987, stepped in and added Section 402(p) to the CWA to create a distinct permitting standard for MS4s.

Section 301 of the CWA generally mandates that NPDES permits include water quality-based

effluent limits that are as stringent as necessary to ensure that permittees' discharges comply with all applicable water quality standards. Section 402(p) exempts MS4 permits from this requirement and replaces it with a unique standard; MS4 permittees must "reduce the discharge of pollutants to the maximum extent practicable.

MDE oversees the implementation of MS4 regulations and permits. MS4 permits require the permitholder to reduce the discharge of pollutants to the maximum extent practicable. The FMMD, Environmental Division, Stormwater Program is required to meet the MS4 Phase II permit requirements for the treatment of approximately 200 acres of impervious surface. FMMD would also comply with the MS4 Phase II State and Federal permit which obligates minimum control measures for construction and post-construction runoff control.

The FMMD Stormwater Program's goal is to meet MS4 permit requirements by using stream restoration for TMDL wasteload reductions that result in impervious surface acreage equivalent credits. Projects are designed to improve degraded urban stream systems by providing for functional (stream mechanics) and biological lift (abundance/diversity of organisms).

The FMMD DPW is currently planning the restoration of eight priority stream reaches on the post. New BMPs and BMP retrofits are all part of the restoration plan. The Stormwater and Natural Resource Programs have shared interest for meeting regulatory requirements and providing ecosystem benefits. The approach has been to assess the restoration potential for select streams and apply means and methods to the maximum ecological extent practical to meet programmatic goals. The Stream Functions Pyramid Framework and the USEPA Chesapeake Bay – Stream Restoration Expert Panel Protocols are used to accomplish this goal.

General Construction Permit

As part of the process to obtain the construction general permit for stormwater discharges during construction, the construction contractor would prepare a SWPPP. SWPPPs include implementation of BMPs, performing frequent visual inspections, and conducting benchmark monitoring to determine BMP effectiveness. Monitoring results are analyzed in relationship to the identified water quality objectives and if the benchmarks are not being reached, the BMPs would be modified.

4.3.1.6. Coastal Zone Management Plan

The CZMA of 1972 (16 USC §1451, et seq., as amended) provides assistance to states in cooperation with federal and local agencies, for developing land and water use programs in the coastal zone. CZMA policy is implemented through state Coastal Zone Management (CZM) programs. Federal lands are excluded from the jurisdiction of these state programs. However, activities on federal lands are subject to CZMA federal consistency requirements if the federal activity would affect any land or water or natural resource of the coastal zone, including reasonably foreseeable effects. Specifically, in accordance with Section 307 of the CZMA and 15 CFR 930 subpart C, federal agency activities affecting a land or water use or natural resource of a State's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of the State's coastal management program.

According to 15 CFR 930.41, the reviewing state has 60 days from receipt of the Consistency Determination to "concur" or "object." States are not required to concur with a Negative Determination. However, if a response from the state is not received by the 60th day of submittal (unless a one-time extension was requested), the federal agency may presume state agency concurrence. Additionally, 15 CFR 930.43 provides that should a state object to a Consistency Determination, the state and federal agencies should attempt to resolve their differences. However, if no resolution can be met, the federal agency may proceed if federal law prohibits the agency from being fully consistent or if that federal agency has concluded that its Proposed Action is fully consistent with the enforceable policies of the management program, though the state agency objects. If a federal agency decides to proceed with a federal agency activity that is objected to by a state agency, or to follow an alternative suggested by the state agency, the federal agency shall notify the state agency of its decision to proceed before the project commences.

All of FMMD is located within Maryland's Coastal Zone and is therefore subject to regulations pursuant to Maryland's CZM program. This includes the Chesapeake Bay, into which water from streams and their tributaries on FMMD flow. MDE regulates activities that are proposed within the CZM Program through federal consistency requirements. Under these requirements, applicants for federal and state licenses or permits must certify their proposed activity will be conducted in a manner consistent with the State's CZM Program. A Coastal Zone Consistency determination has been prepared for this project and is included in **Appendix D**. If a state permit is not required for a project, MDE has the authority to "concur" or "object" to the federal consistency determination.

4.3.2. Environmental Consequences

The general definitions of what defines significant impacts for each resources area are stated below.

Water Resources: Impacts to water resources would be considered significant if impacts (1) substantially deplete groundwater supplies or interfere with groundwater recharge, (2) result in a violation of federal and/or state water quality standards, (3) cause an unpermitted direct impact on a Water of the U.S. or (4) alter existing drainage patterns.

Floodplains: Impacts to floodplains would be considered significant if impacts (1) threaten or damage unique hydrologic characteristics (2) endanger public health by creating or worsening health hazard conditions, or (3) violate established laws or regulations adopted to protect floodplains.

Wetlands: (1) Impacts to wetlands would be considered significant if impacts fill or alters a portion of a wetland that would cause irreversible negative impacts to a species or habitat of high concern, (2) irreversibly degrades the quality of a unique or pristine wetland and (3) reduces population size or distribution of species of high concern.

Groundwater: Impacts to groundwater would be considered significant if impacts (1) reduce water availability or supply to existing users, (2) overdraft groundwater basins, or (3) endanger public health by creating or worsening health hazard conditions.

Coastal Zone Resources: The Proposed Action would be considered to have a significant impact on the coastal zone if the Proposed Action was inconsistent with enforceable policies under the

Maryland CZMP, and permits and mitigation, if required for construction within the coastal zone, were not obtained.

4.3.2.1. Impacts from Construction of the Proposed Action

Surface Water

Construction of the Proposed Action could result in short-term, minor, direct, adverse impacts to surface water. This impact could occur if sediment-laden stormwater migrated to the Franklin Branch tributary. During the design of the project, appropriate ESCPs would be developed and FMMD or the construction contractor would obtain the necessary permits. Where possible, the designs would be developed to avoid or minimize impacts to surface water resources. Provided that a construction general permit for stormwater has been approved and implemented, runoff of stormwater and pollutants from a construction site is considered to be in compliance with regulatory requirements and would not cause an impairment of surface waters.

With the implementation of permit-related construction BMPs, no construction-related stormwater runoff is expected to intersect with the Franklin Branch tributary at any time during construction or operation of the Proposed Action; however, this is still a possibility and therefore a minor adverse effect. A temporary silt fence would be placed around the laydown/staging area to prevent any sediment from migrating offsite.

<u>Stormwater</u>

Construction of the Proposed Action could result in short-term, minor, direct, adverse impacts to stormwater. The majority of the site would change approximately five acres from pervious to impervious surfaces which would increase the volume and quantity of stormwater runoff from the site.

As part of the process to obtain the construction general permit for storm water discharges during construction, a SWPPP would be prepared. SWPPPs include implementation of BMPs, performing frequent visual inspections, and conducting benchmark monitoring to determine BMP effectiveness. Monitoring results are analyzed in relationship to the identified water quality objectives and if the benchmarks are not being reached, the BMPs would be modified. These measures would ensure that construction-related impacts to stormwater quality remain at a short-term, direct, negligible adverse level. With the implementation of BMPs, runoff would be minimized; but cannot be eliminated with the increase in impervious surface area.

<u>Floodplains</u>

The site is outside of the 100- and 500- year floodplains, and there would be no impacts as a result of the construction of the Proposed Action.

<u>Wetlands</u>

There would be no impacts to wetland resources as a result of the construction of the Proposed Action. There are no wetlands located on the Proposed Action area that would be impacted during construction of the proposed MARFORCYBER facility. Sediment and erosion control and
stormwater BMPs would be employed to prevent indirect impacts to wetlands in the vicinity of the site during construction.

Groundwater

The Proposed Action construction activities could have a short-term, indirect, negligible, adverse impact on groundwater quality. Although construction would not directly impact or encounter groundwater resources, during construction, accidental releases of petroleum-based fluids from construction equipment could occur. If not immediately remediated, it could adversely impact groundwater quality. To avoid such potential releases and impacts, construction equipment would be properly maintained in good working order and equipped with emergency spill kits, with workers trained in proper deployment and use of these kits. This would ensure that construction contractors are prepared to respond to an emergency release of petroleum-based fluids, contain the release, and prevent adverse impacts to groundwater from occurring. Additionally, construction equipment would be refueled in a designated area equipped with impervious surfaces to avoid potential releases to pervious surfaces and the underlying groundwater.

Coastal Zone Resources

Construction of the Proposed Action is not anticipated to impact resources of the Maryland coastal zone because none of the activities would adversely impact surface waters or wetlands at or beyond FMMD. MDE, Water and Science Administration received, and was able to review, the Proposed Action during the public comment period and had [NO] comments, which constitutes the State's concurrence that the activities authorized for the Proposed Action are consistent with the Maryland Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act of 1972, as amended (see **Appendix D**).

4.3.2.2. Impacts from Operation of the Proposed Action

Surface Water

Operations of the Proposed Action would result in long-term, negligible, direct adverse impacts to surface waters located within the vicinity of the site. The conversion of pervious to impervious areas would be less than six acres and would come from rooftops, concrete sidewalks, architectural pavers, traditional asphalt for entrance roads, parking lot access lanes, and parking stalls, and concrete hardstand for loading docks. Through the use of BMPs and LID practices, FMMD would comply with COMAR, which is more stringent than Section 438 of EISA, to ensure that both pre-and post-hydrology remain the same.

Stormwater

Operation of the Proposed Action would have a long-term, moderate, direct, beneficial impact on stormwater quality and management capacity due to the re-design of the current stormwater features on site. The drainage ditch located on the north end of the site would be removed. Roof drainage would be conveyed through downspouts to underground pipes to stormwater facilities. A new storm drain system would connect stormwater management facilities to convey overflow storms and underdrains. Drainage would be directed from the north and south towards micro-

bioretention areas and 10-year storms would be conveyed through overflow inlets and retained within an underground storage facility under the new north parking lot.

Stormwater management for this project would be designed to comply with MDE Maryland Stormwater Design Manual Volumes I & II, revised in 2009 with ESD requirements, the Maryland Stormwater Management Guidelines for State and Federal Projects (2015), MDE's applicable Technical Memorandums, and EISA Section 438. To satisfy ESD water quality requirements for stormwater management, micro-scale practices would be distributed throughout the site including bioretention, swales, and permeable pavements. Non-structural practices, such as impervious disconnection, would also be implemented. To satisfy water quantity requirements, the project would be designed to attenuate the 10-year, 24-hour storm, with above ground storage in the bioretention areas and underground storage in the gravel layers of the bioretention, as well as the underground storage facility under the north parking area. This would maintain the post-project peak discharge rate equal to or less than the pre-project discharge.

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, requires that all new construction comply with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles), including employing design and construction strategies that reduce stormwater runoff. Section 438 of EISA requires that any development or redevelopment project involving a federal facility with a footprint exceeding 5,000SF use site planning, design, construction, and maintenance strategies to maintain or restore the pre-project hydrology of the property with regard to temperature, rate, volume and duration of flow. Compliance with these requirements would be met through the implementation of LID technologies, which would maintain or restore natural hydrologic functions of the site. Examples include, but are not limited to, minimizing total site impervious areas, directing building drainage to vegetative buffers, using permeable pavements where practical, and breaking up flow directions from large, paved surfaces. Additionally, compliance with Section 438 of the EISA is expected to be superseded by the more stringent requirements of COMAR.

<u>Floodplains</u>

The site is outside of the 100- and 500- year floodplains, and there would be no impacts as a result of the operation of the Proposed Action.

<u>Wetlands</u>

There would be no impacts to wetland resources as a result of the operation of the Proposed Action as there are no wetlands within the LOD of the Proposed Action. Sediment and erosion control and stormwater BMPs would be employed to prevent indirect impacts to wetlands in the vicinity of the site after the facility was built.

<u>Groundwater</u>

Operation of the Proposed Action would have a long-term, indirect, negligible, adverse impacts on groundwater quality due to the new impervious surfaces and reduced groundwater recharge volume. Operational activities would not encounter groundwater resources and thus would have no additional adverse impact.

Coastal Zone Resources

Operation of the Proposed Action is not anticipated to impact resources of the Maryland coastal zone because none of the activities would adversely impact surface waters or wetlands at or beyond FMMD.

4.3.2.3. Impacts from the No Action Alternative

Implementation of the No Action Alternative would result in no impacts to surface waters. The facility would not be constructed, and there would be no changes to the existing hydrology in and around the Proposed Action area.

4.4. **BIOLOGICAL RESOURCES**

Biological resources include native or naturalized plants and animals and the habitats (e.g., wetlands, forests, and grasslands) in which they live. Protected biological resources include plant and animal species listed by the State of Maryland as rare, threatened, or endangered (RTE) 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.

4.4.1. Affected Environment

4.4.1.1. Vegetation

Vegetative cover at FMMD consists of forestland, open land/meadow, and developed areas with maintained turf and ornamental street trees; all of which constitute FMMD's green infrastructure. Green infrastructure is broken down into hubs and corridors in Maryland, which are mapped using satellite imagery, road and stream locations, biological data, and other information. Hubs are typically defined as unfragmented forest areas hundreds or thousands of acres in size and are vital to maintaining the state's ecological health. They provide habitat for native plants and animals, protect water quality and soils, regulate climate, and perform other critical functions. Corridors are linear remnants of natural land such as stream valleys and mountain ridges that allow animals, seeds, and pollen to move from one area to another. These are crucial in the prevention of habitat fragmentation. They also protect the health of streams and wetlands by maintaining adjacent vegetation. Preserving linkages (corridors) between the remaining blocks of habitat (hubs) will ensure the long-term survival and continued diversity of Maryland's plants, wildlife, and environment. FMMD maintains both green infrastructure hubs and corridors.

Less than one-third of the FMMD property, approximately 1,500 acres, is forested. Many native forests were cleared prior to the formation of FMMD for agriculture. Larger remaining forested tracts are located towards the perimeter of FMMD. Many of these larger tracts are connected by riparian forest corridors. Larger tracts are around 70 years old, but some stands predate the installation. Development at FMMD has resulted in forest fragments and recently reforested areas.

As described in the Integrated Natural Resources Management Plan (INRMP), extensive development has resulted in the retention of few areas of native vegetation at FMMD, most of

which are associated with stream corridors. The largest wooded area at FMMD is in the southwest corner and is associated with the Little Patuxent River. The dominant vegetation in this area canopy is red maple, sweet gum (*Liquidambar styraciflua*), and black gum. The dominant understory vegetation consists of northern arrowwood (*Viburnum recognitum*), invasive Japanese honeysuckle (*Lonicera japonica*), common greenbriar (*Smilax rotundifolia*), and eastern poison ivy (*Toxicodendron radicans*).

Smaller wooded areas are scattered throughout FMMD in the uplands (FMMD, 2004). They are dominated by white, red (*Q. rubra*), and chestnut oak (*Q. prinus*); mockernut and pignut hickory (*Carya tomentosa* and *C. glabra*); flowering dogwood (*Cornus florida*); highbush blueberry (*Vaccinium corymbosum*); common greenbriar; loblolly and pitch pine (*P. rigida*); and eastern poison ivy.

Most of the developed portions of FMMD have been landscaped using a combination of turf grasses interspersed with native and exotic trees and shrubs, including elm (*Ulmus* sp.), maple (*Acer* sp.), flowering cherry (*Prunus* sp.), black willow (*Salix nigra*), flowering dogwood, and an assortment of holly cultivars (*Ilex* sp.) (FMMD, 2004).

EEE Consulting, Inc. prepared a *Planning Level Vegetation Surveys* report in 2014 (EEE, 2014). The report included three components: a Flora Planning Level Survey Update and Floristic Inventory, a RTE Planning Level Survey Update, and a Vegetation Communities Planning Level Survey and Forest Mapping. The surveys identified 450 taxa, including 28 invasive species, one state-endangered plant (Torrey's Rush, *Juncus torreyi*), and 134 taxa not previously identified in prior surveys conducted in 1994, 2001, or 2009 surveys. There were 711 total taxa identified within FMMD from 1994 to 2013. No federally-listed plants were identified (EEE, 2014).

The Proposed Action area is comprised of manicured landscape areas. A site visit conducted by USACE Baltimore District staff on 29 August 22 determined that the majority of the site is mowed grass. There are also six mature landscape trees located along the south and west sides of the site: a pin oak (*Q. palustris*), red maple, sweet gum, white oak, and two willow oaks (*Q. phellos*). In addition, there is a small stand of the invasive northern catalpa (*Catalpa speciosa*) located in the northeast corner of the site. The laydown/staging area is mainly comprised of pavement. However, there is a small section of immature trees within the LOD adjacent to the laydown area. Directly east of Huber Road is mowed grass, followed by immature wooded area further east. It mostly consists of Bradford Pear trees.



Figure 4-1 Northern Catalpa in Stormwater Drainage

Forest Conservation Act

It is the intent of FMMD to maintain a campus-like environment and conserve forested areas to the maximum extent practical in accordance with the Maryland Forest Conservation Act (FCA) while continuing to sustain and support current and future missions. This includes managing the FMMD forest conservation program in accordance with the 2013 Memorandum of Understanding between the State of Maryland and the DoD concerning federal consistency requirements of the CZMA.

Development and construction projects are required to follow the current FMMD FCA and Tree Management Policy. In keeping with the Maryland FCA standards, FMMD requires that the equivalent of 20% of a project area be forested. All projects 40,000 SF or larger must comply with the FMMD FCA policy. Other projects are evaluated on a case-by-case basis. Site developments must preserve or establish 20% forest cover, regardless of whether or not the site was forested before the construction. Should existing forest mitigation areas require disturbance, the project proponent shall replace the existing mitigation area at a two to one (2:1) ratio above the required 20%. Street trees are to be replaced at a minimum of a 1:1 ratio, with preference given to the preservation of specimen trees. Specimen tree replacement ratios would be calculated on a case-by-case basis. Forestry practices that cannot feasibly be performed within the project area shall be performed on other designated land areas within FMMD.

FMMD participates in the Army's conservation reimbursable and fee collection program for forestry. This program exists to provide ecosystem-level management that supports and enhances the land's ability to support each installation's respective military missionscape, while simultaneously obtaining ecologically responsible results that satisfy all federally mandated requirements for natural resources. Program revenues are generated through the sale of forest products. The fair market value of all forest products removed due to the Proposed Action shall be deposited into the Army's Reimbursable Forestry Account to be utilized for natural resource activities and ecosystem management at Army installations.

4.4.1.2. Wildlife

In 2013, Environmental Systems Analysis, Inc. (ESA, 2014) conducted a study for fauna and wildlife populations, including breeding amphibians and a Burba Lake fisheries study. Most of the observed animal species are common to Anne Arundel County and the central Maryland area. During the study, a total of 13 bird and 11 mammal species (**Table 4-2**) and 11 reptile and amphibian species (**Table 4-3**) were identified. The species observed during the 2013 survey were similar to those found during the 2009 flora and fauna survey performed by USACE (USACE, 2009).

Scientific Name	Common Name
Odocoileus virginianus	White-tailed deer
Procyon lotor	Raccoon
Sciurus carolinensis	Eastern gray squirrel
Urocyon cinereoargenteus	Gray fox
Didelphimorphia	Opossum
Lepus curpaeums	Eastern cottontail
Zenaida macroura	Mourning dove
Vulpes vulpes	Red fox
Anas platyrhynchos	Mallard
Butorides virescens	Green heron
Cardinalis cardinalis	Northern cardinal
Agelaius phoeniceus	Redwing blackbird
Felis catus	Domestic cat
Cyanocitta cristata	Eastern blue jay
Quiscalus quiscula	Common grackle
Passeridae sp.	Sparrow
Fringillidae sp.	Finch
Branta canadensis	Canada goose
Corvus brachyrhynchos	American crow
Marmota monax	Groundhog
Species unknown	Mouse
Dumetella carolinensis	Gray Catbird
Turdus migratorius	American robin

 Table 4-2 Mammals and Birds Present at FMMD in 2013
 Present at FMMD in 2013

Source: (ESA Inc., 2014)

Scientific Name	Common Name
Pseudacris crucifer (frog)	Spring peeper
Lithobates clamitans (frog)	Green frog
Lithobates sylvatica (frog)	Wood frog
Acris crepitans (frog)	Eastern cricket frog
Lithobates sphenocephalus (frog)	Southern leopard frog
Anaxyrus americanus (toad)	American toad
Ambystoma opacum (salamander)	Marbled salamander
Ambystoma maculatum (salamander)	Spotted salamander
<i>Terrapene carolina</i> (turtle)	Eastern box turtle
Chelydra serpentina (turtle)	Common snapping turtle
Plestiodon fasiatus (lizard)	Common five-lined skink

Table 4-3 Reptiles and Amphibians Present at FMMD in 2013

Source: (ESA Inc., 2014)

4.4.1.3. Rare, Threatened and Endangered Species

Under the 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. Critical habitat for federally-listed species includes "geographic areas on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection." Critical habitat can include areas not occupied by the species at the time of the listing but that are essential to the conservation of the species. The Sikes Act provides for cooperation by the Department of the Interior and DoD with State agencies in planning, development, and maintenance of fish and wildlife resources on military reservations throughout the U.S.

USACE Baltimore District submitted a request on 2 February 2023, through the USFWS Information for Planning and Consultation (IPaC) online web service to determine the potential of impacting protected resources and species. An updated IPaC was submitted on 24 August 2023 to include the additional laydown area. The IPaC resource list can be found in **Appendix B** As reported through the USFWS Resource List, there are no critical habitats or wetlands within the project site. Although the Department of Interior, USFWS Patuxent Wildlife Refuge, is adjacent to FMMD, the Proposed Action is over a mile away from the border and there will be no impacts to their property. The IPaC resource list identified two species, the endangered northern long-eared bat (NLEB) (*Myotis septentrionalis*), and the candidate species monarch butterfly (*Danaus plexippus*), as potentially occurring within the LOD.

The presence of the NLEB and the endangered Indiana Bat (*Myotis sodalis*), have been acoustically detected on FMMD during surveys conducted in 2017 through 2018 (Deeley, 2018). No hibernaculum or summer roost trees have been identified on FMMD or in Anne Arundel County, Maryland, and there is a relatively low chance of maternity colony presence.

As the NLEB has the potential of occurring on the project site, tree clearing for this project would be coordinated with USFWS through the FMMD DPW Environmental Division and would be subject to tree clearing restrictions (no tree clearing) from April 1 through November 14. On 29 November 2022, the USFWS published a final rule to reclassify the NLEB as endangered under

the ESA, due largely to the impacts of white-nose syndrome. These effects took place 31 March 2023. FMMD lies within the eastern range of the NLEB and contains suitable habitat, mixed hardwood forests over three inches diameter at breast height, for summer roost trees. USFWS has not yet designated critical habitat for NLEB.

The monarch butterfly is also listed in the IPaC screening as a candidate species and under consideration for official listing. Although there are generally no Section 7 requirements for candidate species, USFWS encourages agencies to take advantage of opportunities that may conserve the species. Primary threats include loss and degradation of habitat, use of herbicides and pesticides, urban development, and climate change. Conservation efforts include protection of the obligate milkweed plants (primarily *Asclepias* sp.) monarchs use for egg deposition and larvae feeding as well as other nectar resources for adults. Critical habitat has not been designated for the monarch.

The USFWS IPaC screening identified 12 species of Birds of Conservation Concern within the project area that are protected under the Migratory Bird Treaty Act of 1918. All species listed can be viewed in the IPaC in **Appendix B**. The bald eagle (*Haliaeetus leucocephalus*) is also identified due to the special protections afforded under the Bald and Golden Eagle Protection Act of 1940, however there are no documented bald eagle nesting areas on the project site.

State Listed Species

State-listed species are not protected under the ESA; however, whenever feasible, FMMD cooperates with State authorities in an effort to identify and conserve state-listed species. The state-listed faunal species that have been detected on FMMD include the glassy darter (*Etheostoma vitreum*), American brook lamprey (*Lethenteron appendix*), coastal plain swamp sparrow (*Melospiza georgiana nigrescens*) and northern waterthrush (*Parkesia noveboracensis*). Findings from a 2013 study for fauna and wildlife populations (ESA, 2014) provided updates on the glassy darter. The glassy darter was observed and documented in previous fish surveys conducted on FMMD, from 1992 through 2004. The glassy darter has been identified as occurring at FMMD, within the 9500 Tract of the Little Patuxent River, and immediately downstream and off-site of FMMD.

Three state-listed floral species have been detected on FMMD. These include blunt-lobe grapefern (*Sceptridium oneidense*), Torrey's rush, and partridge pea (*Chamaecrista fasciculate var. macrosperma*), and one state-wide extirpated species, spotted Joe-pye-weed (*Eutrochium maculatum*). During the 2013 RTE plant species survey, two of the previously identified state-listed RTE species were found: American chestnut (*Castanea dentata*) and dwarf azalea (*Rhododendron atlanticum*) (EEE Consulting, Inc., 2014). One Maryland Watch List plant, pearly everlasting (*Anaphalis margaritacea*), was found within the Firing Range Powerline and the Range Road Corridor; and one Maryland State Rare/Watch List plant, tall swamp marigold (*Bidens coronata*), was found within the Firing Range Powerline.

4.4.2. Environmental Consequences

Factors considered in the analysis of potential impacts to biological resources include any anticipated adverse or beneficial impacts to fish and wildlife or their habitats, as well as compliance with FMMD's obligations outlined in both their INRMP, FCA, and Tree Management Policy. Impacts to vegetation would occur if the Proposed Action (1) would result in a permanent net loss of habitat at a landscape scale or (2) could result in a long-term loss or impairment of a substantial portion of local habitat on which native species depend.

The Proposed Action would result in negligible, short-term, minor, direct adverse impacts to wildlife from construction activities. However, the existing lack of suitable habitat and recreational use of the site do not currently provide for an abundance and diversity of wildlife in the LOD. Wildlife that does inhabit the site would be expected to vacate the area during construction but would return once construction is finished. This wildlife would likely be limited to urban bird species and squirrels such as the eastern gray squirrel (*Sciurus carolinensis*).

Impacts to RTE species (1) jeopardize the continued existence of any federally-listed threatened or endangered species or result in the destruction of critical habitat or (2) eliminate a sensitive habitat such as breeding areas, habitats of local significance, or rare or state-designated significant natural communities needed for the survival of a species.

4.4.2.1. Impacts from the Construction of the Proposed Action

Vegetation

The Proposed Action would result in long-term, minor, direct, adverse impacts to vegetation. It is expected that within the LOD, landscape grasses and trees would be removed during the staging and construction of the Proposed Action. The mature trees that line the perimeter of the site would likely be removed. This totals five mature trees, one of which is dead. If any of these trees are specimen trees, they would be replaced at a 1:1 ratio. In addition, a small number of trees east of staging/laydown area could be removed to make way for a utility line. This area is mainly immature Bradford Pear trees. This area is as small as 0.16 acres or less.

The Proposed Action would be designed to comply with the current Maryland FCA and Tree Management Policy. All projects 40,000 SF or larger require the equivalent of 20% of a project area be forested. The Proposed Action LOD is approximately 7.64 acres, generating a total of 1.53 acres to be planted/forested. This would be met with a combination of on-site planting in and around the built environment and off-site forest conservation. Off-site forest conservation area plantings must be planted at one tree per 400 SF with at least 50% of those trees having the potential of attaining a two inch or greater diameter at breast height (DBH) within seven years. The design team would work with the FMMD DPW to identify potential off-site forest conservation areas.

Wildlife

The Proposed Action would result in long-term, negligible, minor, direct adverse impacts to wildlife from construction activities. However, the existing lack of suitable habitat and recreational

use of the site do not currently provide for an abundance and diversity of wildlife in the LOD. Wildlife that does inhabit the site would be expected to vacate the area during construction but would return once construction is finished. The small, wooded area south of Huber Road could provide habitat for small woodland creatures. However, this area is insignificant as less than 0.16 acres of it would be removed, with the rest of the wooded area remaining intact.

Rare, Threatened, and Endangered Species

The Proposed Action would have minor, negligible, direct, impacts to RTE species during construction of the MARFORCYBER facility. Consultation was initiated with the USFWS on 17 November 2022. Initial comments confirmed that the Proposed Action would not directly impact Patuxent Wildlife Refuge. Two additional concerns were (1) impacts from construction and associated impervious surface on water quality in Franklin Branch, with potential impacts to stream habitat for aquatic species including freshwater mussels and (2) increased traffic along MD Route 198. Impacts to surface water were discussed in **Section 4.3 Water Resources** and would be minimized by BMPs for Sediment and Erosion Control and Stormwater Management thus protecting aquatic freshwater species. Impacts to traffic resources are discussed in **Section 4.8 Transportation and Traffic**.

The USFWS IPaC system effects determination response for the NLEB dated 20 April 2023 stated that the Proposed Action would have a "may affect" result. In accordance with the USFWS interim guidance and pursuant to 50 CFR 40, further consultation is required with a "may affect" result. A Biological Assessment was submitted to USFWS on 26 April 2023 and updated on 24 August 2023. USFWS confirmed in their response that they determined the Proposed Action would have "no adverse effect" on NLEB. However, time of year restrictions for tree cutting to avoid adverse impacts to NLEBs is April 1- November 14 of every year and should be followed. Any and all BMPs stated in the Biological Assessment would have to take place after 1 April 2024 under the Proposed Action. The interim guidance for NLEBs is no longer effective after this date, initiating further consultation for any projects set to begin construction afterwards, ensuring compliance with regulations set to take place after interim guidance.

The Maryland Department of Natural Resources and Heritage determined that there are no official State or Federal records for listed plant or animal species within the project are, and therefore, no specific concerns regarding potential impacts or recommendations for protection measures unless the project area changes in correspondence on 4 January 2023. A copy of correspondence with USFWS and MDNR is provided in **Appendix A**.

4.4.2.2. Impacts from the Operation of the Proposed Action

Vegetation

The Proposed Action would result in long-term, negligible, direct, beneficial, impacts to vegetation. The loss of the landscape grasses, removal of mature trees, and immature trees would be an adverse impact. However, the planting of new replacement trees and restoration and maintenance of vegetation following construction would be a beneficial impact. Care would be taken to plant hardy, native, and adaptive species that can survive drought and climate change with

minimal to no maintenance. However, some vegetation could potentially die due to harsh weather conditions or disease. Interior landscape islands free of bioretention facilities would be planted with shade trees. The landscaped grounds would not be considered to provide suitable habitat for RTE species due to the presence of residential activities and routine maintenance but may provide limited new habitat and shade to common wildlife species.

<u>Wildlife</u>

The Proposed Action would result in negligible, long-term, direct, adverse impacts to wildlife from operation of the proposed MARFORCYBER facility. The increase of the built-up environment within the LOD would adversely impact wildlife that inhabit the site. The addition of 1.53 acres of new and improved habitat would be created under the Proposed Action. However, several large trees would be removed, which would not be replaced with equally-sized trees and decreased habitat for wildlife.

Rare, Threatened, and Endangered Species

USFWS was consulted for the Proposed Action, as stated in **Section 4.4.2.1 Impacts from the Construction of the Proposed Action** above. They did not find any species of concern within the Proposed Action area. Any adverse effects to occur under the Proposed Action would occur with the initial disturbance of construction. No impacts would occur with the operation of the proposed MARFORCYBER building.

4.4.2.3. Impacts from the No Action Alternative

Vegetation

Implementation of the No Action Alternative would result in long-term, minor, direct adverse impacts to vegetation as the site would remain unchanged. The existing mowed grasses provides little to no benefits to wildlife habitat in the area as opposed to the 1.53 acres of new or improved forested habitat required in the Proposed Action. In addition, the invasive northern catalpas would not be removed and would possibly then spread to other areas in and around the Proposed Action area.

Wildlife

Implementation of the No Action Alternative would result in long-term, minor, direct adverse impacts to wildlife. The facility would not be constructed and there would be no changes to existing habitat for wildlife in the Proposed Action area. However, the existing mowed grasses provide little to no benefits to wildlife habitat in the area as opposed to the 1.53 acres of new or improved forested habitat required in the Proposed Action. Thus, the No Action Alternative would not provide the increased improved habitat for wildlife as expected in the implementation of the Proposed Alternative.

Rare, Threatened, and Endangered Species

Implementation of the No Action Alternative would result in no impacts to RTE species. The facility would not be constructed and there would be no changes to RTE populations or their habitats.

4.5. CULTURAL RESOURCES

Several federal laws and regulations have been established to manage cultural resources. Cultural resources are "historic properties" as defined by the NHPA of 1966; "cultural items" as defined by the Native American Graves Protection and Repatriation Act of 1979 (NAGPRA); "archaeological resources" as defined by the Archaeological Resources Protection Act of 1979 (ARPA), "sacred sites" as defined by EO 13007, *Indian Sacred Sites*, 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 Part 79, *Curation of Federally Owned and Administered Archaeological Collections*.

Cultural resources can include precontact and historic sites, structures, districts, or any other physical evidence of human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. Depending on their condition and use, these resources can provide insight into the living conditions of previous existing civilizations, or retain cultural and religious significance to modern groups, referred to as "Traditional Cultural Properties." 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.

Archaeological resources are locations where precontact 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.

In order for a cultural resource to be considered significant, it must meet one or more of the following criteria for inclusion in 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 association 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 in prehistory or history.

The NHPA, as amended, as well as Federal legislation, and DoD regulations (particularly Army Regulation 200-1, *Environmental Protection and Enhancement*), requires the Army and other Federal agencies to locate, identify, evaluate, and treat cultural resources under their ownership, administration, and control in a manner that fosters the preservation of the resources. Accordingly, the most recent update to the Integrated Cultural Resources Management Plan (ICRMP) for FMMD was preliminarily finalized in March 2020 by USACE, Baltimore District (USACE, 2020).

4.5.1. Affected Environment

4.5.1.1. Area of Potential Effect

The Area of Potential Effect (APE) for this Proposed Action is the LOD for the proposed MARFORCYBER facility and supporting structures, and those areas from which the new construction would be visible. The APE is approximately a 0.25-mile viewshed buffer around the Proposed Action.

4.5.1.2. Historic Properties: Architectural Resources

FMMD has five historic properties that have been determined eligible for listing in the NRHP. These historic architectural properties are the Fort Meade Historic District, the water treatment plant (Building 8688) and three bridges/culverts built by German Prisoners of War (POWs) during WW II. There are 13 contributing buildings in the Fort Meade Historic District, none of which are located within the Proposed Action area or the APE. The water treatment plant is located in the southwestern area of FMMD and outside the APE for the Proposed Action.

A portion of the southwestern area of FMMD was utilized as a POW camp during WWII. 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. These culverts are not located within the APE.

4.5.2. Environmental Consequences

4.5.2.1. Impacts from Construction and Operation of Proposed Action

On 3 October 2022, FMMD initiated NHPA Section 106 consultation via a letter to the MHT, an agency of the Maryland Department of Planning that serves as the Maryland State Historic Preservation Office (SHPO). Concurring with FMMD, MHT responded on 29 November 2022 with a determination that this Proposed Action would have no adverse effect on historic properties at FMMD. Copies of this correspondence are included in **Appendix A**. Therefore, there would be no impacts to cultural resources as a result of the construction and operation of the Proposed Action.

However, there is the potential for adverse impacts to cultural resources in the event of an inadvertent discovery during construction work that requires vegetation removal or causes subsurface disturbance. To minimize the potential impact to previously unknown cultural resources during subsurface work, FMMD would implement an "Accidental Discovery" plan to comply with the NHPA; NAGPRA; ARPA; EO 13007 to which access is afforded under AIRFA; and 36 CFR Part 79. Under this plan, if precontact or historic artifacts that could be associated with Native American, early European, or American settlement are encountered at any time during construction or operation of the expansion areas, FMMD would cease all activities involving subsurface disturbance in the vicinity of the discovery. Should human remains or other cultural items, as defined by NAGPRA, be discovered during project construction, construction work

would immediately cease until the FMMD Cultural Resources Manager, Maryland SHPO, and selected Native American Tribes are contacted to properly identify and appropriately treat discovered items in accordance with applicable state and federal law(s). Implementation of these measures would ensure that the Proposed Action would have no adverse effect on historic properties or cultural resources.

4.5.2.2. Historic Properties: Archaeological Sites

The entirety of FMMD has undergone Phase I-level archaeological investigations for the presence of archaeological resources. There are 41 known archaeological sites on FMMD, but none are listed in the NRHP. Twelve of the sites have been further assessed with a Phase II-level investigation. All the sites have been evaluated for NRHP eligibility and only one site, 18AN1240, was found to be eligible. There are nine historic cemeteries on FMMD, which were evaluated in the 2007, 2011, and 2022 ICRMP updates and found to be ineligible for the NRHP (FMMD, 2018), although they will be maintained due to the presence of buried human remains and recommended for avoidance. None of these sites are located within the APE.

4.5.2.3. Impacts from the No Action Alternative

Implementation of the No Action Alternative would result in no impacts to cultural resources. The facility would not be constructed, and there would be no ground disturbances that could impact archaeological, architectural, or Native American resources.

4.6. HAZARDOUS AND TOXIC MATERIALS AND WASTE

A hazardous material is defined as any substance that is (1) listed in Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); (2) designated as a biologic agent and 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 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. Hazardous materials are federally regulated by the USEPA in accordance with the Federal Water Pollution Control Act, CWA, Toxic Substance Control Act (TSCA), Resource Conservation and Recovery Act (RCRA), CERCLA, and the CAA.

The promulgation of TSCA (40 CFR Parts 700 to 766) represented an effort by the federal government to address those chemical substances and mixtures for which it was recognized that the manufacture, processing, distribution, use, or disposal may present unreasonable risk of personal injury or health of the environment, and to effectively regulate these substances and mixtures in interstate commerce. The TSCA Chemical Substances Inventory lists information on more than 62,000 chemicals and substances. Toxic chemical substances regulated by USEPA under TSCA include asbestos and Lead.

RCRA defines hazardous waste as wastes or combination of wastes that, because of quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. All hazardous wastes are classified as solid wastes. A solid waste is any material that is disposed, incinerated, treated, or recycled except those exempted under 40 CFR 261.4.

FMMD's DPW Environmental Division is responsible for managing hazardous materials and waste. FMMD 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. 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 that provide information about health hazards and first-aid procedures are included in the ISCP.

Installation Hazardous Waste Management

FMMD also has an Installation, Draft Hazardous Waste Management Plan (FMMD, 2023). 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.

Pesticides and Herbicides

The FMMD Integrated Pest Management Plan provides a framework through which pest problems can be effectively addressed at FMMD. The latest plan was prepared in 2017 and is a five-year plan valid from 2017 through 2022. 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 post guidelines. Insect infestation is not a problem for this project; therefore, pesticides and herbicides will not be analyzed further in this EA.

National Priorities List

The USEPA placed FMMD on the National Priorities List (NPL) in 1998 after an evaluation of contamination due to past storage and disposal of hazardous substances at the Defense Reutilization and Marketing Office, Closed Sanitary Landfill (CSL), Clean Fill Dump, 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, USEPA removed

the Tipton parcel from the FMMD NPL listing on 1 November 1999. The FMMD NPL includes the entire current post, from fence line to fence line (Stell, 2020).

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 posts. 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 Superfund Amendments and Reauthorization Act. In 2009, FMMD signed a Federal Facility Agreement with the USEPA, U.S. Department of the Interior, and U.S. Architect of the Capital. This document establishes the role that FMMD and USEPA each play in the restoration of the post 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.

Military Munitions Response Areas

In addition, the DoD developed the Military Munitions Response Program (MMRP) in 2001 to address munitions-related concerns, including explosive safety, environmental, and health hazards from releases of unexploded ordnance, discarded military munitions, and munitions constituents found at locations other than operational ranges on active BRAC Installations and Formerly Used Defense Sites 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.

FMMD maintains an active MMRP, which includes two Munitions Response Areas: Inactive Landfill Number 2, located south of the Tipton Airport, and the Former Mortar Range (Stell, 2020).

4.6.1. Affected Environment

There are no active IRP sites within this Proposed Project area. However, monitoring wells and an open IRP site known as "Former Motor Pool 7 (MP7)" are located adjacent to the site east of Chamberlain Avenue. MP7 is currently under environmental investigation for elevated metals in groundwater.

There is also a CSL site managed under CERCLA and RCRA approximately one mile southeast of the Proposed Site. A federal/state mandated landfill monitoring program was initiated in March 1994 for Cells 1 and 2 of the CSL and is ongoing, including semi-annual groundwater monitoring of the site. Air sparging wells were installed adjacent to the landfill to form a cutoff barrier to groundwater contaminant migration, namely benzene and arsenic, along FMMD's eastern property boundary in 2020 when monitoring confirmed elevated levels of benzene, metals and nitrate.

4.6.2. Environmental Consequences

The significance of potential impacts associated with hazardous materials and wastes is based on the toxicity, transportation, storage, and disposal of hazardous substances. Hazardous materials and waste impacts would be considered significant if the storage, use, transportation, or disposal of these substances substantially increases the human health risk or environmental exposure.

4.6.2.1. Impacts from Construction of the Proposed Action

Hazardous, toxic, or radioactive substances would not be used during the construction of the Proposed Action; therefore, the Proposed Action would not have any mechanism for impact from these resources. To minimize the potential for a release of petroleum-based fluids (i.e., diesel fuel, hydraulic fluid) from construction equipment to the environment, all construction equipment would be maintained in good working order by the contractor daily. Should an accidental release of a hazardous material occur, construction equipment would be equipped with an emergency spill kit and workers would be trained on how to properly deploy the equipment to respond to a release. Additionally, all construction equipment would be refueled in a designated impervious area and away from pervious grounds.

An action that resulted in a new accidental release or spill resulting from construction, depending on the type and severity, could be subject to state, federal, and FMMD guidelines including DPW's SPPCP/ISCP, Hazardous Waste Management Plan, or Oil Control Program as previously detailed in Section 4.6. An action that resulted in a discovery of previous contamination may have to be added to the IRP and could be subject to the CERCLA process. Although there is no known contamination present that would impact construction of the Proposed Action, 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 FMMD DPW Environmental Division to get further instructions.

Any solid waste, including excess vegetation or sediment debris, would be properly composted, reused, or disposed of at a permitted facility. Additionally, all contractors involved in the construction of the Proposed Action would be responsible for adhering to FMMD's policies and procedures, as well as state and federal regulations for storage, handling, and disposal of non-hazardous wastes.

The CSL would not be affected by construction, given it is nearly a mile from the Proposed Site, no construction will take place that could affect the CSL or MP7. Although MP7 is currently under investigation for heavy metals in the groundwater, it is not anticipated this would affect the Proposed Action in any way. The groundwater at MP7 is generally 20ft below the surface and not sources for drinking water; therefore, this would not affect the Proposed Action.

Thus, construction of the Proposed Action would have negligible, direct, adverse impacts on hazardous and toxic materials and waste.

4.6.2.2. Impacts from Operation of the Proposed Action

No impacts would occur to hazardous and toxic materials and waste during the operation of the Proposed Action building. No hazardous materials are scoped to be stored or used at the proposed MARFORCYBER facility.

4.6.2.3. Impacts from the No Action Alternative

Under the No Action Alternative, no change to hazardous material usage nor generation of hazardous waste would occur. The recreational area would remain in its current state.

4.7. UTILITIES

The location of existing utility lines influences development of proposed utility lines. 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.

4.7.1. Affected Environment

The site is generally served by all major utilities running along the perimeter roads.

Wastewater

FMMD is served by a wastewater utility responsible for operating and maintaining the sanitary sewer system that collects effluent through a network of gravity sewers, force mains, and pump stations to then be processed at a treatment plant. The proposed site has an existing sanitary manhole approximately 200 ft north of the proposed building.

Solid Waste

There are no active landfills located at FMMD; all solid waste is transported to a permitted facility located off site. The CSL at the southeast section of FMMD stopped accepting waste in 1996. The contact for solid waste 301-677-9674.

<u>Electric</u>

Electrical power is supplied to FMMD by Baltimore Gas and Electric (BGE). Emergency generators are maintained across the installation in the event of a power outage. Natural gas for FMMD is also provided and maintained by BGE.

4.7.2. Environmental Consequences

The Proposed Action would result in significant adverse impacts to infrastructure and utilities if it (1) reduced water availability or supply to existing users, (2) resulted in noncompliance with the existing FMMD solid waste management plan, (3) over exerted groundwater basins or (4) exceeded safe annual yield of water or energy supply sources.

4.7.2.1. Impacts from Construction of the Proposed Action

Wastewater

Short-term, negligible, direct, adverse impacts to wastewater would be anticipated during the construction period to ensure that the construction workers are provided restroom facilities while on the job site. Portable restroom facilities and disposal services to a permitted wastewater treatment facility would be the responsibility of the contracted construction company.

Solid Waste

Short-term, negligible, direct, adverse impacts would be expected to occur to solid waste under the Proposed Action during the construction period. The contracted construction company would be responsible for properly disposing of construction-related waste and debris. Impacts to landfills from the waste generated during construction of the Proposed Action are anticipated to be minor. This is due in part to the requirement in AR 420-1, *Army Facilities Management*, that requires the Army to divert construction and demolition waste (i.e., via eliminating or recycling packaging, etc.) at a minimum of 50% waste, by weight, from landfill disposal (DA, 2012).

<u>Electric</u>

Short-term, negligible, direct, adverse impacts to electricity would occur during the construction of the Proposed Action. Construction would require a minor amount of electricity in some instances. However, most construction equipment is battery-operated.

4.7.2.2. Impacts from Operation of the Proposed Action

Negligible, minor, direct, adverse impacts would result from the additional demands created by the increased utility usage from the proposed three-story MARFORCYBER building. However, the building would utilize efficient building construction technology and operational systems. Mechanical system selections would be designed to maximize building efficiency and minimize energy consumption while meeting all guidelines. The mechanical conceptual design would be developed in keeping with the principals of sustainable design where life cycle cost effectiveness is prioritized. In additional, silver Leadership in Energy and Environmental Design (LEED) would be attained with the building design. Electrical power requirements would be provided by BGE and would not increase over current usage.

The following energy conservation methods would be implemented in the mechanical system at the facility to increase energy efficiency:

- Tight building design and air barrier testing would be used, decreasing the outdoor air infiltration rates.
- The ventilation rate of conference rooms and large gathering spaces would be modulated in proportion to the occupancy of the space. Occupancy would be measured indirectly by sensing the carbon dioxide (CO₂) concentration of the zone and adjusting the ventilation rate accordingly.

- All fan coil units would be equipped with electronically commutated motors for energy efficiency.
- Low pressure drops for heating, ventilation, and air conditioning (HVAC) design.
- High efficiency boilers and chillers.
- Waterside Economizers would also be investigated through life cycle cost analysis. These allow for operation in compressor free "economizer" mode when local air temperatures are low enough. The associated cooling towers would be in the mechanical yard in the same location as the air-cooled chillers.
- A main dedicated outside air unit could potentially be designed as an energy recovery unit in which building exhaust air is used to pre-condition the incoming ventilation air with flat plate or rotary wheel heat/energy exchangers. This would be evaluated with regard to the available quantities of exhaust/relief air and the feasibility of routing this air to the unit.

The following documents would be followed to reduce energy usage and create sustainable designs:

- DOA Memorandum, Sustainable Design and Development Policy Update (Environmental and Energy Performance), 17 January 2017
- UFC 1-200-02, High Performance and Sustainable Building Requirements
- LEED Guide, USACE Army LEED Implementation Guide, 2014

Wastewater

Long-term, minor, direct, adverse impacts would occur to wastewater during the operation of the Proposed Action. With an increase in workforce at FMMD, wastewater would also increase. However, the anticipated amount of wastewater increases is well within the acceptable quantity at FMMD.

<u>Solid Waste</u>

Long-term, minor, direct, adverse impacts would occur with the operation of the Proposed Action. With the operation of a new building, normal amounts of everyday trash would accumulate and have to be taken to a landfill. This would create minor impacts on the landfills currently used by FMMD.

<u>Electric</u>

Long-term, minor, direct adverse impacts to electricity would occur during the operation of the Proposed Action. Electrical usage for the Proposed Action is estimated to total 15,956.6 kilovolt-amperes (kVA). **Table 4-4** breaks down the predicted electrical usage of the Proposed Action. Standby power would be provided by two two-megawatt standby, natural gas engine generators. This electricity requirement is within the means of FMMD and BGE and would not exceed acceptable rates.

Duilding	Total	Total	Normal	Normal	Life Safety	Life Safety
Feature	Connected	Demand	Connected	Demand	Connected	Demand
i cutui c	kVA	kVA	kVA	kVA	kVA	kVA
Lighting	151.2	151.2	151.2	151.2	30.3	30.3
Receptacle	544	277.2	544	277.2	0.0	0.0
HVAC	1980.95	1980.85	1980.95	1980.95	0.0	0.0
Equipment	707.5	707.5	707.5	707.5	8	8
Electrical						
Vehicle	199.5	199.5	199.5	199.5	0	0
Charging						
Total	3,583.2	3,316.4	3,583.2	3,316.4	38	38
Total with						
15 %	4,120.7	3,813.9	4,120.7	3,813.9	43.7	43.7
Spare Cap						

Table 4-4 Estimated Electrical Usage for Operation of MARFORCYBER Building

4.7.2.3. Impacts from the No Action Alternative

Under the No Action Alternative, no impacts would occur to utilities. The recreational area would remain a recreational area, with no adjustments or increases in utility demands.

4.8. TRANSPORTATION AND TRAFFIC

4.8.1. Affected Environment

Existing roads are important man-made constraints. Depending on their efficiency and quality, they should be maintained to maximize past investments. Built elements of the pedestrian scale such as sidewalks play an important role in shaping how personnel view and experience a post's outdoor space. Built constraints are elements for which a post is responsible. They should support a larger vision while facilitating mission readiness. FMMD is surrounded and served by the following major roads:

- Baltimore-Washington Parkway (MD Route 295) to the northwest
- MD Route 175 (Annapolis Road) to the east
- MD Route 32 (Patuxent Freeway) to the south and west

While the majority of MD 198 does not immediately surround FMMD, it is considered a major road as it is located near the southwest vicinity of FMMD and runs eastward toward FMMD where it joins with MD Route 32. FMMD is currently accessible from the following access control gates, also known as Access Control Points (ACPs) (FMMD, 2022):

- Mapes Road and MD Route 175 (open 24/7)
- Mapes Road and MD Route 32 (open Monday-Friday from 5:30 a.m. to 9 p.m.; open on weekends from 9 a.m. to 5 p.m.)
- Rockenbach Road and MD Route 175 (open Monday-Friday 5:30 a.m. to 9:00 p.m.)

In addition, the Reece Road and MD Route 175 ACP (also known as the "Reece Road Gate") normally serves as the main gate and the only gate available to visitors without DoD

identification/or other approved access credentials (e.g., Common Access Card). This gate, however, is currently closed for construction. Likewise, the Demps Visitor Control Center (VCC) located at the Reece Road Gate is also closed. A temporary VCC is now located at 4215 Roberts Avenue, which is just south of Burba Lake. The VCC is open Monday through Friday from 7:30 a.m. to 3:30 p.m. and closed on weekends and federal holidays. The closest ACP to Proposed Actions site it Mapes Road and MD Route 175.

While the Reece Road Gate is closed, alternative ACPs are the Rockenbach Road and MD Route 175 or the Mapes Road and MD Route 175 Gate. One-day visitors or deliveries can go directly to the Rockenbach Road and MD Route 175 gate's visitor lane (far right lane) Monday through Friday 5:30 a.m. to 5 p.m. Visitors and deliveries outside of these hours should go to the Mapes Road and MD Route 175 gate, which is open 24/7 (FMMD, 2022).

Access to these Proposed Site would likely be via Mapes Road. Currently, there are no improved paved parking areas at the site.

4.8.2. Environmental Consequences

A project is considered to have a significant effect on traffic and roadways if the additional traffic caused by the Proposed Action results in a decrease in Level of Service (LOS). LOS is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed, travel time, freedom to maneuver, traffic interruption, comfort, and convenience. In addition, a project may contribute toward a substantial cumulative effect if its traffic, when taken together with traffic from past, present, and reasonably foreseeable future projects, causes intersection LOS to decline.

4.8.2.1. Impacts from Construction of the Proposed Action

The Proposed Action would have a short-term, negligible, direct, adverse impact on traffic and roadways in the form of construction traffic within the boundaries of the post. Construction of the proposed MARFORCYBER facility would not impact any transportation infrastructure outside of FMMD and therefore have no impact on LOS.

The roadway network within FMMD provides sufficient access for any heavy equipment that may be required for the construction phase of the Proposed Action; therefore, none of the equipment used to construct the facility would require modifications to transportation infrastructure or traffic patterns. The number of construction workers associated with the project would add a negligible increase (less than 1% increase) in overall traffic volume within FMMD daily (USACE, 2021).

To ensure that construction vehicles do not degrade the quality of the roadways within FMMD, gravel construction pads would be installed at the construction site exit to ensure dirt would be physically removed (including using brushes and/or water) from construction equipment before the equipment travels on FMMD roadways. Other mitigation measures to minimize traffic impacts during construction could include limiting which ACPs would be permitted to be used by construction vehicles and scheduling deliveries to avoid poorly rated roads and intersections during peak times.

4.8.2.2. Impacts from Operation of the Proposed Action

The Proposed Action would have long-term, minor, direct, adverse impacts on traffic and roadways from the operation of the proposed MARFORCYBER facility within the boundaries of FMMD. There would be a slight increase in vehicle traffic due to the new facility workforce. Onsite parking areas for the facility would provide approximately 300 new spaces.

The FMMD Draft Area Development Plan includes the goal of improving the transportation network for motorists and pedestrians by constructing sidewalks on Rockenbach and O'Brien roads, upgrading the ACP on Mapes Road, and widening Mapes Road for better traffic circulation, pedestrian use, and safety. These improvements will help increase the capacity of internal road networks throughout FMMD.

4.8.2.3. Impacts of the No Action Alternative

Implementation of the No Action Alternative would result in no impacts to traffic and transportation. The facility would not be constructed, and there would be no changes to existing traffic patterns and roadway conditions in and around FMMD.

4.9. NOISE

Noise is traditionally defined as unwanted sound that interferes with normal activities in a way that reduces the quality of the environment. Magnitudes of sound, whether wanted or unwanted, are usually described by sound pressure. There are two primary types of sound sources that generate noise: stationary and transient. Sounds produced by these sources can be intermittent or continuous. A stationary source is usually associated with a specific land use or site, such as construction activities or the operation of generators. Transient sound sources, such as vehicles and aircraft, move through the area.

The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to (1) establish a means for effective coordination of federal research and activities in noise control; (2) authorize the establishment of federal noise emission standards for products distributed in commerce; and (3) provide information to the public with respect to the noise emission and noise reduction characteristics of such products. The Act provided the framework for states and local authorities to establish noise regulations.

Sound pressure levels are quantified in decibels (dB); the dB are then "weighted" to account for differences in how people respond to sound in what is known as the "A-weighted" decibel (dBA) scale (Federal Aviation Administration [FAA], 2022). Sound levels, in dBA, for common activities and construction work are presented in **Table 4-5** below. Noise levels and durations from these activities would vary depending on the specific equipment being used, and the impact from this noise on a receptor would depend on the distance between the receptor and the source of the noise. Generally, noise levels decrease by approximately six dBA for every doubling of distance for point sources (such as a single piece of construction equipment) and approximately three dBA for every doubling of distance for line sources (such as a stream of motor vehicles on a busy road at a distance) (Federal Highway Administration [FHWA], 2006).

Source	Decibel Level (in dBA)	Exposure Concern
Silent Study Room	20	Normal safe level
Library	35	
Soft Whisper (5 ft. away)	40	
Average Home in an urban area	50	
Dishwasher in next room	55	
Conversational speech (3 ft. away)	65	
Classroom Chatter	70	
Freight Train (100 ft. away)	80	May affect hearing in
Heavy Traffic	90	some individuals
Construction Site	100	depending on
Operating Heavy Equipment	120	sensitivity, exposure
Live Rock Band	130	length, etc.
Fighter Jet Launch	150	Above 140 dB may
Shotgun Blast	160	cause pain.
Rocket Launch	180	

Table 4-5 Common Sound Levels and Exposure Conditions

Source: Table adapted from the following three references: FAA, 2022 Occupational Safety and Health Administration (OSHA), 2022; and Pulsar Instruments, 2022.

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, which states that noise levels that emanate from construction or demolition site activities cannot exceed 90 dBA during daytime hours. Daytime hours are defined within the regulations as 0700 to 2200.

4.9.1. Affected Environment

FMMD is relatively quiet with no notable sources of noise beyond personal and commercial vehicular traffic. Noise elements in and around the Proposed Action area are consistent with that of any residential military post and its surrounding area that include business and administrative activities. Personal and commercial vehicles accessing the area would be part of the normal noise environment in the area. The use of heavy equipment typically occurs sporadically throughout the daytime hours on FMMD. Seasonal noise additions include the normal operation HVAC systems, lawn maintenance, snow removal, and increased pedestrian activities. None of these operations or activities produce excessive levels of noise.

MD Route 32 (Patuxent Highway), which is a busy, two-lane, divided highway with heavy traffic at rush hour, is approximately 0.25-miles from the Proposed Action area. MD Route 32 provides a relatively constant state of noise, particularly on weekdays, however, there is a barrier of trees and vegetation between the road and the site.

4.9.2. Environmental Consequences

Noise impacts would be significant if the Proposed Action creates appreciable long-term noise increases in areas of incompatible land use. Additionally, continuous construction noises above 60 dBA may be considered to have a significant adverse effect if audible at residential properties or

other sensitive receptors during daytime hours, or results in excessive ground-borne vibration to persons or property.

4.9.2.1. Impacts from Construction of the Proposed Action

The Proposed Action construction activities would have short-term, direct, minor, adverse impacts on noise in the immediate area of the site, primarily due to site preparation and construction activities. Once brought to the site, construction equipment would remain within the Proposed Action area until the phase for which the equipment was needed is complete. Noise from construction activities would vary depending on the type of equipment being used at that time.

Any of the Proposed Action phases may generate noise levels during the earth moving phase (site clearing activities involving pieces of equipment) and construction activities that could range from 72 to 98 dBA when measured 50 ft from the respective piece of equipment. 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. Examples of expected construction noise during daytime hours at specified distances are shown in **Table 4-6**.

Distance from Noise Source in feet (meters)	Estimated Noise Level in dBA
50 (15.2)	90–94
100 (30.5)	84-88
150 (45.7)	81-85
200 (61.0)	78–82
400 (121.9)	72–76
800 (243.8)	66–70
1,200 (365.8)	< 64

Table 4-6 Estimated Noise Levels from Construction Activities

Noise receptors in the area would include commercial/industrial facilities, the CDC, (RV) park, and Kimbrough Ambulatory Center, but all are outside the maximum 90 dBA range. Construction activities would take place during daylight hours and during weekdays. Additionally, noise impacts would be further minimized by equipping construction equipment with appropriate sound-muffling devices (i.e., from the original equipment manufacturer or better), and limiting engine idling to less than 5 minutes.

Construction workers could be exposed to noise levels above 90 dBA, which is above the permissible occupational noise exposure limits for construction workers set by the OSHA, as detailed in 29 CFR 1926.52. These levels would be reduced to permissible levels through feasible administrative or engineering controls, and/or the use of BMPs such as the use of hearing protection equipment. Any adverse impacts from construction of the Proposed Action will be temporary and cease once construction activities are complete.

4.9.2.2. Impacts from Operation of the Proposed Action

The Proposed Action would result in long term, direct, negligible, adverse impacts due to the operation of the proposed MARFORCYBER facility. The noise levels generated by ongoing operational activities would be consistent with existing facilities in the area. To ensure operational maintenance noises do not become a nuisance, maintenance equipment would be maintained in good working order and operated only during daylight working hours.

4.9.2.3. Impacts from the No Action Alternative

Implementation of the No Action Alternative would result in no impacts to the noise environment. The facility would not be constructed, and there would be no changes in existing conditions.

4.10. AIR QUALITY AND CLIMATE CHANGE

4.10.1. Affected Environment

Regional Climate

The climate at FMMD is affected by its proximity to the Chesapeake Bay, Delaware Bay, and Atlantic Ocean. The daily average high temperatures range from 32.8 degrees Fahrenheit (°F) during January to 87°F during July (NCDC, 2022). Daily average low temperatures range from 23°F during January to 67°F during July. The record minimum and maximum temperatures are -7°F and 105°F, respectively. The annual average precipitation amounts to 43 inches and is uniformly distributed throughout the year. The annual average snowfall amounts to 16 inches. Prevailing winds are from the west-northwest. Southwesterly winds are more frequent during the summer months and northwesterly winds are more frequent during the winter months.

National Ambient Air Quality Standards and Attainment Status

USEPA Region 3 and MDE regulate air quality in Maryland. The CAA (42 USC 7401–7671q), as amended, gives the USEPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50, National Primary and Secondary Ambient Air Quality Standards, amended 1 July 2016, hereafter referred to as 40 CFR 50), acceptable concentration levels for seven criteria pollutants: particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen oxides (NOx), ozone (O₃), and lead. 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 (**Table 4-7**). Each state has the authority to adopt standards stricter than those established under the Federal program. MDE has adopted the NAAQS and is responsible for maintaining air quality standards for the State of Maryland.

Primary and secondary NAAQS for the aforementioned criteria are presented in areas that exceed the NAAQS ambient concentration (i.e., have poor air quality) and are labeled as nonattainment areas designated by 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. Maintenance areas have recently met NAAQS but are considered to be at risk of not remaining in attainment if efforts are not continued to maintain better air quality.

FMMD is within the Metropolitan Baltimore Intrastate Air Quality Control Region for Maryland (40 CFR Part 81.28). Anne Arundel County is classified as a nonattainment area for the 8-hour O₃ and for SO₂ NAAQS, and in attainment for all other criteria pollutants (USEPA, 2022a).

NAAQS Pollutant	Primary/ Secondary	Averaging Time	Level ⁽¹⁾	Form
CO	Primary	8-hour	9 ppm	Not to be exceeded more than once per
	1 milar y	1-hour	35 ppm	year
	Primary	1-hour	100 ppb	98 th percentile, averaged over 3 years
Nitrogen Dioxide	Primary and secondary	Annual	53 ppb	Annual Mean
O ₃	Primary and secondary	8-hour	70 ppb	Annual fourth-highest daily maximum 8- hr concentration, averaged over 3 years
	Primary	Annual	12 μg/m ³	Annual mean, averaged over 3 years
PM _{2.5}	Secondary	Annual	15 μg/m ³	Annual mean, averaged over 3 years
	Primary and secondary	24-hour	35 μg/m ³	98 th percentile, averaged over 3 years
PM ₁₀	Primary and secondary	24-hour	150 μg/m ³	Not to be exceeded more than once per year on average over 3 years
Lead	Primary and secondary	Rolling 3- month average	0.15 μg/m ³	Not to be exceeded
SO	Primary	1-hour	75 ppb	99 th percentile of 1-hour daily maximum concentrations, averaged over 3 years
502	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Table 4-7 Federal and State Ambient Air Quality Standards

1 - Units of measure for the standards are parts per million by volume (ppm), parts per billion (ppb) by volume, and micrograms per cubic meter of air $(\mu g/m^3)$

Hazardous Air Pollutants

In addition to the ambient air quality standards for criteria pollutants, national standards exist for hazardous air pollutants (HAPs). The National Emission Standards regulate 188 HAPs based on available control technologies. The majority but not all HAPs are Volatile Organic Compounds (VOCs) (USEPA, 2022a). Sources of HAP emission at FMMD include stationary, mobile, and

fugitive emissions, none of which currently occur at the Proposed Action area. Stationary sources elsewhere at FMMD include boilers, generators, water heaters, incinerators, fuel storage tanks, fuel-dispensing facilities, vehicle maintenance shops, laboratories, degreasing units, and similar testing units. Mobile sources of emissions include private and government-owned vehicles. Fugitive sources include dust generated from construction activities and roadway traffic.

Clean Air Act Conformity

State agencies (in Maryland, MDE) develop air quality plans, which are also referred to as State Implementation Plans (SIPs), designed to attain and maintain the NAAQS and to prevent significant deterioration of air quality in areas which demonstrate air that exceeds NAAQS standards. Maryland has individual SIPs for various pollutants, including Nitrogen Dioxide, PM_{2.5}, 8-hour O₃, 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. 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 (GCR) is to:

- Ensure Federal activities do not interfere with the budgets in the SIPs
- Ensure the attainment and maintenance of NAAQS
- Ensure actions do not cause or contribute to new violations of NAAQS

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 Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans, dated November 24, 1993, hereinafter referred to as 40 CFR 93). The Proposed Action is a non-transportation project within a nonattainment area. Therefore, a general conformity analysis is required with respect to the 8-hour O₃ and the SO₂ NAAQS.

The GCR specifies threshold emissions levels by pollutant to determine the applicability of conformity requirements for a project. Due to the proximity to the urbanized east coast of the U.S., Baltimore County is considered an Ozone Transport Region (OTR), as is Anne Arundel County. The OTR has a marginal 8-hour O₃ (2015) and moderate 8-hour O₃ (2008) nonattainment classification (USEPA, 2022a). Because O₃ formation is driven by other direct emissions, the air quality analyses focus on ozone precursors that include VOCs and NO_x. In accordance with USEPA policy, precursors that form PM_{2.5} (NO_x and SO₂) have also been evaluated. The applicable emission *de minimis* thresholds established by USEPA are summarized in **Table 4-8**.

Regulated under 40 CFR 93(b), the GCR 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. A SIP is a compilation of a state's air quality control plans and rules, approved by the USEPA, in an effort to reduce or eliminate the severity and number of NAAQS violations and achieve expeditious attainment of these standards.

Current emission sources at FMMD are associated with staff and visitor vehicles, building HVAC, generators, water heaters, and routine grounds maintenance activities. However, there are currently no emissions sources at the Proposed Action area.

Criteria Pollutant	Tons/year
40 CFR 93.153(b)(1) – For purposes of paragraph (b) of	of this section the following rates
apply in nonattainment areas (NAAs):	
O_3 (VOCs or NO_x):	
Serious Non-Attainment Areas (NA's)	50
Severe NAAs	25
Extreme NAAs	10
Other ozone NAAs outside ozone transport region:	100
Other O_3 NAAs inside an O_3 transport region:	
VOC	50
NO _x	100
Carbon Monoxide: All maintenance areas	100
SO ₂ or NO _x : Al NAAs	100
PM_{10} :	
Moderate NAAs	100
Serious NAAs	70
<i>PM</i> _{2.5} (direct emissions, S0 ₂ , NO _x , VOC, and Ammonia):	
Moderate NAAs	100
Serious NAAs	70
Lead: All NAAs	25
40 CFR 93.153(b)(2) – For purposes of paragraph (b) of	of this section the following rates
apply in maintenance areas:	
O_3 (NO _X), SO ₂ or NO ₃	
All maintenance areas	100
O_3 (VOCs)	
Maintenance areas inside an ozone transport region	50
Maintenance areas outside an ozone transport region	100
Carbon monoxide: All maintenance areas	100
PM ₁₀ : All maintenance areas	100
PM 2.5 (direct) emissions: SO ₂ , NO _X , VOC, and ammonia	100
All maintenance areas	100
Lead: All maintenance areas	25

Table 4-8 General Conformity de minimis Threshold Values

FMMD follows their own criteria pollutants thresholds in addition to the Federal criteria pollutants that can be seen in the **Table 4-9** below.

	СО	VOCs	NOx	SO ₂	PM 2.5	PM 10
Major Source Threshold	100	25	25	100	100	100

Table 4-9 Greenhouse Gas Emission Thresholds for Fort Meade in Tons per Year

Sensitive Receptors

CEQ NEPA regulations require evaluation of the degree to which the Proposed Action affects public health (40 CFR 1508.27). Children, elderly people, and people with illnesses are especially sensitive to the effects of air pollutants; therefore, hospitals, schools, convalescent facilities, and residential areas are considered to be sensitive receptors for air quality impacts, particularly when located within one mile from the emissions source.

FMMD houses religious institutions, residential areas, one ambulatory care center, seven schools, Child and Youth Services Centers and four CDCs. There are several sensitive receptors, including other hospitals, schools, religious institutions, and elderly and childcare facilities within one mile of FMMD.

Within the vicinity of the Proposed Action area is a CDC located at Ernie Pyle and 5th Street and the Kimbrough Ambulatory Center located at Llewellyn Avenue and Ernie Pyle Street.

Greenhouse Gases

GHGs are chemical compounds in the Earth's atmosphere that allow incoming short-wave solar radiation but absorb long-wave infrared radiation re-emitted from the Earth's surface, trapping heat in the atmosphere. Scientific evidence indicates a trend of increasing global temperature over the past century which may be due to an increase in GHG emissions from human based activities. A warmer climate is expected to increase the risk of heat-related illnesses and death, worsen conditions for air quality, allow some diseases to spread more easily, and increase the frequency and strength of extreme events (such as floods, droughts, and storms) that threaten human health and safety (USAEC, 2016)

Gases exhibiting greenhouse properties come from both natural and human sources. Water vapor, CO₂, methane (CH₄), and nitrous oxide (N₂O) are examples of GHGs that have both natural and manmade sources, while other GHGs such as chlorofluorocarbons are exclusively manmade. In the U.S., most GHG emissions are attributed to energy use. Such emissions result from combustion of fossil fuels used for electricity generation, transportation, industry, heating, and other needs. Reduction goal requirements applicable to federal agencies are set forth in EO 13693, *Planning for Federal Sustainability in the Next Decade* (USAEC, 2016).

Climate Change

According to National Aeronautics and Space Administration (NASA)'s "Global Climate Change: Vital Signs of the Planet" website at "climate.nasa.gov," climate change is defined as "a long-term change in the average weather patterns that have come to define Earth's local, regional and global climates." (NASA, 2022) Climate change key indicators are as follows: global land and ocean temperature increases; rising sea levels; ice loss at Earth's poles and in mountain glaciers;

frequency and severity changes in extreme weather such as hurricanes, heatwaves, wildfires, droughts, floods, and precipitation; and cloud and vegetation cover changes (NASA, 2022).

According to the CEQ, "Federal courts consistently have held that NEPA requires agencies to disclose and consider climate impacts in their reviews" (86 Federal Register 10252). On January 9, 2023, CEQ issued the "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change" (CEQ, 2023). Although CEQ is currently working to finalize this guidance, in the interim, CEQ provides the steps that agencies should take in analyzing the effects of the proposed action on climate change: (1) quantify the reasonable foreseeable GHG emissions, (2), disclose and provide context fog GHG emissions and climate impacts, and (3) analyze reasonable alternatives, including those that would reduce GHG emissions relative to baseline conditions, and identify mitigation measures to avoid, minimize, or compensate for climate effects (88 Federal Register 1196).

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 N_2O 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.

Per CEQ guidance, FMMD is considering all available tools and resources in assessing GHG emissions and climate change related to the Proposed Action. For example, the Army has been utilizing the USACE-developed Army Climate Assessment Tool (ACAT) to help Army installations identify climate-related threats that could degrade mission readiness (Surash and Dornbos, 2020). Thus far, the ACAT has proven very helpful in improving installation resiliency. Accordingly, the DoD has adopted and scaled the ACAT as the Defense Climate Assessment Tool and is using it to prioritize the most climate change vulnerable installations across DoD (DA, 2022).

FMMD is also adhering to both the Department of Defense Climate Adaption Plan (DoD, 2021) and the Department of the Army (DA) United States Army Climate Strategy") (DA, 2022).

4.10.2. Environmental Consequences

Impacts to air quality and GHGs would be considered significant if the Proposed Action would result in a NAAQS attainment area becoming a nonattainment area or if the Proposed Action would generate substantial GHG emissions nationwide (> 75,000 tons COs equivalents per year) (USAEC, 2016).

Criteria Pollutants and General Conformity

To determine whether the GCR applies and what the level of effects would be under NEPA, FMMD estimated all direct and indirect emissions and compared them to the *de minimis* thresholds (**Table 4-8**). Construction emissions were estimated for fugitive dust, on- and off-road diesel equipment and vehicles, and worker trips during the construction of the facility. To ensure a conservative estimate, it was assumed that all construction activities would be accomplished within a 31month period. Regardless of the ultimate implementation schedule (i.e., whether accomplished within a 31-month period or longer), annual emissions would be less than or equal to those estimated in this EA. Small changes in the siting of the facilities, the final design, and moderate changes in the quantity and types of equipment used would not substantially influence the emissions estimates or change the determination under the GCR or the level of effects under NEPA.

Table 4-10 presents a summary of the estimated emissions due to implementation of the Proposed Action. **Table 4-11** presents estimated emission from boilers due to the Proposed Action. Estimated annual emissions are projected to be below the *de minimis* levels for CAA conformity; therefore, a formal conformity determination under Section 176(c) of the CAA would not be required. U.S. Army guidance dictates that a Record of Non-Applicability (RONA) be prepared for federal actions in which proposed emissions are clearly *de minimis* to comply with the GCR. Detailed emission calculations and a RONA are provided in **Appendix C**.

	Criteria Pollutants				Greenhou	use Gases		
Activity	CO	VOC	NOx	SO ₂	PM ₁₀	PM _{2.5}	CO ₂ e	CH ₄
				Emi	issions (to	ns)		
Site Preparation and Vertical Construction	4.053	0.553	3.196	0.013	0.114	0.102	1195.59	0.05
On-Road HDDV Deliveries	0.007	0.001	0.028	0.000	0.001	18.661	18.661	0.0015
Construction Worker Emissions	0.031	0.000	0.001	0.000	0.000	0.000	4.176	0.005
Fugitive Dust					0.072	0.011		
Architectural Coatings		0.378						
TOTAL PROJECT EMISSIONS (tons)	4.09	0.93	3.23	0.01	0.19	18.77	1218.42	0.06
ANNULIZED PROJECT EMISSIONS (tons per year)	1.58	0.36	1.25	0.01	0.07	7.27	471.65	0.02
General Conformity <i>De Minimis</i> Thresholds ⁽¹⁾ (40 CFR 93.153(b)(1)) (tons per year)	100	100	100	100	100	100	Not established	Not established

 Table 4-10 Estimated Annual Construction and Operational Emissions

Actual tons per year							
NAAQS: CO VOC NOx SOx PM10 Pb							
1 Boiler	0.034	0.009	0.16	0.001	0.019	0	
2 Boilers	0.068	0.018	0.32	0.002	0.038	0	

Table 4-11 Estimated Natural Gas Boiler Operations Emissions

Annual emissions resulting from project activities have been conservatively estimated using data presented in **Appendix C** general air quality assumptions, and published emission factors.

4.10.2.1. Impacts from Construction of the Proposed Action

The construction of the Proposed Action would result in short-term minor, direct, adverse impacts to air quality, primarily due to construction equipment and activities. Under the Proposed Action, potential air quality impacts from construction activities would occur from combustion emissions due to the use of fossil fuel-powered equipment and vehicles and particulate emissions during earth-moving activities.

Construction activities may generate fugitive dust including coarse and fine particulate emissions which would temporarily affect local air quality. The number of particulate emissions can be estimated from the amount of ground surface exposed, the type and intensity of activity, soil type and conditions, wind speed, and dust control measures used. To limit these emissions, construction BMPs, generally including water- or chemical-based dust suppression, would be implemented to reduce fugitive dust generation and further prevent it from becoming airborne.

No long-term increases in fugitive dust are expected to occur, because this source of emissions is limited and would cease upon completion of the Proposed Action. In addition, project construction equipment would emit minor amounts of HAPs. The main sources of HAPs would occur from the combustion of diesel fuel. Construction would be temporary and minor. HAPs emissions could be further moderated through implementation of BMPs such as restricting excessive idling, adherence to equipment maintenance programs, use of particulate filters, and use of ultra-low sulfur diesel fuel if applicable.

Non-road construction vehicles (e.g. bulldozer, loaders) would emit criteria pollutants during construction. Emissions were estimated using "Off-Road – Model Mobile Source Emission Factors" from the California South Coast Air Quality Management District (SCAQMD, 2022) because the State of Maryland has not published its own emission factors. Emission factors for year 2025 were used in these calculations. Emission factors typically decrease over time as new and more efficient equipment is brought to market. Therefore, using year 2024 factors represents a conservative estimate of potential emissions.

Criteria pollution emissions from construction equipment were calculated assuming the use of an excavator, grader, bulldozer, loader, two cranes, two concrete mixers and pumps, aerial lifts backhoe loaders and smaller support equipment, operating for approximately eight hours per day for a total of 260 overall weekdays (approximately 31 months).

Emissions from on-road heavy and light duty diesel-fueled trucks associated with the delivery and distribution of construction materials and general on-site construction support, as well as those

from construction workers' passenger vehicles, were included in this analysis. Emission factors specific to Maryland for emission year 2025 (published by the US Air Force) were used for onroad heavy and light duty diesel-fueled trucks, and for gasoline-fueled passenger vehicles (AFCEC, 2021). Assumptions of travel distance incorporated in the calculations for the different vehicle categories are found in **Appendix C**.

Architectural coatings (e.g. paint) would generate emissions because these coatings often contain VOCs, which are released to the atmosphere when the paint is applied. The emissions generated from coatings is based on the area to be coated. For interior office space, the area to be painted was assumed to be approximately twice the heated interior area of the proposed MARFORCYBER facility. Any paint sold in these places must be OTC-compliant (OTC, 2016). The formula for emissions calculations is found in **Appendix C**.

Based on these estimates provided in **Table 4-10 and Table 4-11**, the annual emissions emitted during construction would not exceed the USEPA NAAQS *de minimis* thresholds and a General Conformity determination is not required.

In addition, project construction equipment would emit minor amounts of HAPs. HAPs emissions could be further moderated through implementation of BMPs such as restricting excessive idling, adherence to equipment maintenance programs, use of particulate filters, and use of ultra-low sulfur diesel fuel if applicable.

4.10.2.2. Impacts from Operation of the Proposed Action

The operation of the Proposed Action would result in long-term, negligible, direct, adverse impacts to air quality. Operational emissions would be limited to heating/air conditioning and ventilation and monthly testing of emergency backup generators. Other operational emissions would be related to emissions from vehicles used to drive to and from the MARFORCYBER facility. The emissions from these vehicles would be less than the emissions currently generated by staff who travel off-post to distributed facilities elsewhere in Maryland and Virginia. The MARFORCYBER facility would also be designed to meet Army requirements for energy efficiency and sustainability. Therefore, operational emissions would be negligible and were not individually calculated.

Climate Change

To meet the requirements under NEPA, this EA examines GHGs as a category of air emissions. Under the Proposed Action, total project activities combined would generate approximately 1,218.42 tons of CO_{2e} , and 0.06 tons of CH_4 , and 3.23 tons of NO_x . Annualized project emissions would generate approximately 471.65 tons of CO_{2e} , 0.02 tons of CH_4 , and 3.23 tons of NO.

In addition, this EA estimates the social cost of GHG (SC-GHG) in metric dollars. The SC-GHG estimates the monetary value of the net harm to society associated with adding a small amount of that GHG to the atmosphere in a given year. It includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. In 2009, the Interagency Working Group on Social Cost of Greenhouse Gases (IWG) was established to ensure that Federal

Agencies were using the best available science and to promote consistency in the values used across agencies. On January 20, 2021, President Biden issued E.O. 13990 which directed the IWG to ensure that SC-GHG estimates used by the U.S. Government (USG) reflect the best available science and the recommendations of the National Academies (2017) and work towards approaches that take account of climate risk, environmental justice, and intergenerational equity

In February 2021, the IWG released the "Technical Document: Social Cost of Carbon, Methane, and Nitrous Oxide Estimates under the EO 13990" (IWG, 2021). This document presents the IWG's interim findings and provides interim estimates of the SC-CO2, SC-CH4, and SC-N2O that should be used by agencies until a comprehensive review and update is developed with the requirements in E.O. 13990. **Tables 4-12, 4-13**, and **4-14** summarize the interim SC-CO₂, SC-CH4, and SC-N₂O in 5-year increments from 2020-2050.

	Discount Rate and Statistic							
Emissions Year	5% Average	3% Average	2.5% Average	3% 95 th Percentile				
2020	14	51	76	152				
2025	17	56	83	169				
2030	19	62	89	187				
2035	22	67	96	206				
2040	25	73	103	225				
2045	28	79	110	242				
2050	32	85	116	260				

Table 4-12 Social Cost of CO₂, 2020 – 2050 (in 2020 dollars per metric ton of CO₂)

Table 4-13 Social Cost of CH₄, 2020 – 2050 (in 2020 dollars per metric ton of CH₄)

	Discount Rate and Statistic							
Emissions Year	5% Average	3% Average	2.5% Average	3% 95 th Percentile				
2020	670	1500	2000	3900				
2025	800	1700	2200	4500				
2030	940	2000	2500	5200				
2035	1100	2200	2800	6000				
2040	1300	2500	3100	6700				
2045	1500	2800	3500	7500				
2050	1700	3100	3800	8200				
	Discount Rate and Statistic							
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Emissions	5% Avorago	30/ Avorago	2 5% Avorago	3%				
Year	576 Average	J 70 Average	2.3 /0 Average	95 th Percentile				
2020	5800	18000	27000	48000				
2025	6800	21000	30000	54000				
2030	7800	23000	33000	60000				
2035	9000	25000	36000	6000				
2040	10000	28000	39000	74000				
2045	12000	30000	42000	81000				
2050	13000	33000	45000	88000				

Table 4-14 Social Cost of N_2O , 2020 – 2050 (in 2020 dollars per metric ton of CH₄)

There would be short-term, minor, direct, adverse impacts to climate change and the SC-GHG from the GHGs produced by construction equipment. However, the increase in emissions is relatively small and would cease once construction is finished. The increase in GHG emissions from the operation of the facility would be negligible and there would be no increase in the SC-GHG.

Mitigation Measures and Best Management Practices

No mitigation measures for effects on air quality and GHGs would be required. The developer and its contractors would use standard BMPs for air quality protection. Construction vehicles transporting excavation and fill material would be minimized through site design as movement of large amount of dirt would be prohibitively expensive for these projects. Air quality impacts from emissions can be mitigated with emission control devices and keeping vehicles and construction equipment in good working order. Emissions from operational equipment would be regulated under installation air permits issued to FMMD.

4.10.2.3. Impacts from the No Action Alternative

Implementation of the No Action Alternative would result in no impacts to air quality. The facility would not be constructed, and there would be no changes in air quality and GHG emissions in or around FMMD.

Implementation of the No Action Alternative will not result in any impacts to climate change.

4.11. HUMAN HEALTH AND SAFETY

4.11.1. Affected Environment

Under NEPA, federal agencies are required to consider the environmental consequences of their proposed actions. This consideration is broad in scope and includes an analysis of effects the action could have on the human environment, including on human health and safety. This section will consider existing conditions at the Proposed Project area relative to human health and safety. This

section will describe the existing health and safety conditions and protocols pertaining to workers and the general public.

With regard to protecting worker health and safety, workers would be expected to comply with all federal laws such as OSHA regulations, state and local regulations, and general contractor safety plans during the construction of the cybersecurity building. Any electrical work for the Proposed Action would conform to applicable electrical and fire code requirements. Any hazardous area or room identified will be separated from the remainder of the building as indicated. For Business occupancies these include general storage, boiler or furnace rooms.

4.11.2. Environmental Consequences

Impacts to human health and safety would be considered significant if the Proposed Action results in direct human exposure to a health hazard or a safety risk substantially increases due to the Proposed Action.

4.11.2.1. Impacts from Construction of the Proposed Action

Under the Proposed Action, no adverse impacts to human health and safety would be expected to occur. The company awarded the building renovation and construction project would be required to implement a site-specific health and safety plan in accordance with OSHA regulations. This plan would be reviewed by the FMMD for adequacy prior to the start of work on the site. The approved plan would be strictly followed during the proposed construction project. All efforts would be focused on reducing job hazards on the site for all construction activities. The minimum worker safety personal protective equipment ensemble would require hard hat, safety glasses, work gloves, and steel-toed boots to enter the construction area. Additional safety gear may be required based on work activities.

There are no existing risks to human health and safety prior to the start of construction. The Proposed Action area is an empty field with no known hazards due to its lack of buildings or structures.

4.11.2.2. Impacts from Operation of the Proposed Action

No adverse impacts would occur the operation of the Proposed Action. The proposed cybersecurity building would not contain hazardous material. The building would contain high-level antiterrorism security. Antiterrorism Force Protection standards in accordance with UFC 4-010-01 would be implemented to prevent terrorism activities to the building, improving the security of the workers within the building.

4.11.2.3. Impacts from the No Action Alternative

Under the No Action Alternative, no impacts would occur to human health and safety. The open area would remain open and void of any hazards. No construction would take place under the No

Action Alternative; therefore, no construction-related impacts related to human health and safety would occur.

4.12. SOCIOECONOMICS

4.12.1. Affected Environment

Socioeconomic Environment

FMMD is located in Anne Arundel County, Maryland. The population of Anne Arundel County was 537,656 in 2010 and 588,261 in 2020 based on the decennial census data collected (U.S. Census Bureau [USCB], 2021a), which shows a 9% increase in population. There was an estimated 0.4% growth in population between 2020 and 2021 (USCB, 2021a) based on American Community Survey (ACS) data.

FMMD is the Army's second largest post by population with more than 60,000 employees that represent the Army, Navy, Air Force, Marines and Coast Guard (FMMD Alliance, 2020). FMMD and its tenant organizations together generate a total of \$17.8 billion in economic activity in Maryland, or 49.4% of the total \$36 billion in economic impact from all the military posts (FMMD Alliance, 2020). It is the largest level of employment, payrolls and purchases in Maryland. FMMD creates or supports 125,729 jobs earning an estimated \$9.2 billion in employee compensation. The direct FMMD employment of 48,389 accounts for 1.4% of all employment in Maryland and when multiplier impacts are included, the 125,729 jobs created or supported by FMMD account for 3.6% of all employment in Maryland.

Demographics and Environmental Justice

This section describes socioeconomic characteristics and environmental justice (EJ) communities in the Proposed Action area. The Proposed Action area is in the Census Tract (CT) Block Group (BG), CT 7406.03 BG 2. FMMD examined socioeconomic data for the BG, Anne Arundel County, and the State of Maryland to provide a comparative analysis. This area was selected because it represents the geographic area that is most directly and indirectly impacted by the project.

EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, requires Federal Agencies to consider whether their actions will result in disproportionate adverse impacts to minority (People of Color) and low-income populations.

As shown in, **Table 4-15** the BG in the Proposed Action area has higher percentages of People of Color compared to Anne Arundel County, but a lower percentage compared to the state of Maryland.

Race/Ethnicity	Census Tract 7406.03 BG 2	Anne Arundel County	MD
Total Population Count	3,245	575,414	6,037,624
Hispanic or Latino	12%	8%	10%
White	66%	71%	54%

Table 4-15 People of Color in the Proposed Action Area

Non-Hispanic White	57%	67%	50%
Hispanic White	9%	4%	4%
Non-White	35%	29%	47%
Black or African-	170/	170/	200/
American	1 / 70	1 / 70	5070
American Indian and	10/	<10/	<10/
Alaska Native	1 70	<1%	<170
Asian	5%	4%	6%
Native Hawaiian &	00/	<10/	<10/
Other Pacific Islander	070	<170	<u>\1/0</u>
Some other race	1%	3%	5%
Two or more races	11%	5%	6%
Total People of	1,388	189,552	3,009,130
Color Population	(43%)	(33%)	(50%)
Total People of	1,388	189,552	3,009,130
Color Population	(43%)	(33%)	(50%)

Source: EJ Screen ACS Summary Report 2016-2020; ACS 2015-2019; Table DP05 ACS Demographic *Hispanic population can be of any race. * May not sum to totals due to rounding.

Poverty data is not reported at the BG level. Therefore, poverty levels within the Proposed Action area have been determined using census tract data. The poverty rate for the CT 7406.03 is 5.2% compared to 5.6% for Anne Arundel County and 9.2% for the State of Maryland (USCB, 2021b).

Table 4-16 shows income characteristics for the CT 7406.03 BG 2, Anne Arundel County, and the State of Maryland. The BG median household and per capita income is higher than the county. The BG median household income is higher than the state, but the per capita income is lower.

Income and Poverty Characteristics	Census Tract 7406.03 BG 2	Anne Arundel County	Maryland
Median household income	\$97,378	\$107,823	\$90,203
Per capita income	\$28,365	\$44,979	\$40,517

 Table 4-16 Income Characteristics in the Proposed Action Area

Source: 2020 ACS Median Household Income in Past 12 Months (in 2021 inflation adjusted dollars) Table B19013, Table B19301 Per Capita Income in Past 12 Months. Table S1901.

USEPA has developed a new EJ mapping and screening, EJScreen. It is based on nationally consistent data and an approach that combines environmental and demographic indicators in maps and reports. EJScreen was used to evaluate potential EJ communities in the Proposed Action area. This tool looks at 12 environmental indicators, combined with socioeconomic information. The EJ index highlights BGs with the highest intersection of low-income populations, People of Color, and a given environmental indicator (USEPA, 2022b). USEPA EJ Screen rated the project in the 80-90th percentile across the nation for O₃ and superfund proximity for approximately 80 % of the

project area (USEPA, 2022c). Therefore, based on this information and some of the demographic data, the Proposed Action area is considered an EJ community.

Protection of Children

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. EO 13045 recognizes that a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health and safety risks due to still developing neurological, immunological, physiological, and behavioral systems. Risks to human health and safety would be construction and operation-related products or substances.

The ROI for determining compliance with EO 13045 is within the boundaries of FMMD and immediately surrounding communities. As stated above, EPA's EJScreen was utilized to analyze the ROI. The data in the mapping layers available through EJScreen is provided by the USCB's American Community Survey 5-year summary estimates and includes the percent of individuals under the age of five as a fraction of the population (USEPA, 2022c).

Impacts to protection of children from the Proposed Action would be considered significant if they were to cause substantial change or decline in the health, wellbeing, and safety of children in the ROI. Currently, EJScreen is indicating that the Proposed Action's ROI has issues with O₃ (level in the air). EJScreen also indicates that the ROI has "Superfund proximity." This indicator includes the count of proposed and listed NPL sites within 5 kilometers (or nearest one beyond 5 kilometers), each divided by distance in kilometers. The count excludes deleted sites.

Quality of Life

Quality of Life (QOL) programs promote the health and well-being of the FMMD soldiers, DA civilians, and families. The goal of these programs is to increase QOL to promote recruitment, retention, and stress reduction. Housing, health care, childcare, spouse employment and change of station relocations are the priorities of these programs. The Directorate of Family and Morale, Welfare and Recreation (DFMWR) and Religious Service Office (RSO) help to ensure that FMMD is meeting its QOL requirements.

4.12.2. Environmental Consequences

Impacts to socioeconomics, EJ and the protection of children would be considered significant if they were to cause substantial change to the sales volume, income, employment, health, or population in the ROI.

4.12.2.1. Impacts from Construction of the Proposed Action

Short-term, minor, direct, beneficial impacts to socioeconomics are expected from the Proposed Action during the construction period, as jobs created from the construction of the Proposed Action would generally stimulate economic activity within the ROI, such as spending at restaurants within FMMD. Additionally, construction activities would not induce changes in employment, housing,

or demands on education or community resources within the community because the time frame of the work is of a short duration, such that temporary or permanent relocation of families would not be anticipated as a result of the Proposed Action.

During construction, there may be minor, short-term, indirect, adverse impacts to EJ communities that are in the Proposed Action area. Minor impacts experienced by these communities may include adverse impacts to air quality, viewshed, and noise.

This EA has identified no environmental health and safety risks from construction of the Proposed Action that would disproportionately affect children. Although there is a CDC in the ROI, no children reside in or visit the Proposed Action area. Temporary construction safety fencing would be erected around the construction area, preventing unauthorized access to the site by any age group, including children.

There would be no impacts in QOL as a result of construction of the Proposed Action. Construction workers would only be present during the workday and there would be no residential relocations to FMMD. In addition, the increase in FMMD workforce would be temporary and cease once construction is finished. As a result, there would be no changes in usage of QOL support services at FMMD.

4.12.2.2. Impacts from Operation of the Proposed Action

There may be long-term, indirect, minor beneficial impacts as a result of the operation of the Proposed Action. The consolidation of the MCCYWG workforce into the MARFORCYBER facility would decrease commute times and improve communication and efficiency. The increase in workforce would stimulate the economy of the FMMD. It is not expected that there will be permanent relocations as a result of the increased workforce, and there would be no changes in employment, housing, or demands on education or community resources.

There may also be long-term, direct, negligible adverse impacts to EJ communities from the Proposed Action due to changes in air quality and an increase in GHG emissions. However, as stated in Section 4.10 - Air Quality and Climate Change, these would be *a de minimis* contribution to overall emissions, and impacts would be negligible.

This EA has identified no environmental health and safety risks from operation of the Proposed Action that would disproportionately affect children. Operation of the Proposed Action would be carried out in an area of FMMD where no children reside or visit. During operation, access would be restricted to authorized personnel, none of which would be children.

There would be long-term, direct, minor adverse impacts to QOL as a result of the Proposed Action. The loss of the recreational field may affect the residents of FMMD. However, there are additional recreational fields in the project vicinity as well as physical fitness centers located on FMMD. In addition, the MARFOCYBER facility would be a consolidation of operations and would not change the overall workforce of FMMD. Thus, there would be no increase in usage of child and youth, community, recreational, or religious services as a result of the Proposed Action.

4.12.2.3. Impacts from the No Action Alternative

Under the implementation of the No Action Alternative, the facility would not be constructed, and there would be no impacts to the socioeconomics of the area. Existing conditions would remain the same, and there would be no impacts to EJ communities, or to children's health and safety in the ROI.

4.13. Cumulative Impacts

4.13.1.1. Definition of Cumulative

CEQ regulations stipulate that the cumulative impacts analysis within an EA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). CEQ guidance in considering cumulative impacts affirms this requirement, stating that the first steps in assessing cumulative impacts involve defining the scope of the other actions and their interrelationship with a Proposed Action. The scope must consider geographic and temporal overlaps among the Proposed Action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative impacts are most likely to arise when a relationship or synergism exists between a Proposed Action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative impacts.

To identify cumulative impacts the analysis needs to address three fundamental questions:

- Does a relationship exist such that affected resource areas of the Proposed Action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the Proposed Action and another action could be expected to interact, would the Proposed Action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this EA, the geographic extent of the cumulative effects analysis is the FMMD property and surrounding roadways. **Table 4-17** identifies projects occurring within the same general time frame at FMMD and the immediate vicinity, and whose effects, when added to those of the Proposed Action, may result in cumulative effects.

Project	Description
FMMD Stream Improvements Project	Restoration of eight impaired stream reaches in Midway Branch, Franklin Branch, Rogue Harbor, and Severn Run watersheds at FMMD to improve water quality, reduce flooding, enhance fish habitat, prevent further stream degradation, and provide numerous co-benefits for FMMD and neighboring communities, while also helping FMMD maintain compliance with federal and state water quality requirements. Total combined design and construction costs are expected to be approximately \$1.57 million for the Severn Run reach.
Operations Facility	Construct a new two-story operational building with associated parking on available space within the southeast portion of Meade.
Programmatic EIS for a Tenant Organization at FMMD	Final EIS completed in 2017 for a new operational complex.
Proposed Road Improvements at FMMD	November 2017 EA completed for eleven road improvement projects within FMMD. Projects include the widening of Cooper Avenue and Rose Street from two to four lanes to increase safety, efficiency, and traffic flow and connect primary roads and widening of Reece Road where the new four lane road ends. Sidewalks would be rebuilt to regulation and design standards. All projects would include stormwater management, LID, and landscaping (including street trees, lighting, and street furniture) would be added in accordance with Maryland state law, Army and Installation Design Guidelines, policy, and regulations.
Air Force Defense Cyber Crime Center	This project proposes the construction and operation of a new, approximately 59,000 SF headquarters facility, to include parking, secure perimeter fencing, and stormwater management features. The project would consolidate the unit's operations into one main, secure headquarters facility that encourages collaboration with other agencies with similar missions on FMMD and would allow the unit to surrender multiple spaces currently under lease in the vicinity.
Office of Energy Initiatives Solar Project	This project proposes the construction and operation of a solar photovoltaic panel field on an existing landfill in the southeastern corner of FMMD. The Army would lease up to 181.6 acres of land for the project. The exact size and technology of the panel field would be determined during the lease solicitation process. The power produced by the project would feed into the regional power grid. It would include an interconnection pathway or pathways to the installation's Rock Avenue electrical substation located in the southern portion of FMMD.

 Table 4-17 Actions at/Surrounding FMMD Potentially Causing Cumulative Effects

Project	Description
CDC V	This project involves construction of an approximately 24,440 SF, full daycare CDC to accommodate approximately 303 children. The proposed facility would include parking, a storage shed, and fenced outdoor playgrounds. The site is located at the northeastern intersection of Ernie Pyle Street and Macarthur Road, adjacent to the existing CDC 2.
Cyber Brigade Headquarters	Construct an approximately 94,500 SF headquarters facility to support the 780 th Military Intelligence Brigade which is currently operating out of relocatables on the installation.
Phased Barracks Construction	FMMD proposes to design and construct a total of up to nine new barracks facilities to house 1,600 to 1,800 unaccompanied enlisted personnel, to be constructed in three phases at three sites in close proximity on FMMD. The first phase is currently under design.
Joint Communications Integration Element	This includes three proposed facilities on Mapes Road, east of O'Brien Road, totaling approximately 63,000 SF.
Logistic Readiness Center (LRC) Improvements	Improvements to the existing LRC include construction of an LRC maintenance facility (14,400 SF), fuel point (200 SF), and a warehouse and administration building (33,500 SF). Each project would be completed in a separate construction phase, which would contribute to the overall upgrade of the LRC complex.
Anne Arundel County Potable Water Transmission Line	Anne Arundel County proposes to install approximately 20,000 linear feet of new potable water transmission main, along MD 32 across the southern portion of FMMD and northern portion of the Patuxent National Wildlife Refuge. The corridor includes a portion of FMMD on the southern side of MD 32.
VCP	Two SHA projects in the area include roadway improvements along Annapolis Road, from Mapes Road to MD 32; and roadway and interchange improvements where Annapolis Road intersects MD 295. Improvement of the Mapes and MD Route 32 VCP along with the widening of Mapes Road is also planned.

4.13.2. Potential Cumulative Impacts from the Construction and Operation of the Proposed Action

The following analysis examines the potential cumulative impacts on the natural and human-made environment that would result from the cumulative impacts of the Proposed Action, in combination with the other actions described above. Based on the assessment of past, present, and reasonably foreseeable future actions at and in the vicinity of the Proposed Action at FMMD, a limited number of resource topics analyzed in this EA would be reasonably expected to experience cumulative impacts. These include land use, stormwater, air quality and GHGs, noise, soils, utilities, and traffic and transportation. Together, the Proposed Action, in combination with the other construction projects listed in **Table 4-17**, could cumulatively result in the loss of open space at FMMD. However, implementation of the Proposed Action would be consistent with existing designated land uses and policies. The majority of the projects are converting either vacant or already developed lots to more productive uses in keeping with the land usage designations of the surrounding areas. As such, no adverse cumulative impacts to land use are expected. The Proposed Action would add a three-story building to the regional viewshed, replacing an open expanse of herbaceous vegetation, but would be shielded from view by forested areas and other similar buildings in the area.

The Proposed Action and other developmental projects would increase impervious areas within the area. This may lead to detrimental impacts on stormwater retention capabilities. However, the contractor would obtain all necessary stormwater management permits prior to construction to account for increased impervious surface and include stormwater management features to adequately and appropriately capture stormwater on the Proposed Action area.

Other construction projects on FMMD could have minor adverse effects like those of the Proposed Action, including on air quality, noise, soils, and traffic. However, as with the Proposed Action, these impacts are temporary and confined to the construction phase of the projects. There would be no long-term adverse effects on those resource areas. Thus, all other environmental resource topics were omitted from impact analysis because temporary, negligible, or no environmental impacts would occur when considered on a cumulative basis. No significant adverse cumulative effects on any resource area would be expected from the combined effects of the proposed action and local projects.

4.13.2.1. Cumulative Impacts from the No Action Alternative

The No Action Alternative would result in increasingly adverse cumulative environmental impacts occurring to land use and vegetation resources. Vacant lots and outdated facilities will continue to be an impairment to the vision and goals of FMMD and there would be no improvements to the landscape from the removal of nuisance plant and tree species in and around the Proposed Action area.

5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES

As described throughout Section 4 of this EA, the construction and operation of the Proposed Action would not generate any significant adverse impacts.; therefore, an EIS in not warranted.

As detailed in this EA, less-than-significant adverse impacts would result from construction activities associated with the Proposed Action. Impacts would be temporary, during the construction phase of the project. The intensity of the adverse impacts would be limited to the area immediately surrounding the Proposed Action area. These adverse impacts would end once the construction phases are completed.

During operation, long-term, minor, adverse impacts would be realized through the Proposed Action. The Proposed Action would require minor, routine operational and grounds maintenance and generally be a passive, unobtrusive land use. **Table 5-1** summarizes the potential consequences the Proposed Action and No Action Alternative would have on resources evaluated in the EA.

Resource	Construction	Operation	No Action
Land Use	Short-term, minor, direct, adverse impact on land. Short-term, negligible adverse viewshed impacts from the removal of recreational area.	Long-term, minor, and direct adverse effects on land use from the removal of a recreational area. Long- term, negligible adverse effects on viewshed.	No impact
Geology, Topography, and Soils	No impacts to topography or geology. Short-term, minor, direct, adverse effect on soils from erosion.	No impacts to topography or geology. Long-term, minor, direct, adverse impact to soils from soil profile and topsoil loss.	No impact
Water Resources	Short-term, negligible, direct, adverse impacts to surface water from sedimentation of stormwater runoff. Short-term, minor, direct adverse impacts to stormwater from increase runoff. No impacts to floodplains, wetlands, or coastal zones. Short-term, indirect, negligible impacts to groundwater from potential construction-based fluid	Long-term, negligible, , direct adverse impacts to surface water from increased surface water runoff. Long-term, moderate, direct, beneficial impacts on stormwater quality due to the re-design of current stormwater systems. No impacts to floodplains or wetlands, or coastal zone resources. Long-term, indirect, negligible, adverse impacts to groundwater from	No impact

Table 5-1 Summary of Environmental Consequences

Resource	Construction	Operation	No Action
	runoff.	reduced groundwater recharge.	
Biological Resources	Long-term, minor, direct adverse impacts to vegetation from removal of landscape trees. Short-term, negligible, minor, direct adverse impacts to wildlife from removal of habitat. No impacts to RTE species.	Long-term, negligible, direct, beneficial and adverse impacts to vegetation from loss of grass and mature trees, but with the planting of added native landscape trees. Negligible, long- term, minor, direct, adverse impacts to wildlife and RTE species from loss of habitat for the proposed facility.	Long-term, minor, direct adverse impacts to vegetation from existence of invasive trees on site and lack of benefits from vegetation to wildlife. No impacts to wildlife or RTE species.
Cultural Resources	No impact	No impact	No impact
Hazardous and Toxic Materials and Waste	No impact	No impact	No impact
Utilities	Short-term, negligible, direct, adverse impacts to wastewater from construction worker requirements. Short- term, negligible, direct, adverse impacts to solid waste from landfill usage for construction waste. Short-term, negligible, direct adverse to electricity from construction usage.	Long-term, negligible to minor, direct, adverse impact on wastewater, solid waste, and electric from increased demands and quantities of a normal operating facility.	No impact
Transportation and Traffic	Short-term, negligible, direct, adverse impact from construction traffic and transportation.	Long-term, minor, direct, adverse impacts on traffic and transportation from the slight increase in traffic from the MARFORCYBER workforce.	No impact
Noise	Short-term, direct, minor,	Long term, negligible,	No impact

Resource	Construction	Operation	No Action
	adverse impacts from construction activity.	direct, adverse impacts from operational noises.	
Air Quality and Climate Change	Short-term, minor, direct, adverse impact from GHGs produced from construction equipment.	Long-term, negligible, direct, adverse impacts from increased GHGs associated with operation of a facility.	No impact
Human Health and Safety	No impact	No impact	No impact
Socioeconomics,	Short-term, minor, direct, beneficial impacts from socioeconomics from construction jobs. Minor, short-term, indirect, adverse to EJ communities from quality-of-life decreases. No impacts to protection of children.	Long-term, indirect, minor beneficial impacts to socioeconomics from decreased commute times and economy stimulation with an increased workforce. No impact to EJ communities or protection of children. Long-term, minor, direct adverse impacts to quality-of-life of FMMD residents due to the loss of a recreational field.	No impact
Cumulative Impacts	No impact	Minor, long-term, direct, adverse impacts	No impact

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7. ACRONYMS AND ABBREVIATIONS

°F	Fahrenheit
$\mu g/m^3$	Micrograms per Cubic Meter of Air
ACAT	Army Climate Assessment Tool
ACP	Access Control Points
ACS	American Community Survey
AIRFA	American Indian Religious Freedom Act of 1987
AOC	Architect of the Capitol
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
ATFP	Antiterrorism Force Protection
BG	Block Groups
BGE	Baltimore Gas and Electric
BMP	Best Management Practice
BO	Biological Opinion
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CDC	Child Development Center
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CO	Carbon Monoxide
CO _{2e}	Carbon Dioxide Equivalent
COMAR	Code of Maryland Regulations
CSL	Closed Sanitary Landfill
CT	Census Tract
CWA	Clean Water Act
CYBERCOM	United States Cyber Command
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act
DA	Department of the Army
dB	Decibels
dBA	A-weighted Decibel
DBH	Diameter at Breast Height
DFMWR	Directorate of Family and Morale, Welfare and Recreation
DNL	Day-night Average Sound Level
DoD	Department of Defense
DPW	Department of Public Works
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EJ	Environmental Justice
ESCP	Erosion and Sediment Control Plan
ESD	Environmental Site Design
FAA	Federal Aviation Administration
FCA	Forest Conservation Act

FHWA	Federal Highway Administration
FEMA	Federal Emergency Management Agency
FMMD	Fort George G. Meade
FNSI	Finding of No Significant Impact
FT	feet
GCR	General Conformity Rule
GHG	Greenhouse Gas
GPM	Gallons Per Minute
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants
HUD	U.S. Department of Housing and Urban Development
HVAC	Heating, Ventilation, and Air Conditioning
ICRMP	Integrated Cultural Management Program
ICS	Intelligence Community Technical Specification
INRMP	Integrated Natural Resource Management Plan
IPaC	Information Planning and Consultation
IRP	Installation Restoration Program
ISCP	Installation Spill Contingency Plan
IWG	Interagency Working Group on Social Cost of Greenhouse Gases
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LOD	Limits of Disturbance
LOS	Level of Service
LRC	Logistic Readiness Center
MARC	Maryland Area Regional Commuter
MARFORCYBER	Marine Corps Forces Cyberspace Command
MCCYWG	Marine Corps Cyberspace Warfare Group
MDE	Maryland Department of the Environment
MEC	Munitions and Explosives of Concern
MGD	Millions of Gallons per Day
MMRP	Military Munitions Response Program
MOU	Memorandum of Understanding
MP7	Motor Pool 7
MS4	Municipal Separate Storm Sewer System
MSL	Above Mean Sea Level
NAA	Non-Attainment Area
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NLEB	Northern Long-eared Bat
NO ₂	Nitrogen Dioxide
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List

NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
OTR	Ozone Transport Region
PCBs	Polychlorinated Biphenyls
PEM	Palustrine Emergent
PM	Particulate Matter
PM10	10 Microns
PM _{2.5}	2.5 Microns
POW	Prisoners of War
PPB	Part per Billion
PPM	Parts per Million
QOL	Quality of Life
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
RONA	Record of Non-Applicability
RPMP	Real Property Master Plan
RSO	Religious Service Office
RTE	Rare, Threatened, and Endangered Species
RV	Recreational Vehicle
SC-GHG	Social Cost of Greenhouse Gases
SCIF	Sensitive Compartmented Information Facility
SF	Square Feet
SHA	State Highways Administration
SHPO	State Historic Preservation Office
SIP	State Implementation Plans
SO_2	Sulfur dioxide
SPCCP	Spill Prevention Control and Countermeasures Plan
SWPP	Stormwater Pollution Prevention Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSCA	Toxic Substance Control Act
TSS	Total Suspended Solids
U.S.	United States
UFC	Unified Facilities Criteria
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Society
VCC	Visitor Control Center
VOC	Volatile Organic Compound
WWII	World War II

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APPENDICES

Appendix A Agency Coordination THIS PAGE LEFT INTENTIONALLY BLANK

Appendix **B**

Information for Planning and Consultation (IPaC) Report

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Appendix C Record of Non-Applicability THIS PAGE LEFT INTENTIONALLY BLANK

Appendix D

Coastal Zone Management Act Consistency Determination

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APPENDICES

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Appendix A Agency Coordination THIS PAGE INTENTIONALLY LEFT BLANK

Lauren,

The site location has no hydric soils mapped, so wetlands should not be and issue. However, the Russet soil which is mapped to the east has a seasonally high water table at about 1.5 feet in the wettest time of the year most years. Therefore, during construction water may be and issue and any subsurface part of the structure may need to be water proofed or have a properly designed drainage system to overcome this limitation.

Phil King State Soil Scientist 302.363.9251

From: Joyal, Lauren E CIV USARMY CENAB (USA) <Lauren.E.Joyal@usace.army.mil>
Sent: Thursday, November 17, 2022 3:49 PM
To: King, Phillip - NRCS,Dover, DE <phillip.king@usda.gov>
Cc: Julie Adkins <julie.m.adkins7.civ@army.mil>; Geiger, Erin L CIV USARMY ID-SUSTAINMENT (USA)
<erin.l.geiger2.civ@army.mil>
Subject: USDA Initial Coordination MARFORCYBER

Dear Mr. King,

On behalf of the U.S. Army Fort Meade, we would like to coordinate with your agency regarding a National Environmental Policy Act (NEPA) analysis for the construction and operation of a new cybersecurity building at Fort George G. Meade (FMMD). The Proposed Action includes the construction and operation of a cybersecurity building that would house the new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) in the southeastern corner of Fort Meade, Maryland. In accordance with 40 CFR 1500-1508, the Army invites you to provide early input on the Proposed Action. This input will be considered and incorporated into the preparation of the NEPA document.

Please see the attached request and mapping and let us know if you have any questions. Thank you for your time and input. We kindly request your response by **December 21, 2022**.

Please direct any comments or questions you have to the Lauren Joyal at this email address, or at 410-962-4598.

Sincerely, Lauren Joyal

Lauren Joyal Ecologist USACE, Baltimore District
2 Hopkins Plaza Baltimore MD, 21201



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

January 4, 2023

Lauren Joyal USACE 2 Hopkins Plaza Baltimore, MD 21201

RE: Environmental Review for US Army Fort Meade, Construction and Operation of New Cybersecurity Building, Anne Arundel County, Maryland

Dear Ms. Joyal:

The Wildlife and Heritage Service has no official records for State or Federal listed, candidate, proposed, or rare plant or animal species within the project area shown on the map provided. As a result, we have no specific concerns regarding potential impacts to such species or recommendations for protection measures at this time. If the project changes in the future such that the limits of proposed disturbance or overall site boundaries are modified, please provide us with revised project maps 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 <u>lori.byrne@maryland.gov</u> or at (410) 260-8573.

Sincerely,

Louia. Bym

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

ER# 2022.1692.AA

From:	Traver, Carrie
To:	Joyal, Lauren E CIV USARMY CENAB (USA)
Cc:	Nevshehirlian, Stepan
Subject:	[Non-DoD Source] FW: EPA Initial Coordination MARFORCYBER
Date:	Wednesday, December 21, 2022 2:38:11 PM
Attachments:	Agency Initial Coordination MARFORCYBER 29SEPT22.pdf

Dear Ms. Joyal,

Thank you for the opportunity to provide scoping comments on the Proposed Construction and Operation of the Navy Marine Forces Cyberspace Command (MARFORCYBER) project 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.

While the NEPA Study should fully evaluate all potential adverse or beneficial effects on the full range of applicable resources, we would like to highlight a few specific areas that we recommend be thoroughly addressed based on the information provided:

Water Quality

With the conversion of the field to impervious area, EPA recommends that water quality impacts from stormwater and runoff be carefully evaluated. The use of Low Impact Development design could potentially reduce stormwater runoff volume and improve water quality downstream. We strongly encourage committing to incorporating low impact design features into the project as early as possible in the planning stages of the project and discussing these in the NEPA Study.

Community impacts

As the proposed location is somewhat near the perimeter of Fort Meade, we recommend that potential offsite impacts to potential sensitive receptors be fully evaluated, including noise and lighting from construction and operation of the facility. The Study would benefit by indicating whether additional personnel would be added, the expected number, and any potential impacts to housing, tax base, etc.

Recreation

The facility would be built on a soccer field; we suggest that the Study address impacts to recreation.

Please provide me with a copy of the draft NEPA document by email when it is available. We look forward to further coordination.

Thank you, Carrie

Carrie Traver

Office of Communities, Tribes, & Environmental Assessment U.S. Environmental Protection Agency, Region 3 215-814-2772 traver.carrie@epa.gov To: Traver, Carrie <<u>Traver.Carrie@epa.gov</u>>
Cc: Julie Adkins <<u>julie.m.adkins7.civ@army.mil</u>>; Geiger, Erin L CIV USARMY ID-SUSTAINMENT (USA)
<<u>erin.l.geiger2.civ@army.mil</u>>
Subject: EPA Initial Coordination MARFORCYBER

Dear Ms. Traver,

On behalf of the U.S. Army Fort Meade, we would like to coordinate with your agency regarding a National Environmental Policy Act (NEPA) analysis for the construction and operation of a new cybersecurity building at Fort George G. Meade (FMMD). The Proposed Action includes the construction and operation of a cybersecurity building that would house the new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) in the southeastern corner of Fort Meade, Maryland. In accordance with 40 CFR 1500-1508, the Army invites you to provide early input on the Proposed Action. This input will be considered and incorporated into the preparation of the NEPA document.

Please see the attached request and mapping and let us know if you have any questions. Thank you for your time and input. We kindly request your response by **December 21, 2022**.

Please direct any comments or questions you have to the Lauren Joyal at this email address, or at 410-962-4598.

Sincerely, Lauren Joyal

Lauren Joyal Ecologist USACE, Baltimore District 2 Hopkins Plaza Baltimore MD, 21201 THIS PAGE INTENTIONALLY LEFT BLANK

From:	Greiner, Jennifer
То:	Joyal, Lauren E CIV USARMY CENAB (USA)
Cc:	Julie Adkins; Geiger, Erin L CIV USARMY ID-SUSTAINMENT (USA); Li, Ray; Spencer, Sandy; Adams, Tarik; Melberg, Carl
Subject:	[Non-DoD Source] Re: [EXTERNAL] FWS Initial Coordination MARFORCYBER
Date:	Monday, November 28, 2022 10:21:32 AM
Attachments:	<u>Outlook-0ofpx3ah</u>
	Agency Initial Coordination MARFORCYBER 29SEPT22.pdf

Good Morning, Ms. Joyal.

Thank you for your invitation to provide early input on the Proposed Action for construction and operation of a cyber warfare operations facility and associated parking on the SE corner of FMMD. From the maps provided, it does not appear that the facility will impact Patuxent Research Refuge directly. USFWS does have concerns with two aspects: (1) impacts from construction and associated impervious surface on water quality in Franklin Branch, with potential impacts to stream habitat for aquatic species including freshwater mussels and (2) increased traffic along MD Rt. 198 (ability of USFWS personnel and refuge visitors to turn in/out of Bald Eagle Drive at the North Tract entrance is already restricted given the volume during rush hour). Has FMMD considered requesting a signal at that intersection?

Refuge staff and I would be happy to discuss these concerns as the project planning and NEPA process moves forward.

Jennifer

Jennifer Greiner (she/her) Refuge Manager Patuxent Research Refuge U.S. Fish and Wildlife Service, North Atlantic - Appalachian Region 10901 Scarlet Tanager Loop Laurel, MD 20708 240-761-1060 (mobile) 301-497-5582 (office)

?

From: Joyal, Lauren E CIV USARMY CENAB (USA) <Lauren.E.Joyal@usace.army.mil>
Sent: Thursday, November 17, 2022 3:49 PM
To: Greiner, Jennifer <Jennifer_Greiner@fws.gov>
Cc: Julie Adkins <julie.m.adkins7.civ@army.mil>; Geiger, Erin L CIV USARMY ID-SUSTAINMENT (USA)
<erin.l.geiger2.civ@army.mil>
Subject: [EXTERNAL] FWS Initial Coordination MARFORCYBER

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear Ms. Greiner

On behalf of the U.S. Army Fort Meade, we would like to coordinate with your agency regarding a National Environmental Policy Act (NEPA) analysis for the construction and operation of a new cybersecurity building at Fort George G. Meade (FMMD). The Proposed Action includes the construction and operation of a cybersecurity building that would house the new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) in the southeastern corner of Fort Meade, Maryland. In accordance with 40 CFR 1500-1508, the Army invites you to provide early input on the Proposed Action. This input will be considered and incorporated into the preparation of the NEPA document.

Please see the attached request and mapping and let us know if you have any questions. Thank you for your time and input. We kindly request your response by **December 21, 2022**.

Please direct any comments or questions you have to the Lauren Joyal at this email address, or at 410-962-4598.

Sincerely, Lauren Joyal

Lauren Joyal Ecologist USACE, Baltimore District 2 Hopkins Plaza Baltimore MD, 21201





DEPARTMENT OF THE ARMY US ARMY INSTALLATION COMMAND HEADQUARTERS UNITED STATES ARMY GARRISON 4551 LLEWELLYN AVENUE, SUITE 5000 FORT GEORGE G. MEADE, MARYLAND 20755-5115 F Army DLN EVR

October 3, 2022

Directorate of Public Works

Ms. Beth Cole Maryland Historical Trust 100 Community Place Crownsville, Maryland 21032-2023

Dear Ms. Cole:

We are writing to you to initiate consultation under Section 106 of the National Historic Preservation Act (NHPA) for a new undertaking at Fort Meade (FMMD), Anne Arundel County, Maryland (Figure 1).

Description of the Undertaking: The purpose of the Proposed Action is to provide a cybersecurity operations facility for Marine Forces Cyberspace Command (MARFORCYBER) and a new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) that is cost-effective, spacious, and secure.

The Proposed Action consists of the construction and operation of a new three-story cyber warfare operations facility with associated surface parking, which will house the new headquarters operations for MCCYWG. This project would take place on the southeastern corner of FMMD atop a soccer field. Ninety-five percent of the project scope is required to be secure space. Facilities will incorporate features that provide the lowest practical life cycle cost solutions satisfying the facility requirements with the goal of maximizing energy efficiency.

Area of Potential Effect (APE): The APE will be the limits of disturbance (LOD) for the construction of the new facility and those areas from which the new construction will be visible.

Identification of Historic Properties: The undertaking will not be located within the established Fort Meade Historic District or disturb any previously identified archaeological sites on the installation.

There are no buildings on FMMD that are listed in the National Register of Historic Places (NRHP). FMMD has five historic properties that have been determined eligible for listing in the NRHP. The historic architectural properties are the Fort Meade Historic District, three bridges/culverts built by German prisoners of war during WWII, and the water treatment plant (Building 8688). There are 13 contributing buildings in the Fort Meade Historic District, none of which are within the APE.

There are 41 known archaeological sites on FMMD, but none are listed in the NRHP. All 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 Integrated Cultural Resources Management Plan (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. None of these sites are within the APE.

Determination of Effects: No historic properties have been identified within the APE; therefore, none will be affected.

In compliance with the National Environmental Policy Act (NEPA), Fort Meade is also completing an Environmental Assessment (EA).

Fort Meade is seeking your concurrence with our determination that <u>no historic properties will be</u> <u>adversely affected</u> by the proposed undertaking. We appreciate your feedback on this undertaking. If you have any questions or concerns, please reach out to Lauren Joyal, via email at Lauren.E.Joyal@usace.army.mil or via phone at 410-962-4598.

Sincerely,

Lobert

George B. Knight, P.G. Environmental Division Chief

Enclosures Enclosure 1: Location Map of Fort Meade Enclosure 2: Proposed Action Location on Fort Meade

The Maryland Historical Trus that this undertaking will have	st has determined ve no adverse effect
on historic properties.	November 29 2022
ac approximately	Date







December 21, 2022

Ms. Lauren Joyal U.S. Army Corps of Engineers, Baltimore District 2 Hopkins Plaza Baltimore, MD 21201

STATE CLEARINGHOUSE RECOMMENDATION

State Application Identifier: MD20221118-0905

Applicant: U.S. Army Corps of Engineers, Baltimore District

Project Description: Early Input on Environmental Assessment: Proposed Construction and Operation of a New Three-Story Cyber Warfare Operation Facility with Associate Surface Parking, which will House the New Headquarters Operations for the Navy Marine Cyberspace Command (MARFORCYBER), Fort George G. Meade, MD

Project Address: Chamberlin Avenue, Huber Road, Chisholm Avenue, & 4th Street, Fort Meade, MD 20755 **Project Location:** Anne Arundel County

Recommendation: Consistent with Qualifying Comments

Dear Ms. Joyal:

In accordance with Presidential Executive Order 12372 and Code of Maryland Regulation 34.02.02.04-.07, the State Clearinghouse has coordinated the intergovernmental review of the referenced project. This letter constitutes the State process review and recommendation. This recommendation is valid for a period of three years from the date of this letter.

Review comments were requested from the <u>Maryland Departments of General Services</u>, <u>Natural Resources</u>, <u>Transportation</u>, and the Environment; the Maryland Military Department; Anne Arundel County; and the Maryland Department of Planning, including the Maryland Historical Trust. The Maryland Departments of General Services, and <u>Natural Resources</u>; the Maryland Military Department; and Anne Arundel County did not have comments.

The Maryland Department of Transportation; and the Maryland Department of Planning, including the Maryland Historical Trust found this project to be consistent with their plans, programs, and objectives.

The Maryland Department of Planning provided the following comment: "The proposed facility appears to be consistent with Fort Meade's mission. The project is located within a Priority Funding Area."

The Maryland Historical Trust has determined that the project will have "no effect" on historic properties and that the federal and/or State historic preservation requirements have been met.

The Maryland Department of the Environment (MDE) found this project to be generally consistent with their plans, programs, and objectives, but included certain qualifying comments summarized below.

- "Construction, renovation and/or demolition of buildings and roadways must be performed in conformance with State regulations pertaining to 'Particulate Matter from Materials Handling and Construction' (COMAR 26.11.06.03D), requiring that during any construction and/or demolition work, reasonable precaution must be taken to prevent particulate matter, such as fugitive dust, from becoming airborne.
- During the duration of the project, soil excavation/grading/site work will be performed; there is a potential for encountering soil contamination. If soil contamination is present, a permit for soil remediation is required from MDE's Air and Radiation Management Administration. Please contact the New Source Permits Division at (410) 537-3230 to learn about the State's requirements for these permits.
- 3. Electrical generators powered by internal combustion engines, having a rated capacity of 375 kW or greater, are required to obtain permits from the Air and Radiation Management Administration. Please contact the New Source Permits Division at (410) 537-3230 to learn about the State's requirements and the permitting processes for such equipment.
- 4. If a project receives federal funding, approvals and/or permits, and will be located in a nonattainment area or maintenance area for ozone or carbon monoxide, the applicant needs to determine whether emissions from the project will exceed the thresholds identified in the federal rule on general conformity. If the project emissions will be greater than 25 tons per year, contact the Air Quality Planning Program at (410) 537-4125 for further information regarding threshold limits.
- 5. Any above ground or underground petroleum storage tanks, which may be utilized, must be installed and maintained in accordance with applicable State and federal laws and regulations. Underground storage tanks must be registered and the installation must be conducted and performed by a contractor certified to install underground storage tanks by the Land and Materials Administration in accordance with COMAR 26.10. Contact the Oil Control Program at (410) 537-3442 for additional information.
- 6. Any solid waste including construction, demolition and land clearing debris, generated from the subject project, must be properly disposed of at a permitted solid waste acceptance facility, or recycled if possible. Contact the Solid Waste Program at (410) 537-3315 for additional information regarding solid waste activities and contact the Resource Management Program at (410) 537-3314 for additional information regarding recycling activities.
- 7. The Solid Waste Program should be contacted directly at (410) 537-3315 by those facilities which generate or propose to generate or handle hazardous wastes to ensure these activities are being conducted in compliance with applicable State and federal laws and regulations. The Program should also be contacted prior to construction activities to ensure that the treatment, storage or disposal of hazardous wastes and low-level radioactive wastes at the facility will be conducted in compliance with applicable State and regulations.
- 8. Borrow areas used to provide clean earth back fill material may require a surface mine permit. Disposal of excess cut material at a surface mine may require site approval. Contact the Mining Program at (410) 537-3557 for further details."

The State Application Identifier Number <u>must</u> be placed on any correspondence pertaining to this project.

Please remember, you must comply with all applicable state and local laws and regulations. If you need assistance or have questions, contact the State Clearinghouse staff person noted above at 410-767-4490 or through e-mail at sylvia.mosser@maryland.gov.

Ms. Lauren Joyal December 21, 2022 Page 3 State Application Identifier: **MD20221118-0905**

Thank you for your cooperation with the MIRC process.

Sincerely,

Mina a Baines

Myra Barnes, Lead Clearinghouse Coordinator

MB:SM

cc:

Tony Redman - DNR Amanda Redmiles - MDE Tyson Byrne - MDOT Tanja Rucci - DGS

Kirk Yaukey - MILT Stephen Walker - ANAR Joseph Griffiths - MDPL Beth Cole - MHT

22-0905_CRR.CLS.docx

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Joyal, Lauren E CIV USARMY CENAB (USA)

From:	Joyal, Lauren E CIV USARMY CENAB (USA)
Sent:	Monday, October 2, 2023 5:31 PM
То:	Deeley, Sabrina M
Cc:	CBFO Project Review, FW5
Subject:	RE: [Non-DoD Source] RE: [EXTERNAL] NLEB Consultation for Fort Meade MARFORCYBER Environmental Assessment

Thank you, Sabrina!

From: Deeley, Sabrina M <sabrina_deeley@fws.gov>
Sent: Tuesday, September 26, 2023 8:58 AM
To: Joyal, Lauren E CIV USARMY CENAB (USA) <Lauren.E.Joyal@usace.army.mil>
Cc: CBFO Project Review, FW5 <cbfoprojectreview@fws.gov>
Subject: [Non-DoD Source] RE: [EXTERNAL] NLEB Consultation for Fort Meade MARFORCYBER Environmental Assessment

Good morning,

Thank you for your email. This project is not likely to adversely affect northern long-eared bats (*Myotis septentrionalis*). No further Section 7 consultation is required for this project unless project plans change or this project takes place after April 1, 2024.

There is a proposed rule to list the tricolored bat (*Perimyotis subflavus*) as an endangered species. If tree clearing has not occurred prior to the final listing decision of the species, re-initiation of consultation with the Service should occur.

Additionally, consistent with the Sikes Act, we encourage the installation to:

- Minimize impacts to birds by using bird-safe design in construction (<u>GSA Section 3.6.7</u>); <u>DoD BMPs</u>; <u>USFWS</u>
 <u>Collisions-Buildings & Glass</u>; <u>USFWS night lighting guidance</u>). Almost a billion birds collide with human structures a year, and outdoor artificial lights can attract and disorient birds navigating at night.
- Include native, pollinator-friendly landscaping such as bioswales, gardens, and/or small meadows instead of non-native grasses in landscaping design. Though habitat for monarch butterfly (*Danaus plexippus*), does not currently occur in the project area, they are present in the area. Such landscaping will benefit pollinators and provides additional benefits to stormwater management, landscaping cost, and human health.

Please feel free to contact me for reinitiation, or if you would like to further discuss our suggested conservation measures,.

Thank you, Sabrina

Sabrina Deeley, PhD Fish and Wildlife Biologist Chesapeake Bay Field Office U.S. Fish and Wildlife Service Office: 410-573-4535 Sabrina Deeley@fws.gov From: Joyal, Lauren E CIV USARMY CENAB (USA) <<u>Lauren.E.Joyal@usace.army.mil</u>>
Sent: Monday, September 18, 2023 11:44 AM
To: Deeley, Sabrina M <<u>sabrina_deeley@fws.gov</u>>
Subject: [EXTERNAL] NLEB Consultation for Fort Meade MARFORCYBER Environmental Assessment

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hi Sabrina,

Greetings,

On behalf of the Fort Meade, we would like to further consult with the CBFO office on a project to construct and operate a Cybersecurity Facility at Fort Meade. We completed an IPaC for the project and our official species list included NLEB. The D-Key resulted in a "may affect" determination. I have attached the BA produced through the IPaC here for your reference as well as the concurrence letter and official species list. Please let me know if there is any additional information that you need for this consultation.

Thank you,

Lauren Joyal Ecologist USACE, Baltimore District 2 Hopkins Plaza Baltimore MD, 21201 Appendix **B**

Information for Planning and Consultation (IPaC) Report

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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



In Reply Refer To: Project code: 2023-0040907 Project Name: Navy MARFORCYBER Facility August 31, 2023

Federal Nexus: yes Federal Action Agency (if applicable): Department of Defense

Subject: Technical assistance for 'Navy MARFORCYBER Facility'

Dear Lauren Joyal:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on August 31, 2023, for 'Navy MARFORCYBER Facility' (here forward, Project). This project has been assigned Project Code 2023-0040907 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter.**

Determination for the Northern Long-Eared Bat

Based on your IPaC submission and the standing analysis for the Dkey, your project has reached the determination of "May Affect" the northern long-eared bat.

Next Steps

Your action may qualify for the Interim Consultation Framework for the northern long-eared bat. To determine if it qualifies, review the Interim Consultation Framework posted here <u>https://www.fws.gov/library/collections/interim-consultation-framework-northern-long-eared-bat</u>. If you

determine it meets the requirements of the Interim Consultation Framework, follow the procedures outlined there to complete section 7 consultation.

If your project does **not** meet the requirements of the Interim Consultation Framework, please contact the Chesapeake Bay Ecological Services Field Office for further coordination on this project. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect".

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

Monarch Butterfly Danaus plexippus Candidate

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

3

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Navy MARFORCYBER Facility

2. Description

The following description was provided for the project 'Navy MARFORCYBER Facility':

The Proposed Action would include the construction and operation of a threestory cyberoperations facility with an associated surface parking area on a soccer field in the southeastern corner of Fort Meade, Maryland (Figure 2). The Proposed Action would include: open office spaces, operational areas, large server area, telecommunication distribution systems, and a loading dock area. Mission support areas include joint staff offices, executive offices, cybersecurity training spaces, collaborative spaces, and meeting rooms; electrical/mechanical service and distribution components and systems; fire suppression, alarms; information technology infrastructure, communications, and security systems infrastructure. The parking lot would include approximately 300 surface parking spaces.



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of "may affect" for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Do you have post-white nose syndrome occurrence data that indicates that northern longeared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed acoustic detections. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

Yes

3. Does any component of the action involve construction or operation of wind turbines?

Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.). *No*

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

5. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

6. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

Yes

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

- 8. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)? *No*
- 9. Have you determined that your proposed action will have no effect on the northern longeared bat? Remember to consider the <u>effects of any activities</u> that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer "No" below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project's action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a "no effect" determination for the northern long-eared bat.

Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer "No" and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of <u>Effects of the Action</u> can be found here: <u>https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions</u>

No

10. [Semantic] Is the action area located within 0.5 miles of a known northern long-eared bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered No

11. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

No

12. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?

(If unsure, answer "Yes.")

Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags \geq 3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: <u>https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions</u>

Yes

13. Will the action cause effects to a bridge?

No

- 14. Will the action result in effects to a culvert or tunnel? *No*
- 15. Does the action include the intentional exclusion of northern long-eared bats from a building or structure?

Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local U.S. Fish and Wildlife Services Ecological Services Field Office to help assess whether northern long-eared bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures

No

- 16. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) known or suspected to contain roosting bats?*No*
- 17. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

Yes

Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forest if the forested patches, added together, comprise at least 10 acres. *No*

19. Will any new road pass between two patches of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Northern long-eared bats may cross a road by flying between forest patches that are up to 1,000 feet apart.

Note: "Contiguous forest" of 10 acres or more may includes areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

No

20. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic on one or more existing roads?

Note: For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

21. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

- 22. Will the proposed action involve the creation of a new water-borne contaminant source (e.g., leachate pond pits containing chemicals that are not NSF/ANSI 60 compliant)? *No*
- 23. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system? *No*
- 24. Will the action include drilling or blasting?

No

- 25. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)? *No*
- 26. Will the proposed action involve the use of herbicides or pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

No

27. Will the action include or cause activities that are reasonably certain to cause chronic nighttime noise in suitable summer habitat for the northern long-eared bat? Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time.

Note: Additional information defining suitable summer habitat for the northern long-eared bat can be found at: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions *No*

28. Does the action include, or is it reasonably certain to cause, the use of artificial lighting within 1000 feet of suitable northern long-eared bat roosting habitat?

Note: Additional information defining suitable roosting habitat for the northern long-eared bat can be found at: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions *Yes*

29. Will the action use only downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting) when installing new or replacing existing permanent lights? Or for those transportation agencies using the Backlight, Uplight, Glare (BUG) system developed by the Illuminating Engineering Society, will all three ratings (backlight, uplight, and glare) be as close to zero as is possible, with a priority of "uplight" of 0?

Yes

30. Will the action direct any temporary lighting away from suitable northern long-eared bat roosting habitat during the active season?

Note: Active season dates for northern long-eared bat can be found here: <u>https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas.</u>

Yes

31. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

Yes

32. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property and has a diameter breast height of six inches or greater.

No

33. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

Yes

34. [Semantic] Does your project intersect a known sensitive area for the northern long-eared bat?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your <u>state agency or USFWS field office</u>

Automatically answered *Yes*

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

0.25

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the inactive (hibernation) season for northern long-eared bat? Note: Inactive Season dates for spring staging/fall swarming areas can be found here: https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas

0.25

In what extent of the area (in acres) will trees be cut, knocked down, or trimmed during the <u>active</u> (non-hibernation) season for northern long-eared bat? **Note:** Inactive Season dates for spring staging/fall swarming areas can be found here: <u>https://www.fws.gov/media/inactive-season-dates-swarming-and-staging-areas</u>

0.0

Will all potential northern long-eared bat (NLEB) roost trees (trees \geq 3 inches diameter at breast height, dbh) be cut, knocked, or brought down from any portion of the action area greater than or equal to 0.1 acre? If all NLEB roost trees will be removed from multiple areas, select 'Yes' if the cumulative extent of those areas meets or exceeds 0.1 acre.

No

Enter the extent of the action area (in acres) from which all potential NLEB roost trees will be removed. If all NLEB roost trees will be removed from multiple areas, entire the total extent of those areas. Round up to the nearest tenth of an acre.

0.0

For the area from which all potential northern long-eared bat (NLEB) roost trees will be removed, on how many acres (round to the nearest tenth of an acre) will trees be allowed to regrow? Enter '0' if the entire area from which all potential NLEB roost trees are removed will be developed or otherwise converted to non-forest for the foreseeable future.

0.0

Will any snags (standing dead trees) \geq 3 inches dbh be left standing in the area(s) in which all northern long-eared bat roost trees will be cut, knocked down, or otherwise brought down?

No

Will all project activities by completed by April 1, 2024?

No

IPAC USER CONTACT INFORMATION

Agency:Army Corps of EngineersName:Lauren JoyalAddress:2 Hopkins PlazaCity:BaltimoreState:MDZip:21201Emailjoyall@umich.eduPhone:8128782281

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Defense

Name: Rebecca Marson

Email: rebecca.j.marson.civ@army.mil

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NAVY MARFORCYBER FACILITY

BIOLOGICAL ANALYSIS

Prepared using IPaC Generated by Lauren Joyal (joyall@umich.edu) August 31, 2023

The purpose of this document is to assess the effects of the proposed project and determine whether the project may affect any federally threatened, endangered, proposed, or candidate species. If appropriate for the project, this document may be used as a biological assessment (BA), as it is prepared in accordance with legal requirements set forth under <u>Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c))</u>.

In this document, any data provided by U.S. Fish and Wildlife Service is based on data as of February 2, 2023.

Prepared using IPaC version 6.97.0-rc3

NAVY MARFORCYBER FACILITY BIOLOGICAL ASSESSMENT

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1 DESCRIPTION OF THE ACTION

1.1 PROJECT NAME

Navy MARFORCYBER Facility

1.2 EXECUTIVE SUMMARY

Less-than-significant adverse impacts would result from construction activities associated with the Proposed Action. Impacts would be temporary, during the construction phase of the project. The intensity of the adverse impacts would be limited to the area immediately surrounding the Proposed Action area. These adverse impacts would end once the construction phases are completed. During operation, long-term, minor, adverse impacts would be realized through the Proposed Action. The Proposed Action would require minor, routine operational and grounds maintenance and generally be a passive, unobtrusive land use.

1.3 EFFECT DETERMINATION SUMMARY

SPECIES (COMMON NAME)	SCIENTIFIC NAME	LISTING STATUS	PRESENT IN ACTION AREA	EFFECT DETERMINATION
Monarch Butterfly	Danaus plexippus	Candidate	Excluded from analysis	Excluded from analysis
<u>Northern Long-eared</u> <u>Bat</u>	Myotis septentrionalis	Endangered	Yes	NLAA

1.4.3 PROJECT PROPONENT INFORMATION

Provide information regarding who is proposing to conduct the project, and their contact information. Please provide details on whether there is a Federal nexus.

REQUESTING AGENCY

Department of Defense

Army Corps of Engineers

FULL NAME Lauren Joyal

STREET ADDRESS

2 Hopkins Plaza

CITY	STATE	ZIP
Baltimore	MD	21201
PHONE NUMBER 8128782281	E-MAIL ADDRESS joyall@umich.edu	

LEAD AGENCY

Department of Defense

1.4.4 PROJECT PURPOSE

The *purpose* of the Proposed Action is to provide a cybersecurity operations facility for MARFORCYBER and a new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) that is cost-effective, spacious, and secure.

The *need* for the Proposed Action is to serve the MCCYWG more efficiently. MCCYWG needs to consolidate its workforce into one facility within a secure fence line.

1.4.5 PROJECT TYPE AND DECONSTRUCTION

This project is a residential, commercial, industrial development project.

NavyMARFORCYBERFacil_20230831_IPaC_CPBdoc

1.4.5.2 ACCESS ROAD CONSTRUCTION

ACTIVITY START DATE June 10, 2025

ACTIVITY END DATE

December 09, 2027

STRESSORS

- Decrease in hibernacula
- Decrease in trees
- Increase in fuel load
- <u>Increase in contaminants</u>
- Decrease in soil stability
- Change in topography
- Change in soil
- Increase in dust
- Increase in fill
- Increase in soil compaction
- Increase in erosion
- Increase in sedimentation rates
- Increase in ground vibrations
- Increase in human presence
- Increase in soil disturbance
- <u>Increase in vehicle traffic</u>

DESCRIPTION

The access roads would be very small, less than one quarter mile. They will connected to existing road on the west and east sites of the site. They will be built within the project boundary on mowed grass.

1.4.5.3 CONSTRUCT BUILDING

ACTIVITY START DATE June 05, 2025

ACTIVITY END DATE

December 01, 2027

STRESSORS

- <u>Change in trees</u>
- Decrease in grass
- Decrease in trees
- <u>Change in oil/petroleum</u>
- Decrease in air quality
- Decrease in soil stability
- Change in topography
- Increase in impervious surfaces
- <u>Change in sediment</u>
- Change in soil
- Increase in fill
- Increase in soil compaction
- Increase in erosion
- Increase in sedimentation rates
- Increase in surface runoff
- Increase in human presence
- Increase in noise
- Increase in soil disturbance
- Increase in vehicle traffic

DESCRIPTION
The buildings is approximately 50,000 square feet. Increases in erosion will be prevented as much as possible with BMPs, however it cannot be guaranteed to not occur during construction; petroleum/oil leaks during construction also will be avoided as much as possible by cannot be guaranteed not to occur. There will be minimal grading to the site that will result in changes in topography; however the site is relatively flat and this will not be negative or positive. Tree removal will be avoided as much as possible. But, it is potential that some large ornamental trees will be removed. In addition the small northwest patch of catalpas will be removed for stormwater purposes. 1.53 acres of trees will be planted on site or elsewhere on Fort Mead in accordance with the Forest Conservation Act. Soil will be further compacted with the addition of the building and the soil structure will change due to this.

1.4.5.4 IMPROVE STORMWATER RUNOFF QUALITY

ACTIVITY START DATE

June 10, 2025

ACTIVITY END DATE

December 08, 2027

STRESSORS

- Increase in invasive plant species (native and non-native)
- <u>Change in topography</u>
- Increase in sedimentation rates
- Increase in surface runoff

DESCRIPTION

BMPs would be implemented that would improve the current stormwater system. The current system is mainly swales.

1.4.5.5 IN-GROUND UTILITIES CONSTRUCTION

ACTIVITY START DATE June 19, 2025

ACTIVITY END DATE

December 08, 2027

STRESSORS

- <u>Change in topography</u>
- <u>Increase in soil compaction</u>
- Increase in erosion
- Increase in soil disturbance

DESCRIPTION

An electric, gas, and water utility line would be added underground for this project. Some erosion could occur while they were being built and some fill could be used to replace the soil lost.

1.4.5.6 LANDSCAPING/RESTORATION

ACTIVITY START DATE October 09, 2025

ACTIVITY END DATE

December 31, 2027

STRESSORS

This activity is not expected to have any impact on the environment.

DESCRIPTION

Special care has been given in the selection and locating of hardy, native, and adaptive species that can survive drought and the increasing uncertainties of climate change with minimal to no maintenance, meeting the sustainability requirements of the U.S. Army Corps of Engineers' mission. The use of sod is restricted to only those areas where quick turfgrass establishment is critical to a disciplined, well-organized aesthetic and efficient function of the best management practices. Native seed mixtures are proposed for areas where aesthetics and maintenance are a lower priority. More trees will be planted on the site than currently exist there, causing a net positive effect.

1.4.5.7 PARKING LOT CONSTRUCTION

ACTIVITY START DATE June 13, 2025

ACTIVITY END DATE

December 22, 2027

STRESSORS

- <u>Decrease in trees</u>
- Increase in fuel load
- <u>Change in topography</u>
- Increase in impervious surfaces
- <u>Increase in fill</u>
- Increase in soil compaction
- <u>Increase in surface runoff</u>
- <u>Increase in human presence</u>
- Increase in soil disturbance
- <u>Increase in vehicle traffic</u>

DESCRIPTION

With the construction of a parking lot (300 spaces), impervious surfaces will increase which will increase surfacewater runoff and soil compaction.

Where possible, the designs would be developed to avoid or minimize impacts to surface water resources. Provided that a construction general permit for stormwater has been approved and implemented, run-off of stormwater and pollutants from a construction site is considered to be in compliance with regulatory requirements and would not cause an impairment of surface waters. With the implementation of permit-related construction BMPs, no construction-related stormwater run-off is expected to intersect with the Franklin Branch tributary at any time during construction or operation of the Proposed Action

1.4.5.8 STORMWATER DRAINAGE SYSTEMS CONSTRUCTION

ACTIVITY START DATE June 10, 2025

ACTIVITY END DATE

December 21, 2027

STRESSORS

- <u>Change in topography</u>
- Change in hydrology
- Change in surface runoff
- Increase in sedimentation rates
- Increase in soil disturbance

DESCRIPTION

A storm water prevention plan will be prepared for the project, including the implementation of BMPs. If BMPs are analyzed to have a lower than desired water quality, they are improved.

1.4.6 ANTICIPATED ENVIRONMENTAL STRESSORS

Describe the anticipated effects of your proposed project on the aspects of the land, air and water that will occur due to the activities above. These should be based on the activity deconstructions done in the previous section and will be used to inform the action area.

1.4.6.1 ANIMAL FEATURES

Individuals from the Animalia kingdom, such as raptors, mollusks, and fish. This feature also includes byproducts and remains of animals (e.g., carrion, feathers, scat, etc.), and animal-related structures (e.g., dens, nests, hibernacula, etc.).

1.4.6.1.1 DECREASE IN HIBERNACULA

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

20% of the project area will be forested at the end of construction, which is much less than what contains trees now. NLEBs will have more place to roost than before. Additionally, surveys will be conducted to check for NLEB habitat before construction begins. The trees to be removed along Huber Road are immature and also not habitat for NLEBs.

CONSERVATION MEASURES

- <u>Reforestation/mitigation</u>
- <u>Bmps</u>

STRUCTURES AND ACTIVITIES

<u>Access road construction</u>

1.4.6.2 PLANT FEATURES

Individuals from the Plantae kingdom, such as trees, shrubs, herbs, grasses, ferns, and mosses. This feature also includes products of plants (e.g., nectar, flowers, seeds, etc.).

- <u>Building design</u><u>Reforestation/mitigation</u>

STRUCTURES AND ACTIVITIES

<u>Construct building</u>

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

<u>Construct building</u>

1.4.6.2.3 DECREASE IN TREES

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

20% of the project will be forested at the end of this, which is more than currently has vegetation

CONSERVATION MEASURES

<u>Reforestation/mitigation</u>

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- <u>Parking lot construction</u>
- Access road construction

1.4.6.2.4 INCREASE IN FUEL LOAD

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

Fuel load would increase with construction equipment and cease when construction does.

CONSERVATION MEASURES

<u>Bmps</u>

STRUCTURES AND ACTIVITIES

- <u>Parking lot construction</u>
- <u>Access road construction</u>

1.4.6.2.5 INCREASE IN INVASIVE PLANT SPECIES (NATIVE AND NON-NATIVE)

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

With reforestation, native plants will be used and the rest of the site will be mowed, not allowing for invasive species to grow.

CONSERVATION MEASURES

<u>Reforestation/mitigation</u>

STRUCTURES AND ACTIVITIES

Improve stormwater runoff quality

1.4.6.3 AQUATIC FEATURES

Bodies of water on the landscape, such as streams, rivers, ponds, wetlands, etc., and their physical characteristics (e.g., depth, current, etc.). This feature includes the groundwater and its characteristics. Water quality attributes (e.g., turbidity, pH, temperature, DO, nutrients, etc.) should be placed in the Environmental Quality Features.

1.4.6.4 CHEMICALS / CONTAMINANTS

Substances that pollute, spoil, or poison the environment (e.g., herbicides, heavy metals, oil, etc.).

• Equipment maintenance and upkeep

STRUCTURES AND ACTIVITIES

<u>Construct building</u>

1.4.6.4.2 INCREASE IN CONTAMINANTS

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

Contaminants would only be introduced through construction equipment. With proper maintenance, that would be avoided.

CONSERVATION MEASURES

- Equipment maintenance and upkeep
- <u>Bmps</u>

STRUCTURES AND ACTIVITIES

<u>Access road construction</u>

1.4.6.5 ENVIRONMENTAL QUALITY FEATURES

Abiotic attributes of the landscape (e.g., temperature, moisture, slope, aspect, etc.).

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

<u>Construct building</u>

1.4.6.5.2 DECREASE IN SOIL STABILITY

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

Soil will become more compacted with a building on top of it rather than less stable.

CONSERVATION MEASURES

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- Access road construction

1.4.6.6 LANDFORM (TOPOGRAPHIC) FEATURES

Topographic (landform) features that typically occur naturally on the landscape (e.g., cliffs, terraces, ridges, etc.). This feature does not include aquatic landscape features or man-made structures.

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

- <u>Stormwater drainage systems construction</u>
- <u>In-ground utilities construction</u>
- <u>Construct building</u>
- <u>Parking lot construction</u>
- Access road construction
- <u>Improve stormwater runoff quality</u>

1.4.6.6.2 INCREASE IN IMPERVIOUS SURFACES

ANTICIPATED MAGNITUDE

Exact increases in impervious surface are unknown, but a if the entire site is assumed to become impervious (which is an overestimate), it would be approximately 7 acres.

The Fort Meade Stormwater Program's goal is to meet MS4 permit requirements by using stream restoration for TMDL wasteload reductions that result in impervious surface acreage equivalent credits. Projects are designed to improve degraded urban stream systems by providing for functional (stream mechanics) and biological lift (abundance/diversity of organisms). The Fort Mead Environmental Division is currently planning the restoration of eight priority stream reaches on the post. New BMPs and BMP retrofits are all part of the restoration plan. The Stormwater and Natural Resource Programs have shared interest for meeting regulatory requirements and providing ecosystem benefits. The approach has been to assess the restoration potential for select streams and apply means and methods to the maximum ecological extent practical to meet programmatic goals. The Stream Functions Pyramid Framework and the USEPA Chesapeake Bay – Stream Restoration Expert Panel Protocols are used to accomplish this goal.

STRESSOR LOCATION

<u>Reforestation/mitigation</u>

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- <u>Parking lot construction</u>

1.4.6.7 SOIL AND SEDIMENT

The topmost layer of earth on the landscape and its components (e.g., rock, sand, gravel, silt, etc.). This feature includes the physical characteristics of soil, such as depth, compaction, etc. Soil quality attributes (e.g, temperature, pH, etc.) should be placed in the Environmental Quality Features.

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

<u>Construct building</u>

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- <u>Access road construction</u>

1.4.6.7.3 INCREASE IN DUST

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

Dust may occur temporarily with construction but will cease once it us over.

CONSERVATION MEASURES

<u>Bmps</u>

STRUCTURES AND ACTIVITIES

<u>Access road construction</u>

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- Parking lot construction
- <u>Access road construction</u>

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

- <u>In-ground utilities construction</u>
- <u>Construct building</u>
- <u>Parking lot construction</u>
- <u>Access road construction</u>

1.4.6.8 ENVIRONMENTAL PROCESSES

Abiotic processes that occur in the natural environment (e.g., erosion, precipitation, flood frequency, photoperiod, etc.).

1.4.6.8.1 CHANGE IN HYDROLOGY

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

BMPs and regulations require that hydrology be the same as the hydrology before construction, and this will be followed in the design.

CONSERVATION MEASURES

<u>Bmps</u>

STRUCTURES AND ACTIVITIES

<u>Stormwater drainage systems construction</u>

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

- <u>In-ground utilities construction</u>
- <u>Construct building</u>
- <u>Access road construction</u>

1.4.6.8.4 INCREASE IN SEDIMENTATION RATES

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

With stormwater features and BMPs, sedimentation rates should remain the same.

CONSERVATION MEASURES

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

- <u>Stormwater drainage systems construction</u>
- <u>Construct building</u>
- <u>Access road construction</u>
- Improve stormwater runoff quality

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- <u>Parking lot construction</u>
- Improve stormwater runoff quality

1.4.6.9 HUMAN ACTIVITIES

Human actions in the environment (e.g., fishing, hunting, farming, walking, etc.).

1.4.6.9.1 INCREASE IN GROUND VIBRATIONS

ANTICIPATED MAGNITUDE

This stressor is not expected to occur; the following explanation has been provided:

These would only occur during construction and be kept to a minimum through the types of equipment used.

CONSERVATION MEASURES

• Equipment maintenance and upkeep

STRUCTURES AND ACTIVITIES

<u>Access road construction</u>

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- Parking lot construction
- <u>Access road construction</u>

• <u>Bmps</u>

STRUCTURES AND ACTIVITIES

- <u>Stormwater drainage systems construction</u>
- <u>In-ground utilities construction</u>
- <u>Construct building</u>
- <u>Parking lot construction</u>
- <u>Access road construction</u>

No conservation measures for this stressor

STRUCTURES AND ACTIVITIES

- <u>Construct building</u>
- <u>Parking lot construction</u>
- <u>Access road construction</u>

1.4.6.10 MISCELLANEOUS

Miscellaneous should only be used if the created feature does not fit into one of the other categories or if the creator is not sure in which category it should be placed.

1.6.1 BMPS

DESCRIPTION

Proper construction management and planning and the use of appropriate best management practices (BMPs) for controlling run-off, erosion, and sedimentation during construction activities, would minimize adverse impacts to soils. Erosion and sediment controls, including a stabilized construction entrance, silt fencing, earth dikes and/or diversion fencing, and sediment traps, would be installed during construction. Areas disturbed outside of the new construction footprints would be reseeded, replanted, and/ or re-sodded following construction activities, decreasing the overall erosion potential of the site and improving soil productivity.

Environmentalsite design (ESD) requires a developer to demonstrate that all reasonable opportunities for meeting stormwater requirements using ESD have been exhausted by using natural areas and landscape features to manage runoff from impervious surfaces and that structural BMPs have been used only where absolutely necessary. The 2015 Stormwater Management Guidelines for State and Federal Projects would be implemented to the maximum extent technically feasible for the Proposed Action. Sediment and Erosion Control and Stormwater Management are the main objectives of BMPs.

STRESSORS

- Change in hydrology
- <u>Change in sediment</u>
- <u>Change in soil</u>
- <u>Change in surface runoff</u>
- Decrease in air quality
- Decrease in hibernacula
- Decrease in soil stability
- <u>Increase in contaminants</u>
- Increase in dust
- Increase in erosion
- Increase in fuel load
- <u>Increase in sedimentation rates</u>
- Increase in soil disturbance
- Increase in surface runoff

1.6.2 BUILDING DESIGN

DESCRIPTION

Building placement can be made as to avoid impacts to certain resources such as tree removal.

STRESSORS

• <u>Change in trees</u>

1.6.3 EQUIPMENT MAINTENANCE AND UPKEEP

DESCRIPTION

Construction equipment would maintained to high standards to ensure proper function.

STRESSORS

- <u>Change in oil/petroleum</u>
- Increase in contaminants
- Increase in ground vibrations

1.6.4 REFORESTATION/MITIGATION

DESCRIPTION

Development and construction projects are required to follow the current FMMD FCA and Tree Management Policy. In keeping with the MD FCA standards, FMMD requires that the equivalent of 20% of a project area be forested. All projects 40,000 square feet or larger must comply with Fort Meade Forest Conservation Act Policy. Other projects are evaluated on a case-by-case basis. Site developments must preserve or establish 20% forest cover, regardless of whether or not the site was forested before the construction. Should existing forest mitigation areas require disturbance, the project proponent shall replace the existing mitigation area at a two to one (2:1) ratio above the required 20 %. Street trees are to be replaced at a minimum of a 1:1 ratio, with preference given to the preservation of specimen trees. Specimen tree replacement ratios would be calculated on a case-by-case basis. Forestry practices that cannot feasibly be performed within the project area shall be performed on other designated land areas within Fort Meade.

STRESSORS

- <u>Change in trees</u>
- Decrease in hibernacula
- <u>Decrease in trees</u>
- <u>Increase in impervious surfaces</u>
- Increase in invasive plant species (native and non-native)

RESOURCE NEEDS

 trees (size: > or equal to 3 inch dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, cavities, exfoliating bark, time of year: april through august, type: dead, nearly dead, living tree with dead parts, and living with appropriate structure)

1.7 PRIOR CONSULTATION HISTORY

An initial coordination letter was sent to USFWS service via email to Ms. La Rouche.

1.8 OTHER AGENCY PARTNERS AND INTERESTED PARTIES

Fort Meade, Julie Adkins, julie.m.adkins7.civ@army.mil

Appropriate coordination with other agencies has already been initiated by USACE.

1.9 OTHER REPORTS AND HELPFUL INFORMATION

A draft EA is currently being written. I can provide it as need be when it is ready for public view.

RELEVANT DOCUMENTATION

- <u>MARFOR_Topo</u>
- <u>MARFOR_Floodplain</u>
- FINAL MARFORCYBER DOPAA
- <u>MARFOR Soils</u>
- <u>MARFOR Project Location</u>
- <u>MARFOR_Land Use</u>
- <u>MARFOR_Surface Waters</u>
- <u>MARFOR_Utilities</u>
- <u>MARFOR Proposed Utilities</u>

2 SPECIES EFFECTS ANALYSIS

This section describes, species by species, the effects of the proposed action on listed, proposed, and candidate species, and the habitat on which they depend. In this document, effects are broken down as direct interactions (something happening directly to the species) or indirect interactions (something happening to the environment on which a species depends that could then result in effects to the species).

These interactions encompass effects that occur both during project construction and those which could be ongoing after the project is finished. All effects, however, should be considered, including effects from direct and indirect interactions and cumulative effects.

2.1 MONARCH BUTTERFLY

This species has been excluded from analysis in this environmental review document.

RELEVANT DOCUMENTATION

USACE conducted a site visit for the NEPA kickoff. The area is entirely mowed grass, with scattered large trees. There is no monarch butterfly habitat as there are no plant for them to feed on.

JUSTIFICATION FOR EXCLUSION

There is only mowed grass within the action area. There is no milkweed growing or other kind of meadow habitat.

2.2 NORTHERN LONG-EARED BAT

2.2.1 STATUS OF THE SPECIES

This section should provide information on the species' background, its biology and life history that is relevant to the proposed project within the action area that will inform the effects analysis.

2.2.1.1 LEGAL STATUS

The Northern Long-eared Bat is federally listed as 'Endangered' and additional information regarding its legal status can be found on the <u>ECOS species profile</u>.

2.2.1.2 RECOVERY PLANS

Available recovery plans for the Northern Long-eared Bat can be found on the <u>ECOS</u> <u>species profile</u>.

2.2.1.3 LIFE HISTORY INFORMATION

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, Myotis, which are actually bats noted for their small ears (Myotis means mouse-eared). The northern long-eared bat is found across much of the eastern and north central United States and all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. The species range includes 37 states. White-nose syndrome, a fungal disease known to affect bats, is currently the predominant threat to this bat, especially throughout the Northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Although the disease has not yet spread throughout the northern long-eared bats entire range (white-nose syndrome is currently found in at least 25 of 37 states where the northern long-eared bat occurs), it continues to spread. Experts expect that where it spreads, it will have the same impact as seen in the Northeast.

IDENTIFIED RESOURCE NEEDS

Hibernacula

Humidity: high, noise: low, with minimal distrubance, temperature: 0-9 degrees celsius, time of year: august through april, type: caves, mines, sewers, and spillways

Insects

Type: lepidoptera (moths and butterflies), coleoptera (beetles), trichoptera (caddisflies), diptera (flies), spiders, lepidopterous larvae

Open water

Type: streams, rivers, ponds, wetlands, lakes, road ruts

Travel corridors

Location: between forest patches and type: riparian corridors, wooded paths, hedgerows, fence rows

Trees

Size: > or equal to 3 inch dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, cavities, exfoliating bark, time of year: april through august, type: dead, nearly dead, living tree with dead parts, and living with appropriate structure

2.2.1.4 CONSERVATION NEEDS

The site will have 20% of its area reforested after construction. The design of the building also avoids taking down as many of the few street trees as possible. Lighting will be pointed down to avoid disturbing them and the no trees will be removed during the inactive season.

2.2.2 ENVIRONMENTAL BASELINE

The environmental baseline describes the species' health **within the action area only** at the time of the consultation, and does not include the effects of the action under

review. Unlike the species information provided above, the environmental baseline is at the scale of the Action area.

2.2.2.1 SPECIES PRESENCE AND USE

There are a few, stand-alone ornamental trees that they could use. These will be surveyed prior to them being removed to see if they are good habitat for the NLEBs. The trees across Huber Road that could be removed are not large enough for the NLEBs.

2.2.2.2 SPECIES CONSERVATION NEEDS WITHIN THE ACTION AREA

Street tree removal will be avoided when possible and the area will be replanted with 20% of the project area being vegetated.

2.2.2.3 HABITAT CONDITION (GENERAL)

TREES (SIZE: > OR EQUAL TO 3 INCH DBH, SPATIAL ARRANGEMENT: WITHIN 1000 FEET OF FOREST, STRUCTURE: CRACKS, CREVICES, CAVITIES, EXFOLIATING BARK, TIME OF YEAR: APRIL THROUGH AUGUST, TYPE: DEAD, NEARLY DEAD, LIVING TREE WITH DEAD PARTS, AND LIVING WITH APPROPRIATE STRUCTURE)

There are also six mature landscape trees located along the south and west sides of the site: a pin oak (*Q. palustris*), red maple, sweet gum, white oak, and two willow oaks (*Q. phellos*). In addition, there is a small stand of the invasive northern catalpa (*Catalpa speciosa*) located in the northeast corner of the site.

SUPPORTING DOCUMENTATION

- UpdatedLOD_Aug23
- <u>MARFOR Project Location</u>
- <u>MARFOR_Topo</u>
- <u>MARFOR Surface Waters</u>

2.2.2.4 INFLUENCES

NLEB was picked up on acoustics surveys in 2017 at Fort Meade; however, the bats have not been confirmed to be on the site. Development has likely influenced NLEB population at FMMD, but I have not read any documents specifically stating how their populations have suffered on or near the project site.

2.2.2.5 ADDITIONAL BASELINE INFORMATION

n/a

2.2.3 EFFECTS OF THE ACTION

This section considers and discusses all effects on the listed species that are caused by the proposed action and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

2.2.3.1 INDIRECT INTERACTIONS

RESOURCE NEED	STRESSORS	CONSERVATION MEASURES	AMOUNT OF RESOURCE IMPACTED	INDIVIDUALS AFFECTED
Hibernacula (humidity: high, noise: low, with minimal distrubance, temperature: 0-9 degrees celsius, time of year: august through april, type: caves, mines, sewers, and spillways)			This resource is not present in the action area USACE site visits confirmed none of these were on-site.	There will be no impacts to this resource, so no individuals will be affected.
Insects (type: lepidoptera (moths and butterflies), coleoptera (beetles), trichoptera (caddisflies), diptera (flies), spiders, lepidopterous larvae)			This resource is not present in the action area Site visit and aerial mapping have confirmed that the project area is a mowed, empty field that would have little habitat for these insects. A very small, area along Huber Road could have insects that would be impacted.	There will be no impacts to this resource, so no individuals will be affected.

RESOURCE NEED	STRESSORS	CONSERVATION MEASURES	AMOUNT OF RESOURCE IMPACTED	INDIVIDUALS AFFECTED
Open water (type: streams, rivers, ponds, wetlands, lakes, road ruts)			This resource is not present in the action area Site vists and aerial imagery	There will be no impacts to this resource, so no individuals will be affected.
Travel corridors (location: between forest patches and type: riparian corridors, wooded paths, hedgerows, fence rows)			This resource is not present in the action area There will be no roads built outside of the project area, which contains no forest or corridors.	There will be no impacts to this resource, so no individuals will be affected.
Trees (size: > or equal to 3 inch dbh, spatial arrangement: within 1000 feet of forest, structure: cracks, crevices, cavities, exfoliating bark, time of year: april through august, type: dead, nearly dead, living tree with dead parts, and living with appropriate structure)	<u>Change in trees</u>	Reforestation/ mitigation	There will be no impacts to this resource If any trees are removed, they will be removed outside of the window provided.	There will be no impacts to this resource, so no individuals will be affected.

2.2.3.2 DIRECT INTERACTIONS

No direct interactions leading to effects on species are expected to occur from the proposed project.

2.2.4 CUMULATIVE EFFECTS

The majority of the projects are converting either vacant or already developed lots to more productive uses in keeping with the land usage designations of the surrounding areas. As such, no adverse cumulative impacts to land use are expected. The Proposed Action would add a three-story building to the regional viewshed, replacing an open expanse of herbaceous vegetation, but would be shielded from view by forested areas and other similar buildings in the area. The Proposed Action and other developmental projects would increase impervious areas within the area. This may lead to detrimental impacts on stormwater retention capabilities. However, the contractor would obtain all necessary stormwater management permits prior to construction to account for increased impervious surface and include stormwater management features to adequately and appropriately capture stormwater on the Proposed Action area. Other construction projects on FMMD could have minor adverse effects like those of the Proposed Action, including on air quality, noise, soils, and traffic. However, as with the Proposed Action, these impacts are temporary and confined to the construction phase of the projects. There would be no long-term adverse effects on those resource areas. Thus, all other environmental resource topics were omitted from impact analysis because temporary, negligible, or no environmental impacts would occur when considered on a cumulative basis. No significant adverse cumulative effects on any resource area would be expected from the combined effects of the proposed action and local projects. Other Fort Meade Projects are described below

2.2.5 DISCUSSION AND CONCLUSION

DETERMINATION: NLAA

COMPENSATION MEASURES

Surveys will be conducted to ensure the trees to be removed are not habitat for NLEBs. As few trees as possible are going to be removed.

3 CRITICAL HABITAT EFFECTS ANALYSIS

No critical habitats intersect with the project action area.

4 SUMMARY DISCUSSION AND CONCLUSION

4.1 SUMMARY DISCUSSION

Species should not be effect but in a negligible way for this project. There is little to no habitat space for wildlife on the site currently as it is maintained by frequent mowing. If large trees are removed, this would effect bird habitat. However, 1.53 acres of landscaping trees will be planted. There is no critical habitat on site and none will be affected.

4.2 CONCLUSION

Habitat for the NLEB is minimal to nonexistent. There are a few ornamental trees that will be removed for this project. Habitat for NLEBs will be surveyed prior to any tree removal. The trees removed south of Huber Road are immature and not habitat for NLEBs, but will be surveyed. However, more than the original number will be planted, providing more habitat for wildlife than the original site.

Appendix C Record of Non-Applicability THIS PAGE INTENTIONALLY LEFT BLANK

Air Emissions Calculations and Record of Non-Applicability for Construction of the Navy Marine Forces Cyberspace Command (MARFORCYBER) at Fort George G. Meade Fort Meade, Anne Arundel County, Maryland

03 March 2023
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Attachments

Attachment 1 – Output from Emissions Calculations Attachment 2 – Record of Non-Applicability Signature Page

1 Introduction

The U.S. Army Corps of Engineers has considered all foreseeable direct and indirect sources of air emissions associated with the Proposed Action. Direct emissions are emissions that are caused or initiated by a federal action and occur at the same time and place as the action. Indirect emissions are reasonably foreseeable emissions that are caused by the action but might occur later in time and/or be farther removed in distance from the action itself, and that the federal agency can practicably control.

2 **Project Description and Assumptions**

The Proposed Action is to provide a cybersecurity operations facility for Marine Corps Forces Cyberspace Command (MARFORCYBER) and a new headquarters for the Marine Corps Cyberspace Warfare Group (MCCYWG) at Fort George G. Meade (FMMD) in Anne Arundel County, Maryland.

The proposed location for the MARFORCYBER facility is an approximately eight-acre site within FMMD. The parcel is currently improved as a grass-covered athletic field.

The emissions estimates for constructing the Proposed Action anticipates that equipment, building materials and supplies, and a qualified workforce is available within 60 miles of FMMD. The facility would be designed according to the Department of Defense (DoD) Unified Facility Criteria, construction would take approximately 12 months, would occur in 2024, and include DoD-required hardening and security elements.

The Proposed Action would generate emissions associated with grading, extension of utilities, and constructing parking and the new facility, which would be an approximately 120,000-square-foot multi-story, steel-frames, reinforced concrete, 3-story structure. An approximately 3-acre asphalt-paved parking lot for up to 375 vehicles would be constructed adjacent to the facility. This parking lot size may change based on the design occupancy of the MARFORCYBER facility.

Operational emissions would be limited to heating/air conditioning and ventilation and monthly testing of emergency backup generators. Other operational emissions would be related to emissions from vehicles used to drive to and from the MARFORCYBER facility. The emissions from these vehicles would be less than the emissions current generated by staff who travel off-post to distributed facilities elsewhere in Maryland and Virginia. The MARFORCYBER facility would also be designed to meet Army requirements for energy efficiency and sustainability. Therefore, operational emissions would be negligible and were not individually calculated in this RONA.

3 Region of Influence

The Region of Influence (ROI) for air quality impacts is Anne Arundel County, Maryland. This ROI represents the geographic area that would be reasonably impacted by the Proposed Action. The US Environmental Protection Agency (USEPA) identifies Harford County as a moderate non-attainment area for the 2008 and 2015 8-hour ozone (O3) and sulfur dioxide National Ambient Air Quality Standards (NAAQS) (USEPA, 2023).

The following sections describe the direct emissions anticipated from constructing the Proposed Action. Indirect emissions are caused by an action but are removed from the action in either time

or space. The Proposed Action is not anticipated to generate indirect emissions because the MARFORCYBER facility would not cause or initiate actions that generate emissions over which the Army has practical control within or beyond FMMD or Anne Arundel County.

Based on the final design for the Proposed Action, the selected Architect/Engineer (A/E) of Record would determine whether any new air quality permits would be required to operate the MARFORCYBER facility.

4 Emissions Factors

Under the Proposed Action, potential air quality impacts from construction activities would occur from: 1) combustion emissions due to the use of fossil-fuel-powered equipment and vehicles, and 2) particulate emissions from fugitive dust generated during ground-disturbing activities.

Emission factors for year 2024 were obtained from Off-Road - Model Mobile Source emission factors for year 2024 (SCAB Fleet) by the California South Coast Air Quality Management District (SCAQMD, 2022) and the On-Road Heavy Duty Diesel Vehicle emission factors published by the US Air Force Civil Engineer Center (AFCEC, 2021). Should construction activities occur after 2024, fewer emissions would be anticipated because emissions factors typically decrease over time as new and more efficient equipment is brought to market. Emissions factors for year 2024 were used because construction activities would be anticipated to start in 2024. The emission estimates were based on the use of the equipment typically involved in site grading, parking lot construction, and commercial building construction.

5 Construction Emissions

This section presents the equations and assumptions used to estimate the Proposed Action construction emissions. The outputs from emission calculations for construction activities are provided in Attachment 1.

5.1 Off-Road Heavy Duty Construction Equipment Emissions

Table 1 presents the anticipated use of off-road diesel-fuel heavy duty equipment and time in use during demolition and construction. See Attachment 1 for the output from detailed emissions calculations.

Equipment	Days in Use (8 hours per day)
Excavator for digging and moving earth, composite	30
Grader for leveling the ground, composite	10
Bulldozer for clearing and grading the site, composite	30
Loader for loading and unloading materials, composite	260
Cranes (2) for lifting heavy materials and components	260
Other construction equipment for constructing building	260
frame, composite	200
Concrete mixers (2) for mixing concrete, composite	30
Concrete pumps (2) for transferring concrete, composite	30
Aerial lifts (6) for working at heights, composite	260
Pavers, composite	15

Table 1. Off-Road Heavy Duty Construction Equipment Use

Equipment	Days in Use (8 hours per day)
Paving Equipment, composite	15
Rollers (2), composite	15
Surfacing Equipment, composite	15

To determine the off-road heavy duty construction equipment emissions in tons per year, the following equation was used.

$$TPY_p = (T_h \ x \ E_{fp} \ x \ N \ x \ D)/C$$

Where:

 $TPY_p = Tons Per Year of Pollutant$

 $T_h = Time$ (hours per day of operation)

 E_{fp} = Emissions Factor for the given pollutant (information from *SCAQMD*, 2022)

N = Number of pieces of equipment

D = Days of use of equipment

C = Conversion from lbs to tons

A sample calculation for CO emitted from the use of one excavator is depicted as follows:

$$TPY_{CO} = (T_h \ x \ E_{CO} \ x \ N \ x \ D)/C$$
$$TPY_{CO} = (8 \ x \ 0.452 \ x \ 1 \ x \ 30)/2000$$
$$TPY_{CO} = (108.53)/2000$$
$$TPY_{CO} = 0.054$$

5.2 On-Road Haul Truck Emissions

Table 2 presents the anticipated trips and total miles of on-road haul trucks transporting construction materials to the site. Emission factors specific to Maryland for year 2024 were used for heavy duty diesel-fueled vehicles weighing 8,501 pounds (lbs) or greater (HDDVs) (AFCEC, 2021). See Attachment 1 for the output from detailed emissions calculations.

Activity	Function	Number of HDDV deliveries
Site Preparation	Heavy machinery delivery	6
Foundation	Gravel delivery	149
Foundation	Concrete delivery	176
Vertical construction	Pre-cast panel delivery	84
Vertical construction	Steel beam delivery	120
Vertical construction, interior finishes and fixtures, and furniture	Other materials delivery	168
TOTAL HDDV Deliveries		703
Roundtrip miles (from supplier to site a equipment, aggregate, and materials a Fort Meade)	and back) (assumes re available within 60 miles of	120
Total miles traveled for	On-Road HDDV	84,362

Table 2. HDDV Use Estimates

HDDV emissions were calculated using the following equation:

 $TPY_P = (ME \ x \ EF_P)/C$

Where: $TPY_P = Tons Per Year of Pollutant$

ME = Miles per vehicle: number of truck trips (703) x miles per round trip (120)

EF_P = Emission Factor for the given pollutant (lbs/mile)

C = Conversion from lbs to tons

A sample calculation for CO emissions from HDDVs is provided below:

 $TPY_{CO} = (ME \ x \ EF_{CO})/C$ $TPY_{CO} = (84,362 \ x \ 0.00017)/2,000$ $TPY_{CO} = 14.69/2,000$ $TPY_{CO} = 0.007$

5.3 Surface Disturbance (Fugitive Dust)

The approximately 8-acre site will require grading prior to construction of the new MARFORCYBER facility and parking lot. This disturbance could cause fugitive dust (particulate matter) to be released into the air. Particulates are a primary air pollutant of concern from construction projects that disturb ground coverings. Particulate emissions can be estimated from the amount of ground surface exposed, the type and intensity of activity, soil type and conditions, wind speed, and dust control measures used. See Attachment 1 for the output from detailed emissions calculations.

The following assumptions were used to calculate particulate matter emissions during construction. Total suspended particulates were calculated using the emission factor for heavy construction activity operations from *Compilation of Air Pollutant Emission Factors, AP-42, 5th edition, Vol. I* (USEPA, 1995). The quantity of dust emissions from construction is proportional to the area of land being worked and the type of construction activity. The following equation was used to estimate particulate emissions:

 $E_{10} = (acres x EF x CF x PM_{10}) / C$ $E_{2.5} = E_{10} x PM_{2.5}$ $E_{total} = E_{10} + E_{2.5}$ Where: $E_{total} = Tons \text{ per year of total Particulate Matter}$ $E_{10} = Tons \text{ per year of } PM_{10}$ $E_{2.5} = Tons \text{ per year of } PM_{2.5}$ Area to be disturbed = 0.5 acre EF = 80 lbs TSP/acre TSP = Total Suspended Particulates

CF = Capture Fraction CF = 0.5PM = Particulate matter; specific for PM₁₀ and PM_{2.5} $PM_{10} = 0.45 \ lbs/TSP$ $PM_{2.5} = 0.15 \ lbs/PM_{10} \ lbs$ C = Conversion from lbs to tons

Thus, PM emissions from surface disturbance for the Proposed Action are:

$$E_{10} = (acres x EF x CF x PM_{10})/C$$
$$E_{10} = (8 x 80 x 0.5 x 0.45)/2,000$$
$$E_{10} = 144/2,000$$
$$E_{10} = 0.072$$

$$\begin{split} E_{2.5} &= E_{10} \text{ x PM}_{2.5} \\ E_{2.5} &= 0.072 \text{ x } 0.15 \\ E_{2.5} &= 0.0108 \\ E_{total} &= E_{10} + E_{2.5} \\ E_{total} &= 0.072 + 0.0108 \\ E_{total} &= 0.083 \text{ tons} \end{split}$$

5.4 Construction Worker Vehicle Emissions

Construction Worker Vehicle Emission factors specific to Maryland for emission year 2024 were used for light duty gasoline-fueled vehicles (LDGVs) (AFCEC, 2021). See Attachment 1 for the output from detailed emissions calculations.

For construction workers' vehicle emissions, it was assumed there would be an average of 50 workers, traveling a total of 50 miles round trip per day from their place of lodging to the site during site preparation and construction. Anticipating the probability of some workers driving together, a commuting factor of 0.6 (shared vehicles) was included. Thus, a total of 289,800 miles would be traveled during construction for the Proposed Action.

LDGV emissions were calculated using the following equation:

$TPY_P = (ME \ x \ EF_P \ x \ W)/C$

Where:

e: TPY_P = Tons Per Year of Pollutant ME = Miles per Vehicle: miles (50) x commuting factor per trip (0.6) x days (276) W = Number of Workers (50) EF_P = Emission Factor for the given pollutant (lbs/mile)

C = Conversion from lbs to tons

A sample calculation for CO emissions from construction workers' vehicles is provided below:

$$TPY_{CO} = (ME \ x \ EF_{CO} \ x \ W)/C$$
$$TPY_{CO} = (8,280 \ x \ 0.000229 \ x \ 50)/2,000$$
$$TPY_{CO} = 94.8/2,000$$
$$TPY_{CO} = 0.047$$

5.5 Emissions from Architectural Coatings

Architectural coatings (e.g. paint) would generate emissions because these coatings often contain VOCs, which are released to the atmosphere when the paint is applied. The emissions generated from coatings is based on the area to be coated. For interior office space, the area to be painted was assumed to be approximately twice the heated interior area of the proposed MARFORCYBER facility. The emission factor for coatings is based on 1.247 lbs of VOCs emitted per gallon of paint, assuming a dry film thickness of three millimeters (mm). The Ozone Transport Commission, a multistate organization created under the Clean Air Act, also has a model rule that limits flat coatings to 100 g/l (0.83 lbs/gallon) and non-flat coatings to 150 g/l (1.25 lbs/gallon). This model rule has been adopted by the District of Columbia and Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Rhode Island, Vermont and Virginia. Any paint sold in these places must be OTC-compliant (OTC, 2016). Based on paint manufacturer data, one gallon of interior paint can coat approximately 400 square feet (Sherwin-Williams, 2023).Therefore, the following formula was used to calculate emissions from architectural coatings:

$E = ([F/H] \times G)/2,000$

Where: E = Emissions of VOCs from architectural coatings

F = Pounds of VOC emissions per gallon

F = 1.25 lbs/gallon

G = Total area to be coated (floor area x 2)

G = 120,987 x 2 = 241,947 square feet

H = Paint coverage

H = 400 square feet/gallon

C = Conversion from lbs to tons

The VOC emissions, in tons per year (tpy). from architectural coating are:

$$E = ([F/H] \times G)/2000$$

$$E = ([1.25/400] \times 241,947)/2,000$$

$$E = 756/2,000$$

E = 0.378 tons/year

6 Total Emissions and Conclusion

Table 3 presents the total estimated construction emissions and demonstrates that the Proposed Action emissions would be below the Clean Air Act General Conformity *de minimis* threshold values. Therefore, a full Conformity Determination is not required.

		Criteria Pollutant									
Activity	Veer	СО	VOC	NOX	SO2	PM10	PM2.5				
	rear		Emissions (tons per year)								
Site Preparation and Vertical Construction	2024	4.067	0.581	3.471	0.013	0.130	0.116				
On-Road HDDV Deliveries	2024	0.007	0.001	0.031	0.000	0.001	0.001				
Construction Worker Emissions	2024	0.033	0.000	0.000	0.000	0.000	0.000				
Fugitive Dust	2024					0.072	0.011				
Architectural Coatings	2024		0.378								
TOTAL PROJECT EMISSIONS		4.11	0.96	3.50	0.01	0.20	0.13				
General Conformity <i>De Minimis</i> Thresholds ⁽¹⁾ (40 CFR 93.153(b)(1))		100	100	100	100	100	100				

 Table 3. Proposed Action Total Construction Emissions

7 References

- AFCEC. (2021). AIR EMISSIONS GUIDE FOR AIR FORCE MOBILE SOURCES. METHODS FOR ESTIMATING EMISSIONS OF AIR POLLUTANTS FOR MOBILE SOURCES AT UNITED STATES AIR FORCE INSTALLATIONS. June. San Antonio: US Air Force Civil Engineer Center.
- OTC. (2016). *Model Rule, Architectural & Industrial Maintenance (AIM) Coatings.* Boston: Ozone Transport Commission.
- SCAQMD. (2022). *Off-Road Model Mobile Source Emission Factors for Year 2023.* Diamond Bar: California South Coast Air Quality Management District.
- Sherwin-Williams. (2023, February). *Paint Calculator*. Retrieved from Sherin-Williams: https://www.sherwin-williams.com/en-us/color/color-tools/paintcalculator#:~:text=Q%3A%20How%20many%20square%20feet,covers%20about%20400%20squ are%20feet.
- USEPA. (1995). Compilation of Air Pollutant Emission Factors, AP-42, 5th edition, Vol. I: Stationary Point and Area Sources. January. Washington, D.C.: US Environmental Protection Agency.
- USEPA. (2023, March 1). *Green Book*. Retrieved from EPA: https://www3.epa.gov/airquality/greenbook/anayo_md.html

Attachment 1

Emissions Estimates Input Assumptions and Supporting Calculations

INPUT ASSU	MPTIONS	TO ESTIMATE PI	ROPOSED ACTION EMISSIONS
Value Kev:			
Enter value			
Calculated value			
Automatically populated from entered values			
TOPIC	VALUES		NOTES
Proposed parcel	VALUES 8	acres	From DD1391
MARFORCYBER FACILITY			Multi-story steel-framed, reinforced concrete masonry cybersecurity operations
Main building	115,419	square feet	facility, from DD1391
Support area TOTAL MARFORCYBER size	5,568	square feet	
Stories	3	stories	standard assumption
Footprint	40,329	square feet (approxima	tely 1 acre)
Site preparation includes site clearing, excavation	and prepara	tion for construction	
Concrete foundation			
Packed gravel		L.	in multiple lifts beneath foundation
gravel depth gravel area	40,329	feet square feet	max, assumes existing soils are suitable
gravel volume	80,658	cubic feet	
convert to cubic yards number of gravel delivery trucks	2,987	cubic yards trucks	assuming 20 cubic vards per multi-axle dump trailer
Footings for studs and walls			
Number of footings		L.	
Length of building Width of building	280	feet	based on footprint based on footprint
length column line - 20 feet separation	14		assumes 20-foot spacing between beams
width column line - 20 feet separating Total number of column footings	7	footings	assumes 20-foot spacing between beams
Volume of column footings, for concrete	30	cubic feet	
Total volume of concrete for footings Convert to cubic words	2,940	cubic feet	
Convert to Cubic yards	109	cubic yarus	
Slab		faat	standard accumption
Area of slab	39,200	square feet	3rauraua 9350111/F1011
Volume of slab	27,440	cubic feet	
Convert to cubic yards	1,016	cubic yards	
Foundation curtain			
Building length, doubled Building width, doubled	560 280	feet	
Foundation depth	6	feet, 4 below grade	standard assumption
Curtain width Volume of foundation curtain	7.560	foot cubic feet	standard assumption
Convert to cubic yards	280	cubic yards	
Cubic vards held in a concrete truck	8	cubic vards	https://gambrick.com/how-many-yards-of-concrete-are-in-a-truck/
Total volume of concrete	1,405	cubic yards	Sum of footings, slab, and foundation
Total concrete deliveries	176	concrete trucks delivere	Assumes 8 cubic yards per concrete mixer
Pre-cast reinforced concrete walls			
Building length, doubled	560 280	feet	
Height per story	15	feet	standard assumption
Number of stories	37 800	stories	standard assumption
Size of pre-cast panels (10*45)	450	square feet	assume each panel is 10x45 feet
How many pre-cast panels needed	84	pre-cast panels delivere	assume one panel per delivery
Steel columns			
Vertical	00		
Total length of column	50	feet heigh	
Linear feet of vertical columns total	4,900	linear feet, vertical	
Building length	280	feet	
Building width	140	feet	
Spacing between norizontal beams Number of rows, lenthwise	14 20	rows	
Number of rows, widthwise	10	rows	
Linear lerigth of norizontal beams, per stor Stories	5,600	mear reet	
Total linear length of horizontal beams	16,800	linear feet	
10tal number of 14-toot beams 14-foot beams per haul truck	1,200	beams per truck	
Total beam deliveries	120	beam truck delivered	
Other materials			
Stringers and other finishings	60	trucks	
Furniture and nardware deliveries Utilities	50 30	trucks	
Total (with 20% increase factor)	168	trucks	
Staff (how many staff can this building accommo	ate?)		
			Zippia. "How Much Office Space Do We Need Per Employee? [2023]"
How much space per person in building how many staff can fit	312 370	square feet per person staff in 115,000 square	zippia.com/advice/now-much-office- space-per-employee/ foot office building
Paving			
How many staff would there be?	370	staff, based on assumpt	tion
How many cars can park per acre? How many acres of paying would be needed	125	cars per acre	Parking Calculators Parking Area Calculator (army.mil)
to accommodate this staff?	3	acres to pave	
How many parking spots would be created?	375	parking spaces created	
Interior Finishing			
Area to be painted	241,974	square feet	assumed to be approximately twice the heated area
Gallons of paint	605	gallons	Standard Baaumption
Pounds of VOC per gallon	1.25	pounds per gallons	dry film thickness was assumed to be three millimeters (mm)

	Paving Assumptions						
Itom	Value Unit	source					
New parking area length	220 feet	Assumed based on lot area					
New parking area, width	320 feet	Assumed based on lot area					
New parking area, width	420 Teet	Assumed based on lot area					
New parking, area	134,400 square feet						
Depth of asphalt		https://www.apai.net/Files/content/DesignGuide/Chapter_4B.pdf					
asphalt wearing course	2 inches	0.17 feet					
asphalt binder course	4 inches	0.33 feet					
upper asphalt base course	6 inches	0.50 feet					
lower asphalt base course	6 inches	0.50 feet					
TOTAL	18 inches	1.50 feet					
Volume of aggregate needed							
Area	134,400 square feet	3.1 acres					
Depth	1.50 feet						
Volume (CF)	201,600 cubic feet						
Volume (CYF)	7,467 cubic yards						

Off-Road Heavy Duty Construction Equipment Emissions

						Emissions	in Ibs/hour	.(1)		
Activity	Year	Activity	Equipment	со	voc	NOX	SO2	PM10	PM2.5	CH4
Site prep/grading	2024	Excavator for digging and moving earth	Excavators Composite	0.5091	0.0585	0.2524	0.0013	0.0101	0.0089	0.0053
Site prep/grading	2024	Grader for leveling the ground	Graders Composite	0.5706	0.0714	0.3709	0.0015	0.0168	0.0149	0.0064
Site prep/grading	2024	Bulldozer for clearing and grading the site	Rubber Tired Dozers Composite	0.6835	0.1748	1.1695	0.0025	0.0455	0.0405	0.0158
Vertical construction	2024	Loader for loading and unloading materials	Rubber Tired Loaders Composite	0.4324	0.0588	0.3131	0.0012	0.0138	0.0123	0.0053
Vertical construction	2024	Cranes for lifting heavy materials and components	Cranes Composite	0.3759	0.0715	0.4601	0.0014	0.0161	0.0143	0.0065
Vertical construction	2024	Equipment for constructing building frame	Other Construction Equipment Composite	0.3477	0.0462	0.2244	0.0013	0.0079	0.0071	0.0042
Vertical construction	2024	Concrete mixers for mixing concrete	Cement and Mortar Mixers Composite	0.0414	0.0085	0.0534	0.0001	0.0021	0.0019	0.0008
Vertical construction	2024	Concrete pumps for transferring concrete	Pumps Composite	0.2624	0.0285	0.2193	0.0006	0.0089	0.0079	0.0026
Vertical construction	2024	Aerial lifts for working at heights	Aerial Lifts Composite	0.1652	0.0195	0.1442	0.0004	0.0055	0.0049	0.0018
Paving	2024	Paving equipment	Pavers Composite	0.4773	0.0764	0.4135	0.0009	0.0244	0.0217	0.0069
Paving	2024	Paving equipment	Paving Equipment Composite	0.4007	0.0584	0.3546	0.0008	0.0212	0.0189	0.0053
Paving	2024	Paving equipment	Rollers Composite	0.3772	0.0435	0.2707	0.0008	0.0139	0.0124	0.0039
Paving	2024	Paving equipment	Surfacing Equipment Composite	0.3644	0.0669	0.4356	0.0017	0.0159	0.0141	0.0060

Number of units	Hours Used Per Day	Days in use
1	8	30
1	8	10
1	8	30
1	8	260
2	8	260
4	8	260
2	8	30
2	8	30
6	8	260
1	8	15
1	8	15
2	8	15
1	8	15

	Emissions										
со	CO VOC NOX SO2 PM10 PM2.5 CH4										
122.1750	14.0396	60.5646	0.3157	2.4134	2.1479	1.2668					
45.6496	5.7141	29.6687	0.1197	1.3425	1.1949	0.5156					
164.0313	41.9477	280.6827	0.5883	10.9197	9.7186	3.7849					
899.3482	122.2861	651.1534	2.4973	28.6998	25.5428	11.0337					
1563.6274	297.6010	1913.9346	5.7275	66.9957	59.6261	26.8521					
2892.8742	384.0285	1866.9665	10.5360	66.0070	58.7462	34.6503					
19.8710	4.0885	25.6389	0.0521	1.0013	0.8912	0.3689					
125.9313	13.6901	105.2733	0.2834	4.2676	3.7982	1.2352					
2061.5614	243.8234	1799.5200	4.9821	68.2080	60.7051	21.9998					
57.2779	9.1737	49.6210	0.1074	2.9223	2.6008	0.8277					
48.0893	7.0127	42.5565	0.0952	2.5475	2.2673	0.6327					
90.5326	10.4391	64.9727	0.1847	3.3446	2.9767	0.9419					
43.7330	8.0274	52.2721	0.2001	1.9022	1.6930	0.7243					
		Emissi	ions, pounds (20	24)							
8134.70	1161.87	6942.82	25.69	260.57	231.91	104.83					
		EMISS	SIONS, TONS (20	24)							
4.06735	0.58094	3.47141	0.01284	0.13029	0.11595	0.05242					

Equation: Tons per year (TPY_{PJ} = (EF_P x N x H x D)

Efp = emissions Factor for the given pollutant

N = Number of pieces of equipment

H = Number of hours equipment used per day

D = Days of use of equipment in a given year

NOTES: Source: Emissions factors from South Coast Air Quality Management District

(1) - Equipment type and frequency based on general assumptions for construction of typical commerical building.

On-Road Heavy Duty Diesel Truck Emissions

On-Road Heavy Duty Diesel Truck Travel Inputs						
Activity	Function	Number of HDDV deliveries	Units:			
Site Preparation	Heavy machinery delivery	6	trucks			
Foundation	Gravel delivery	149	trucks			
Foundation	Concrete delivery	176	trucks			
Vertical construction	Pre-cast panel delivery	84	trucks			
Vertical construction	Steel beam delivery	120	trucks			
Vertical construction, interior finishes and fixtures, and furniture	Other materials delivery	168	trucks			
TOTAL HDDV Deliveries		703	trucks			
Roundtrip miles (from supplier t aggregate, and materials are available	o site and back) (assumes equipment, iilable within 60 miles of Fort Meade)	120	miles			
Total miles trave	led for On-Road HDDV	84,362	miles			

Emission Factors for Heavy Duty Diesel Vehicles (8,501+ lbs), Specific to Maryland for Year 2024

Emissions factors multiplied by total HDDV miles: 84,362										
Criteria Pollutant (grams/miles):										
CO VOC NOX SO2 PM10 PM2.5 C										
0.0790000	0.0130000	0.3360000	0.0017000	0.0082500	0.0075900					
Convert to pounds per mile										
0.0001742	0.0000287	0.0000037	0.0000182	0.0000167	0.0000363					
Emissions, Total Pounds (2024)										
14.69	2.42	62.49	0.32	1.53	1.41	3.06				
	EMISSIONS, TONS (2024)									
0.007	0.001	0.031	0.000	0.001	0.001	0.002				

Emissions = EF x TL

where TL = trip length (miles/day) and EF = emission factor (pounds per mile) HDDV Emissions factors from US Air Force 2021 Mobile Guide, Maryland On-Road Vehicle Emission Factors – 2024.

Worker Miles Traveled Inputs										
Activity	Year	Number of Workers per Day for this Activity	Days Worked Per Month	Number of Months Worked per Year	Miles Driven per Vehicle, Round Trip	Commuting Factor	TOTAL MILES			
Site Preparation	2024	10	23	2	50	0.6	13,800			
Vertical Construction	2024	40	23	10	50	0.6	276,000			
SUM							289,800			

8280

On-Road Worker Passenger Vehicle Emissions

Criter	a Pollutant	:	со	VOC	NOX	SO2	PM10	PM2.5	CH4
Emission Factors for Gasoline-Fueled Light-Duty Vehicles (Passenger Cars), grams/mile			0.104	0.001	0.004	0.00009	0.00011	0.00010	0.0171400
Convert to	pounds pe	er mile	0.0002293	0.0000022	0.0000088	0.000002	0.000002	0.0000002	0.0000378
Activity	Year	Miles			Emi	issions (pounds p	er activity)		
Site Preparation	2024	13,800	3.16	0.03	0.12	0.00	0.00	0.00	0.52
Vertical Construction	2024	276,000	63.28	0.01	0.00	0.00	0.00	0.00	0.00
					Tote	al Emissions, pou	nds (2024)		
			66.44	0.04	0.12	0.00	0.00	0.00	0.52
			0.033 0.0000225 0.000061 0.0000014 0.0000017						0.00026
Emissions (pounds per day) = TL x EF where TL = trip length (miles/day), and EF = emission factor (pounds per mile)									
All the emission factors account for the emissions from start, running and idling exhaust. In addition, the ROG emission factors include diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors include tire and brake wear.									
		factors include diurn brake wear.	al, hot soak, running	and resting emission	ons, and the PM10	& PM2.5 emission	factors include tire and		

Fugitive Dust Emissions

$E_{10} = (acres x EF x CF x PM_{10}) /C$ $E_{2.5} = E10 x PM_{2.5}$ $E_{total} = E_{10} + E_{2.5}$

Acres	EF	CF	PM10	PM2.5	С
8.0	80	0.5	0.45	0.15	2000

E = Tons per year of Particulate Matter (sum of E10 and E2.5)

Acres = Number of acres to be cleared

EF = 80 lb Total Suspended Particles/acre

TSP = Total Suspended Particulates CF = Capture Fraction

CF = 0.5 (50% of emissions captured)

PM = Particulate matter; specific for PM_{10} and $PM_{2.5}$

PM ₁₀ = 0.45 lb/TSP PM _{2.5} = 0.15 lb/ PM ₁₀ lb C = Conversion from lbs to tpy (2,000) E10= PM10 Emissions E2.5= PM2.5 Emissions

E ₁₀	0.072
E _{2.5}	0.0108
E _{total} (tons/year)	0.083

Architectural Coatings VOC Emissions - Construction

Account for VOC emissions from architectural coatings (paints). The emission factor is based on 1.247 lbs of VOCs emitted per gallon of paint, assuming dry film thickness of three millimeters (mm). (The Ozone Transport Commission, a multistate organization created under the Clean Air Act, also has a model rule that limits flat coatings to 100 g/l (0.83 lbs/gallon) and non-flat coatings to 150 g/l (1.25 lbs/gallon). It has been adopted by the District of Columbia and Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Rhode Island, Vermont and Virginia. Any paint sold in these places must be OTC-compliant.)

Equation: TPY_{voc} = ((Ac/Pc)*(EF_A))/C1

Where:

TPY_{VOC} = tons per year of VOCs emitted

 EF_A = Emission factor in lbs VOC/gallon

 A_c = Area to be coated

- P_c = square foot area of coverage per gallon of paint
- C1 = Conversion from lbs to tpy (2,000)

For this project:

Notes:

	EF _A =	1.25 lbs VOC/ga	llon	Ozone Transport Commission threshold, adopted by Maryland				
	A _c =	241,974.0 square fee	t	Assumed to be approximately twice the heated area				
	P _c =	400.0 square fee	t per gallon	Sherwin-Williams.com				
	C1=	2000 conversion	factor for lbs	to tons				
TF	Yvoc=	0.3781 tons						

TOTAL EMISSIONS FOR CONSTRUCTION OF THE PROPOSED ACTION

		Criteria Pollutant					
Activity	Veer	со	SO2	PM10	PM2.5		
	rear		Emiss	sions (tons	per year)		
Site Preparation and Vertical Construction	2024	4.067	0.581	3.471	0.013	0.130	0.116
On-Road HDDV Deliveries	2024	0.007	0.001	0.031	0.000	0.001	0.001
Construction Worker Emissions	2024	0.033	0.000	0.000	0.000	0.000	0.000
Fugitive Dust	2024					0.072	0.011
Architectural Coatings	2024		0.378				
TOTAL PROJECT EMISSIONS	4.11	0.96	3.50	0.01	0.20	0.13	
General Conformity <i>De Minimis</i> Thresholds ⁽¹⁾ (40 CFR 93.153(b)(1))		100	100	100	100	100	100

Notes:

1 - Anne Arundel County, Maryland is in moderate non-attainment for 8-hour ozone and sulfur dioxide as of February 28, 2023.

See: https://www3.epa.gov/airquality/greenbook/anayo_md.html

Attachment 2

Record of Non-Applicability Signature Page

Record of Non-Applicability

The Proposed Action was evaluated in accordance with the Clean Air Act – General Conformity Rule.

The Army proposes to construct the MARFORCYBER facility at Fort George G. Meade, Maryland.

General Conformity under the Clean Air Act, Section 176 has been evaluated according to the requirements of Title 40 of the Code of Federal Regulations Part 93, Subpart B. The requirements of this rule are not applicable to the action because:

The maximum total annual direct emissions from constructing the Proposed Action have been estimated at 4.11 tons per year (tpy) of carbon monoxide (CO), 0.96 tpy of volatile organic compounds (VOCs; ozone precursor), 3.50 tpy of nitrogen oxides (NOx), 0.01 tpy of sulfur dioxide (SO₂), and 0.33 tpy of particulate matter ($PM_{2.5+10}$).

These levels are below the 100 tpy General Conformity de minimis threshold values for CO, VOCs, NOx, SO₂, and $PM_{2.5+10}$ established by 40 CFR 93.153(b)(1) and applicable to Anne Arundel County, Maryland.

Supporting documentation and emissions estimates:

[X] Are Attached

- [] Appear in the National Environmental Policy Act Documentation
- [] Other

Colonel, U.S. Army Garrison Commander Date

Appendix D

Coastal Zone Management Act Consistency Determination

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- 1 August 24, 2023
- 2 Coastal Policy Coordinator
- 3 Maryland Department of Natural Resources,
- 4 Chesapeake & Coastal Policy
- 5 Tawes State Office Building E2
- 6 580 Taylor State Avenue Annapolis, MD 21401
- 7
- 8 Subject: Federal Consistency Determination
- 9 Navy Marine Forces Cyberspace Command (MARFORCYBER) at
- 10 Fort George G. Meade, Anne Arundel County, Maryland
- 11
- 12 To Whom it May Concern,
- 13
- Fort George G. Meade, (FMMD) is preparing environmental documentation in accordance with the National Environmental Policy Act of 1969 (NEPA) to analyze the potential environmental impacts of the proposed construction of a new Navy Marine Forces Cyberspace Command (MARFORCYBER) cyberwarfare communications facility with the construction and operation of a three-story cyberoperations facility with associated surface parking at FMMD. The purpose of this letter is to provide you with a Consistency Determination for this project in accordance with 15 Code of Federal Regulations (CFR) §930.39 and Section 307(d) of the Coastal Zone
- 21 Management Act (CZMA) of 1972 and request your concurrence/comments.
- 22

23 The Proposed Action would include the following to construct:

24 25

26

27

28

- 120,000 square foot (SF) cyberoperations facility
- Telecommunication distribution systems
- Loading dock area
- Stormwater features
 - 300 surface parking spaces
- 29 30

An Environmental Assessment (EA) is being prepared for the proposed project to document potential impacts to the natural and human environments for the Proposed Action and the No-Action Alternative. It is anticipated that the EA will result in a Finding of No Significant Impact (FNSI). Based on the analysis presented in the enclosed Federal Consistency Determination, FMMD has determined that the Proposed Action would be consistent to the maximum extent practicable with the applicable enforceable policies of Maryland's Coastal Zone Management Program (CZMP).

- 38
- Please provide concurrence or comments regarding this Consistency Determination via letter to
 this office. If you have any questions, please contact Ms. Lauren Joyal by email at
 <u>lauren.e.joyal@usace.army.mil</u>.
- 42
- 43
- 44
- 45
- 46

47	Sincerely,	
48		
49		
50		
51		-04'00'
52		George B. Knight
53		Environmental Division Chief
54	Fnclosures	
7		
55	1. CZMA Consistency Determination	
56	2. Project Location and Photos	

 Project Location and Photos
 Draft Environmental Assessment

58 Coastal Zone Management Act (CZMA) Consistency Determination

59

This document provides Maryland with the Fort George G. Meade (FMMD) Consistency Determination under the Coastal Zone Management Act (CZMA) Section 307(c)(1) and (2) and Scode of Federal Regulations (CFR) Part 930, Subpart C, for the proposed construction and operations of cyberoperations facility at FMMD. The information in this Consistency Determination is provided pursuant to 15 CFR §930.39.

65

This Consistency Determination represents an analysis of the Proposed Action in light of established Maryland Coastal Resources Management (CRM) Program Enforceable Policies and Programs. Submission of this Consistency Determination reflects the commitment of FMMD to comply to the maximum extent practicable with those enforceable policies and programs. The Proposed Action would be operated and implemented in a manner consistent with the CRM.

71 FMMD has determined that the effects of the Proposed Action would be less than significant on

⁷² land and water uses and natural resources of Maryland's Coastal Zone and is consistent to the

maximum extent practicable with the enforceable policies of the CRM.

74

75 ENCLOSURE 1: PROPOSED PROJECT DESCRIPTION 76

77 **Project Location**

78

FMMD is approximately 5,107.7 acres in size and is located in northwest Anne Arundel County, Maryland, roughly halfway between Baltimore and Washington, D.C. FMMD is located near the communities of Odenton, Laurel, Columbia, and Jessup, Maryland. The proposed project is located in the southeastern portion of FMMD on a recreational soccer field. Ann Arundel County is located within Maryland's designated acestal zone.

- 83 located within Maryland's designated coastal zone.
- 84

85 **Project Description**

86

The Proposed Action would include the construction and operation of an approximately 120,000 SF three-story cyberoperations facility with an associated surface parking area on a soccer field in

the southeastern corner of Fort Meade, Maryland. The Proposed Action would include open office

90 spaces, operational areas, a large server area, telecommunication distribution systems, a loading

91 dock area, and stormwater features. Mission support areas include joint staff offices, executive

92 offices, cybersecurity training spaces, collaborative spaces, and meeting rooms;

93 electrical/mechanical service and distribution components and systems; fire suppression, alarms;

94 information technology infrastructure, communications, and security systems infrastructure. The

95 parking lot will include approximately 300 surface parking spaces. There would also be a temporary laydown/staging area used only during construction. This area is already paved.

96

97 **Public Participation**

98 Public participation opportunities and decision making for the Proposed Action are guided by 32

99 CFR Part 651. Upon completion, the draft EA will be made available to the public for 30 days,100 along with a draft 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

draft EA, or draft FNSI, if applicable. 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.

ENCLOSURE 1: BASIS OF DETERMINATION

The Proposed Action would be fully consistent with Maryland's Enforceable Coastal Policies, implemented by the Maryland Department of Environment (MDE). No adverse or beneficial effects on Maryland's coastal resources would be expected from implementing the Proposed Action. The Proposed Action would be conducted in accordance with applicable laws, regulations, and policies governing erosion and sediment control and stormwater management, which would ensure that the actions would be undertaken in a manner consistent with the applicable Maryland Coastal Program enforceable policies. A synopsis of how the Proposed Action would be consistent with the enforceable coastal policies is provided below.

Maryland's Enforceable Coastal Policies are divided into three general sections: general policies, coastal resources, and coastal uses. The general policies are further divided into core, water quality, and flood hazards policies. Compliance of the Proposed Action with each of the applicable enforceable policies is discussed below. Policies not applicable to the Proposed Action are noted.

GENERAL POLICIES

Core Policies

Policy: It is State policy to maintain that degree of purity of air resources which will protect the health, general welfare, and property of the people of the State.

FMMD would comply with all applicable air pollution control regulations when implementing the Proposed Action. No significant contributing elements to air pollution would be added under the Proposed Action. Table 1 and 2 below display the estimated annual construction and operational emissions for criteria pollutants from the Proposed Action. Based on these estimates, the annual emissions emitted during construction would not exceed the USEPA National Ambient Air Quality Standards (NAAQS) *de minimis* thresholds and a General Conformity determination is not required. In addition, project construction equipment would emit minor amounts of hazardous air pollutants. The main sources boiler minor HAPs emissions could be moderated through implementation of best management practices (BMPs) such as restricting excessive idling, adherence to equipment maintenance programs, use of particulate filters, and use of ultra-low sulfur diesel fuel if applicable.

	Criter	ia Pollut	tants		Greenhouse Gases					
Activity	СО	CO VOC NO _X SO ₂ PM ₁₀ PM _{2.5}						CH ₄		
	Emissi	Emissions (tons)								
Site Preparation										
and Vertical	4.053	0.553	3.196	0.013	0.114	0.102	1195.59	0.05		
Construction										
On-Road HDDV	0.007	0.001	0.028	0.000	0.001	18 661	18 661	0.0015		
Deliveries	0.007	0.001	0.028	0.000	0.001	18.001	18.001	0.0015		

Table 1: Estimated Annual Construction and Operational Emissions

Construction Worker Emissions	0.031	0.000	0.001	0.000	0.000	0.000	4.176	0.005
Fugitive Dust					0.072	0.011		
Architectural Coatings		0.378						
TOTAL PROJECT EMISSIONS (tons)	4.09	0.93	3.23	0.01	0.19	18.77	1218.42	0.06
ANNULIZED PROJECT EMISSIONS (tons per year)	1.58	0.36	1.25	0.01	0.07	7.27	471.65	0.02
General Conformity <i>De</i> <i>Minimis</i> Thresholds ⁽¹⁾ (40 CFR 93.153(b)(1)) (tons per year)	100	100	100	100	100	100	Not established	Not established

Tab	le 2:	Estimated	l Natural	Gas	Boiler	Operations	Emissions
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Actual tons per year									
NAAQS:	CO	VOC	NOx	SOx	PM10	Pb			
1 Boiler	0.034	0.009	0.16	0.001	0.019	0			
2 Boilers	0.068	0.018	0.32	0.002	0.038	0			

Further, all construction activities would be required to comply with federal, state, and current FMMD versions of regulations designed to support compliance with the Clean Air Act (CAA), Occupational Safety and Hazard Act (OSHA), and Toxic Substance and Control Act (TSCA). Construction will use BMPs in order to reduce emissions and if necessary, will utilize emission control technologies and other required mitigation technologies. The Proposed Action is expected to comply with all air emission requirements. The Proposed Action is also expected to comply with all state and federal asbestos regulations.

Policy: The environment shall be free from noise which may jeopardize health, general welfare, or property, or which degrades the quality of life.

FMMD is relatively quiet with no notable sources of noise beyond personal and commercial vehicular traffic. Noise elements in and around the Proposed Action area are consistent with that of any residential military post and its surrounding area that include business and administrative activities. Personal and commercial vehicles accessing the area would be part of the normal noise

environment in the area. The use of heavy equipment typically occurs sporadically throughout the daytime hours on FMMD. Seasonal noise additions include the normal operation HVAC systems, lawn maintenance, snow removal, and increased pedestrian activities. None of these operations or activities produce excessive levels of noise.

MD Route 32 (Patuxent Highway), which is a busy, two-lane, divided highway with heavy traffic at rush hour, is approximately 0.25-miles from the Proposed Action area. MD Route 32 provides a relatively constant state of noise, particularly on weekdays; however, there is a barrier of trees and vegetation between the road and the site.

The Proposed Action construction activities would have minor adverse impacts on noise in the immediate area of the site, primarily due to site preparation and construction activities. Once brought to the site, construction equipment would remain within the Proposed Action area until the phase for which the equipment was needed is complete. Noise from construction activities would vary depending on the type of equipment being used at that time.

Any of the Proposed Action phases may generate noise levels during the earth moving phase (site clearing activities involving pieces of equipment) and construction activities that could range from 72 to 98 decibels A (dBA) when measured 50 feet from the respective piece of equipment. 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.

Noise receptors in the area would include commercial/industrial facilities, the child development center (CDC), recreational vehicle (RV) park, and Kimbrough Ambulatory Center, but all are outside the maximum 90 dBA range. Construction activities would take place during daylight hours and during weekdays. Additionally, noise impacts would be further minimized by equipping construction equipment with appropriate sound-muffling devices (i.e., from the original equipment manufacturer or better), and limiting engine idling to less than five minutes.

Construction workers could be exposed to noise levels above 90 dBA, which is above the permissible occupational noise exposure limits for construction workers set by the OSHA, as detailed in 29 CFR 1926.52. These levels would be reduced to permissible levels through feasible administrative or engineering controls, and/or the use of BMPs such as the use of hearing protection equipment. Any adverse impacts from construction of the Proposed Action will be temporary and cease once construction activities are complete.

The Noise Control Act of 1972 (42 U.S.C. 4901 et seq.) directs Federal agencies to comply with applicable federal, state, interstate, and local noise control regulations, including the Proposed Action. Noise generated during the construction of the proposed renovations and construction would be typical of that produced by heavy equipment such as bulldozers, excavators, graders, and trucks. The expected noise level from typical construction and renovation experienced by noise-sensitive receptors surrounding the project site would fall below the regulated noise thresholds

established in the Anne Arundel's County Noise Ordinance. A noise suppression plan would also be prepared prior to beginning construction to identify noise-suppression equipment and methods and ensure compliance with regulatory thresholds.

Policy: Soil erosion shall be prevented to preserve natural resources and wildlife; control floods; prevent impairment of dams and reservoirs; maintain the navigability of rivers and harbors; protect the tax base, the public lands, and the health, safety and general welfare of the people of the State, and to enhance their living environment.

Soil disturbance would occur during the construction and demolition phases of the Proposed Action.

During the construction of the Proposed Action, ground-disturbing activities would include vegetation and topsoil removal, the removal of mature landscape trees, and grading. An underground water main pipe that traverses the site north to south would be removed. Soils would be compacted, and soil layer structure would be disturbed and modified. Exposed soils would be susceptible to wind and surface runoff, which may lead to erosion and additional loss of soil. Soil productivity would be eliminated in the footprint of the building, entrance roads, loading docks, sidewalks, and parking areas, and decline in the remaining disturbed areas.

Proper construction management and planning and the use of appropriate BMPs for controlling runoff, erosion, and sedimentation during construction activities, would minimize adverse impacts to soils. Erosion and sediment controls, including a stabilized construction entrance, silt fencing, earth dikes and/or diversion fencing, and sediment traps, would be installed during construction. Areas disturbed outside of the new construction footprints would be reseeded, replanted, and/or re-sodded following construction activities, decreasing the overall erosion potential of the site and improving soil productivity.

Because the Proposed Action would disturb more than one acre of ground surface, either a General or Individual Permit for Stormwater Associated with Construction Activity would be applied to from MDE. As the Proposed Action is expected to exceed 5,000 SF, an Erosion and Sediment Control Plan (ESCP) and Stormwater Pollution Prevention Plan (SWPPP) would be required. The contractor or organization constructing the MARFORCYBER facility would prepare and submit these erosion and sediment plans on behalf of FMMD to the MDE, Water Management Administration for review and approval prior to the start of any construction activities. Additional soil erosion environmental protection measures may also be required in the associated state-issued construction permit (e.g., the National Pollutant Discharge Elimination System [NPDES] permit). Through adherence to applicable permits and implementation of stormwater management measures, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Policy: Controlled hazardous substances may not be stored, treated, dumped, discharged, abandoned, or otherwise disposed anywhere other than a permitted controlled hazardous substance facility or a facility that provides an equivalent level of environmental protection.

All construction activities would be required to comply with applicable local, state, and federal regulations of hazardous waste.

Hazardous, toxic, or radioactive substances would not be used during the construction of the Proposed Action; therefore, the Proposed Action would not have any mechanism for impact from these resources. To minimize the potential for a release of petroleum-based fluids (i.e., diesel fuel, hydraulic fluid) from construction equipment to the environment, all construction equipment would be maintained in good working order by the contractor daily. Should an accidental release of a hazardous material occur, construction equipment would be equipped with an emergency spill kit and workers would be trained on how to properly deploy the equipment to respond to a release. Additionally, all construction equipment would be refueled in a designated impervious area and away from pervious grounds.

Any solid waste, including excess vegetation or sediment debris, would be properly composted, reused, or disposed of at a permitted facility. Additionally, all contractors involved in the construction of the Proposed Action would be responsible for adhering to FMMD's policies and procedures, as well as state and federal regulations for storage, handling, and disposal of non-hazardous wastes.

Water Quality

Policy: No one may add, introduce, leak, spill, or emit any liquid, gaseous, solid, or other substance that will pollute any waters of the State without State authorization.

During construction contractors would be required to use mange, store, transport, and dispose of hazardous wastes; and take all necessary precautions to prevent spills of hazardous materials in accordance with federal, state, and local laws and regulations. Therefore, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Policy: Any development or redevelopment of land for residential, commercial, industrial, or institutional purposes shall use small-scale non-structural stormwater management practices and site planning that mimics natural hydrologic conditions, to the maximum extent practicable. Development or redevelopment will be consistent with this policy when channel stability and 100 percent of the average annual predevelopment groundwater recharge are maintained, nonpoint source pollution is minimized, and structural stormwater management practices are used only if determined to be absolutely necessary.

The Proposed Action would convert five acres of pervious land to impervious land. The drainage ditch located on the north end of the site would be removed. Roof drainage would be conveyed through downspouts to underground pipes to stormwater facilities. A new storm drain system would connect stormwater management facilities to convey overflow storms and underdrains. Drainage would be directed from the north and south towards micro-bioretention areas and 10-year storms would be conveyed through overflow inlets and retained within an underground storage facility under the new north parking lot.

Stormwater management for this project would be designed to comply with MDE Maryland Stormwater Design Manual Volumes I & II, revised in 2009 with environmental site design (ESD) requirements, the Maryland Stormwater Management Guidelines for State and Federal Projects (2015), MDE's applicable Technical Memorandums, and Energy Independence and Security Act Section 438. To satisfy ESD water quality requirements for stormwater management, micro-scale practices would be distributed throughout the site including bioretention, swales, and permeable pavements. Non-structural practices, such as impervious disconnection, would also be implemented. To satisfy water quantity requirements, the project would be designed to attenuate the 10-year, 24-hour storm, with above ground storage in the bioretention areas and underground storage in the gravel layers of the bioretention, as well as the underground storage facility under the north parking area. This would maintain the post-project peak discharge rate equal to or less than the pre-project discharge. This discharge rates would follow Provisions of Code of Maryland Regulations (COMAR) 26.17.02.01 Maryland Department of the Environment, Water Management, Purpose and Scope that states projects should maintain predevelopment runoff characteristics as much as possible; therefore, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Policy: Public meetings and citizen education shall be encouraged as a necessary function of water quality regulation.

FMMD would publish a NOA when the draft EA is ready for public comment. This would initiate a 30-day public comment period in which FMMD would solicit public comments and stakeholders. Substantiative comments received during the public comment period would be addressed in the final EA. Therefore, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Flood Hazards

The Flood Hazards Policies are not relevant to the Proposed Action as it is not located in a floodplain, nor would it create additional flooding.

COASTAL RESOURCES

Chesapeake and Atlantic Coastal Bays Critical Area

The Chesapeake and Atlantic Coastal Bays Critical Area Policies are not relevant to the Proposed Action. The Proposed Action would not occur in a Chesapeake or Atlantic Coastal Bays Critical Area.

Tidal Wetlands

The Tidal Wetlands Policies are not relevant to the Proposed Action. The Proposed Action would not occur in a tidal wetland.

Nontidal Wetlands

The Nontidal Wetlands Policies are not relevant to the Proposed Action. The Proposed Action would not occur in a nontidal wetland.

Forests

Policy: The Forest Conservation Act and its implementing regulations, as approved by NOAA, are enforceable policies. Generally, before developing an area greater than 40,000 square feet, forested and environmentally sensitive areas must be identified and preserved whenever possible. If these areas cannot be preserved, reforestation or other mitigation is required to replace the values associated with them. This policy does not apply in the Critical Area.

The Proposed Action is not within a forested area. The site is maintained/mowed with a sparse number of ornamental trees. There are no sensitive plant communities near the project site. During construction, FMMD would disturb as little natural habitat as possible. The Proposed Action would be designed to comply with the current Maryland FCA and Tree Management Policy. All projects 40,000 SF or larger require the equivalent of 20% of a project area be forested. The Proposed Action LOD is approximately 7.64 acres, generating a total of 1.53 acres to be planted/forested. This would be met with a combination of on-site planting in and around the built environment and off-site forest conservation. Off-site forest conservation area plantings must be planted at one tree per 400 SF with at least 50% of those trees having the potential of attaining a two inch or greater diameter at breast height (DBH) within seven years. The design team would work with the FMMD DPW to identify potential off-site forest conservation areas. With the implementation of these impact-reduction measures, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Historic and Archaeological Sites

The Historic and Archaeological Sites Policies are not relevant to the Proposed Action. The Proposed Action would not involve a submerged archaeological historic property, a cave feature or archeological site under State control, or a burial site or cemetery.

Living Aquatic Resources

The Living Aquatic Resources Policies are not relevant to the Proposed Action. The Proposed Actions would not affect any wetlands not non-tidal waters.

COASTAL USES

Mineral Extraction

The Mineral Extraction Policies are not relevant to the Proposed Action. The Proposed Action does not require mineral extraction.

Electrical Generation and Transmission

The Electrical Generation and Transmission Policies are not relevant to the Proposed Action. The Proposed Action does not include the development of power plants, transmission lines, or cooling water intake structures.

Tidal Shore Erosion Control

The Tidal Shore Erosion Control Policies are not relevant to the Proposed Action. The Proposed Action would not occur in tidal shores.

Oil and Natural Gas Facilities

The Oil and Natural Gas Facilities Policies are not relevant to the Proposed Action. The Proposed Action does not include any oil or natural gas facilities.

Dredging and Disposal of Dredged Material

The Dredging and Disposal of Dredged Material Policies are not relevant to the Proposed Action. The Proposed Action does not require any dredging.

Navigation

The Navigation Policies are not relevant to the Proposed Action. The Proposed Action would not occur in proximity to navigable waters.

Transportation

The Transportation Policies are not relevant to the Proposed Action. The Proposed Action is a non-transportation project.

Agriculture

The Agriculture Policies are not relevant to the Proposed Action. The Proposed Action would not occur on agricultural lands.

Development

Any development shall be designed to minimize erosion and keep sediment onsite.

The Proposed Action would include controls to minimize erosion and keep sediment on site, described above in Core Policies-Soil Erosion.

Any proposed development may only be located where the water supply system, sewerage system, or solid waste acceptance facility is adequate to serve the proposed construction, taking into account all existing and approved developments in the service area and any water supply system, sewerage system, or solid waste acceptance facility described in the application and will not overload any present facility for conveying, pumping, storing, or treating water, sewage, or solid waste.

The site is generally served by all major utilities running along the perimeter roads. FMMD is served by a wastewater utility responsible for operating and maintaining the sanitary sewer system that collects effluent through a network of gravity sewers, force mains, and pump stations to then be processed at a treatment plant. There are several sewer and service lines within close proximity to the site. Electrical power is supplied to FMMD by Baltimore Gas and Electric (BGE). Emergency generators are maintained across the installation in the event of a power outage. Natural gas for FMMD is also provided and maintained by BGE. The proposed utilities can be seen in Figure 3 below.

Negligible, minor, direct, adverse impacts would result from the additional demands created by the increased utility usage from the proposed three-story MARFORCYBER building. However, the building would utilize efficient building construction technology and operational systems. Mechanical system selections would be designed to maximize building efficiency and minimize energy consumption while meeting all guidelines. The mechanical conceptual design would be developed in keeping with the principals of sustainable design where life cycle cost effective is prioritized. In additional, silver Leadership in Energy and Environmental Design (LEED) would be attained with the building design. Electrical power requirements would be provided by BGE and would not increase over current usage.

All required utility systems are available and are adequate to service the proposed additions. All new facilities would be water and energy efficient and would not overload any present facility for conveying, pumping, storing, or treating water, sewage, or solid waste.

Local citizens shall be active partners in planning and implementation of development.

Public participation opportunities with respect to the EA and decision making on the Proposed Action are guided by 32 CFR Part 651. The EA and FONSI will be made available to the public for review and comment for 30 days.

Sewage Treatment

The Sewage Treatment Policies are not relevant to the Proposed Action. The Proposed Action does not require special water treatment.

SUMMARY OF FINDINGS

Based upon the following information, data, and analysis, FMMD finds that the proposed renovation and construction of two additions is consistent to the maximum extent practicable with
Enforceable Policy	Consistent to Maximum Extent
Linorceaster roney	Practicable?
Core Policies	Yes
Water Quality	Yes
Flood Hazards	N/A
Critical Areas	N/A
Tidal Wetlands	N/A
Nontidal Wetlands	N/A
Forests	N/A
Historic and Archaeological Site Policies	N/A
Living Aquatic Resources	N/A
Mineral Extraction	N/A
Electrical Generation and Transmission	N/A
Tidal Shore Erosion Control	N/A
Oil and Natural Gas Facilities	N/A
Dredging and Disposal of Dredged Material	N/A
Navigation	N/A
Transportation	N/A
Agriculture	N/A
Development	Yes
Sewage Treatment	N/A

the enforceable policies of the CZM. The table below summarizes how the Proposed Action would affect each of the enforceable policies outlined within the CZMA Consistency Determination.

Pursuant to 15 CFR Section 930.41, the Maryland Coastal Zone Management Program has 60 days from the receipt of this letter in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR section 930.41(b). Maryland's concurrence will be presumed if its response is not received by FMMD on the 60th day from receipt of this determination.