ENVIRONMENTAL ASSESSMENT

THE STEAM STERILIZATION PLANT REPLACEMENT AT FORT DETRICK

U.S. Army Garrison Fort Detrick
Directorate of Public Works—Environmental Division

August 2022

DISTRIBUTION STATEMENT
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This Environmental Assessment follows 40 CFR Parts 1500-1508, National Environmental Policy Act Implementing Regulations dated 2020

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FINDING OF NO SIGNIFICANT IMPACT

STEAM STERILIZATION PLANT REPLACEMENT
AT FORT DETRICK, MARYLAND

Introduction

Fort Detrick, located in Fredrick County, Maryland, is home to the National Interagency Biodefense Campus (NIBC), the U.S. Naval Medical Logistics Command, U.S. Air Force Medical Logistics Office, the Defense Medical Materiel Program Office, and the U.S. Army's National Center for Medical Intelligence. The NIBC hosts agencies that are part of the National Interagency Confederation for Biological Research (NICBR), a consortium of eight federal agencies with a goal of working in synergy to achieve a healthier and more secure nation. Agencies with research laboratories supported by and located on the NIBC include the U.S. Army Medical Research and Development Command (USAMRDC), National Institute of Allergy and Infectious Diseases, Naval Medical Research Center (NMRC), U.S. Department of Agriculture, Agricultural Research Service, U.S. Food and Drug Administration and National Biodefense Analysis and Countermeasures Center.

Fort Detrick includes six non-contiguous land parcels that are located within Frederick County and Montgomery County, Maryland, which encompasses approximately 1,212 acres. The U.S. Army Garrison (USAG), Fort Detrick, has command and control of approximately 1,143 of those acres, and the National Cancer Institute at Frederick (NCI-Frederick) has command and control of approximately 69 of those acres. The NCI-Frederick is located within Fort Detrick; however, it is not on Army-controlled land. The 1,143 acres of Army-controlled land are divided into four separate parcels.

The U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) is a subordinate command of USAMRDC which is also located on Fort Detrick. USAMRIID conducts biological and infectious defense research to develop countermeasures against diseases such as anthrax, botulinum intoxication, and Ebola. Construction of a new, state-of-the-art research facility for USAMRIID began in 2009. The new USAMRIID facility will contain biosafety level (BSL)-3 and -4 laboratories.

The Proposed Action, and the subject of this Environmental Assessment (EA), involves the construction of the SSP for the new USAMRIID facility, to treat the wastewater effluent from the new USAMRIID BSL-3 and -4 laboratories. In accordance with both Council on Environmental Quality (CEQ) and National Environmental Policy Act (NEPA) regulations (40 Code of Federal Regulation [CFR] 1508.13 and 32 CFR Part 651.21, respectively), this Finding of No Significant Impact (FNSI) hereby incorporates the entire EA by reference.

1. Purpose and Need

The **purpose** of this action is to provide a permanent replacement for an inoperative SSP necessary to treat the effluent generated by the USAMRIID BSL-3 and -4 laboratories. Currently, the effluent from the existing BSL-3 and -4 labs is treated by temporary Thermal Effluent Decontamination System (TEDS) units prior to being discharged to the Fort Detrick sanitary sewer system.

Per the CDC and U.S. Army Regulations (AR) 385-10 Chapter 20, and Department of the Army Pamphlet 385-69, Safety Standards for Microbiological and Biomedical Laboratories guidelines, the effluent from the BSL-3 and -4 laboratories must be treated prior to releasing to the Fort Detrick sanitary sewer system. An accreditation from the CDC of the effluent treatment system is required prior to operating the BSL-3 and -4 laboratories. The Proposed Action is **needed** to replace the defunct SSP and provide a long-term solution with adequate capacity for the required treatment of wastewater effluent necessary to support operation of the new USAMRIID BSL-3 and -4 laboratories. The SSP must be able to process a minimum of 70,000 gallons per day (GDP) of effluent.

2. Description of the Proposed Action and Alternatives

Chapter 3 of the EA presents a discussion of the alternatives evaluated. Two other alternatives were considered but removed from further evaluation in this EA because they were ineffective or inefficient, and/or did not meet the purpose and need for the action. The alternatives eliminated from further evaluation include:

- Construction of a new Military Construction at the site of an existing building.
- Repair and retrofit of the defunct SSP.

The alternatives evaluated include:

- **No Action alternative** – Under the No Action alternative a new SSP would not be constructed and USAMRIID would continue the use of TEDS to treat the effluent from BSL -3 and -4 laboratories. Due to the TEDS being a temporary solution, it is not viable for long-term use and limits research of the high containment laboratories and vivarium due to reduced functionality, capability and safety protocols of TEDS compared to a structurally incorporated SSP.
- **The Proposed Action Alternative** – The Proposed Action involves construction of a SSP collocated with the new USAMRIID facility. This action would contain effluent processing to the same building in which it is generated, potentially minimizing environmental risks. The new SSP would use newer, more efficient technology. It is anticipated that some exterior work would be required to make the final connection to the existing sewer line. Minimal site disturbance would be needed to provide a construction entrance to the new effluent decontamination system area. The project would require remodeling of the ground floor to accommodate the equipment, which would then have to be assembled once brought inside the building. The existing concrete floor at the tank and filtration skid areas would be removed and replaced with a new reinforced concrete slab and footings to support the new equipment. The lowered floor area would provide a spill containment area. The existing concrete floor would be demolished, and the new reinforced concrete floor and support piles would be constructed from within the building.

The SSP would have a peak design demand of a minimum of 70,000 gallons per day (GPD) and would be able to process the maximum daily effluent generated by the BSL-3 and -4 laboratories.

3. Environmental Analysis

Environmental Consequences and Comparison of Alternatives: Chapter 4 of the EA discusses the affected environment and Chapter 5 discusses the potential environmental consequences for the Proposed Action by resource area. The No Action Alternative serves as a baseline from which to compare the potential impacts of the Proposed Action. The implementation of the Proposed Action is not anticipated to result in adverse significant environmental impacts.

The Proposed Action would result in short-term minor impacts to air quality, noise, soils, vegetation, transportation and traffic, and socioeconomics. The Proposed Action would result in long-term beneficial impacts to waste management, and human health and safety. There would be minor short-term benefits to the local economy from the implementation of the Proposed Action. The Proposed Action would have no impact on land use, utilities, surface water, wetlands, floodplains, wildlife, threatened or endangered species, children, environmental justice, or cultural resources. Potential permits, plans, and measures to reduce adverse impacts identified within the EA analysis are also included within Chapter 6, Table 6-1, and support the impacts determinations presented.

Proposed Impact Reduction Measures:

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

4. Public Review and Comments:

A project website (https://www.nab.usace.army.mil/SSP/) was created to provide information on the proposed project. An open comment period from 04 Mar 2022 to 18 Mar 2022 was provided to solicit any concerns or questions from the public that should be considered in the EA preparation. Written comments were collected and are attached in Appendix A: Agency and Public Coordination. The Draft EA/FNSI was made available for a 30-day (24 AUG 2022 to 23 SEP 2022) public review and comment period. Printed copies of the Draft EA typically provided to local libraries have been provided online on the project website and on the Fort Detrick website (https://home.army.mil/detrick), by clicking on Environmental/NEPA Documents on the left side of the page. Written comments were collected and are attached in Appendix A: Agency and Public Coordination. The Notice of Availability was advertised in the local newspapers (*Frederick News Post and The Washington Post*) on 24 AUG 2022, the project website, and on the Fort Detrick website and social media. A summary of responses to stakeholder comments is provided in Appendix A of the EA.

5. Finding of No Significant Impact:

The results of the analysis in the EA and the comments received during the public comment period were considered prior to proceeding with the Proposed Action; a solution that would meet all applicable and required permits, policies and regulations while

providing a permanent SSP solution necessary to treat the effluent generated by the USAMRIID BSL-3 and -4 laboratories and would meet the mission requirements at Fort Detrick without significantly impacting the quality of human life or the natural environment. This analysis fulfills the requirements of NEPA, as implemented by the CEQ regulations (40 CFR Parts 1500-1508) dated 2020, as well as the requirements of the *Environmental Analysis of Army Actions* (32 CFR 651). Therefore, issuance of a FNSI is warranted, and an Environmental Impacts Statement is not necessary.

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Date

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1. BACKGROUND INFORMATION

Since World War II, Fort Detrick has served as a research center for the Army, with particular focus on the study of existing and emerging biological agents that our military forces may encounter as they perform missions across the globe. On January 27, 1969, the Office of The Surgeon General of the Army established the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID). Fort Detrick, located in Fredrick County, Maryland, is home to the National Interagency Biodefense Campus (NIBC), the U.S. Naval Medical Logistics Command, U.S. Air Force Medical Logistics Office, U.S. Army Medical Logistics Command, the Defense Medical Materiel Program Office, and the U.S. Army's National Center for Medical Intelligence. The NIBC hosts agencies that are part of the National Interagency Confederation for Biological Research (NICBR), a consortium of eight federal agencies with a goal of working in synergy to achieve a healthier and more secure nation. Agencies with research laboratories supported by and located on the NIBC include the U.S. Army Medical Research and Development Command (USAMRDC), National Institute of Allergy and Infectious Diseases, Naval Medical Research Center (NMRC), U.S. Department of Agriculture, Agricultural Research Service, U.S. Food and Drug Administration and National Biodefense Analysis and Countermeasures Center.

Fort Detrick includes six non-contiguous land parcels which are located within Frederick and Montgomery County, Maryland, which encompasses approximately 1212 acres. The U.S. Army Garrison (USAG), Fort Detrick, has command and control of approximately 1143 of those acres, and the National Cancer Institute at Frederick (NCI-Frederick) has command and control of approximately 69 of those acres. The NCI-Frederick is located within Fort Detrick; however, it is not on Army-controlled land. The 1143 acres of Army-controlled land are divided into four separate parcels. The project area is located within Fort Detrick's main campus (Figure 1-1).

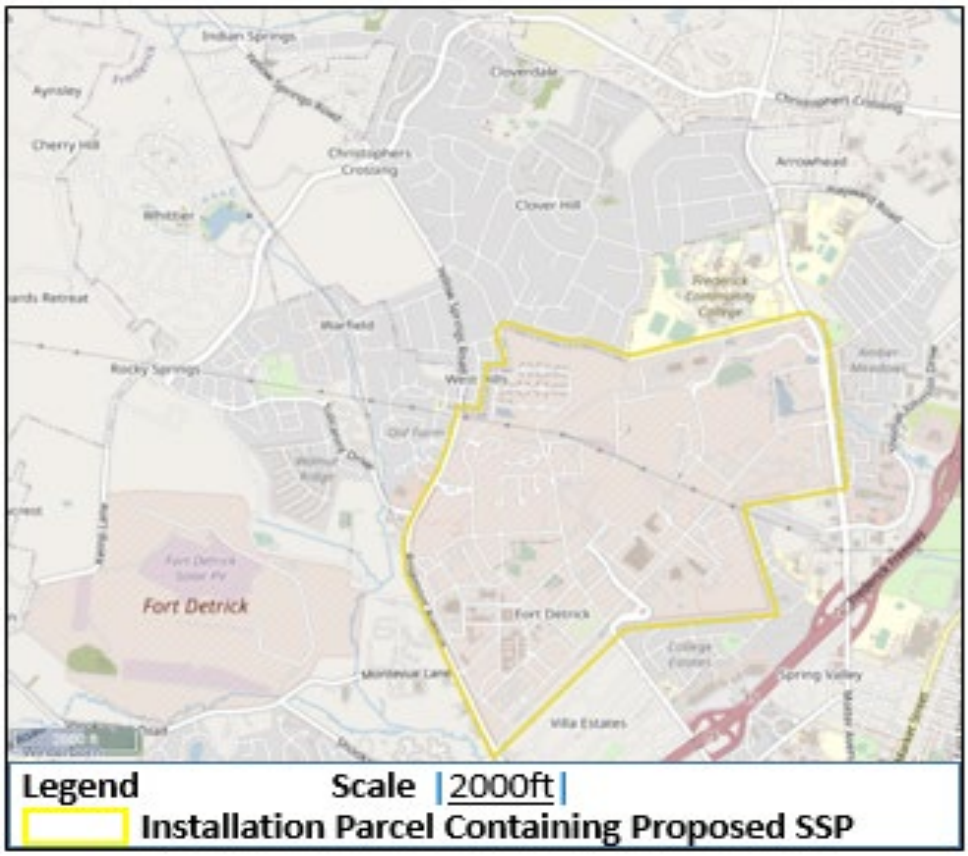

Figure 1-1. Installation map showing parcel containing the proposed SSP.

1.1 U.S. Army Medical Research and Development Command

In 2019, the U.S. Army Medical Research and Materiel Command (USAMRMC) was redesignated to the U.S. Army Medical Research and Development Command (USAMRDC) and realigned to be under the Army Futures Command. The primary function of USAMRDC is medical research, development, and acquisition for the Department of Defense (DoD). Six of the subordinate commands under the USAMRDC execute the science and technology program to investigate medical solutions for the battlefield. As a part of its mission, the command conducts research and development activities at military research facilities and through hundreds of contracts and agreements with universities, institutions, and industry. Two additional subordinate commands focus on medical materiel advanced development and medical research and development contracting (USAMRDC, 2019).

1.2 U.S. Army Medical Research Institute of Infectious Diseases

The U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) is a subordinate command of USAMRDC and is located within Area A of Fort Detrick. USAMRIID conducts biological and infectious defense research to develop strategies, products, information, procedures, and training for medical defense against biological warfare agents and naturally occurring infectious diseases of military importance. USAMRIID's medical countermeasures against diseases such as anthrax, botulinum

intoxication, and Ebola have included development of vaccines and drugs, diagnostic capabilities, and medical management procedures. The USAMRIID operates biocontainment laboratories at biosafety level (BSL)s -2, -3, and -4. The USAMRIID BSL-3 and -4 laboratories have supported research on Biological Select Agents and Toxins (BSAT), or biological threats to humans, since the 1970's. BSLs are designations within a well-defined system established by the Centers for Disease Control (CDC) and National Institutes of Health (NIH) consisting of facilities, equipment, and procedural guidelines designed to minimize risk of exposure to potentially hazardous biological pathogens for laboratory workers and the outside environment. Enhanced BSL-3 & -4 are laboratories that incorporate additional biocontainment safety features.

Construction of a new, state-of-the-art research facility for USAMRIID began in 2009. The new USAMRIID facility will contain BSL-3 and -4 laboratories. The existing BSL-3 and -4 laboratories are currently relying on Thermal Effluent Decontamination Systems (TEDS) to treat the medical wastewater (effluent). As a result, USAMRIID does not have a permanent solution for processing the effluent from the BSL-3 and -4 laboratories to be located in the new USAMRIID facility when it is anticipated to come online in 2025.

1.3 Naval Medical Research Center

The NMRC laboratory is co-located at the U.S. Army Forest Glen Annex in Silver Spring, Maryland and at the NIBC at Fort Detrick (NMRC, n.d.). The NMRC's mission statement is "to conduct health and medical research, development, testing, evaluation, and surveillance to enhance deployment readiness of DoD personnel worldwide. NMRC is a premier research organization with the vision of world-class, operationally relevant health and medical research solutions." Under the purview and management of the USAMRIID, the NMRC will utilize one of the BSL-3 laboratory suites to be housed within the new USAMRIID facility when it is anticipated to come online in 2025.

2. PURPOSE AND NEED FOR THE PROPOSED ACTION

As in the existing USAMRIID facilities, the new USAMRIID facility will follow the Biosafety in Microbiological and Biomedical Laboratories (BMBL) guidelines (CDC/NIH, 2020). In accordance with BMBL guidelines and Fort Detrick Policy 200-1, Fort Detrick requires that all effluent from installation BSL -3 and -4 laboratories must be sterilized before being discharged to the Fort Detrick sanitary sewer system. The effluent is treated through an Effluent Decontamination System (EDS) in a Steam Sterilization Plant (SSP).

The existing USAMRIID BSL-3 and -4 laboratories were supported from a currently closed SSP that was constructed in 1953. Under a FY2006 military construction project, a new SSP was constructed to serve the new BSL-3 and -4 laboratories in the new USAMRIID facility. In 2016, deficiencies were identified in the design of its decontamination system. As a result, the building was deemed non-mission capable and was never used to process any effluent. The high estimated cost of repairs to make the building fully functional and compliant led to the investigation of alternative solutions in 2020. The alternative solutions investigated involved buildings in the vicinity of or within the new USAMRIID facility. The preferred alternative or Proposed Action is the construction of a SSP that would be co-located with the new USAMRIID facility.

2.1 Purpose and Need

The purpose of this action is to provide a permanent replacement for an inoperative SSP necessary to treat the effluent generated by the USAMRIID BSL-3 and -4 laboratories. Currently, the effluent from the existing BSL-3 and -4 labs is treated by TEDS prior to being discharged to the Fort Detrick sanitary sewer system. However, the TEDS was implemented as a temporary solution and does not allow for full use of the high containment laboratories and vivarium due to reduced functionality, capability and safety protocols compared to a structurally incorporated SSP.

Per the CDC and U.S. Army Regulations (AR) 385-10 Chapter 20, and Department of the Army Pamphlet 385-69, Safety Standards for Microbiological and Biomedical Laboratories guidelines, the effluent from the BSL-3 and -4 laboratories must be treated prior to releasing to the Fort Detrick sanitary sewer system. An accreditation from the CDC of the effluent treatment system is required prior to operating the BSL-3 and -4 laboratories. The project is needed to replace the defunct SSP and provide a long-term solution with adequate capacity for the required treatment of wastewater effluent necessary to support operation of the BSL-3 and -4 laboratories to be housed in the new USAMRIID facility. The SSP must be able to process a minimum of 70,000 gallons per day (GDP) of effluent.

2.2 Scope of the Environmental Assessment

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, this Environmental Assessment (EA) evaluates the impacts associated with the replacement of the SSP needed to treat the wastewater effluent from BSL-3 and -4 laboratories. This document identifies and evaluates the potential environmental, cultural, and socioeconomic effects associated with the Proposed Action and the No-Action Alternative.

This EA focuses on existing resources and the potential effects to existing resources located within and in the vicinity of the study area. The study area is defined as the area directly affected by project construction and operation and the area needed to tie into the existing sanitary sewer line. Compliance with all applicable and required permits, policies and regulations to the Proposed Action was considered during the preparation of this EA.

Under the guidance provided in the NEPA and in 32 CFR Part 651, Environmental Analysis of Army Actions, all Army decision-making that may impact the human environment will use a systematic, inter-disciplinary approach that ensures the integrated use of the natural and social sciences, planning, and the environmental design arts. Actions that are determined to be exempt by law, emergencies, or categorically excluded do not require the preparation of an EA or Environmental Impact Statement (EIS), but the decision and analyses will be documented in a Record of Environmental Consideration (REC), if required. An EA provides sufficient evidence and analysis for determining whether to prepare an EIS. If an action may significantly affect the environment, an EIS would be prepared.

An evaluation of the environmental consequences of the implementation of the Proposed Action and the No-Action Alternative, including direct impacts, as well as qualitative and quantitative (where possible) assessment of the level of significance of these effects, was completed in this EA. The EA results in either a Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI) to prepare an EIS. If Fort Detrick determines that this Proposed Action may have a significant impact on the quality of the human environment, an EIS will be prepared.

2.3 Environmental Laws and Regulations

NEPA requires all federal agencies consider potential environmental effects of proposed major actions in planning and decision-making. The Council on Environmental Quality (CEQ) is responsible for issuing regulations (40 CFR 1500 *et seq.*) implementing the provisions of NEPA. CEQ regulations in turn are supplemented by procedures adopted on an agency-specific basis. For the Department of the Army (DA), the pertinent regulations are contained in 32 CFR 650, *Environmental Protection and Enhancement* and 32 CFR 651, *Environmental Analysis of Army Actions*. This EA was developed pursuant to these laws and regulations.

Laws and regulations that may apply to the Proposed Action include the Clean Air Act (CAA); Clean Water Act (CWA); Noise Control Act; Endangered Species Act (ESA); Bald Eagle Protection Act; Migratory Bird Treaty Act; National Historic Preservation Act (NHPA); Archaeological Resources Protection Act (ARPA); Resource Conservation and Recovery Act (RCRA); EO 11988, *Floodplain Management;* EO 11990, *Protection of Wetlands;* EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations;* EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks;* EO 13112, *Invasive Species;* and EO 14008, *Tackling the Climate Crisis at Home and Abroad.* Note that this list is not all-inclusive and other federal, state, and local laws and regulations may apply.

2.4 Public Involvement

In compliance with NEPA of 1969, as amended, coordination was conducted with federal, state, and local resource agencies. All coordination and correspondence with resource agencies can be found in Appendix A: Agency and Public Coordination. USACE coordinated with the Maryland Historic Trust (MHT) to ensure compliance with Section 106 of the National Historic Preservation Act. Information about the Proposed Action was provided by letter to federally recognized tribes with potential interest in the area. No comments were received from federally recognized tribes. Agency coordination was conducted with the U.S. Fish and Wildlife Service (USFWS) through the Information, Planning, and Consultation (IPaC) online system to ensure compliance with Section 7 of the ESA.

Public participation opportunities with respect to this EA and decision making on the Proposed Action are guided by 32 CFR Part 651, Environmental Analysis of Army Action. On 04 Mar 2022, a Public Notice to request early input was advertised in in the project website, the Ft. Detrick website, and was sent to resource agencies and project stakeholders. A project website was created to provide information on the proposed project located at https://www.nab.usace.army.mil/SSP/. An open comment period from 04 Mar 2022 to 18 Mar 2022 was provided to solicit any concerns or questions from the public that should be considered in the EA preparation. Written comments were collected and are attached in Appendix A: Agency and Public Coordination. The Notice of Availability was advertised in the local newspapers (*Frederick News Post and The Washington Post*) on 24 AUG 2022, the project website, and on the Fort Detrick website and social media. The draft EA was made available for public review for a period of 30 days. The EA was also sent to federal, state, and local agencies for comment. Agency responses are located in Appendix A: Agency and Public Coordination.

3. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Proposed Action must enhance and ensure compliance with government mandates and DoD and Army goals and objectives – particularly compliance with CDC accreditation requirements for BSL-3 and -4 laboratory effluent treatment systems. The project must be designed in accordance with BMBL, Unified Facilities Criteria (UFC) 4-020-01, DoD Security Engineering Facilities Planning Manual, UFC 1-200-01 General Building Requirements, UFC 1-200-02 High Performance and Sustainable Building Requirements, UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings, UFC 4-010-06 Cybersecurity of Facility-Related Control Systems, and barrier free design in accordance with Architectural Barriers Act Accessibility Standard.

The BSL-3 and -4 laboratory suites produce liquid waste in several ways:

- **Showers**: The protocol for personnel working in the BSL-3 laboratories is to complete a personal shower upon exit. Personnel working in the BSL-4 laboratories complete a chemical shower and a personal shower upon existing the suite.
- **Vivarium Room Cleaning:** When the technicians wash down the research subject rooms
- **Medical Experiments:** Liquid waste generated as a direct result of the medical experiments. Standard operation procedures require that disinfectant is poured into the floor drains (P-traps) in all BSL-3 and -4 laboratories and all liquid going down the drain should already be treated or decontaminated instantly at this point. The planned EDS is a safety feature to ensure the effluent is decontaminated prior to discharge into the sanitary sewer system. The SSP provides decontamination redundancy to provide the highest level of safety to workers and the public.

3.1 Alternatives Considered

3.1.1 Alternative #1 (Proposed Action). Construction of the SSP on the Ground Floor of the new USAMRIID Facility.

The new USAMRIID facility requires a permanent functional system to sterilize and treat effluent originating from its BSL-3 and -4 laboratories. The Proposed Action involves construction of the SSP on the ground floor of the new USAMRIID facility. This action would contain effluent processing to the same building in which it is generated, potentially minimizing environmental risks. The new SSP would use newer, more efficient technology.

It is anticipated that some exterior work would be required to make the final connection to the existing sewer line. Minimal site disturbance would be needed to provide a construction entrance to the new EDS area. The project would require remodeling of the ground floor to accommodate the equipment, which would then have to be assembled once brought inside the building. The existing concrete floor at the tank and filtration skid areas would be removed and replaced with a new reinforced concrete slab and footings to support the new equipment. The lowered floor area would provide a spill containment

area in case of an accidental spill. The existing concrete floor would be demolished, and the new reinforced concrete floor and support piles would be constructed from within the building.

The SSP would process and sterilize all BSL-3 and -4 effluent from the new USAMRIID facilities when it is anticipated to come online in 2025. The SSP would be operational 365 days per year and 24 hours per day. The EDS system would be comprised of effluent storage tanks, a solids removal/filtration system, continuous process units, and additional support equipment. The SSP EDS will require N+1 redundancy, where N is the number of operating pieces of equipment to provide full system capacity. The "+1" refers to a spare unit that can be brought online when a system component is out of service for routine maintenance or is non-operational. The EDS within the SSP must be able to treat a minimum of 70,000 GPD of daily bio-waste which includes additional processing capacity as a peak design demand safety factor. The SSP EDS would operate by utilizing multiple effluent storage tanks with leak detection and sized to meet the N+1 redundancy.

The storage tanks would receive the wastewater effluent generated in the BSL-3 and -4 laboratory suites through the laboratory sewer system (LSS). The storage tanks would each have a pair of High Efficiency Particulate Air (HEPA) filter assembly vents that operate in parallel. The air from the storage tanks displaced by the wastewater effluent would pass through four HEPA filters in the HEPA filter assembly prior to venting into the atmosphere. The HEPA filter assembly would prevent all known biological pathogens from leaving the facility and entering the atmosphere.

The wastewater effluent would be stored in tanks until it is heat treated and discharged into the Fort Detrick sanitary sewer system. The wastewater effluent is pumped from the storage tanks through a filter bed to remove any solids from the waste stream over 0.5 microns. The solids captured in the filter beds would be collected and autoclaved. Once autoclaved, the solids would be placed in the existing medical waste stream. The wastewater effluent would continue to the commercially procured continuous flow decontamination system.

These systems are currently in use in government and commercial laboratories worldwide and are an accepted method for decontaminating medical wastewater effluent. The wastewater effluent is decontaminated by raising the temperature of the liquid under pressure to achieve a temperature of 284 degrees Fahrenheit for two minutes. The two minute deactivation time at temperature provides a significant safety factor to achieve a high surety of decontamination effectiveness on *Geobacillus stearothermophilus*, which is the most heat resistant spores known, and is typically used as a benchmark pathogen for stringent threshold requirements of thermal deactivation. The heat treatment would be provided by steam from the Central Utility Plant (CUP) serving the NIBC.

The treatment process allows wastewater effluent to flow through stainless steel tubes located within a steam jacked reactor which avoids cross contamination. The treated discharge wastewater effluent would pass through a heat exchanger to reduce the temperature of the liquid to a level that it can be released into the Fort Detrick sanitary

sewer. The wastewater effluent would be tested to ensure all biological contaminates are killed. Additionally, the system monitors the temperature of the wastewater as it moves through the system.

Fort Detrick Policy 200-1, requires "All routine and non-routine discharges that have the potential to impact treatment operations must be approved prior to discharge into the sanitary sewer system." USAMRIID, in consultation with the designers of the decontamination system, will complete Fort Detrick Form 200-1B. The process is completed once the decontaminated wastewater effluent is released into the Fort Detrick sanitary sewer.

3.1.2 No-Action Alternative.

No action involves no new construction. The no-action alternative would continue the use of TEDS which restricts USAMRIID from using the BSL-3 and -4 laboratories to their full capacity, thereby limiting research on known BSAT and emerging diseases, such as COVID-19.

The TEDS currently operate utilizing primary and backup units. The estimated maximum daily effluent waste that can be processed by the TEDS is approximately 65% less than what the proposed SSP would be able to process and would not meet the demand of the new USAMRIID facility operating at full capacity. Without the SSP, USAMRIID would not be able to perform their high containment, BSL-3 and -4 laboratory research mission in the new facility, which was specifically built for this purpose at a cost of $700M. Not using the facility to its full potential would be fiscally irresponsible and would lead to a downgrade in USAMRIID mission readiness. The No-Action alternative would not meet the purpose and need for the action.

3.2 Alternative Eliminated from Detailed Study

As required by NEPA, potential alternatives must be considered. Alternatives to be evaluated must be economically feasible, able to be implemented, and meet the purpose and need for the Proposed Action. The alternative evaluated below was considered but eliminated from further consideration.

3.2.1 Construction of a new Military Construction building on the site of existing Building.

This alternative involves the construction of a new Military Construction (MILCON) building on the site of an existing building. This action involves demolition of an existing building located adjacent to the new USAMRIID facility. This action would replace an existing USAMRIID facility with a simplified and more efficient SSP facility. The new SSP building would be approximately 20,000 square feet in size. The effluent would be transferred from the new USAMRIID facility to storage tanks in the new SSP through a utility tunnel containing effluent lines from the LSS. The effluent lines would be gravity fed with a double containment system for leak protection. The demolition of the existing building and construction of a new MILCON would be very costly and would take longer than the construction of the SSP on the ground floor of the new USAMRIID facility; therefore, this alternative is not evaluated in this EA.

4. EXISTING CONDITIONS

This section of the EA describes the existing conditions of the natural and socioeconomic resources affected by the Proposed Action. Each environmental, cultural, and social resource category typically considered in an EA was reviewed for its applicability to be affected by the Proposed Action. Only those environmental resources and resource parameters that could potentially be affected by the Proposed Action are included. For the purpose of describing existing conditions and environmental effects, the study area is defined as the area directly affected by project construction and operation (the area within the existing new USAMRIID and the area adjacent to the facility impacted by the exterior work needed to tie into the sewer line). The study area is located within the main parcel of Fort Detrick.

4.1 Land Use

Fort Detrick's main parcel is situated within the limits of the City of Frederick, Frederick County, Maryland; however, it maintains its own land use planning, which is designed to conform and complement local community planning to the maximum extent possible (USAG, 2020a). With its own infrastructure, residential and commuter populations, and community services, Fort Detrick is largely an independent community within the City of Frederick (USAG, 2010). Fort Detrick is surrounded by medium to low density residential development, commercial and institutional facilities.

The 2006 Army's Master Planning Technical Manual (AR 210-20) establishes seven land use categories into which functional areas of all Army installations are divided. These land use categories are: Airfields, Community, Industrial, Professional/Institutional, Ranges and Training, Residential, and Troop. Fort Detrick's main parcel contains all seven land use categories. The study area is located within the Professional/Institutional land use category, which includes research and development laboratories/facilities and administrative support functions. The study area is surrounded by multiple buildings, facilities, roads, parking areas, and maintained grassy areas.

4.1.1 Land Use Controls

Fort Detrick's Installation Action Plan (IAP) outlines the total multiyear cleanup program for the installation. The IAP identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA). The IAP incorporates several Land Use Controls (LUC) and land use restrictions for areas identified in the IAP, including media specific restrictions which serve to prohibit excavation in locations of Area A below three water towers that have lead contamination from weathering and flaking of lead based paint (USAG, 2016). These water tower locations are outside of the study area.

4.2 Air Quality

4.2.1 National Ambient Air Quality Standards and Attainment Status

The United States Environmental Protection Agency (USEPA) Region 3 and the Maryland Department of the Environment (MDE) regulate air quality in Maryland. The CAA (42 4 U.S.C. 7401–7671q), as amended, gives USEPA the responsibility to establish the

primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) acceptable concentration levels for seven criteria pollutants:

- Particulate matter less than 10 microns (PM10)
- Particulate matter less than 2.5 microns (PM2.5)
- Sulfur dioxide (SO2)
- Carbon monoxide (CO)
- Nitrogen oxides (NOx)
- Ozone (O3)
- Lead (Pb)

Short-term standards (i.e., 1-, 8-, and 24-hour periods) have been established for pollutants that contribute to acute health effects, while long-term standards (i.e., annual averages) have been established for pollutants that contribute to chronic health effects. These standards identify the maximum allowable concentrations of criteria pollutants that regulatory agencies consider safe, with an additional adequate margin of safety to protect human health and welfare. Each state has the authority to adopt standards stricter than those established under the Federal program. MDE is responsible for maintaining air quality standards for the State of Maryland and has adopted the NAAQS. Primary and secondary NAAQS for the aforementioned criteria are described in Table 4-1.

The attainment status of Frederick County is included, for that is where all project activities would take place. Areas that exceed the NAAQS ambient concentration are labeled as nonattainment areas and are 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 or maintenance areas.

Fort Detrick is within the Central Maryland Intrastate Air Quality Control Region. The region is in compliance with all pollutants except for 8-hour O_3, which is in marginal nonattainment for the 2015 8-hour O_3 standards, and $PM_{2.5}$, which is in maintenance for the 1997 $PM_{2.5}$ standard (USEPA, 2020). Additionally, Frederick County is within the O_3 transport region that includes 28 states and Washington, D.C.

Table 4-1: National Ambient Air Quality Standards

Pollutant	Standard	Averaging Time	Ambient Concentration	Frederick County Attainment Status
CO	Primary	1-hour[a] (ppm)	35	Attainment
		8-hour[a] (ppm)	9	
NO_2	Primary	1-hour[b] (ppm)	100	Attainment
	Primary and Secondary	Annual[c] (ppm)	53	
O_3	Primary and Secondary	8-hour[d](ppm)	0.070	Nonattainment

Pollutant	Standard	Averaging Time	Ambient Concentration	Frederick County Attainment Status
SO_2	Primary	1-hour[e] (ppb)	75	Attainment
	Secondary	3-hour[a] (ppm)	0.5	
$PM_{2.5}$	Primary and Secondary	24-hour[f] ($\mu g/m^3$)	35	Maintenance
	Primary	Annual arithmetic mean[g] ($\mu g/m^3$)	12	
	Secondary	Annual arithmetic mean[g] ($\mu g/m^3$)	15	
PM_{10}	Primary and Secondary	24-Hour[h] ($\mu g/m^3$)	150	Attainment
Lead	Primary and Secondary	Rolling 3-month Average ($\mu g/m^3$)	0.15	Attainment

Source: 40 CFR 50.1-50.12; USEPA, 2015

CO = carbon monoxide; µg/m3 = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; NO2 = nitrogen dioxide; O3 = ozone; ppb = parts per billion; ppm = parts per million; PM2.5 = particulate matter less than 2.5 microns; PM10 = particulate matter less than 10 microns; SO2 = sulfur dioxide

[a] Not to be exceeded more than once per year.

[b] 98th percentile, averaged over 3 years.

[c] Annual mean.

[d] Annual fourth highest daily maximum 8-hour average O3 concentrations, averaged over 3 years.

[e] The 3-year average of the 99th percentile of 1-hour daily maximum concentrations.

[f] The 3-year average of the 98th percentile of 24-hour concentrations.

[g] The 3-year average of the weighted annual mean.

[h] Not to be exceeded more than once per year, on average over 3 years.

MDE develops air quality plans, referred to as State Implementation Plans (SIPs), that are designed to attain and maintain the NAAQS, and to prevent significant deterioration of air quality in areas that meet NAAQS standards. Maryland has individual SIPs for various pollutants, including NO2, PM2.5, 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.

Fort Detrick operates under a Title V air operating permit (permit number 24-021-00131) which expired on August 31, 2020 (MDE 2015) and is currently under review by MDE for renewal. Fort Detrick is subject to Title V permitting requirements because the facility-wide NOx emissions exceed 25 tons per year, the major source threshold for NOx in the ozone nonattainment area.

The permit includes applicable regulations and compliance requirements for the following permitted emissions source types at Fort Detrick: boilers, emergency power generators, incinerators (municipal solid waste and 2 HMIWI), and fuel storage tanks. Between 2017 and 2019, eight boilers were replaced with new units and 15 additional boilers were installed which will be incorporated in the approved Title V permit. Fort Detrick is required to provide annual emission certification reports as a requirement of their Title V permit. The combined criteria pollutant emissions reported for all the facility permitted sources for the years 2014 through 2019 are denoted in Table 4-2.

Table 4-2: Criteria Pollutant Emissions for Fort Detrick (2014 through 2019)

Year	NO_x	SOx	PM_{10}	CO	VOC
			(tons per year)		
2014	42.6	10.3	6.3	20.4	2.7
2015	43.5	15.7	10.7	21.8	2.7
2016	34.2	15.7	2.0	20.1	2.6
2017	25.8	7.4	1.2	6.5	1.9
2018	30.4	0.7	2.3	14.2	3.1
2019	41.3	3.5	21.6	28.4	3.3

NOx = nitrogen oxides; SOx = sulfur oxides; PM10 = particulate matter less than 10 microns; CO = carbon monoxide; VOC = volatile organic compound

Source: Fort Detrick 2020

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

4.2.2 Regulatory Requirements for Hazardous Air Pollutants

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

Sources of HAP emissions at Fort Detrick include the boilers, incinerators, fuel storage tanks, and generators. Fort Detrick is an existing minor source of HAPs, meaning total annual emissions of any single HAP are less than 10 tons per year (tpy) and annual

emissions of combined HAP are less than 25 tpy. The actual emissions reported for HAPs for the years 2014 through 2019 are less than 2 tpy.

4.2.3 Regulatory Requirements for Toxic Air Pollutants

The MDE toxic air pollutant (TAP) regulations were promulgated in September 1988 to protect the public from TAP emissions from stationary sources of air pollution. These regulations, while not unique in structure to other programs in the United States, are noteworthy due to the number of pollutants considered and the number of sources subject to them. For new sources (constructed or reconstructed after July 1, 1988), a TAP is any of the listed pollutants in COMAR 26.11.16.06 and .07 plus any other air pollutant that is considered a health hazard, as defined by the Occupational Safety and Health Administration (OSHA).

All new sources of TAPs in Maryland will require an air permit to construct and must apply the best available control technology for toxics (T-BACT). T-BACT is a top-down demonstration of control strategies (including pollution prevention techniques) for the equipment starting with the most effective strategy. The new sources must also demonstrate that the facility-wide TAP emissions will not adversely affect public health by complying with the benchmarks called screening levels. Screening levels are based on safe worker exposure levels with an added factor of safety to protect against multiple sources and more sensitive individuals. Public health is protected when the emissions of a facility are less than the maximum allowable emissions or when off-site impact of the facility-wide emissions of each TAP is less than the screening levels for the TAP, or as determined by air dispersion modeling, if required.

4.2.4 Clean Air Act Conformity

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

- federal activities do not cause or contribute to new violations of NAAQS;
- actions do not worsen existing violations of the NAAQS; and
- attainment of the NAAQS is not delayed.

USEPA has developed two distinctive sets of conformity regulations: one for transportation projects and one for non-transportation projects. Non-transportation projects are governed by general conformity regulations (40 CFR 93). Pursuant to 40 CFR 93.153(b), a conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed threshold emissions levels provided under 40 CFR 93.153 (b)(1) or (2).

The Proposed Action is a non-transportation project within a O3 nonattainment area. Due to the proximity to the urbanized east coast of the United States, Frederick County is considered an Ozone Transport Region. The Ozone Transport Region has a moderate ozone nonattainment classification by definition. Because ozone formation is driven by other direct emissions, the air quality analyses focus on ozone precursors that include

VOCs and NOX. For an area in moderate nonattainment for the 8-hour O3 NAAQS within the O3 transport region, the applicability criteria are 100 tpy for NOx and 50 tpy for VOCs (40 CFR 93.153(b)(1)). The air quality analysis for $PM_{2.5}$ includes direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors NOx, VOC, SO_2, and ammonia. For an area in maintenance for a $PM_{2.5}$ standard, the applicability criterion is 100 tpy for direct $PM_{2.5}$ emissions and emissions of $PM_{2.5}$ precursors NOx, VOC, SO_2, and ammonia (40 CFR 93.153(b)(2)). Ammonia emissions from the equipment planned for the Proposed Action would be negligible and are not included in the evaluation.

Routine operation of facilities, mobile assets and equipment are exempt from the General Conformity Rule. Therefore, operational emissions from Fort Detrick need not be included in the applicability analysis. Pursuant to 40 CFR 93(d)(1), a conformity determination is not required for the portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review program or the Prevention of Significant Deterioration (PSD) program.

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

4.2.5 Greenhouse Gas Emissions

Greenhouse gases (GHGs) are a particular group of gases that have the ability to trap heat by absorbing infrared radiation 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. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO2), methane (CH4), and nitrous oxide. The main source of GHGs from human activities is the combustion of fossil fuels, including crude oil and coal. Other examples of GHGs created and emitted primarily through human based activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride.

Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO2, which has a value of one. For example, CH4 has a GWP of 25, which means that it has a global warming effect 25 times greater than CO2 on an equal-mass basis.
To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO2 equivalent (CO2e). The CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and nitrous oxide have much higher GWPs than CO_2, CO_2 is emitted in such higher quantities that it is the overwhelming contributor to CO_2e from both natural processes and human activities.

4.2.5.1 Regulatory Review and Permitting

Currently the USEPA has two primary GHG regulations for stationary emission sources

- 40 CFR Part 98 - requires annual GHG emissions reporting and applies to fossil fuel suppliers and industrial gas suppliers, facilities that inject CO_2 underground for sequestration or other reasons, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and engines. The rule does not require control of GHGs, rather it requires only that certain sources emitting 25,000 metric tons CO_2e or more per year monitor and report emissions.
- 40 CFR Parts 51, 52, 60, 70 and 71 – establishes CO_2 emission limits to be addressed in PSD and Title V permits required for electric utility generating units that are major stationary sources for regulated pollutants other than GHG. A 75,000 tpy threshold is used by EPA as a de minimis value to determine whether a PSD permit must include an emission limitation for CO_2 and a 100,000 tpy threshold is applied for Title V permits.

Fort Detrick is not a PSD major source (single criteria pollutant emissions at or above 250 tpy) and historical facility-wide GHG emissions are well-below 75,000 tpy, so the facility has not triggered PSD requirements for GHG emissions. Pursuant to the Title V permit, Fort Detrick already reports their GHG emissions to the USEPA. The combined GHG emissions reported for all the facility permitted sources for the years 2014 through 2019 are denoted in Table 4-3.

Table 4-3: Greenhouse Gas Emissions for Fort Detrick (2013 through 2019)

Year	CO_2e (Metric tons per year)
2013	36,487
2014	21,361
2015	24,374
2016	1,015
2017	4,482
2018	8,091
2019	No report required because emissions < 25,000 metric tpy for 5 years

CO_2e – Carbon dioxide equivalent
Source: Fort Detrick 2020a

The Council on Environmental Quality (CEQ) provides guidance to Federal agencies on how to evaluate GHGs for federal actions under NEPA. Pursuant to Executive Order (EO) 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, CEQ rescinded its 2019 Draft NEPA Guidance on Consideration of Greenhouse Gas Emissions and is reviewing, for revision and update, the 2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews. The 2016 guidance (CEQ 2016) explains the application of NEPA principles and practices to the analysis of GHG emissions and climate change, and

- Recommends that agencies quantify a proposed agency action's projected direct and indirect GHG emissions, taking into account available data and GHG quantification tools that are suitable for the proposed agency action.
- Recommends that agencies use projected GHG emissions (to include, where applicable, carbon sequestration implications associated with the proposed agency action) as a proxy for assessing potential climate change effects when preparing a NEPA analysis for a proposed agency action.
- Recommends that where agencies do not quantify a proposed agency action's projected GHG emissions because tools, methodologies, or data inputs are not reasonably available to support calculations for a quantitative analysis, agencies include a qualitative analysis in the NEPA document and explain the basis for determining that quantification is not reasonably available.
- Discusses methods to appropriately analyze reasonably foreseeable direct, indirect, and cumulative GHG emissions and climate effects.
- Guides the consideration of reasonable alternatives and recommends agencies consider the short- and long-term effects and benefits in the alternatives and mitigation analysis.
- Advises agencies to use available information when assessing the potential future state of the affected environment in a NEPA analysis, instead of undertaking new research, and provides examples of existing sources of scientific information.
- Counsels agencies to consider alternatives that would make the actions and affected communities more resilient to the effects of a changing climate;
- Outlines special considerations for agencies analyzing biogenic carbon dioxide sources and carbon stocks associated with land and resource management actions under NEPA.
- Recommends that agencies select the appropriate level of NEPA review to assess the broad-scale effects of GHG emissions and climate change, either to inform programmatic (e.g., landscape-scale) decisions, or at both the programmatic and tiered project- or site-specific level, and to set forth a reasoned explanation for the agency's approach; and counsels agencies that the "rule of reason" inherent in NEPA and the CEQ Regulations allows agencies to determine, based on their expertise and experience, how to consider an environmental effect and prepare an analysis based on the available information.

4.2.5.2 Executive Orders and Federal Laws

In April 2007, the U.S. Supreme Court determined that the USEPA has the regulatory authority to list GHGs as pollutants under the federal CAA (USEPA 2007). Additionally, federal agencies address emissions of GHGs by reporting and meeting reductions mandated in laws, executive orders, and policies. Relevant to GHGs EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, issued on January 20, 2021. EO 13834, Efficient Federal Operations was revoked on January 20, 2021 (except for Sections 6,7, and 11).

The Energy Policy Act of 2005 and Energy Independence and Security Act of 2007 require an installation to adhere to specific energy improvements, which address waste

reduction and improvements in efficiency. Specifically, the DoD Strategic Sustainability Performance Plan contains strategies to reduce energy waste and improve efficiency (DoD, 2016).

4.3 Waste Management

4.3.1 Medical Waste

Special medical wastes, as defined under Code of Maryland Regulations (COMAR) 26.13.11.02, include wastes composed of anatomical material, blood in a liquid or semiliquid state, blood-soiled articles, contaminated item (that would release other potentially infectious material in a liquid or semiliquid state if compressed; or is caked with other potentially infectious material and is capable of releasing other infectious material during handling), contaminated material, an infectious substance that can cause disease in humans, microbiological laboratory waste, other potentially infectious material that is in liquid or semiliquid state, pathological and microbiological waste that contains blood or potentially infectious material, or sharps.

All medical waste generated at Fort Detrick is managed in accordance with BMBL guidelines and applicable Federal, DA, USAG, and state regulations for the protection of transporters and the public from potential hazards associated with potential contaminants (USAG, 2020b).

4.3.2 Hazardous Waste

A hazardous substance is defined as any substance that is:

- Listed in Section 101 (14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);
- Designated as a biological 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 chain, 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;
- Listed by the U.S. Department of Transportation (DOT) as hazardous materials under 49 CFR 172.101 and appendices; or
- Defined as a hazardous waste per 40 CFR 261.3 or 49 CFR 171

Fort Detrick has a hazardous materials and waste management program that fulfills the requirements of the Federal, state, and Army regulations (USAG, 2020b). Specific hazardous material guidance is also covered in AR 200-1, which establishes policies and procedures for environmental protection and environmental responsibilities for all Army organizations and agencies.

Under the provision of RCRA, Fort Detrick is registered as a large quantity generator of hazardous wastes (EPA Identification [EPA ID] No. MD8211620267). This EPA ID No. applies only to hazardous waste generated on Army-owned portions of Fort Detrick.

Separate EPA ID numbers have been issued by the EPA to parcel located adjacent to Fort Detrick's main campus, and to the NCI-Frederick. RCRA is administered in Maryland by the MDE Hazardous Waste Program through regulatory requirements for Disposal of Controlled Hazardous Substances (COMAR 26.13).

Hazardous wastes may not be disposed of through the Fort Detrick sanitary sewers of the LSS. With rare exceptions, hazardous waste or spent hazardous material that is generated on the Installation (subject to the Garrison's EPA ID number) is collected by the generator within Satellite Accumulation Points (USAG, 2020a).

4.3.3 Solid Waste

The Fort Detrick Municipal Landfill (MDE Permit No. 2015-WMF-0327) is authorized to accept non-hazardous solid wastes. The landfill has a 60.9 acre fill site and is permitted to accept domestic, municipal, commercial, industrial, agricultural, sylvicultural, and construction waste generated at Fort Detrick. The Fort Detrick Municipal Landfill will not accept any wastes generated by the construction of new buildings and the USAG has an established policy that dictates that all construction debris generated from buildings at Fort Detrick must be disposed of at an off-post location (USAG, 2020a).

4.3.4 Wastewater

Fort Detrick owns and operates a WWTP for the treatment of sanitary wastewater generated and collected throughout the installation. Fort Detrick maintains the sanitary sewer collection system that conveys wastewater to the WWTP, which is located in a separate parcel in Frederick County, MD, via parallel pipelines. The WWTP has sufficient capacity under the National Pollutant Discharge Elimination System (NPDES) Discharge Permit number MD0020877 to treat up to 730 million gallons per year of wastewater generated by activities at Fort Detrick. The daily sanitary wastewater flows are well within the maximum WWTP capacity of 2.0 million gallons per day (MGD), treating an average of 0.91 MGD. The WWTP discharges treated wastewater into the Monocacy River, a tributary of the Potomac River, which eventually empties into the Chesapeake Bay.

The Fort Detrick WWTP was upgraded in 2011 with Enhanced Nutrient Removal technologies to meet the 2010 goals set in the Chesapeake Bay Agreement. The WWTP treatment process involves wastewater flowing from the sanitary sewer system sequentially through the headworks facility, oxidation ditch, secondary clarifiers, ultraviolet disinfection, and additional phosphorous filtration before being discharged to the Monocacy River. An existing sanitary sewer line and a sanitary sewer manhole is present adjacent to the new USAMRIID facility.

4.3.5 Existing Contamination

The chlorinated solvents trichloroethylene (TCE) and tetrachloroethylene (PCE) were used for degreasing operations in buildings for refrigeration and/or freeze-drying purposes for text chambers and other activities dating back to the 1960s. Accidental leaks or spills from a refrigeration operation resulted in TCE contamination of groundwater on Fort Detrick's main campus (USAG, 2016). The quantity of TCE is unknown; however, leaks of mechanical seals were documented as early as 1964.

Currently, there is a TCE plume in the groundwater. In July 2011, a Decision Document was signed requiring hydraulic containment of the plume. The plume is being monitored to verify that the Maximum Contaminant Level (MCL), which is the highest level of a contaminant that is allowed in drinking water, are not exceeded at the facility boundaries. A tenant mission-funded groundwater production well (with one backup well) is used to supply water for aquatic biological laboratories. The current well use is providing the required hydraulic containment of the plume. The TCE plume is no longer migrating off-post above MCLs (USAG, 2016).

Industrial operations involving petroleum fuel storage, dispensing and use had associated infrastructure such as underground fuel lines, pumping/dispensing areas, and storage tanks (both ASTs and underground storage tanks [UST]). As a result of infrastructure failure and accidental releases, Fort Detrick has a number of sites with historical petroleum contamination including gasoline releases from USTs associated with a former motor pool and #6 fuel oil from USTs at the boiler plant (USAG, 2016). The motor pool and boiler plant are located southwest, outside of the study area.

4.4 Human Health and Safety

Many of the tenant laboratories contributing to the LSS are involved in experimental investigations involving research subjects, plants, microorganisms, and viruses. Most of the laboratory waste is not expected to contain viable organisms within the LSS. The Standard Operating Procedures (SOPs) at the laboratories are designed to autoclave infectious materials and to sanitize other material before disposal and entry into the LSS (USAG, 2020a).

A committee led by the National Research Council (NRC) evaluated the health and safety risks associated with the proposed USAMRIID facilities located in Fort Detrick. The committee findings indicate that the USAMRIID's current procedures and regulations meet or exceed the standards of NIH and CDC for biocontainment facilities including BSL-3 and -4 laboratories. Following evaluation of the proposed guidelines for the operation of the new USAMRIID facilities, the committee found that the "new facilities will be operated under even more stringent guidelines than were in place previously regarding physical security, engineering infrastructure and redundancies, biosafety, and biosecurity" (NRC, 2010).

4.5 Noise

Sounds are vibrations or fluctuations in the pressure of air or other media that are detected by the human ear. Noise is often defined as unwanted sound. The physical intensity or loudness of noise is expressed using A-weighted sound levels or decibels (dBA), which closely match the perception of loudness by the human ear.

Noise levels decrease or attenuate with distance from the source. Typically, a normal conversation is about 60 dBA, a gas powered lawn mower is 80 dBA, and firecrackers ranges from 140-150 dBA. Exposure to noise above 70 dBA over a prolonged period could damage hearing and loud noise above 120 dBA can cause immediate harm to hearing (CDC, 2019).

Fort Detrick is generally relatively quiet with no significant noise pollution sources located in the vicinity of the study area. Minor noise sources include the Boiler Plant, generators, usual vehicular traffic, and military unit physical training activities conducted between 0630 and 0800 hours (USAG, 2020a).

City of Frederick Noise Ordinance (Sec. 15-21) and COMAR 26.02.03.02 set maximum allowable noise levels for industrial, commercial, and residential land uses. Maximum allowable noise levels for industrial land use is 90 dBA anytime. Other allowable noise levels are listed in Table 4-4 below.

Maximum noise criteria must be met for industrial land use at the property line for all facilities. Per installation guidelines, the noise levels from construction activities may not exceed 90 dBA at the limit of disturbance property line between 0700hrs and 1630hrs. Blasting operations associated with construction activities are exempt from COMAR and City of Frederick Ordinance regulatory noise requirements for daylight hours only (USAG, 2020a). The Occupational Safety and Health Administration (OSHA) sets occupational noise exposure limits for construction workers as detailed in 29 CFR 1926.52.

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

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

Source: COMAR 26.02.03.02 Environmental Noise Standards; City of Frederick Noise Ordinance, Section 15-21.2

4.6 Geology, Soils and Topography

4.6.1 Geology

Fort Detrick lies in the western part of the Piedmont Plateau Physiographic Province (Appalachian Highlands) in a geologic subdivision known as Frederick Valley. The Piedmont Plateau extends from the Fall Line between the Coastal Plain and Piedmont Plateau Physiographic Province in the east to the Catoctin Mountains of the Blue Ridge Physiographic Province in the west. The Piedmont Plateau is characterized by rolling terrain and rather deeply incised stream valleys and comprises approximately 29 percent of Maryland's land area. Frederick Valley trends north to south, extends 26 miles, and is six miles wide. Directly west of Frederick Valley are the Catoctin Mountains. The Frederick Valley is known as the Frederick Syncline, and the Catoctin Mountains are part of an overturned anticline known as the South Mountain Anticlinorium (USACE, 2000b, *also found in Incinerator EA*).

The regional geology underlying the study area is the fractured limestone and dolomite of the Upper Cambrian Frederick Formation, which consists of the Lime Kiln, Rocky Springs Station, and Adamstown members. The Frederick Formation has been known to develop karst features such as sinkholes. These circular depressions in the landscape are created when groundwater dissolves underlying limestone and the resulting cavity collapses. The potential for the formation of sinkholes increases in response to unnatural

surface loading (e.g., building construction and stormwater retention) on enclosed topographic depressions (USAG, 2003a, *from Incinerator EA*). Also, because sinkholes can accelerate surface water and contaminant entry into an aquifer, they can become gateways for groundwater contamination (USACE, 2002a, *from Incinerator EA*).

Several sinkholes/depressions have been detected in the vicinity of the study area. Although no known sinkholes are present within the study area itself, as a result of underlying geology and area soils, the possibility remains of encountering heretofore-unknown cavities beneath the site.

4.6.2 Seismic Conditions

Fort Detrick is located within a Seismic Zone 1 area with seismic coefficients ranging from 0.03 to 0.07. Seismic coefficients, in general, range from 0.0 to 0.27, with high values indicating high risk of earthquake. Seismic Zone 1 is characterized as an area that may receive minor damage due to distant earthquakes (USAG, 2003a). Nearly all of Maryland, including Frederick County, is classified as a "region of negligible seismicity with very low probability of collapse of the structure." Between 1758 and 2005, 62 earthquakes occurred in the State of Maryland (Maryland Geological Survey, 2005). The new USAMRIID facility incorporates seismic considerations appropriate to Seismic Zone 1 and Use Group requirements.

4.6.3 Soils

The soils of Frederick County are among the most productive in Maryland and consist of a combination of residual lime soils and wind-transported soils (Telemarc, Inc., 1993, *Incinerator EA*). The soils within the study area are Duffield-Ryder silt loams, 0 to 3 percent slopes, surrounded by urban land, 0 to 3 percent slopes. The site stratigraphy can generally be described as consisting of a residual soil layer on top of bedrock. The residual soil, averaging from 2 to 38 feet below existing grade, is derived from the in-place weathering of the parent limestone and shale (USACE, 2021). Soils are moderately well drained to well drained, have moderate permeability, and no soils are listed as hydric soils (USDA, 2014).

The karstic nature of the regional geology makes it difficult to predict local groundwater conditions. The occurrence of groundwater is dependent upon the secondary porosity of the bedrock (i.e., solution cavities, shale seams, joints, faults, and fractures), which impact the local groundwater parameters of storage and flow behavior. The groundwater elevation shall be assumed to be at least as high as EL 353.6 feet.

4.6.4 Prime and Unique Farmland

High quality farmland is of major importance in meeting the nation's short- and long-range needs for food and fiber. Prime farmland, as defined by the USDA, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Farmland of Statewide Importance, as defined by the USDA, is land that includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. The NRCS

identifies soil map units that may be considered prime farmland or Farmland of Statewide Importance due to the physical and chemical properties of the soil.

Although NRCS identifies a soil map unit (Duffield-Ryder silt loams, 0 to 3 percent slopes) within the study area that may be considered prime farmland or Farmland of Statewide Importance due to the physical and chemical properties of the soil, as these soils are located within the bounds of an active military installation, they are therefore excluded under the exceptions in the USDA definition. The land in question was converted to military use before enactment of the Farmland Protection Policy Act and therefore is not included in the inventory of prime farmland. Therefore, no prime farmland or Farmland of Statewide Importance is found within the study area (USDA, 2014).

4.6.5 Topography

The Piedmont Plateau ranges in elevation from approximately 100 ft. to 1,000 ft. above sea level (MDNR, 1999). Elevations at Fort Detrick range from 320 ft. to more than 400 ft. above sea level.

4.7 Water Resources and Water Quality

4.7.1 Surface Water

Fort Detrick is located within the Monocacy River drainage basin, a sub-basin of the Middle Potomac River Basin in the Chesapeake Bay watershed. The Monocacy River ranges from 40 feet to 375 feet in width and from 0.5 feet to 18 feet in depth. The Monocacy River originates near the Maryland-Pennsylvania border and flows south and to the east of Fort Detrick and Frederick City, continuing 15 miles downstream to the Potomac River. The study area is located approximately 1.6 miles to the west of the Monocacy River. Under COMAR 26.08.02, the Monocacy River is classified as Use IV-P (Water Contact Recreation, Protection of Aquatic Life, Recreational Trout Waters and Public Water Supply). Carroll Creek is a tributary of the Monocacy River and is located approximately 1 mile southwest of the study area. Carroll Creek has a drainage area of 4.35 square miles (USGS, 2021).

Per Section 303(d)(1)(C) of the Federal Clean Water Act (CWA) and the EPA's implementing regulations, each state is required to develop a Total Maximum Daily Load (TMDL) for each impaired water. The Monocacy River is listed as impaired by nutrients and impacts to biological communities under the State of Maryland's 303(d) List of impaired waterways. A TMDL was established by the State of Maryland and approved by the EPA in 2012, to determine pollutant load reductions needed to achieve and maintain water quality standards in the Upper Monocacy River Watershed (MDE, 2012).

Fort Detrick is permitted to discharge stormwater runoff from land used for industrial operations in accordance with State Discharge Permit No. 12-SW-0124. This permit prohibits discharge of non-stormwater into surface waters, requires annual site compliance evaluations, and mandate the maintenance of a Stormwater Pollution Prevention Plan (SWPPP). The Fort Detrick SWPPP identifies potential sources of pollution associated with industrial activity on the Installation and outlines Best

Management Practice (BMP) to minimize potential contamination of stormwater exiting Fort Detrick (USAG, 2010).

The majority of stormwater in Fort Detrick's main campus is diverted through a system of surface ditches, inlets, culverts, and storm sewer lines as it drains into Carroll Creek and two other tributaries of the Monocacy River (i.e., Tributaries #9 and #10). As part of the Fort Detrick Stormwater Institutional Management Plan for Drainage Areas A-3 and A-4, runoff from USAMRIID facilities will be diverted to a regional stormwater management pond which will be established west of the A-3 outfall (USAMRMC, 2006).

4.7.2 Groundwater

Groundwater in the area of Fort Detrick occurs in hard rock aquifers associated with the Frederick Valley subdivision of the Piedmont Physiographic Province. These are some of Maryland's most productive aquifers, with approximately 20 percent of the formations yielding water at rates of at least 50 gallons per minute (USAG. 2011). Groundwater in and around Fort Detrick is generally of good quality and is drawn from fractures or solution channels located within carbonate rocks (e.g. limestone and dolomite). Water is transported through the carbonate aquifers via bedding planes, fractures, joints, faults, and other partings towards the Monocacy River (USAG, 2003). Groundwater underlying the Fort Detrick area flows generally to the southeast, towards the Monocacy River (USACE, 2000).

The water table in the Project Area fluctuates and ranges from 6 to 27 feet throughout the year (USAG, 2003). Under MDE Permit No. FR1943G101(08), Fort Detrick is permitted to withdraw a daily average of 8,000 gallons of well water on a yearly basis and a daily average of 12,000 gallons for the month of maximum use, for the purpose of research (USAG, 2003). Groundwater acquired from wells is used for aquaculture research.

As described in Section 4.4.5 of this EA, a known groundwater plume with TCE exists. A groundwater production well (with one backup well) is used solely for aquatic biological laboratories. Carbon absorption units are used to treat the water prior to use in the aquaculture research.

4.7.3 Wetlands

Wetlands are jointly defined by the USEPA and the USACE as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." USACE regulates the discharge of dredged or fill material in waters of the United States, including jurisdictional wetlands pursuant to Section 404 of the CWA, which requires Federal regulation for most activities that impact wetlands.

EO 11990, *Protection of Wetlands*, requires Federal agencies take action to minimize the destruction, loss or degradation of wetlands. The order dictates that each agency, to the extent permitted by law, must avoid undertaking or providing assistance for new construction located in wetlands unless there is no practical alternative to such

construction and the proposed action includes all practical measures to minimize harm to wetlands that may result from such use. The USFWS National Wetlands Inventory (NWI) Mapper was used to identify any wetlands that may be present within the study area. No wetlands are mapped within or in the immediate vicinity of the study area (USFWS, n.d.).

4.7.4 Floodplains

According to the Federal Emergency Management Administration (FEMA), floodplains are defined as any land area susceptible to being inundated by floodwaters from any source. The 100-year floodplain (Zone AE) are areas that will be inundated by a flood event having 1% chance of exceedance in any given year. Based on FEMA's Flood Insurance Rate Maps, an area along the eastern portion of Area A is within the 100-year floodplain. The study area is located outside of any floodplains and is designated as an area of minimal flood hazard by the FEMA (FEMA, 2020).

4.8 Biological Resources

4.8.1 Vegetation

Fort Detrick was originally covered by oak-hickory hardwood forest, characterized by species such as northern red oak (*Quercus rubra*), black oak (*Q. velutina*), white oak (*Q. alba*), scarlet oak (*Q. coccinea*), chestnut oak (*Q. montana*), and several species of hickories (*Carya* spp). Species such as sassafras (*Sassafras albidum*), sourwood (*Oxydendrum arboretum*), wild grape (*Vitis* spp), Virginia creeper (*Parthenocissus quinquefolia*), and poison ivy (*Toxicodendron radicans*) comprise the understory of oak-hickory forests. As a result of urbanization at Fort Detrick, most of the native vegetation has been destroyed or highly altered.

A Planning Level Survey (PLS) was performed from July 2010 to August 2010 (USAG, 2011). The PLS is included in Appendix C of the Integrated Natural Resources Management Plan. The installation was delineated into multiple habitats and vegetation present in each habitat were identified. There are six habitats present on the main campus of Fort Detrick: emergent wetland, forested upland, mowed maintained areas, old fields, open water, and vegetated basin. The study area is characterized as having mowed maintained areas with cover type species such as chicory (*Chicorium intybus*), thistle species (*Cirsium* spp), crabgrass (*Digitaria sanguinalis*), grass species (*Festuca* spp), field peppergrass (*Lepidium campestre*), common plantain (*Plantago major*), common dandelion (*Taraxacum officinale*), and clover species (*Trifolium* spp).

4.8.2 Wildlife Resources

The PLS identified wildlife species observed in the Fort Detrick main campus. Mammal species observed include white-tailed deer (*Odocoileus virginianus*), mouse (*Peromyscus* sp.), raccoon (*Procyon lotor*), and red fox (*Vulpes vulpes*). Bird species that dominated the main campus include northern cardinal (*Cardinalis cardinalis*), American goldfinch (*Carduelis tristis*), gray catbird (*Dumetella carolinensis*), and American robin (*Turdus migratorius*). Insect species observed include field cricket (*Cryllus pennsylvanicus*), cicada (*Magicicada septendecim*), dragonfly species (*Dragonfly* spp), and cabbage white butterfly (*Pieris rapae*). No amphibian or reptile species were observed within the main campus and only one invertebrate species was observed: rusty crawfish (*Orconectes*

rusticus). Wildlife species were primarily observed in the emergent wetland, forested upland, and open water habitats. No wildlife species were observed in the mowed maintained areas (USAG, 2011).

4.8.3 Rare, Threatened, and Endangered Species

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

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

Critical habitats, as defined by the ESA, are areas with physical or biological features essential to the preservation of a species that may require special management or protection. Critical habitat can include areas not occupied by the species at the time of listing but that are essential to the conservation of the species.

The USFWS Information for Planning and Conservation (IPaC) lists the threatened northern long-eared bat (*Myotis septentrionalis*) wherever found in the region. The IPaC report can be found in Appendix A. Northern long-eared bats are medium sized bats (about 3-4 inches in length) associated with mature, interior forest environments. Unlike most other bats, northern long-eared bats forage along wooded hillsides and ridgelines instead of above valley-bottom streams and riparian forest edges. Populations at northern long-eared bat hibernation sites (e.g, caves and mines) have declined by 99 percent since the discovery of white-nose syndrome and it is now listed as threatened throughout all of its range. Forest fragmentation and conversion are also major threats to the species due to its association with large blocks of mature forest (USFWS, 2021). The study area is characterized as mowed maintained areas with no forested areas. The northern long-eared bat was not observed on the main campus of Fort Detrick during the 2010 PLS. The altered environmental characteristics of Fort Detrick provide poor habitat for most wildlife species and consequently there are no known critical habitats located on or adjacent to the Fort Detrick main campus.

The IPaC also lists the monarch butterfly (*Danaus plexippus*) as a candidate species. Candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. However, there are generally no Section 7 of the ESA requirements for candidate species. During breeding season, monarch butterflies lay their

eggs on their obligate milkweed host plant (Asclepias spp.). The larvae emerge after two to five days and develop over a period of 9 to 18 days, feeding on the milkweed. The larvae then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. The study area is mowed and does not contain any milkweed plants. Monarchs in the eastern United States typically undergo long-distance migration and live for an extended period of time. In the fall, monarchs begin migrating to their respective overwintering sites (USFWS, 2022).

4.9 Energy and Utilities

4.9.1 Energy

Until 2008, steam generation at Fort Derick was produced exclusively by Boiler Plants as heat recovered from the two solid waste combustors and two medical waste incinerators. Since that time, additional steam generation sources have come online. The NCI-Frederick has constructed two natural gas fired steam generation facilities, which meet their entire steam requirement. A Central Utility Plant (CUP) is located on Fort Detrick's main campus and simultaneously produces electrical power, heating, and cooling in a unified facility under the U.S. Army's Enhanced Use Leasing (EUL) program. The EUL program allows for military installations to outlease land and facilities to a private or public entity (USAG, 2005). The CUP is a contractor owned/contractor operated plant that provides secure commodities for electricity, steam, and chilled water for the NIBC.

4.10 Cultural Resources

The mission of the Fort Detrick CRP is to facilitate compliance with applicable cultural resources laws, statutes, regulations, and Army regulations to conserve Army resources and to support the mission of Fort Detrick.

4.10.1 Pre-Contact Context

There are only two assessments completed of the prehistoric resources of the Monocacy River Valley and the Fort Detrick area. These works (Peck 1979), (Kavanagh 1982) provide the basis for the following cultural historical framework. The prehistoric sequence in the study area, and in the Middle Atlantic as a whole, traditionally is divided into three major periods: Paleo-Indian, Archaic, and Woodland.

4.10.2 Historic Context

European activity in and around the lands now occupied by Fort Detrick can be traced back to the seventeenth century. Throughout the seventeenth, eighteenth and nineteenth centuries, and into the twentieth century, the land remained largely rural and agricultural, with some small developments related to industry and transportation. The Federal government acquired property for Fort Detrick in 1941, and the initial construction of the installation was completed during the opening years of World War II with over 200 structures built by the end of the war. From the time of its establishment to the cessation of bio-weapons testing in 1969, Fort Detrick stood as one of the major Army installations used to test weapons and equipment. The land that had historically supported agricultural and minor industrial endeavors was converted to test facilities, industrial plants, research laboratories, support areas, and test areas for a variety of biological and chemical

weapons activities. Although its mission continues to evolve, Fort Detrick remains a vital installation for its continued contributions to medical research.

4.11 Transportation and Traffic

Fort Detrick's main campus is bordered by Opposumptown Pike to the East and Rosemont Avenue/Yellow Springs Road to the west, with residential areas abutting the installation to the north and south. US Route 15 is a US highway located to the east of Area A and is a major access route to Fort Detrick. The Maryland State Highway Administration's (SHA) 2019 traffic volume map estimates range from 84,021 to 101,981 annual average daily traffic for the sections of US Route 15 closest to Fort Detrick (SHA, 2020).

There are currently three access control points located on the installation property: the intersection of Yellow Springs Road and Doughten Drive to the west (Old Farm Gate); the intersection of Opposumtown Pike and Amber Drive to the east (Nallin Farm Entrance); and the intersection of Military Road, West 7th Street, and Veterans Drive to the south (7th Street Entrance) (USAG, 2020b).

Within Fort Detrick's main campus, there are several main roads that travel throughout the property and connect to smaller side streets. From Opposumtown Pike, Porter Street travels west before curving north into Beasley Drive, providing a connection between the east and west areas of the installation. Ditto Avenue and Doughten Drive provide a north-south routes between the southwest quadrant and northwest, residential quadrant (USAG, 2020b). The study area is accessible via Porter Street, Veterans Drive and Sultan Drive. On and off-street parking is available throughout the installation. Based on a review of aerial imagery of Fort Detrick, there are multiple surface areas in the vicinity of the study area.

4.12 Socioeconomics, Environmental Justice, and Protection of the Children

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

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

On February 11, 1994, President Clinton issued EO 12898, the purpose of which was to avoid the disproportionate placement of adverse environmental, economic, social, or health impacts from federal actions and policies on minority and low-income populations or communities. An element emanating from this Executive Order was the creation of an

Interagency Federal Working Group on Environmental Justice composed of the heads of 17 federal departments and agencies, including the Army. Each department or agency is to develop a strategy and implementation plan for addressing environmental justice. It is the Army's policy to comply fully with EO 12898.

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

Socioeconomic data are provided in this section to establish baseline conditions. Data consist primarily of publicly available information about Frederick County. Environmental justice focuses on the protection for racial and ethnic minorities and/or low-income populations to be disproportionately affected by project-related impacts. Analysis of environmental justice is initiated by determining the presence and proximity of these segments of the population relative to the specific locations that would experience adverse impacts to the environment.

4.12.1 Population Trends

Table 4-5 shows population in Frederick County, the State of Maryland, and the United States from 2000 to 2010.

Table 4-5: Population, 1990-2010

Area	1990	2000	2010	Change 1990 to 2000 (%)	Change 2000 to 2010 (%)	Change 1990 to 2010 (%)
Frederick County	136,694	195,277	233,385	30	17	42
Maryland	4.8 million	5.3 million	6.3 million*	10	9	19
United States	249.6 million	282.2 million	309.3 million	13	10	21

Source: U.S. Census American Fact Finder, Frederick County, Maryland, 2010 and Maryland Manual Online

4.12.2 Demographics

Table 4-6 shows Frederick County race in comparison to Maryland and the United States, according to the 2010 U.S. Census.

Table 4-6: Race, Alone or in Combination, 2010

Area	White (%)	Black or African American (%)	Asian (%)	Hispanic or Latino (%)	American Indian or Alaska Native (%)	Native Hawaiian or Other Pacific Islander (%)
Frederick County	84	9.9	4.7	7.3	0.9	0.1
Maryland	60.4	30.9	6.4	8.2	1	0.2
United States	74.8	13.6	5.6	16.3	1.7	0.4

Source: U.S. Census American Fact Finder Profile of General Population and Housing Characteristics: 2010 (Frederick County). Respondents were able to identify themselves as one or more races, so percentage totals may exceed 100 percent.

Table 4-7 below presents data on educational attainment for Frederick County, the State of Maryland, and the United States as of the 2013-2017 Five-year estimates.

Table 4-7: Educational Attainment, 2013-2017, Five-year Estimates

Level of Education	Frederick County (%)	Maryland (%)	United States
Did not complete high school	7	10	13
High school or equivalent, no college	25	25	27
Some college or Associate degree	28	26	29
Bachelor's degree or advanced degree	40	39	31

Source: U.S. Census American Fact Finder Educational Attainment 2013-2017 American Community Survey 5-Year Estimates (Frederick County). Educational attainment for individuals aged 25 years or older.

4.12.3 Employment

Frederick County's three largest employers are Fort Detrick, Frederick County Public Schools, and Frederick Health (USAG, 2019). According to the City of Frederick, Fort Detrick employs approximately 6,4000 individuals, which includes military, civilian and

National Cancer Institute employees (USAG, 2019). During the day, the population at Fort Detrick consists of military personnel, military family members residing on the Installation, DoD civilians, and civilian contractors. Table 4-8 below provides labor force statistics for Frederick County, the State of Maryland, and the United States.

Table 4-8: Labor Force, Employment, and Unemployment 2013-2017 Five-Year Estimates

Area	Labor Force	Employed	Unemployed	Unemployment Rate (%)
Frederick County	137,361	130,387	6,974	5.1
Maryland	3,239,167	3,040,792	198,375	6.1
United States	161,159,470	150,599,165	10,560,305	6.6

4.12.4 Economy

The regional economic activity for the City of Frederick and Frederick County is influenced by Fort Detrick. Fort Detrick is a major driver of the Frederick economy. Fort Detrick has long been a major economic source in northeastern Maryland and is the single-largest employer in Frederick County with approximately 9,657 employees in the Military, Bioscience, and Communications industry sectors (City of Frederick, 2020).

4.12.5 Housing

Since 2004, soldier housing on Fort Detrick has been privatized through a project known as the Residential Communities Initiative (RCI). The statutory authority for RCI is 10 United States Code, Section 2878. In general terms, RCI allows previously government owned soldier housing to be conveyed to a private company through a 50-year ground lease. Under RCI, the federal government retains the land and the private company manages the day to day needs of the project, such as the leasing of each unit and regular maintenance.

At Fort Detrick, the private company that manages the RCI project is Balfour Beatty Communities (BBC) LLC. BBC owns and manages 353 homes on Fort Detrick. While RCI is designed to appeal to military members stationed either on Fort Detrick or other military installations located near Fort Detrick, in certain circumstances civilians are also able to rent from BBC. The RCI project is located on the north and north-central portions of Fort Detrick near Ditto Avenue.

4.12.6 Environmental Justice

The study area within Fort Detrick is located entirely within Census Tract 7512.01. Table 4-9 provides information characterizing the minority and below poverty line populations located within the study area's census tract.

Table 4-9: Minority Population and Poverty Areas within Proposed Project Study Areas

Census Tract	Total Population	Minority Population	Percentage Minority (%)	Percentage Below Poverty Line (%)
7512.01	4,986	1,720	34.5	3.6

Source: 2019 FFIEC Census Report – Summary Census Demographic Information (Frederick County); 2019 FFIEC Census Report – Summary Census Income Information (Frederick County).

5. SUMMARY OF ENVIRONMENTAL IMPACTS

The following section describes the anticipated environmental impacts associated with implementing the Proposed Action and the No Action alternative. The No Action alternative acts as a baseline condition, assuming the Proposed Action would not take place and the BSL-3 and 4 laboratories would continue use of the TEDS.

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

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

- Duration (temporary or permanent): The duration of an impact can be temporary (short-term) or permanent (long-term).

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

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

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

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

This section is organized by resource area following the same sequence as in the preceding Section 4.0 Existing Conditions.

5.1 Land Use

5.1.1 Environmental Criteria

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

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

5.1.2 Impacts from the Proposed Action

It is anticipated that the implementation of the Proposed Action would result in no change to official land use designation of the study area. The SSP would be co-located with the new USAMRIID facility and be consistent with the existing land use plans and the Professional/Institutional land use category. The study area is located outside of AOC identified within the main campus of Fort Detrick in the IAP, and would not be impacted by media specific restrictions on excavation.

5.1.3 Impacts from the No Action Alternative

Implementation of the No-Action alternative would not alter the existing land use within the study area. Therefore, no impacts would be anticipated.

5.2 Air Quality

5.2.1 Environmental Criteria

The Proposed Action would be considered to have a significant effect on air quality and greenhouse gas impacts if:

- an impact that caused the Proposed Action to not conform with the state's implementation plan purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of the NAAQS; or
- an impact that causes any new violation of any standard in any area; or

- an impact that increases the frequency or severity of any existing violation of any standard; or
- an impact that causes a delay in timely attainment of any standard or any required interim emission reductions or other milestones in any area; or
- an impact that substantially increased GHG emissions such that there would be a noticeable increase in overall global temperature, independent of cumulative impacts.
- The Federal agency must provide documentation that the total of direct and indirect emissions from such future actions would be below the emission rates for a conformity determination that are established in paragraph 40 CFR 93.153 (b).

5.2.2 Impacts from the Proposed Action

A General Conformity Applicability Analysis was performed for the Proposed Action, which estimated the levels of potential NOx, VOC, $PM_{2.5}$, and SO_2 air emissions from construction activities. Emissions of NOx and VOCs were evaluated as precursors to ozone for which Frederick County is in nonattainment of the 2015 8- hour ozone NAAQS. Emissions of $PM_{2.5}$ and its precursors NOx, VOC, and SO_2 were evaluated because Frederick County is in maintenance for the 1997 $PM_{2.5}$ NAAQS.

The analysis is only required for nonattainment and maintenance pollutants. Frederick County is in attainment for the CO, NO_2, SO_2, $PM_{2.5}$, lead, and PM_{10} NAAQS, so these pollutants are not required to be included in the analysis. Table 5-1 below shows the estimated NOx, VOC, $PM_{2.5}$, and SO_2 emissions for a 12-month period from construction emissions associated with the Proposed Action. Construction emissions include construction worker commuting to the project site, delivery of non-road equipment to the project site, and operation of construction-related equipment at the site. Calculations were derived from estimated combustion equipment activities in one fiscal year. See Appendix B for detailed emissions calculations. The Proposed Action is not anticipated to result in any adverse effects to Air Quality. As demonstrated, the estimated emissions are well below the de minimis thresholds.

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

Pollutants	**VOC**	**NOx**	**SO_2**	**$PM_{2.5}$**	**Combined ($PM_{2.5}$, NOx, SO_2, VOC)**
Proposed Action Emissions (tons/year)	6.6	57.9	0.11	2.90	67.2
De minimis threshold (tons/year)[1]	50	100	--[2]	100	100
Exceeds de minimis thresholds?	No	No	--	No	No

[1] Frederick County is a marginal nonattainment area for the 8-hour O_3 NAAQS (VOCs and NO_x are precursors to the formation of O_3) and a maintenance area for the 1997 PM2.5 NAAQS (NOx, VOC, and

SO_2 are precursors to the formation of PM2.5). *De minimis* thresholds are defined in 40 CFR 93 Section 153. VOC *de minimis* established for nonattainment areas located in an O_3 transport area.
[2]Frederick County is in attainment for SO_2 and therefore SO_2 emissions are not required to be evaluated for General Conformity. Emissions for SO_2 provided as a $PM_{2.5}$ precursor for comparison of combined emissions to PM2.5 de minimis threshold only.

Operational emissions for the Proposed Action are not included in the General Conformity Applicability Analysis because they are subject to local agency new source review air permitting requirements and are therefore excluded from the General Conformity Applicability Analysis pursuant to 40 CFR 93.153(d)(1). Under this regulation, a conformity determination is not required for the portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review program or the prevention of significant deterioration program. Therefore, operational emissions from steam sterilization plant were not included in the General Conformity Applicability Analysis. Routine operation of facilities, mobile assets and equipment are exempt from the General Conformity Rule.

The Proposed Action would result in temporary, localized changes to air quality as a result of emissions from the construction equipment, worker transport, and highway traffic. Criteria and hazardous air pollutant emissions from the operation of construction vehicles would be temporary and localized. The Proposed Action would be undertaken in compliance with state and federal standards for air quality. Applicable NEPA considerations would be made and the resulting documentation (if any) would be kept on file. Coordination with MDE prior to project initiation would determine the applicability of permits required. The Proposed Action would be initiated only after the environmental review has been completed and the appropriate air permits are acquired.

The CO_2e emissions from the Proposed Action construction activities are estimated to be 9,911 tpy. It is anticipated that the Proposed Action would not cause a perceivable impact because the increase in GHG emissions will be temporary and will not contribute long-term to Fort Detrick's overall CO_2e emissions. Mitigation efforts to reduce GHGs can be implemented by maintaining emission control technology on construction equipment.

5.2.3 Impacts from the No Action Alternative

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

5.3 Waste Management

5.3.1 Environmental Criteria

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

- It results in non-compliance with the existing Fort Detrick Integrated Solid Waste Management Plan;

- Non-compliance with applicable federal and state regulations; and/or
- It results in site contamination or increases the human health risk or environmental exposure.

5.3.2 Impacts from the Proposed Action

Implementation of the Proposed Action would likely result in beneficial, long-term operational impacts. The operation of the new SSP would ensure long-term, adequate treatment of effluent from the BSL-3 and 4 laboratories in accordance with BMBL and Installation guidelines. Operation of the SSP is not expected to produce any hazardous waste. Solids removed during the screening in the EDS process would be autoclaved, removed and would enter the medical waste stream.

Operation of the new SSP would have negligible impacts on the Fort Detrick WWTP. As noted in Section 4.3.4, the daily sanitary wastewater flows are well within the maximum capacity of 2.0 MGD, treating an average of 0.91 MGD. The new SSP would allow for a potential of 70,000 GPD of treated effluent to be discharged to the WWTP.

5.3.3 Impacts from the No Action Alternative

Under the No-Action alternative the BSL-3 and 4 laboratories would continue the use of TEDS. This could result in adverse, long-term impacts to the treatment of effluent from BSL-3 and 4 laboratories. The TEDS is not viable for long-term use and limits research of the high containment laboratories and vivarium due to reduced functionality, capability and safety protocols compared to a structurally incorporated SSP.

5.4 Human Health and Safety

5.4.1 Environmental Criteria

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

- The Proposed Action resulted in accidents, occupational injuries, or illnesses that impede DoD and other federal agencies located on Fort Detrick and their missions, readiness, quality of life, or morale;
- The Proposed Action resulted in an unsafe workplace, equipment, or operations; or
- The Proposed Action resulted in accidents, injuries, or health complications to the public.

5.4.2 Impacts from the Proposed Action

Implementation of the Proposed Action is expected to have long-term, beneficial impacts to human health and safety. The new SSP would be operated in accordance with stringent guidelines to provide the highest level of safety to workers and the public. The operation of the new SSP would provide a beneficial impact on human health and safety by supporting the USAMRIID's mission of research on BSAT and other emerging diseases.

Workers would wear the appropriate PPE during construction activities. The construction contractors would adhere to regulatory requirements for the disposal of wastewater, solid waste, and construction debris in accordance with federal, state, and local regulatory requirements.

5.4.3 Impacts from the No Action Alternative

Implementation of the No Action alternative would have adverse impacts on the mission of the USAMRIID. The TEDS is not viable for long-term use and limits research of the high containment laboratories and vivarium due to reduced functionality, capability and safety protocols compared to a structurally incorporated SSP.

5.5 Noise

5.5.1 Environmental Criteria

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

- It would raise the ambient noise level to such a state that it would be incompatible with adjacent noise receptors;

5.5.2 Impacts from the Proposed Action

Noise impacts from the implementation of the Proposed Action would primarily occur during construction of the new SSP. Operation of heavy equipment and machinery as well as increases in construction traffic would result in temporary increase in noise level in the immediate vicinity of the study area. Noise impacts on the health of construction workers would be mitigated by adherence to OSHA standards for occupational noise exposure associated with construction (COMAR 26.02.03.03). Noise impacts associated with the operation of the new SSP would be negligible and would not increase the current level of noise in the area.

5.5.3 Impacts from the No Action Alternative

No effect on noise levels would be anticipated under the No Action alternative. No construction activities would take place, therefore, no increases to overall noise levels would occur.

5.6 Geology, Soils, and Topography

5.6.1 Environmental Criteria

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

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

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

5.6.2 Impacts from the Proposed Action

The Proposed Action would result in the construction of the SSP within an existing building and existing foundation. It is not anticipated that this would cause a substantial loss of soils or compaction. Where soils may be temporarily disturbed during construction for laydown purposes, these areas would be regraded and revegetated upon completion of construction work. Final site plans would include measures to minimize the total area of land disturbed, prevent soil erosion and sediment runoff, and re-stabilize any temporarily disturbed areas during construction. If disturbance to soils of 5,000 sq ft or more is required, it is anticipated that an MDE-approved erosion and sediment control plan would be prepared pursuant to COMAR 26.17.01.

Minor changes to topography may occur due to grading of the areas surrounding the building but would be minor compared to the overall topography of the study area. As a result, no significant adverse impacts to these resources are anticipated from the Proposed Action.

5.6.3 Impacts from the No Action Alternative

As there is no construction or land disturbance in the study area under the No Action Alternative, no significant impacts to these resources would occur under this alternative.

5.7 Water Resources

5.7.1 Surface Water and Groundwater

5.7.1.1 Environmental Criteria

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

- It could cause an exceedance of a TMDL;
- It could cause a change in the impairment status of a surface water; or
- It could cause an unpermitted direct impact on a water of the United States.

5.7.1.2 Impacts from the Proposed Action

No surface waters are located within or in the immediate vicinity of the study area. Stormwater from Area A is conveyed through a stormwater system to Carroll Creek. Stormwater runoff during construction would be controlled through use of BMPs and all

temporarily disturbed areas would be graded and re-vegetated upon completion of construction.

The study area is located approximately 2,225 feet northeast from the location of the previously identified TCE plume. As the groundwater TCE plume trends southwest, it is not anticipated that the Proposed Action would adversely impact the groundwater TCE plume. Implementation of the Proposed Action is not anticipated to cause an impairment of surface waters or groundwater.

5.7.1.3 Impacts from the No Action Alternative

Under the No Action alternative, no construction or land disturbance would occur. No effect on surface water or groundwaters would be expected as a result of the No Action alternative.

5.7.2 Wetlands

5.7.2.1 Environmental Criteria

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

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

5.7.2.2 Impacts of the Proposed Action

As discussed in Section 4.7.3, no wetlands are mapped within or in the vicinity of the study area. No impacts are expected to wetlands from the implementation of the Proposed Action alternative.

5.7.2.3 Impacts from the No Action Alternative

There would be no direct impact on wetlands as a result of the No Action Alternative.

5.7.3 Floodplains

5.7.3.1 Environmental Criteria

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

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

5.7.3.2 Impacts of the Proposed Action

The study area is located outside of any floodplain zones. Implementation of the Proposed Action would not impact floodplains.

5.7.3.3 Impacts from the No Action Alternative

Under the No Action alternative, there would be no impacts to floodplains as there would be no construction or land disturbance.

5.8 Biological Resources

5.8.1 Environmental Criteria

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

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

5.8.2 Impacts from the Proposed Action

The Proposed Action would result in negligible impacts to biological resources. The study area is characterized as being surrounded by mowed maintained areas. Minor, temporary disturbance to mowed maintained areas may be expected to occur during construction activities for staging and access purposes to the existing building. As noted in Section 4.8.2, during the PLS, wildlife species were primarily observed in the emergent wetland, forested upland, and open water habitats. Due to the character of the study area, wildlife species are not anticipated to use the study area.

It is anticipated that wildlife resources would avoid the area during construction. Thus, implementation of the Proposed Action alternative is anticipated to cause negligible impacts to wildlife resources. Mowed areas surrounding the building that may be temporarily disturbed during construction activities, would be reestablished following construction.

The threatened northern long-eared bat is not present within or in the immediate vicinity of the study area. Construction activities would not impact any forested areas. Implementation of the Proposed Action would not impact threatened or endangered species. No milkweed plants are present within the study area that could support monarch butterfly reproduction. Monarch butterflies may temporarily cross the study area as part of their migration; however, the proposed action is not anticipated to impact monarch butterfly migration.

5.8.3 Impacts from the No Action Alternative

Under the No Action Alternative, there would be no disturbances that could impact vegetation or wildlife within the study area.

5.9 Energy and Utilities

5.9.1 Environmental Criteria:

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

- It exceeds safe annual yield of water or energy supply sources;
- It overdrafts groundwater basins

5.9.2 Impacts from the Proposed Action

Implementation of the Proposed Action is not expected to have significant adverse impacts on energy and utilities. The energy required for the operation of the new SPP would be provided by a local steam supply source. Utility infrastructure is already present within the new USAMRIID facility. Therefore, it is anticipated that connection of each utility to the new SPP would be made with minimal disturbance. Any required ground disturbance associated with the extension of existing utilities for connection to the new SPP would take place in an area that is comprised of built environment and previously disturbed soils.

Prior to project implementation, the locations of all existing underground utilities within the study area would be determined. All utilities would be identified and clearly marked throughout the duration of project activities. The operation of the new SPP is not expected to increase the overall demand on utilities.

5.9.3 Impacts from the No Action Alternative

Under the No Action Alternative there would be no significant anticipated effect on energy or utilities.

5.10 Cultural Resources

The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Coordination with the Maryland Historical Trust and the Tribal Historic Preservation Officers (THPOs) determined based on its location and the actions proposed, the project will have no adverse effect on historic properties in a letter dated 15 March 2022.

5.11 Transportation and Traffic

5.11.1 Environmental Criteria

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

- Contributes to a long-term increase in vehicle traffic that could not be accommodated by the existing roadway network and, results in long-term traffic circulation problems within Fort Detrick and off-post.

5.11.2 Impacts from the Proposed Action

Short-term, minor, adverse impacts to transportation and traffic leading up to the access gates would be expected from the implementation of the Proposed Action due to the presence of construction vehicles. Temporary increases in traffic congestion would likely occur at access gates during peak construction periods. The Proposed Action would likely temporarily, adversely impact roads adjacent to the study area including Porter Street and Veterans Drive. Negligible, long-term impacts are anticipated from the operation of the new SPP, as the facility would be minimally staffed.

5.11.3 Impacts from the No Action Alternative

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

5.12 Socioeconomics, Environmental Justice, and Protection of the Children

5.12.1 Environmental Criteria

Significant environmental impacts to Socioeconomics, Environmental Justice and Protection of the Children would occur if:

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

5.12.2 Impacts from the Proposed Action

The Proposed Action is expected to result in both minor short-term beneficial and negative impacts to socioeconomics. Minor short-term beneficial impacts are expected by the stimulation of the local economy caused by the increase of employment and income generated by the Proposed Action. Temporary adverse impacts to socioeconomics are expected due to the slight increase in noise and traffic. Noise and traffic impacts are expected to be minimal but can cause minor negative impacts due to temporary increased ambient noise levels and traffic congestion. Minor long-term positive impacts can also be expected from the Proposed Action. The Proposed Action would provide a permanent, adequately sized laboratory effluent treatment facility to support vital research missions, thereby increasing the safety of laboratory personnel, occupants of nearby buildings, and the general public.

An environmental justice analysis determines whether a disproportionate share of adverse environmental or social impacts from implementing a federal action would be borne by minority or low-income populations. The census tracts in which the project area is located have minority levels of less than 50 percent of the total population of that census tract. No project activities associated with the Proposed Action are anticipated to take place within adjoining census tracts.

Implementation of the Proposed Action would not be expected to adversely impact any demographic group working or living in the economic region of influence. The Proposed Action would not cause changes in population, regional, industrial, or commercial growth. The Proposed Action would not be expected to impact children's safety, and no adverse effects to children are predicted. All applicable local jurisdictional safety requirements would be implemented during construction activities, to ensure the protection of the public, including children. A Permit to Construct would be required prior to initiation of the Proposed Action.

A Permit to Construct would not be issued if the criteria pollutant or toxics analysis fails to demonstrate compliance with regulatory screening levels. As such, it is anticipated that the permitting process would result in assurance of safety and protection of the public, including children. In addition, proper precautions including the placement of fencing, signage, and other types of barriers would be used to prevent potential harm to all civilians, including children.

5.12.3 Impacts from the No Action Alternative

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

6. CONCLUSION

This EA analyzes the potential environmental and social consequences associated with the activities required for the construction of the new SSP. The purpose of the Proposed Action is to provide a permanent replacement for the inoperative SSP necessary to treat the effluent generated by the USAMRIID BSL-3 and -4 laboratories. The Proposed Action would enhance and ensure compliance with all applicable and required permits, policies and regulations. The new SSP would support the mission of the USAMRIID and would create decontamination redundancy to provide the highest level of safety to workers and to the public.

The EA was prepared in accordance with the NEPA and implementing regulations issued by the CEQ and 32 CFR 651 dated 2020.

The Proposed Action would result in short-term minor impacts to air quality, noise, soils, vegetation, transportation and traffic, and socioeconomics. The Proposed Action would result in long-term beneficial impacts to waste management, and human health and safety. There would be minor short-term benefits to the local economy from the implementation of the Proposed Action. The Proposed Action would have no impact on land use, utilities, surface water, wetlands, floodplains, wildlife, threatened or endangered species, children, environmental justice, and cultural resources.

Under the No Action alternative, no construction activities would occur. The No Action alternative would have no impact on land use, air quality, noise, geology, soils, topography, water resources, biological resources, energy and utilities, cultural resources, transportation and traffic, and socioeconomics. The No Action alternative would potentially result in long-term adverse effects on waste management and human health and safety.

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

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

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts Under Proposed Action
Land Use	No Impact	No Impact	Consistent with the existing land use plans and the Professional/Institutional land use category.

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts Under Proposed Action
Air Quality and Greenhouse Gases	No Impact	Minor, Adverse, Short-term	All activities would be required to comply with federal, state, and current Fort Detrick versions of the regulations designed to support compliance with CAA. Coordination with MDE prior to project initiation would determine the applicability of permits required. The Proposed Action would be initiated only after the environmental review has been completed and the appropriate air permits are acquired.
Waste Management	Adverse, Long-term	Beneficial, Long-term	The operation of the new SSP would ensure long-term, adequate treatment of effluent from the BSL-3 and 4 laboratories in accordance with BMBL and Installation guidelines. Operation of the SSP is not expected to produce any hazardous wastes.
Human Health and Safety	Adverse, Minor	Beneficial, Long-term	Workers would wear the appropriate PPE during construction activities. The construction contractors would adhere to regulatory requirements for the disposal of wastewater, solid waste, hazardous waste, and construction debris in accordance with federal, state, and local regulatory requirements. The new SSP would be operated in accordance with stringent guidelines to provide the highest level of safety to workers and the public.
Noise	No Impact	Minor, Short-term	Noise impacts on the health of construction workers would be mitigated by adherence to OSHA standards for occupational noise exposure associated with construction (29 CFR 1926.52). Noise impacts on nearby residents would be mitigated by

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts Under Proposed Action
			adherence to the regulatory limit for construction activities of 90 dBA at the boundaries of the site (COMAR 26.02.03.03 A(2)(a); City of Fredrick Ordinance Section 15-21).
Geology, Soils, and Topography	No Impact	Minor, Short-term	No significant adverse effects to geology, soils and topography are expected under the Proposed Action. Final site plans would include measures to minimize the total area of land disturbed, prevent soil erosion and sediment runoff, and re-stabilize any temporarily disturbed areas during construction. If disturbance to soils of 5,000 sq ft or more is required, it is anticipated that an MDE-approved erosion and sediment control plan would be prepared pursuant to COMAR 26.17.01.
Water Resources (Surface Water and Groundwater)	No Impact	No Impact	Any stormwater runoff during construction would be controlled through use of BMPs and all temporarily disturbed areas would be graded and re-vegetated upon completion of construction, in accordance with a construction general permit for stormwater. All stormwater controls and BMPs would comply with state and federal regulations.
Floodplains	No Impact	No Impact	The study area is located outside of any floodplain zones. Implementation of the Proposed Action would not impact floodplains.
Wetlands	No Impact	No Impact	No wetlands are mapped within or in the vicinity of the study area. There are no federal or state permits anticipated to be required to support the Proposed Action.

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts Under Proposed Action
Biological Resources	No Impact	Minor, Short-term	Implementation of the Proposed Action alternative is anticipated to cause temporary minor disturbance to wildlife resources during construction activities. Construction activities would not impact any forested areas. Implementation of the Proposed Action would not impact threatened or endangered species.
Energy and Utilities	No Impact	No Impact	Utility infrastructure is already present adjacent to the study area. Therefore, it is anticipated that extension of each utility for connection to the new SPP would be made with minimal disturbance. Any required ground disturbance associated with the extension of existing utilities for connection to the new SPP would take place in an area that is comprised of built environment and previously disturbed soils.
Cultural Resources	No Impact	No Impact	Coordination with the Maryland Historical Trust and the Tribal Historic Preservation Officers (THPOs) determined based on its location and the actions proposed, the project will have no adverse effect on historic properties in a letter dated 15 March 2022.
Transportation and Traffic	No Impact	Minor, Adverse, Short-term	Short-term, minor, adverse impacts to transportation and traffic leading up to the access gates would be expected from the implementation of the Proposed Action due to the presence of construction vehicles. Negligible, long-term impacts are anticipated from the operation of the new SPP, as the facility would be minimally staffed.

Resource Area	No Action	Proposed Action	Permits, Plans, and Measures Identified for Reduction of Impacts Under Proposed Action
Socioeconomics, Environmental Justice, and Protection of Children	No Impact	Minor, Beneficial, Short-term Minor, Adverse, Short-term	Minor short-term beneficial impacts are expected by the stimulation of the local economy caused by the increase of employment and income generated by the Proposed Action. Temporary adverse impacts to socioeconomics are expected due to the slight increase in noise and traffic.

1

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8. ACRONYMS AND ABBREVIATIONS

AR	Army Regulation
ARPA	Archaeological Resources Protection Act
AOC	Area of Concern
BSAT	Biological Select Agents and Toxins
BSL	Biosafety Level
BMBL	Biosafety in Microbiological and Biomedical Laboratories
CAA	Clean Air Act
CDC	Centers for Disease Control
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COMAR	Code of Maryland Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DA	Department of the Army
dBA	Decibels
DoD	Department of Defense
DOT	Department of Transportation
EA	Environmental Assessment
EDS	Effluent Decontamination System
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
GPD	Gallons Per Day
HEPA	High Efficiency Particulate Air
IAP	Installation Action Plan
IPaC	Information, Planning, and Consultation
LSS	Laboratory Sewer System
LUC	Land Use Controls

MCL	Maximum Contaminant Level
MDNR	Maryland Department of Natural Resources
MGD	Million Gallons per Day
MHT	Maryland Historic Trust
MILCON	Military Construction
NPDES	National Pollutant Discharge Elimination System
NBACC	National Biodefense Analysis and Countermeasures Center
NCA	Noise Control Act
NCI-Frederick	National Cancer Institute at Frederick
NMRC	Navy Medical Research Center
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIBC	National Interagency Biodefense Campus
NICBR	National Interagency Confederation Biological Research Campus
NIH	National Institute of Health
NOI	Notice of Intent
NRC	National Research Council
PCE	tetrachloroethylene
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
REC	Record of Environmental Consideration
SSP	Steam Sterilization Plant
SOP	Standard Operating Procedure
TCE	trichloroethylene
TEDS	Thermal Effluent Decontamination System
TPY	Tons Per Year
UFC	Unified Facilities Criteria
USAG	US Army Garrison
USAMRDC	U.S. Army Medical Research and Development Command
USAMRIID	U.S. Army Medical Research Institute of Infectious Diseases
USAMRMC	U.S. Army Medical Research and Materiel Command
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tanks
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Appendix A: Agency and Public Coordination

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Ms. Susan Bachor
Preservation Representative
Delaware Tribe of Indians
PO Box 64,
Pocono Lake, PA 18347

Dear Ms. Bachor:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at . Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the . The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. (b) (7)(F) (USAMRIID Research Facility) is located at Fort Detrick, (b) (7)(F) ((b) (7)(F) was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of in relation to listed historic structures (See Enclosure 2). Based on its location and the actions proposed, we are seeking your concurrence on Fort Detrick's determination that no historic properties will be affected by the proposed undertaking.

Please let us know if you are interested in consulting on this project on a Government-to-Government basis, and the extent to which you wish to participate. We will provide a representative at consultation meetings, and we will fully consider any information you wish to provide.

If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

[redacted]

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Ms. Erin Paden
Director of Historic Preservation and Section 106
Delaware Nation
PO Box 825,
Anadarko, OK 73005

Dear Ms. Paden:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at Building [redacted] of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at [redacted]. Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the [redacted]. The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. [redacted] (USAMRIID Research Facility) is located at Fort Detrick, [redacted] was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of Building [redacted] in relation to listed historic structures (See Enclosure 2). Based on its location and the actions proposed, we are seeking your concurrence on Fort Detrick's determination that no historic properties will be affected by the proposed undertaking.

Please let us know if you are interested in consulting on this project on a Government-to-Government basis, and the extent to which you wish to participate. We will provide a representative at consultation meetings, and we will fully consider any information you wish to provide.

If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

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U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Ms. Beth Cole
Office of Review and Compliance
Maryland Historic Trust
100 Community Place
Crownsville, Maryland 21032

Dear Ms. Cole:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at (b) (7)(F). Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the (b) (7)(F). The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. (b) (7)(F) (USAMRIID Research Facility) is located at Fort Detrick, (b) (7)(F). (b) (7)(F) was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of Building (b) (7)(F) in relation to listed historic structures (See Enclosure 2). Based on its location and the actions proposed, we are seeking your concurrence on Fort Detrick's determination that no historic properties will be affected by the proposed undertaking.

Please let us know if you are interested in consulting further on this project. We will fully consider any information you wish to provide. If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Mr. Jesse Bergevin
Historic Resources Specialist
Oneida Indian Nation
2037 Dream Catcher Plaza,
Oneida, NY 13421

Dear Mr. Bergevin:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at Building (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at (b) (7)(F). Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the (b) (7)(F). The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. Building (b) (7)(F) (USAMRIID Research Facility) is located at Fort Detrick, (b) (7)(F). Building 8100 was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of Building (b) (7)(F) in relation to listed historic structures (See Enclosure 2). Based on its location and the actions proposed, we are seeking your concurrence on Fort Detrick's determination that no historic properties will be affected by the proposed undertaking.

Please let us know if you are interested in consulting on this project on a Government-to-Government basis, and the extent to which you wish to participate. We will provide a representative at consultation meetings, and we will fully consider any information you wish to provide.

If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

[redacted]

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Mr. Sid Hill
Tadodaho
Onondaga Nation,
Dyohdihwasne'ha
Administration Building
4040 Route 11
Nedrow, NY 13120

Dear Chief Hill:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at Building (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at (b) (7)(F). Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the B-8100. The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. Building (b) (7)(F) (USAMRIID Research Facility) is located at Fort Detrick, (b) (7)(F). Building (b) (7)(F) was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of Building (b) (7)(F) in relation to listed historic structures (See Enclosure 2). Based on its location and the actions proposed, we are seeking your concurrence on Fort Detrick's determination that no historic properties will be affected by the proposed undertaking.

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If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

[redacted]

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Mr. Arnold Printup, Jr.,
Tribal Historic Preservation Officer
Saint Regis Mohawk Tribe
Ionkwakiohkwaró:ron,
Tribal Administration Building,
Room 123
71 Margaret Terrance
Memorial Way
Akwesasne, NY 13655

Dear Mr. Printup:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at Building (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at (b) (7)(F). Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the (b) (7)(F). The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. Building (b) (7)(F) (USAMRIID Research Facility) is located at Fort Detrick, (b) (7)(F). Building (b) (7)(F) was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of Building (b) (7)(F) in relation to listed historic structures (See Enclosure 2). Based on its location and

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If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Mr. William Tarrant
Cultural Director
Seneca-Cayuga Nation
PO Box 453220,
Grove, OK 74344

Dear Mr. Tarrant:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at Building (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at (b) (7)(F). Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

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Please let us know if you are interested in consulting on this project on a Government-to-Government basis, and the extent to which you wish to participate. We will provide a representative at consultation meetings, and we will fully consider any information you wish to provide.

If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

[redacted]

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Mr. Bryan Printup
Tuscarora Environment Office
Tuscarora Nation of New York
5226 Walmore Road,
Lewiston, NY 14092

Dear Mr. Printup:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at Building (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at (b) (7)(F). Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the (b) (7)(F). The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. Building (b) (7)(F) (USAMRIID Research Facility) is located at Fort Detrick, (b) (7)(F). Building (b) (7)(F) was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of Building (b) (7)(F) in relation to listed historic structures (See Enclosure 2). Based on its location and the actions proposed, we are seeking your concurrence on Fort Detrick's determination that no historic properties will be affected by the proposed undertaking.

Please let us know if you are interested in consulting on this project on a Government-to-Government basis, and the extent to which you wish to participate. We will provide a representative at consultation meetings, and we will fully consider any information you wish to provide.

If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

[redacted]

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

Enclosure 1

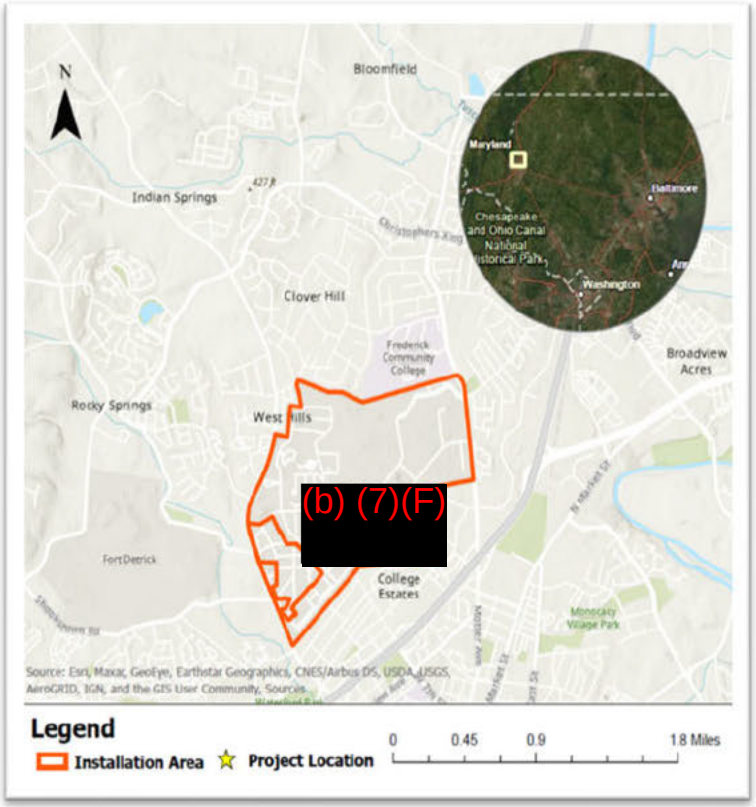
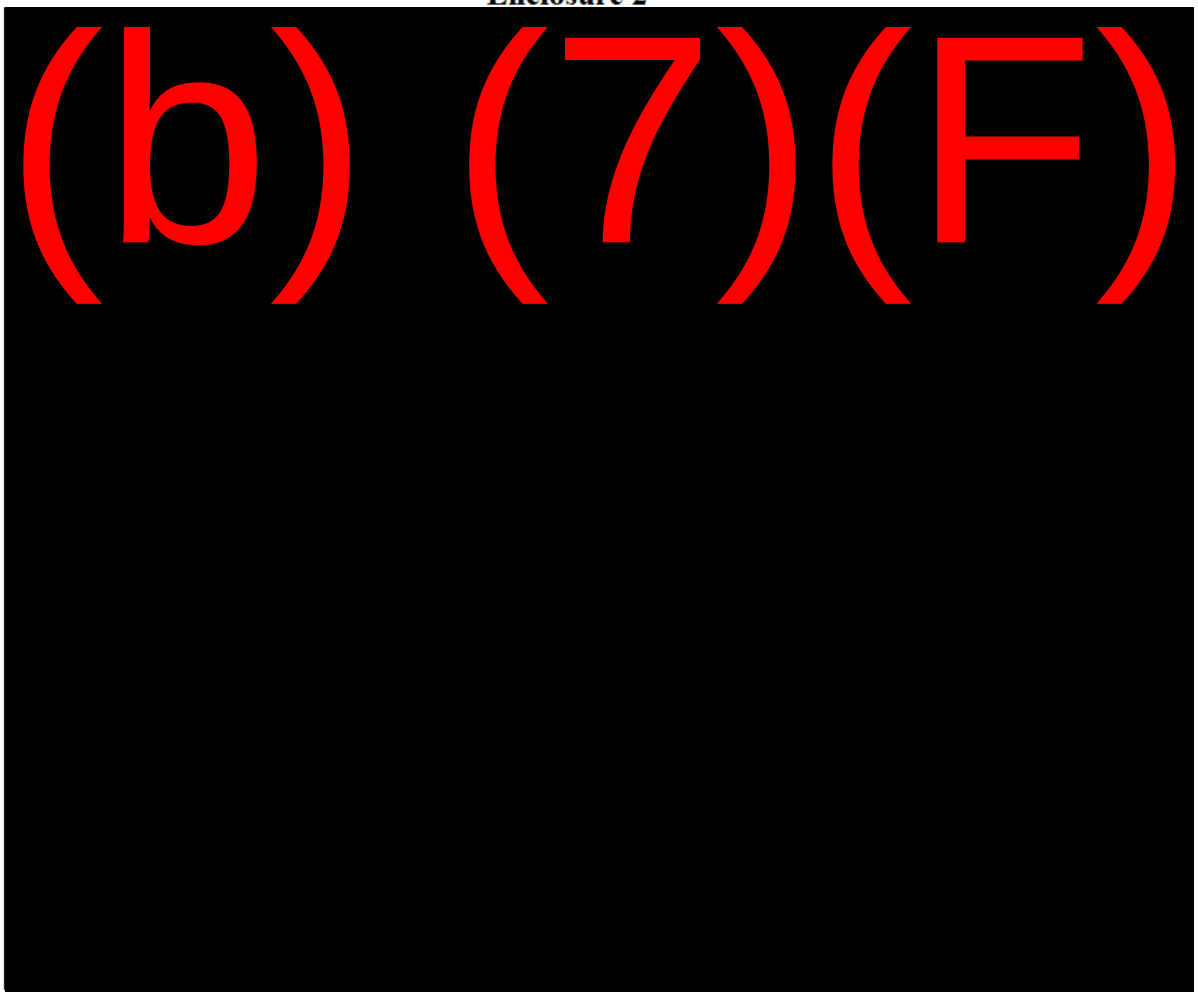


Photo 1 – Installation Area

Photo 2 – Overview of Building (b) (7)(F) facing NW

Enclosure 2



United States Department of the Interior

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

In Reply Refer To: May 17, 2022
Project Code: 2022-0043707
Project Name: Fort Detrick Steam Sterilization Plant Replacement

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

To Whom It May Concern:

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

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

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

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

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

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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of

this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

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

Official Species List

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

This species list is provided by:

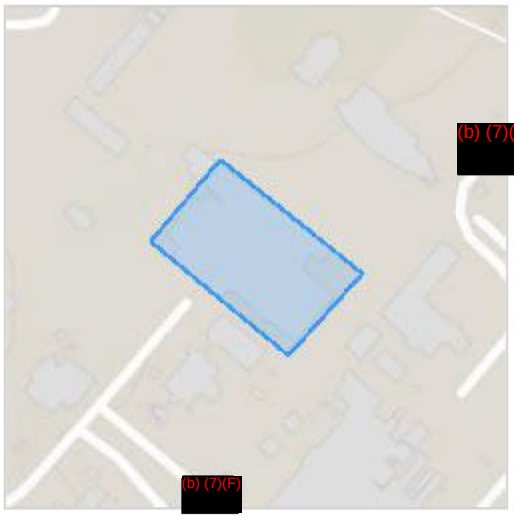
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Project Code: 2022-0043707
Event Code: None
Project Name: Fort Detrick Steam Sterilization Plant Replacement
Project Type: Military Operations
Project Description: This action would replace the steam sterilization plant (SSP) that is needed to treat the effluent generated by Biosafety Level (BSL) -3 and -4 laboratories at the new U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) facility located in Fort Detrick, Maryland. The new SSP would be located in the ground level of the new USAMRIID facility.

Project Location:

Approximate location of the project can be viewed in Google Maps (b) (7)(F)



Counties: Frederick County, Maryland

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

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

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

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

Mammals

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

No critical habitat has been designated for this species.

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

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

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

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.

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

- The monarch is a candidate species and not yet listed or proposed for listing. There are generally no section 7 requirements for candidate species (FAQ found here: https://www.fws.gov/savethemonarch/FAQ-Section7.html).

Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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

Wetlands

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

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

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

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

Request for Early Input

Environmental Assessment
Proposed Action and Alternatives for the Steam Sterilization Plant Replacement at Fort Detrick, Maryland
04 MAR 2022

All Interested Parties: The U.S. Army Garrison, Fort Detrick, Maryland (FDMD) is preparing an Environmental Assessment (EA) for the replacement of the Steam Sterilization Plant (SSP), pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 United States Code Section 4321 *et seq.*). The Council on Environmental Quality (CEQ) is responsible for issuing regulations (40 Code of Federal Regulations [CFR] 1500-1508) and implementing the provisions of NEPA. CEQ regulations, in turn, are supplemented by procedures adopted on an agency-specific basis. For the Department of the Army, the pertinent regulations are contained in 32 CFR Part 651. An EA is used as a planning document to assess environmental impacts, evaluate their significance, develop alternatives and mitigation measures, and allow for agency and public participation (32 CFR 651.20).

The EA is being prepared to evaluate the environmental impacts associated with the Proposed Action to replace the SSP needed to treat the medical wastewater (effluent) generated by U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) biosafety level (BSL) -3 and -4 laboratories. The BSL -3 and -4 laboratory suites will be housed within the new USAMRIID facility. Currently, the BSL-3 and -4 labs rely on temporary Thermal Effluent Decontamination System (TEDS) units. The project is needed to replace the previous SSP, which is no longer in use, and provide a long-term solution with adequate capacity for the required treatment of wastewater effluent to support operation of the BSL -3 and -4 laboratories. Enclosure 1 shows the project location map.

On May 2021, a Request for Early Input Notice was published for the preparation of the SSP EA with a Proposed Action involving the construction of a new Military Construction (MILCON) building on the site of an existing building located adjacent to the new USAMRIID facility. The Proposed Action would have involved the demolition of the existing building and the construction of the new SSP at its location. Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of the existing building and the construction of a MILCON was determined to be very costly. Therefore, a new Proposed Action is currently being considered and coordination is being re-initiated.

The new **Proposed Action** involves the construction of the SSP on the ground floor of the new USAMRIID facility. The SSP would be operational 365 days per year and 24 hours a day. The SSP would be able to process a minimum of 70,000 gallons per day of effluent. The SSP provides decontamination redundancy to provide the highest level of safety to workers and the public.

The EA will also consider a **No Action Alternative**, which would involve no new construction.

The No Action Alternative would restrict USAMRIID from using the BSL-3 and -4 laboratories to their full capacity, thereby limiting research on known biological select agents and toxins and emerging diseases, such as COVID-19. Under this alternative, the BSL-3 and -4 laboratories would continue use of the TEDS, which are not viable as a long-term solutionand limit research using the entire high containment laboratories and vivarium. Although the No Action Alternative would not meet the purpose and need for the action, CEQ requires the analysis of the No Action Alternative, as it also provides a benchmark for enabling decision-makers to compare the magnitude of environmental effects of the Proposed Action.

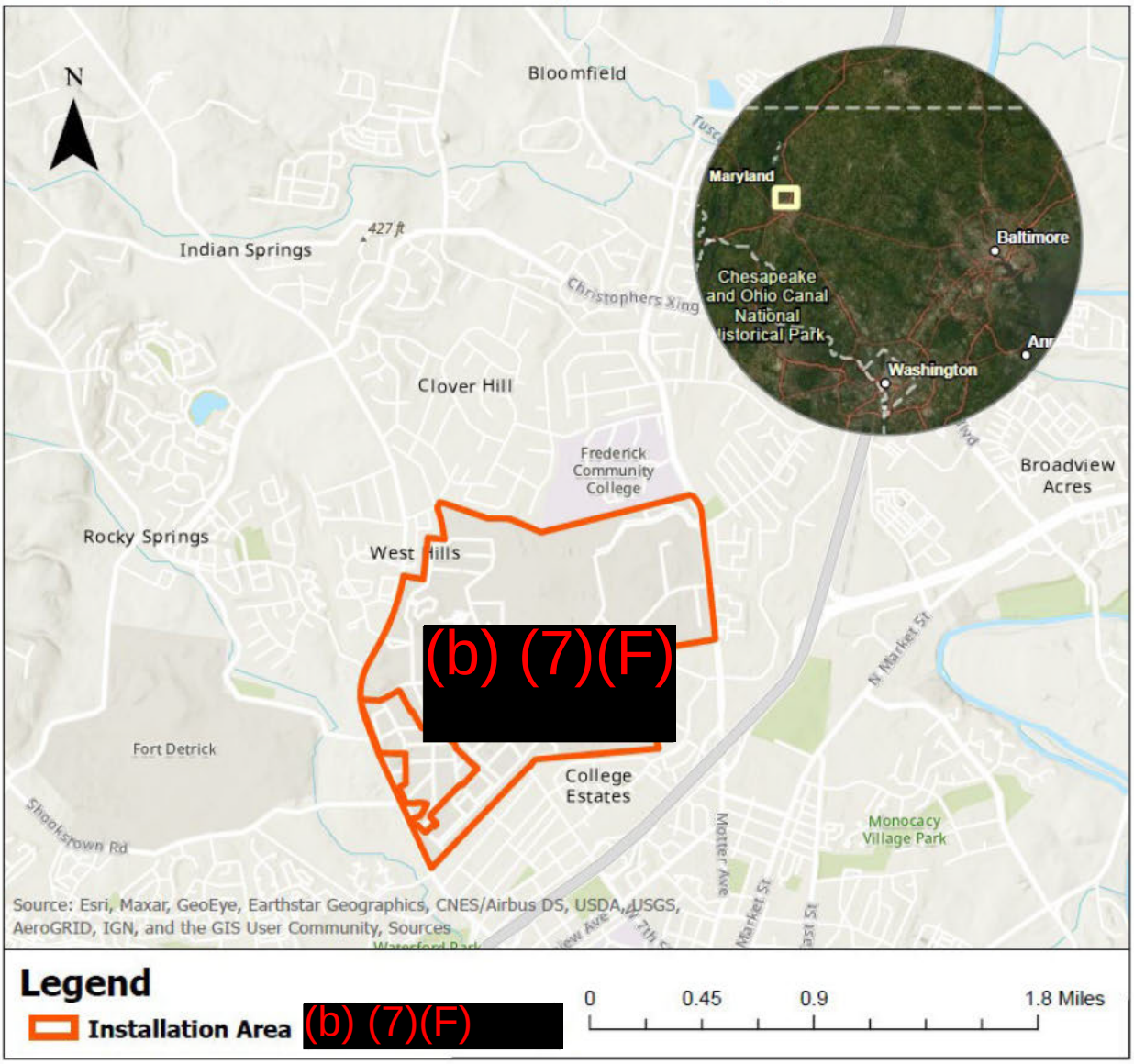
In accordance with 40 CFR 1500-1508, the Army invites you to provide early input on the Proposed Action to be considered in our analysis of each alternative in the forthcoming EA. Due to continuing restrictions in response to COVID-19, this early agency and public correspondence notice is being provided via email instead of a mailed letter. This notice is also being distributed to other organizations that may have an interest in natural resource conditions at FDMD. Information on the Proposed Action can be found on the project website at https://www.nab.usace.army.mil/SSP/. Comments on the Proposed Action can be submitted via the project website or through email at Detrick_SSP_EA@usace.army.mil.

Additionally, once the draft EA is completed, agencies and the public will have an opportunity to review and provide comments during a 30-day public review period, which will be announced in a notice published in local newspapers and on the FDMD website. Printed copies of the draft EA are typically provided to local libraries and every attempt will be made to satisfy this procedure while complying with the most up-to-date local COVID-19 safety guidelines. All materials will also be provided online on the project website and on the FDMD website at the following link: https://home.army.mil/detrick/index.php/about/Garrison/directorate-public-works/environmental-management-division.

We appreciate your attention to this matter. Early input will be accepted for a period of 15 days, beginning on the date of this notice. Should you require any additional information or have any questions, please contact the U.S. Army Corps of Engineers, Baltimore District Project Manager, Heather Cisar, at heather.r.cisar@usace.army.mil.

Enclosure 1: Project Location Map

Enclosure 1- Project Location Map



From: Traver, Carrie
To: Detrick_SSP_EA
Cc: Nevshehirlian, Stepan; Cisar, Heather R CIV USARMY CENAB (USA)
Subject: [Non-DoD Source] Ft. Detrick Steam Sterilization Plant EA - Request for Early Input
Date: Wednesday, March 16, 2022 1:08:42 PM

Good afternoon,

Thank you for providing an updated notice that the U.S. Army Garrison, Fort Detrick, Maryland is preparing an Environmental Assessment (EA) to evaluate the impacts associated with replacing the Steam Sterilization Plant (SSP) for medical wastewater generated by U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) laboratories. The previous Request for Early Input indicated that the Proposed Action would demolish an existing building and construct a new SSP building located adjacent to the new USAMRIID facility. A new Proposed Action to construct the SSP on the ground floor of the new USAMRIID facility is currently being evaluated.

Our scoping comments from June 4, 2021 generally remain applicable, with the following addition:

We recommend that the EA indicate the previous NEPA studies that have been conducted for the USAMRIID facility and address potential impacts the Proposed Action may have on the facility.

- For example, will the addition of the SSP change the footprint, height, size, or infrastructure needs of the building? Will it impact the timing of construction, costs, or other relevant considerations?
- We recommend that it be discussed if the incorporation of the SSP into the USAMRIID would reduce any impacts (i.e., there may be less square feet of impervious area than if a separate building were constructed.)

Again, thank you for coordinating!

Sincerely,
Carrie

Sent: Friday, June 04, 2021 11:37 AM
To: Cisar, Heather R CIV CENAB CENAD (USA) <Heather.R.Cisar@usace.army.mil>; Ciaramellano Campbell, Vanessa M CIV USARMY CENAD (USA) <Vanessa.M.Campbell@usace.army.mil>
Cc: Nevshehirlian, Stepan <Nevshehirlian.Stepan@epa.gov>; Gillespie, Joy <gillespie.joy@epa.gov>
Subject: RE: Ft. Detrick Steam Sterilization Plant EA - Request for Early Input

Dear Heather and Vanessa:

Thank you for talking with me yesterday! As promised, I drafted some comments as a

follow up to our conversation:

Thank you for providing notice that the U.S. Army Garrison, Fort Detrick, Maryland (FDMD) is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508). The EA will evaluate the impacts of the replacement of the Steam Sterilization Plant (SSP) to treat the contaminated medical wastewater generated by U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) biosafety level (BSL) -3 and -4 laboratories. The Proposed Action involves demolition of existing building B-1408 and the construction of the new SSP at its location.

The Environmental Protection Agency (EPA) has the following recommendations for consideration in the development of the EA:

Background, Purpose, and Need

The Request for Early Input states that the project is needed to replace the defunct SSP ((b) (7)(F) [redacted]) and provide a long-term solution with adequate capacity for the required treatment of wastewater effluent to support operation of the USAMRIID BSL -3 and -4 laboratories. EPA recommends that the Study clearly describe the existing and proposed conditions to support the purpose and need, including:

- an explanation of why the use of the Thermal Effluent Decontamination System (TEDS) units is a temporary solution and not desirable long-term.
- life expectancy of the SSP facility.
- the capacity for wastewater treatment needed currently and for the foreseeable future.
- the proposed siting of the SSP building, including any operational, security, or safety standards or constraints that may factor into design and construction.
- necessary appurtenances, including parking, and piping from the labs to the SSP and from the SSP to the wastewater treatment plant (WWTP).
    - For piping to the WWTP, is new piping required? If so, what is the size/length needed?

The EA would benefit from a brief description of other applicable NEPA studies (e.g. Decommissioning and Demolition of Steam Sterilization Plant and Laboratory Sewer System) and status of the actions in those studies.

Alternatives Analysis

The Proposed Action and the No Action Alternative will be evaluated. We suggest indicating whether other alternatives were previously evaluated, including:

- whether other treatment options exist and are feasible

- whether other locations for the SSP facility were evaluated
- a discussion of relevant operational, security, and safety standards or constraints that inform the alternatives

If resource impacts may occur from construction of piping to the WWTP, evaluation of alternative routes or construction methods may also be appropriate.

Waste, Safety, and Operation and Maintenance of the SSP

EPA recommends that the EA describe the generation and treatment of wastewater. The overview included in the SSP factsheet regarding sources of the liquid wastes is helpful; we suggest including and expanding this information in the EA.

- We recommend describing (to the extent possible) measures planned that prevent or contain potential spills or releases and including information regarding contingency plans to address a system failure.
- We suggest including an overview of the expected or likely SSP operation and maintenance (O&M) plan, including sampling and training. We also suggest:
    - that the parties responsible for daily operation and oversight of the SSP (USAMRIID, a contractor, and/or Fort Detrick) be identified.
    - the EA include a discussion of permits needed for the facility.
    - describing measures that prevent discharge of inappropriate (such as chemical) waste to the SSP and WWTP.

Utilities

- The EA should indicate whether the WWTP has sufficient capacity to treat the expected volume of treated wastewater.
- The Study would benefit from a discussion of whether any other utility upgrades (e.g. electric, water), additional utilities, and/or changes in usage will be required from the construction of new facilities

Stormwater

Construction of a new building may bring opportunities for improved stormwater management. Please consider incorporating stormwater management best management practices (BMPs) early in the design process to contribute to water quality improvement. Vegetated BMPs also provide a number of co-benefits (aesthetics, shade, pollinator habitat etc.) which can benefit the site.

- EPA recommends incorporating green infrastructure practices and low impact development design features where possible for building construction, parking, paving, landscaping, and stormwater management to reduce the effects of existing and proposed impervious surfaces.

Sustainability and Climate Change

- EPA encourages incorporating energy efficient features, lighting, and infrastructure in the new facility, such as those included in the LEED (Leadership

in Energy and Environmental Design) Green Building Rating System.

- We recommend that the potential for any impacts or hazards be described, including potential hazards from geology or floodplains.
- Assessment of greenhouse gas emissions from construction and operation of the facility is recommended, along with evaluation of any climate-related risk the facility could experience (e.g. flooding from increased storms).

Biological and Cultural Resources

The new SSP building would be approximately (b) (7)(F) square feet in size. While our understanding is that generally the building location currently consists of developed and impervious area, which will limit potential impacts to biological resources, we recommend including an estimate of the area of any vegetation removal or conversion, and the expected increase or decrease in impervious areas. The EA would benefit from:

- a description of any existing resources in the vicinity of the building and appurtenances, including eligible or listed historic buildings, specimen trees, or streams that may receive drainage from stormwater.
- a discussion of whether the Proposed Action has the potential to impact historic or archaeological resources.

Wetlands, Streams, and Floodplains

The EA should include information regarding whether aquatic resources may be temporarily or permanently impacted by activities such as construction of pipes to the WWTP.

Air Quality

The EA should identify the attainment status of each National Ambient Air Quality Standards (NAAQS) criteria pollutant and include a general conformity rule analysis according to the guidance provided in Determining Conformity of General Federal Actions to State or Federal Implementation Plans. The reasonably foreseeable direct and indirect emissions associated with operation and construction activities should be quantified and compared to the de minimis levels in nonattainment or maintenance areas.

Community Impacts-

- We suggest that the EA include an evaluation of issues such as noise, safety, and traffic during construction and demolition and identify any minimization measures that may be employed.
- We recommend the EA assess whether operation of new or upgraded facilities may create any positive or negative impacts on the surrounding community (e.g. operational noise, improved safety.)

Environmental Justice

We recommend that the EA identify whether areas of potential environmental justice (EJ) concern may be disproportionately impacted by Project activities, including from construction traffic. Methodologies are discussed by several agencies, including CEQ. EPA's environmental justice screening tool, EJSCREEN, can be accessed at: https://www.epa.gov/ejscreen.

Outreach

We appreciate that the information is available to the public on the website and recommend that this be expanded and updated as the Study moves forward.

Again, thank you for soliciting early feedback for consideration in the development of the Study. Please let me know if you would like to discuss any of these comments, and I look forward to receiving a copy of the draft EA by email.

Have a great weekend,
Carrie

Carrie Traver
Life Scientist
Office of Communities, Tribes, & Environmental Assessment
U.S. Environmental Protection Agency, Region 3
1650 Arch Street – 3RA12
Philadelphia, PA 19103
215-814-2772
traver.carrie@epa.gov

From:	Dr. C. Matthew Sharkey
To:	Detrick SSP EA; Cisar, Heather R CIV USARMY CENAB (USA)
Subject:	[Non-DoD Source] Steam Sterilization Plant Environmental Assessment - Request for Early Input: Response from Frederick CLCAC
Date:	Friday, March 18, 2022 4:17:13 PM

Frederick Containment Laboratory Community Advisory Committee (CLCAC) members appreciate the opportunity to review the Steam Sterilization Plant (SSP) EA-Request for Early Input (REI). We note, however, that it was not provided to our Committee by Fort Detrick, which we find to be surprising. Instead, the Frederick Office of the County Executive thankfully forwarded it to us early this week. We would like you to remind Fort Detrick leadership that the Fort was asked to focus on transparency with the Frederick community in the 2010 National Academies of Science, Engineering, and Medicine report, *Evaluation of the Health and Safety Risks of the New USAMRIID High-Containment Facilities at Fort Detrick, Maryland*. To that end, we have some requests and concerns about communications from Fort Detrick, which are included after the EA-Request for Early Input response.

EA-Request for Early Input, CLCAC Response:
In our evaluation of the REI, we are concerned that the Environmental Assessment doesn't include any information about the root causes that led to the failure of the previous USAMRIID SSP, which resulted in the discharge of unsterilized laboratory wastewater effluent into our community's watershed, and how those root causes will be addressed and fully mitigated in the construction, operation, and maintenance of the new SSP. The previous SSP was disabled by a flood, and we have ascertained in conversations with Fort Detrick leadership and biosafety officials that the SSP failure resulted from both design and maintenance flaws. This REI does not clearly articulate what measures are being put in place to prevent a flood from disabling the new SSP. The only detail provided in the REI is that a new SSP will be situated "on the ground floor of the new USAMRIID facility." Without further details, it is unclear if this mitigates or repeats the error made with the last plant's siting and operational plan.

Additionally, we note that the REI only includes the minimum amount of wastewater to be processed. Given that the previous SSP failed during historic flooding, we think that it is important to understand the maximum amount of wastewater that the new SSP will be able to process. Furthermore, knowing the effluent volume expectations of all of the labs contributing wastewater to the treatment system will help us, and USAMRIID designers, understand whether the new SSP is appropriately sized. Finally, we see no information about the characteristics of the output from the SSP. The Frederick community needs to understand the temperature range, pH range, chemical contaminant range, and other physical operational performance standards, prior to supporting any decision on this matter.

While we sincerely hope that the USAMRIID laboratories will be constructed with a sufficient wastewater treatment system, and while we support the construction of such a system, it is not clear that USAMRIID has addressed the reason for their

previous SSP failure so that it won't happen again. We will support this EA if Fort Detrick demonstrates that it understands the reasons for the 2018 SSP failure, articulates them clearly, and demonstrates that their design and plans will mitigate the risk from those root causes. Some analysis of engineering risk and design controls would be a minimum standard, given the recent history of catastrophic failure and community discharge of USAMRIID laboratory effluent.

Concerns and Requests:
We really want to understand why the CLCAC was not given this EA-Request for Early Input by Fort Detrick when they sent it to the Frederick government. In the past three years, USAMRIID and Fort Detrick have become increasingly nontransparent and intransigent with this Committee. We were established to assist in the communications between the Army and the Frederick community and to advocate on behalf of the people of Frederick, your neighbors. It is truly disappointing that our repeated calls for transparency, including measures that BrigGen Talley agreed to in a public meeting in 2019 - sharing environmental hazard assessment data so that CLCAC could work with EPA to independently conclude that the risk to the community is low from the failure of the last USAMRIID SSP - have resulted in a total shut down in communications between our Committee and Fort Detrick officials.

We ask that the CLCAC be added to all future Fort Detrick distributions (not just notifications about this particular activity) that go to the City of Frederick and the Frederick County Department of Health. We also ask for the physical location of the new USAMRIID lab and the location of the SSP to be shared with the CLCAC, as we were unable to determine exactly where you are building this lab from the materials that were shared. Finally, we ask that scientific and administrative staff, not just public relations personnel, attend our meetings. The next one will be held virtually on April 12, at 7:00 pm.

Sincerely,

Frederick Containment Laboratory Community Advisory Committee

Maryland
DEPARTMENT OF PLANNING

March 9, 2022

Ms. Heather Cisar, Project Manager, Installation Support Branch
U.S. Army Corps of Engineers, Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

STATE CLEARINGHOUSE REVIEW PROCESS

State Application Identifier: **MD20220308-0153**
Reviewer Comments Due By: April 5, 2022
Project Description: Pre-Environmental Assessment Early Input: Proposed Action Includes Replacement of the Steam Sterilization Plant to Treat Medical Wastewater (Effluent) Generated by the United States Army Medical Research Institute of Infectious Diseases (USAMRIID) Biosafety Level-3 and -4 Laboratories, with a No Action Alternative
Project Address: USAMRIID, (b) (7)(F) , Fort Detrick, Frederick, MD 21702
Project Location: Frederick County—City of Frederick
Clearinghouse Contact: Sylvia Mosser

Dear Ms. Cisar:

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

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

We have forwarded your project to the following agencies and/or jurisdictions for their review and comments: the Maryland Departments of Transportation, the Environment, Natural Resources, and General Services; the Maryland Military Department; Frederick County; the Metropolitan Washington Council of Governments; the City of Frederick; and the Maryland Department of Planning, including the Maryland Historical Trust. A composite review and recommendation letter will be sent to you by the reply due date. Your project has been assigned a unique State Application Identifier that you should use on all documents and correspondence. Please be assured that we will expeditiously process your project.

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

Sincerely,

[redacted]

Jason Dubow, Manager
Resource Conservation and Management

JD:SM

22-0153_NFP.NEW.docx

20220915

F
Army
[redacted]

DEPARTMENT OF THE ARMY
U.S. ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON FORT DETRICK
810 SCHREIDER STREET, SUITE 212
FORT DETRICK, MARYLAND 21702-5000

February 24, 2022

Ms. Beth Cole
Office of Review and Compliance
Maryland Historic Trust
100 Community Place
Crownsville, Maryland 21032

RECEIVED
FEB 28 2022
BY:_____

Dear Ms. Cole:

This letter is intended to initiate consultation, in accordance with Section 106 of the National Historic Preservation Act, for a new proposed undertaking at (b) (7)(F) [redacted] (b) (7)(F) of the U.S. Army Garrison Fort Detrick, Frederick County, Maryland.

On May 2021, a letter was sent to you to initiate coordination on the proposal to demolish Building 1408 and construct a new Military Construction (MILCON) to house a Steam Sterilization Plant Effluent Decontamination System (SSP EDS) at its location. The SSP EDS is needed to process and sterilize all Bio-Safety Level -3 and -4 laboratory effluent from the new USA Medical Research Institute of Infectious Diseases (USAMRIID) building located at (b) (7)(F). Due to the COVID-19 pandemic and resulting increases in construction costs, the demolition of Building 1408 and the construction of a MILCON at its place, was determined to be very costly. Therefore, a new proposal is currently being considered and coordination is being re-initiated.

The new proposal involves the construction of the SSP EDS on the ground floor of the (b) (7)(F). The SSP EDS would be operational 365 days per year and 24 hours a day. The SSP EDS would be able to process a minimum of 70,000 gallons per day of effluent. The SSP EDS provides decontamination redundancy to provide the highest level of safety to workers and the public. Building (b) (7)(F) (USAMRIID Research Facility) is located at Fort Detrick, (b) (7)(F) [redacted]. Building (b) (7)(F) [redacted] was constructed in 2017. Due to its relatively new age, Fort Detrick has determined it is not eligible for listing in the National Register of Historic Places (NRHP). The proposed undertaking will occur in a previously disturbed area which has no archaeological sensitivity. The construction was also evaluated to determine the potential impact to the view shed of other standing historic properties. Attached is a map showing the location of Building (b) (7)(F) [redacted] in relation to listed historic structures (See Enclosure 2). Based on its location and the actions proposed, we are seeking your concurrence on Fort Detrick's determination that no historic properties will be affected by the proposed undertaking.

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.

Beth Cole 3/15/22
_____ Date_____

#1A BC 3/14/22

Please let us know if you are interested in consulting further on this project. We will fully consider any information you wish to provide. If you need additional information, please do not hesitate to contact me by email at Detrick_SSP_EA@usace.army.mil. Thank you for your cooperation, and we look forward to consulting with your office.

Sincerely,

[redacted]

Joseph J. Gortva
Chief, Environmental Management Division
Fort Detrick USAG
Directorate of Public Works

Enclosures

F-3 - 101