Supplemental Environmental Assessment
Communications Line Extension
Davison Army Airfield
Fort Belvoir, VA

December 2016

LEADERS IN EXCELLENCE!

U.S. ARMY GARRISON FORT BELVOIR

This NEPA documentation has been prepared and published in double-sided format on recycled content paper in accordance with 32 CFR Part 651.18.

THIS PAGE INTENTIONALLY BLANK

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT
COMMUNICATIONS LINE EXTENSION
DAVISON ARMY AIRFIELD, FORT BELVOIR, VIRGINIA

Reviewed by:
U.S. Army Garrison Fort Belvoir

15 Nov 2016

Felix M. Mariani
Chief, Environmental and Natural Resources Division

Recommended for Approval:
U.S. Army Garrison Fort Belvoir

Bill L. Sanders
Director
Public Works

Approved By:
U.S. Army Garrison Fort Belvoir

Angie K. Holbrook
Colonel, U.S. Army
Commanding

THIS PAGE INTENTIONALLY BLANK

November 8, 2016

NOTICE OF AVAILABILITY
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

Lead Agency:	Department of Army
Title of Proposed Action:	Supplemental Environmental Assessment of Communications Line Extension, Davison Army Airfield, Fort Belvoir, Virginia.
Affected Jurisdiction:	Fort Belvoir, Virginia
Prepared By:	Directorate of Public Works, Fort Belvoir, Virginia
Approved By:	Colonel Angie K. Holbrook, Commander, Fort Belvoir, Virginia

Abstract: This Supplemental Environmental Assessment (SEA) documents potential impacts to the physical, biological and human environments associated with the extension of a new underground communications line from the main garrison area of Fort Belvoir to Davison Army Airfield (DAAF). The proposed ductbank is required to provide enhanced voice and data telecommunications connectivity to DAAF from the existing communications network within Fort Belvoir. After evaluating communications network needs at DAAF, Fort Belvoir network personnel identified a single viable alternative, extending the ductbank along the Poe Road corridor (Proposed Action). This Poe Road Alternative was selected based upon the location and availability of existing network infrastructure connection hubs at either end of the alignment and required communication system diversity needs. The No Action Alternative was evaluated to provide a baseline for evaluating impacts of the Proposed Action. None of the impacts associated with the Proposed Action are considered significant. As a result, it is anticipated that preparation of an Environmental Impact Statement is not required and a Finding of No Significant Impact (FNSI) will be published in accordance with the National Environmental Policy Act of 1969.

Review Period: Interested parties are invited to review and comment on the EA and draft FNSI during a 30 day period. Please submit any comments to Commander, U.S. Army Garrison Fort Belvoir, Attention: Directorate of Public Works, Building 1442, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116 or email your comments to: *usarmy.belvoir.imcom-atlantic.mbx.enrd@mail.mil*.

The EA and draft FNSI were available for review on the internet at: *http://www.belvoir.army.mil/environdocssection2.asp*. Documents were also provided for public review at the following libraries for a period of 30 days:

Fairfax County Library
Lorton Branch
9520 Richmond Highway
Lorton, VA 22079-2124

Fairfax County Library
Kingstowne Branch
6500 Landsdowne Centre
Alexandria, VA 22315-5011

Fairfax County Library
Sherwood Regional Branch
2501 Sherwood Hall Lane
Alexandria, VA 22306-2799

THIS PAGE INTENTIONALLY BLANK

EXECUTIVE SUMMARY

The U.S. Army has prepared the following Supplemental Environmental Assessment (SEA) to document potential impacts to the physical, biological and human environments associated with the extension of a new underground communications line from the main garrison area of Fort Belvoir to Davison Army Airfield (DAAF). This document has been prepared as a SEA in accordance with the National Environmental Policy Act (NEPA) as the proposed action supplements the recently completed Environmental Assessment prepared for the Skills Training Facility at DAAF in 2014. At the time this earlier NEPA analysis was conducted the need for additional communication system connectivity to DAAF was not identified as a project specific requirement. The proponent of the Proposed Action is the U.S. Army Garrison, Fort Belvoir.

The proposed communications ductbank (ductbank) is required to provide enhanced voice and data telecommunications connectivity to DAAF from the existing communications network within Fort Belvoir. After evaluating communications network needs at DAAF, Fort Belvoir network personnel identified a single viable alternative for this communications line extension along the Poe Road corridor (Proposed Action). This Poe Road Alternative was selected based upon the location and availability of existing network infrastructure connection hubs at either end of the alignment and required communication system diversity needs.

The Poe Road Alternative begins on the western side of Gunston Road at the 1st Street intersection and extends approximately two miles west to DAAF following Poe Road and existing utility easement right-of-ways. This SEA evaluates potential environmental impacts of the Proposed Action in accordance with the National Environmental Policy Act (NEPA) of 1969, (42 U.S.C. 4331 et. seq.) and outlines the manner in which the Proposed Action can be constructed and operated following the Poe Road Alternative without creating significant environmental impacts.

Assessment of the alternatives and preparation of this SEA followed appropriate public coordination associated with these governing regulations and all appropriate analysis requirements relative to the Proposed Action have been addressed. Public coordination and outreach on this initiative included posting a digital copy of this document to Fort Belvoir's public website; announcing public availability of this document in the local newspapers of general circulation; posting review copies of the SEA in local libraries for public review for a period not less than 30 days; and appropriate coordination of this SEA with area community leaders and regulatory officials.

Based on this assessment, it is anticipated that the Proposed Action can be accomplished following the Poe Road Alternative without significant impact on the environment. Due to this lack of impact and the ability of this route to integrate with existing systems and infrastructure, the Poe Road Alternative was identified as the Preferred Alternative and would be the basis for implementing the Proposed Action after appropriate regulatory and public coordination of this SEA.

THIS PAGE INTENTIONALLY BLANK

TABLE OF CONTENTS

Tables

Figures

Appendices

THIS PAGE INTENTIONALLY BLANK

1.0 Proposed Action Purpose and Need

The Army is planning to construct an underground communications ductbank from the core area of Fort Belvoir to serve Davison Army Airfield (DAAF), located along U.S. Route 1 on the North Post of Fort Belvoir, west of the Fairfax County Parkway (Proposed Action). This ductbank extension is required to extend communications network connectivity to the Skills Training Facility currently under construction at DAAF necessitating this Supplemental Environmental Assessment (SEA).

The purpose and need for the Proposed Action is to provide additional communications network connectivity from the core area of Fort Belvoir to support communications network operations and tenant commands at DAAF. These needs are primarily related to construction of the Skills Training Facility at the DAAF, and general garrison growth identified in the Fort Belvoir Real Property Master Plan (RPMP) and accompanying Environmental Impact Statement (EIS) analysis completed in 2015 The purpose of the Proposed Action is to provide enhanced voice and data connectivity to DAAF to serve existing and future operations planned for this area of the garrison.

In defining requirements to support this defined purpose and need, the Proposed Action would:

- Provide enhanced telecommunications connectivity from existing garrison networks to DAAF.
- Provide sufficient capacity for expansion of this connectivity to meet programmed personnel growth on the installation consistent with the Fort Belvoir RPMP.
- Be compatible with the currently approved Fort Belvoir RPMP.
- Provide diversification of DAAF network and communications system.
- Be constructible within a defined two year timeframe between 2017-2018

Based on existing telecommunications network connectivity, only one alternative was identified that met all planning criteria associated with the proposed action. This is to construct the ductbank following the Poe Road Alternative as outlined herein. This alternative was selected based on its ability to limit environmental impacts, integrate with existing communications infrastructure, and provide the diversity of network connectivity required at the DAAF.

1.1 Location and Project Background

The Proposed Action will provide a communications ductbank between the core area of Fort Belvoir and DAAF. Fort Belvoir is an existing U.S. Army installation located in Fairfax County, Virginia approximately eighteen miles south of Washington, DC along the U.S. Route 1 corridor (Figure 1-1). No additional land acquisitions or off-site improvements are required for the Proposed Action other than potential acquisition of additional utility corridor easements required to install the communications line across the U.S. Route 1 right-of-way.

Based on field studies the proposed ductbank will be required to traverse several wetland areas within existing utility right-of-ways on Fort Belvoir. The ductbank will also cross under Accotink Creek adjacent to the existing Poe Road Bridge. Crossing of this waterway will be accomplished by directionally drilling under the creek bed from adjacent upland areas using trenchless techniques to minimize potential impacts through environmentally sensitive areas.

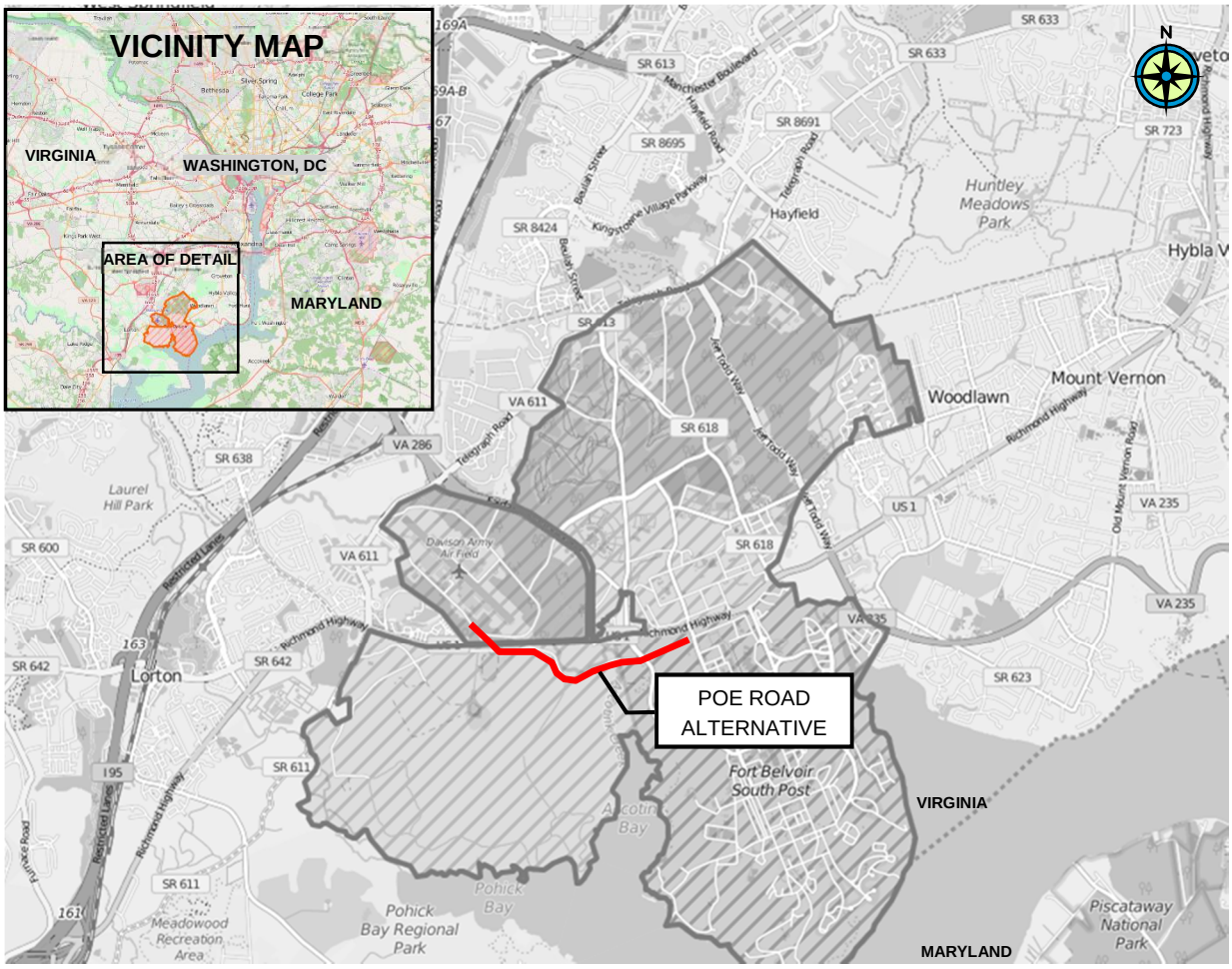


Figure 1-1: Project Vicinity Map, Poe Road Alternative Ductbank Routing Location
(Base image: 2016 Google Earth and OpenStreetMap.org© contributors)

Installation of the required ductbank is anticipated to require excavation of a two foot wide by six foot deep trench to install the underground conduits. Up to four, 6-inch diameter plastic (PVC or HDPE) conduits will then be placed in this trench and encased with cast-in-place concrete. The upper two to three feet of the trench will then be backfilled with excavated material and the trench surface restored to match preconstruction conditions. Communications cabling (fiber optic and/or copper wiring) will subsequently be installed to connect to the existing garrison communications infrastructure at either end of the ductbank.

Access vaults (manholes) will be installed along the ductbank alignment at 200-400 foot intervals to facilitate operation and maintenance of the communications network. These manholes will be constructed of precast concrete or fiberglass typical of subsurface utility systems. Outside dimensions of these manholes are anticipated to range from four to six feet with installation depths matching conduit elevations. Manholes will typically be provided at points of horizontal and vertical deflection of the ductbank to facilitate communications cable installation and will be finished to match existing surrounding grade using a watertight hatch or manhole assembly. This general ductbank description is based upon typical installation practices. Due to anticipated land use changes along the ductbank route, the ductbank installation depth, cross section, and installation method may vary to avoid and minimize impacts to roadways and natural resources (wetlands, waterways and historic resources).

1.2 The NEPA Process

The Proposed Action supports the proposed growth documented in the Davison Army Airfield Area Development Plan and the 2015 Fort Belvoir Real Property Master Plan. The Proposed Action includes providing required diversity of telecommunications network services to the DAAF which currently has limited network connectivity to the core area of the garrison. The increase in network connectivity associated with the Proposed Action is primarily focused on providing required network communications support to the Skills Training Facility which is currently under construction.

This Supplemental Environmental Assessment (SEA) has been prepared and executed pursuant to the Council on Environmental Quality (CEQ) regulations; Title 40, Code of Federal Regulations (CFR) Parts 1500-1508 for implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969; and 32 CFR Part 651, Environmental Analysis of Army Actions (AR 200-2).

Analysis of these options and preparation of this SEA followed appropriate public coordination and outreach principles associated with these governing regulations and all appropriate impact analysis requirements relative to the Proposed Action have been addressed.

Public coordination and outreach on this initiative included posting a digital copy of this document to Fort Belvoir's publicly accessible website; announcing public availability of this document in the local newspapers of general circulation; posting printed copies of this analysis in local libraries for public review for a period not less than 30 days; and direct notification of availability posted to local community leaders and regulatory officials.

2.0 Description of Proposed Action and Alternatives

The Proposed Action will provide a new communications ductbank between the core area of Fort Belvoir and DAAF traversing a distance of approximately two miles along existing utility corridors and road right-of-ways within Fort Belvoir. Construction of the ductbank is expected to require excavation of a two foot wide by six foot deep trench to install underground telecommunication conduits. Conduits will then be placed in this trench and encased with cast-in-place concrete. The upper two to three feet of the trench will then be backfilled with excavated material and the trench surface restored to match preconstruction conditions. Access vaults (manholes) will be installed along the ductbank alignment at 200-400 foot intervals to facilitate operation and maintenance of the communications network.

Due to land use changes along the ductbank route, the ductbank installation depth, cross section, and installation method may vary to avoid and minimize impacts to roadways and natural resources (wetlands, waterways and historic resources). No additional land acquisitions or off-site improvements are required for the Proposed Action other than potential acquisition of utility corridor easements required to install the communications line across the U.S. Route 1 right-of-way. Upon reaching the network hub at DAAF the communications line will be distributed across the airfield to the Skills Training Facility using existing communications ductbanks previously installed at the airfield.

2.1 Alternatives Considered

Initially, two alternative ductbank routes were analyzed for the Proposed Action, the Poe Road Alternative and the Farrar Gate Alternative. Based on initial review of communications system integration needs, the Poe Road Alternative was identified as the Army's preferred alternative and detailed field resource studies are focused on analysis of this alternative. The Farrar Gate Alternative was considered in the early planning cycle, but dismissed from further analysis as this alternative would not provide the network diversity required for the Proposed Action. The No Action Alternative is presented as a baseline of existing conditions as it is not a viable course of action as it would not support the project purpose or need.

In formulating this analysis the Fort Belvoir network engineering team and master planning team evaluated alternative means of providing required communications line connectivity to DAAF. Based on government network needs, the use of commercial providers, wireless systems and aboveground installation were determined to be non-applicable to the Proposed Action. The initial two routes selected (Poe Road Alternative and Farrar Gate Alternative) were selected based on ability to connect to existing network hubs on either end of the alignment with the intermediate routing aligned with existing utility right-of-ways and road alignments to facilitate future operation and maintenance of the ductbank and to reduce installation impacts.

The basis of design of the ductbank used for assessing potential resource impacts in this SEA is based on meeting the needs identified by network planners and includes required configuration in conformance with requirements for government communications networks on the garrison as defined by Uniform Facilities Criteria applicable to the design of these systems.

The proposed ductbank crossing at Accotink Creek following the Poe Road Alternative would be completed using directional drilling techniques under the creek bed. This creek crossing work would be appropriately permitted and coordinated with state and federal waterway agencies to ensure consistency with Coastal Zone Management Act requirements, Chesapeake Bay Program

criteria and wetland and water quality protection requirements under Section 10 and 404 of the Clean Water Act.

Based on route surveys completed between January and May 2016 it is anticipated that the Poe Road Alternative can be installed with minimal effect on area natural resources. The following is a summary of the Poe Road Alternative route and potential ductbank installation impacts.

2.1.1 Poe Road Alternative (Preferred Alternative)

The Poe Road Alternative begins at an existing communications vault along the west shoulder of Gunston Road at Point A in Figure 2-1. From this existing manhole vault the proposed route follows an existing cleared utility line right-of-way in a southwesterly direction approximately 2,200 feet, crossing Pohick Road north of the Tulley Gate entrance near the Poe Road intersection at Point B in Figure 2-1.

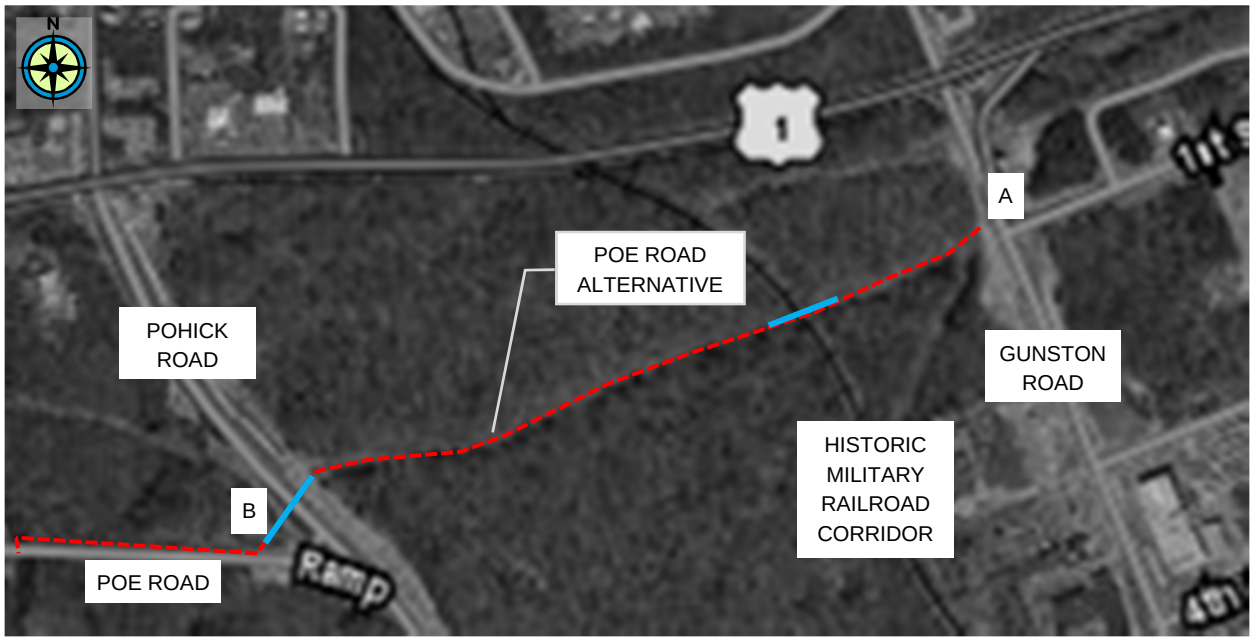


Figure 2-1: Poe Road Alternative: Gunston Rd – Pohick Rd
(Base image: 2016 USDA Soil Conservation Service Aerial Imagery)

Approximately 600 feet west of Gunston Road, the proposed ductbank route crosses the Fort Belvoir Military Railroad Corridor which is a listed historic resource. The Section 106 historic resources consultation completed as part of this analysis indicates that construction of the ductbank in this area would require use of trenchless installation techniques (directional drilling or jack and bore installation) as documented in the Section 106 historic resources consultation record provided in Appendix F. The crossing of Pohick Road (Point B) would also need to be installed using another 200 foot bore to avoid impacts to traffic flow and disruption of existing road and utility infrastructure in this area of the ductbank routing. Potential bore locations are highlighted in blue on Figure 2-1.

There are several small areas of emergent scrub-shrub wetlands noted within this utility right-of-way alignment that have been documented in the project wetland delineation report included as Appendix A. Installation of the ductbank within this area would be completed in conformance with Nationwide Permit #12 wetland protection requirements. There are no trees over four inches in diameter that would be impacted along this section of the proposed ductbank from Point A to B.

From Point B on Figure 2-1 to Point C on Figure 2-2 the proposed ductbank alignment connects with Poe Road, a limited access roadway. Vehicular access to this roadway is limited to authorized personnel only via a secured fence and gate. Access to this area is controlled due to concerns about potential legacy military munitions and unexploded ordnance and former landfill sites which are currently being evaluated in this area. In order to minimize the potential for impacts to these areas, the proposed ductbank alignment follows the northern edge of the road shoulder, using the roadway as a buffer to the known areas of potential concern.

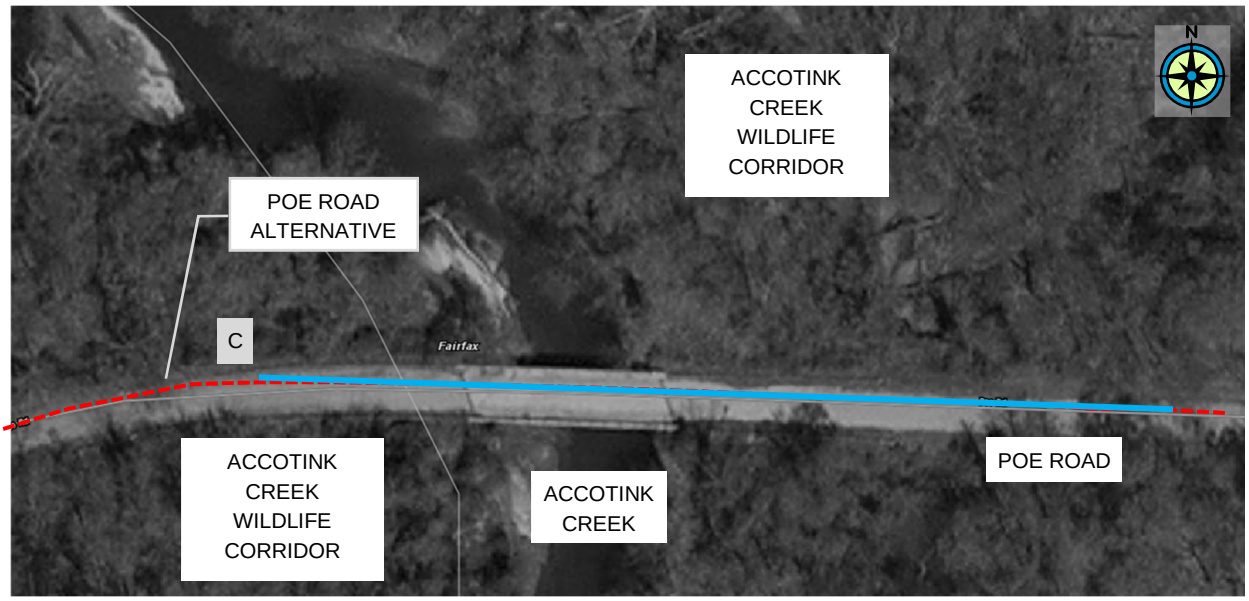


Figure 2-2: Poe Road Alternative: Accotink Creek Crossing, (directionally bored crossing shown in blue).
(Base image: 2016 USDA Soil Conservation Service Aerial Imagery)

The proposed ductbank routing along the northern shoulder of the roadway also facilitates installation of the creek crossing using directional drilling techniques while avoiding potential impacts to the existing bridge. This underground creek crossing will be appropriately permitted through the Virginia Marine Resources Commission Joint Permit Application process as part of final design of the proposed ductbank. Just prior to the bridge crossing (Point C) there are three, six foot diameter storm drainage culverts that pass under Poe Road. The proposed ductbank will be designed to pass around or under these culverts so there will be no impact to these drainage pipes. The approximate distance from Point B to C along the proposed alignment is 800 feet which including a directional bore under Accotink Creek that may be up to 400 feet in length. The length of this bore will be determined based upon required boring radius of the directional boring machine.

This area along Accotink Creek is within the Accotink Bay Wildlife Corridor, a natural buffer zone established along the riparian areas of Accotink Creek to protect water quality and wildlife habitats. As such the project is required to comply with Chesapeake Bay Preservation Act Resource Protection Area criteria and water quality permitting requirements. As there would be no increase in impervious cover associated with the project, the primary focus of these requirements will be on minimizing potential water quality and land resource impacts during construction (employing routine erosion control and construction site stormwater management measures).

From Point C the proposed ductbank continues to track along the northern shoulder of Poe Road for approximately 5,900 feet following the edge of pavement up to Point D on Figure 2-3 where the ductbank turns north to cross U.S. Route 1 at the recently installed casing pipe prepared as part of the VDOT U.S. Route 1 road project. The approximate distance from Point D to E along the proposed alignment is 300 feet which includes approximately 120 feet of existing casing pipe under U.S. Route 1.

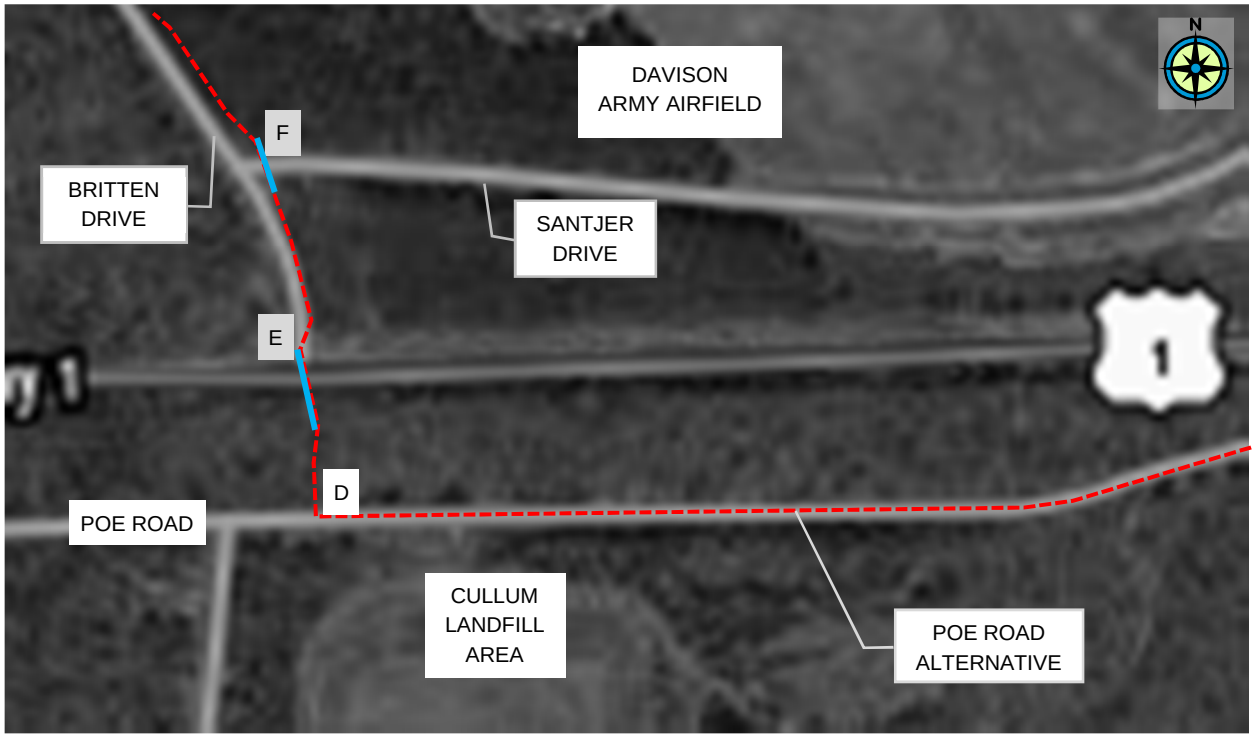


Figure 2-3: Poe Road Alternative: U.S. Route 1 Crossing (blue highlighted area is approximate location of existing casing at Point E and proposed 60 foot bore at Point F). *(Base image: 2016 USDA Soil Conservation Service Aerial Imagery)*

After crossing U.S. Route 1, the proposed ductbank crosses Britten Drive and enters DAAF at Point E. Britten Drive is an entry point for DAAF, but this vehicle entrance is no longer actively used. As this gate is inactive, traffic disruption associated with the ductbank installation in this area is expected to be minimal. From Point E to Point F, a distance of approximately 300 feet, the proposed ductbank follows the eastern edge of Britten Drive (within the roadway fill area), crossing Santjer Drive at Point F.

From Point F the proposed ductbank tracks along the cleared shoulder along the northeast side of Britten Drive for approximately 1,100 feet up to the terminal point in front of Building 3165. The total distance of the proposed ductbank alignment is approximately 10,700 feet.

2.1.2 Farrar Gate Alternative

The secondary alternative considered during initial project scoping was to route the ductbank from the Defense Logistics Agency (DLA) site (Point G on Figure 2-4). Referenced as the Farrar Gate Alternative, this alternative did not provide the required network diversity associated with the Proposed Action so it was excluded from further analysis during project scoping.

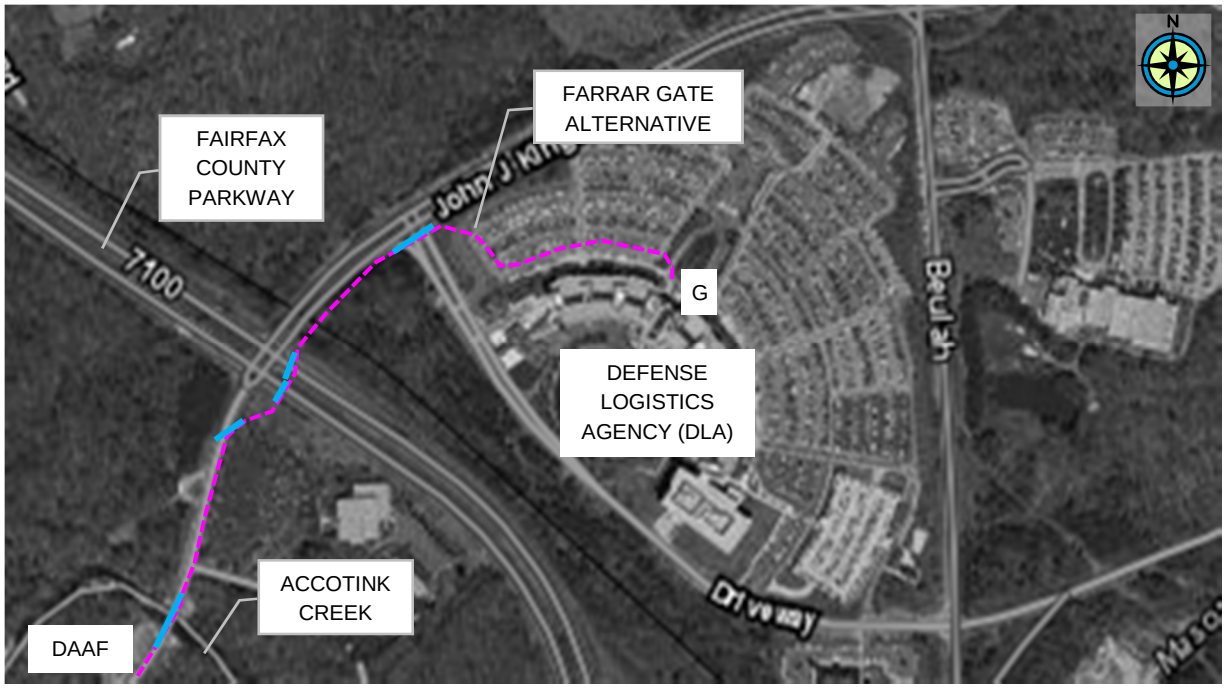


Figure 2-4 Farrar Gate Alternative: Fairfax County Parkway and Accotink Creek Crossings
(Base image: 2016 USDA Soil Conservation Service Aerial Imagery)

2.1.3 No Action Alternative

Currently DAAF has inadequate communications network connectivity to the core area of Fort Belvoir for existing and proposed tenants in the Fort Belvoir Master Plan. This lack of network capacity limits the ability of DAAF tenant operations to connect to primary government support networks and would not support planned growth and communications system diversity required at the airfield. For these reasons the No Action Alternative is not a viable option to the Proposed Action and would not meet the required purpose and need for the project. The No Action Alternative is therefore presented herein as a baseline for evaluation of the preferred ductbank routing alternative.

Under the No Action Alternative there would be no impact to environmental resources as no construction activity would be associated with this alternative. Operationally, there would potentially be negative impacts to mission performance as tenants at DAAF would not be able to communicate effectively due to limited telecommunications systems that connect to the main garrison systems. This lack of network capability may eventually degrade operational suitability of DAAF for tenant commands and may result in relocation of operations from DAAF to other locations with better communications infrastructure. This would result in decreased use of the airfield and contravene current master planning for the area.

3.0 Project Environmental Resources and Impact Assessment

The following narrative provides a detailed description of the potentially affected environment associated with installation of the proposed ductbank to DAAF. This includes discussion of existing resource setting followed by assessment of potential impacts along each route. This is followed by a summary table document impacts of the Proposed Action. Further detailed resource assessments and reference documentation are provided in the appendices to this report. In describing potential affects, the terms minor, minimal and negligible are used to describe potential impacts that can be appropriately addressed following routine procedures and established regulatory requirements and guidelines. These terms are not meant to discount or trivialize the potential impact, but to categorize them as easily overcome by applying sustainable planning, design and construction practices common within the utility construction industry.

3.1 Land Use, Zoning and General Setting

Fort Belvoir is situated in the Coastal Plain physiographic province, an area where soils are sedimentary in nature with pronounced stratification typical of alluvial deposits. Topographic conditions along the proposed ductbank route range from an elevation of 12 to 116 feet above mean sea level, with the lower elevations located near the Accotink Creek crossing points. The Natural Resource Conservation Service soil survey enclosed in the Appendix A defines a variety of silty clay loams present along the proposed ductbank route.

The proposed ductbank follows existing road corridors and cleared utility right-of-ways within Fort Belvoir limiting the amount of land disturbance required to install and operate the proposed ductbank. These areas are generally open and clear with limited small shrubs and trees typical of emergent growth in utility right-of-ways. Principal terrain challenges along the proposed route consist of avoiding existing road and utility infrastructure identified in Appendix C, and transitioning under Accotink Creek at the existing bridge structure on Poe Road. These physiographic barriers can be overcome by planning the proposed ductbank geometry closely along the edge of existing road right-of-ways. This would require routing the ductbank around existing fencelines, guardrails, and other existing underground utilities but would result in the least amount of impact to area resources. This routing will also require the use of trenchless construction techniques under roadways, key historic resources, utility features and Accotink Creek to avoid and minimize impacts to these resources.

Current and proposed land use in the project area is consistent with the Proposed Action and the Proposed Action is consistent with the Fort Belvoir Real Property Master Plan. As the Proposed Action does not result in any additional personnel assignments, additional building construction or other significant real property changes further project coordination with the National Capital Planning Commission (NCPC) is not required for this project.

3.1.1 Land Use, Zoning and General Setting – Poe Road Alternative

The Poe Road Alternative utilizes an existing cleared utility right-of-way between Gunston Road and Pohick Road. This existing 50-foot wide utility corridor is currently overgrown with small bushes, trees weeds and grass. Fort Belvoir has used a native seed mix to promote natural vegetation growth that serves as cover and food sources for wildlife. This seed mix would be utilized during restoration of the ductbank construction area to replicate current conditions. Currently this utility corridor contains active water, sewer, electrical, and communications infrastructure which is considered a compatible land use with the Proposed Action. The proposed

route of the ductbank is parallel to these lines and would be routed to avoid potential impacts to existing utilities.

Approximately 600 feet west of Gunston Road the proposed ductbank route intersects the historic military railroad embankment, crossing the embankment in a perpendicular manner. The ductbank would be designed to pass under this embankment to avoid potential impacts to this historic resource. At the western end of this utility right-of-way, the proposed ductbank crosses under Pohick Road linking up with Poe Road. The proposed ductbank then tracks along the north shoulder of Poe Road, passing under the Poe Road limited access control gate and continuing west along the north shoulder of the roadway. Poe Road provides an elevated embankment for the proposed ductbank alignment to avoid potential impacts to the adjacent Accotink Creek riparian and floodplain areas.

The area surrounding Poe Road is currently posted as a military munitions response area due to former military training uses. As such the Proposed Action would include provisions to coordinate utility installation work with the Fort Belvoir unexploded ordnance (UXO) coordinator and include requirements for retaining an explosive ordnance demolition (EOD) response team in the event any suspect munitions are encountered during excavation activities. As part of this established safety regimen, all on-site personnel would also be briefed on potential UXO hazards and appropriate safety procedures to be followed when working in this area.

Approximately 700 feet west of Pohick Road the ductbank route reaches Accotink Creek. This would require another directional bore under the creek. Based on typical limits of curvature associated with directional drilling and an assumed installation elevation three feet below the creek bottom this bore is expected to be approximately 400 feet in length and would include installation of a 16-18 inch diameter casing pipe with the communications ducts then grouted in place inside the casing (similar to the other borings described above).

After crossing Accotink Creek the proposed ductbank follows along the north shoulder of the roadway for another 6,000 feet, avoiding impacts to known solid waste management units and legacy disposal sites located south of the roadway. The concept routing also avoids existing monitoring wells and gas detection systems used to monitor a former sanitary landfill (Cullum Woods Landfill) located in this area. As the proposed ductbank is located within 150 feet of previously mapped landfill areas and zones of potential landfill gas migration, contract documents will include requirements for operational safety, site specific training and worker protection requirements associated with working around legacy landfill sites. This would include monitoring of methane levels in excavations, screening of excavation areas to ensure any landfill materials are managed appropriately and avoiding impacts to existing landfill gas, monitoring wells and existing drainage features.

There are several other utility lines which parallel the proposed ductbank alignment along Poe Road including a sanitary sewer and several other commercial fiber optic cables. The proposed ductbank alignment has been routed around these parallel utilities to avoid potential underground conflicts.

Near the western terminus of Poe Road, the proposed ductbank turns northward to cross under U.S. Route 1 at the previously installed casing pipe provided on the recent U.S. Route 1 road widening project. This section of the alignment will traverse through the public right-of-way but has been previously coordinated with VDOT land use planners and easement/access to the

casing pipe has been pre-arranged. There is a parallel electrical utility crossing in this area that has also traversed the slope down to U.S. Route 1 and the proposed ductbank would follow this existing utility clearing over to the casing entry point. If any trees over 4 inches have to be removed along this section, they would be replaced in accordance with the Fort Belvoir tree policy which requires in kind replacement based upon a 2:1 replacement ratio.

The road crossing casing exits the northern side of U.S. Route 1 near the Britten Drive access gate to DAAF. The proposed ductbank will run from this casing point up through the existing Britten Drive entry road embankment, crossing the unnamed creek that runs along the north side of U.S. Route 1 using the existing road fill section to avoid any potential perennial stream and associated RPA impacts.

After crossing under Santjer Drive (using another proposed 100 foot directional bore) the ductbank will follow along the northeast side of Britten Drive following an existing utility clearing for approximately 1,100 feet where it will connect to the existing DAAF communications network in front of Building 3165. This area is already cleared and maintained for water and sewer utility lines and there is sufficient room within this corridor for installation of the proposed ductbank.

Based on field survey of this route and review of current land planning information obtained from the garrison there are no known land use conflicts or zoning restrictions that would impact siting of the ductbank within this corridor following the Poe Road Alternative.

3.1.2 Land Use, Zoning and General Setting – No Action Alternative

Under the No Action Alternative the communications line would not be installed and there would be no change in land use.

3.2 Air Quality Resources, General Project Setting

EPA air quality compliance registers indicate the Air Quality Control Region 47 (AQCR 47) around Fort Belvoir is a “marginal non-attainment area” with the 2008 8-hour ground-level ozone National Ambient Air Quality Standard (NAAQS) and is a “moderate-maintenance area” for the 1997 $PM_{2.5}$ NAAQS, ($PM_{2.5}$ are small particulates less than 2.5 microns in diameter). These regional air quality non-attainment listings require federal projects to be evaluated for conformance with regional air quality improvement plans and Clean Air Act (CAA) standards. This includes conformance with the enhanced ozone precursor standards set for with the Ozone Transport Region (OTR) around Fort Belvoir and general regional air quality significance. This general conformity rule analysis requires evaluation of potential project emissions (on an annual basis) and sets forth de minimis pollutant emission thresholds that exclude projects from the requirement for full air quality conformity analysis and detailed emissions modeling.

Based on the analysis of potential project emissions presented in Appendix D, project emissions would be below the de minimis thresholds requiring full air quality conformity review and therefore detailed emissions modeling and full air quality conformance review is not required for the project. Based on this analysis, the Proposed Action is consistent with applicable state and federal air quality conformity regulations (9VAC5-160, General Conformity Regulations and 40 CFR Part 93, Subpart B) and a formal Record of Non-Applicability (RONA) summarizing this is provided Appendix D.

Potential air emission sources associated with the Proposed Action are limited to air emissions during construction phase from off-road earth moving equipment and trucks hauling construction

site materials. Construction phase air quality impacts are expected to be temporary and minor in nature and no specific air quality permitting of construction activities is required. Construction activities would be managed to limit fugitive dust generation during land disturbing activities in accordance with 9 VAC5-40-90.

Installation of the proposed ductbank would not cause or contribute to new violations of National Ambient Air Quality Standards (NAAQS) and the Proposed Action would not cause additional or worsen existing violations of air quality standards or delay attainment of NAAQS in the region.

3.2.1 Air Quality – Poe Road Alternative

Analysis of potential impacts of the Poe Road Alternative on regional air quality included review of reasonably foreseeable net air emissions generated from all direct and indirect sources associated with the proposed ductbank installation. Direct emissions are defined as emissions directly caused or initiated by the proposed action and occur at the same time and place as the proposed action. Indirect emissions are defined as reasonably foreseeable emissions that are caused by the action, but may occur later in time and/or be further removed in distance from the action itself, and that the Federal agency can practically control.

Project-related direct emissions would be limited to construction activities including; the use of non-road equipment (e.g. backhoes and bulldozers); worker vehicles; the use of paints and sealants containing volatile organic compounds; off-gases from paving and excavation operations; and fugitive particles from land clearing and earth moving activities.

There are no reasonably foreseeable operational or indirect air emissions associated with construction or operation of the Proposed Action. The proposed ductbank would not result in growth-inducing effects, induce other land use changes, increased traffic or add additional air pollution sources to the region.

All direct emission impacts associated with proposed action to develop the proposed ductbank were estimated using current EPA emissions calculation standards. Emissions related to construction activities were generated by estimating equipment uses required for installation of site utilities, site preparation work, final grading, landscaping and paving, including:

- Installation of approximately 2 miles of 4-way, concrete encased underground ductbank using a combination of open cut and trenchless installation techniques.
- Total disturbed area is a maximum of 7.5 acres, including up to 80,000 square feet of incidental roadway pavement patching.

Air quality would be minimally affected by the Poe Road Alternative and affects would be temporary in nature due to construction activities. Based on the anticipated construction activity timeframe of nine months of field activity, the highest total annual direct and indirect emissions from this Proposed Action have been estimated at 5.2 tons of nitrous oxides (NO_x); 0.8 tons of volatile organic compounds (VOCs); 0.4 tons of very fine particulate matter ($PM_{2.5}$); and 0.8 tons of sulfur dioxide (SO_2) per year, which are significantly below the National Ambient Air Quality applicability threshold values of 50 tons of VOCs; 100 tons of SO_2, $PM_{2.5}$, and NO_x. Copies of these calculations are provided in the Record of Non-Applicability provided in Appendix D.

3.2.2 Air Quality – No Action Alternative

The No Action Alternative would not result in any direct or indirect impacts to air quality.

3.3 Transportation Resources

Construction of the ductbank is not anticipated to impact area transportation resources. There would be minor temporary impacts in areas where the proposed ductbank routes along existing road shoulders but no permanent transportation effects are anticipated.

3.3.1 Transportation Resources – Poe Road Alternative

The Poe Road Alternative would have minimal impacts on area transportation resources. Effects would be minor and temporary in nature as they are limited to the construction phase of the project. All construction work has been developed to avoid interruption of traffic flow on area roadways using trenchless techniques for all road crossings.

Poe Road is a low-use roadway resulting in less potential for traffic conflicts. The majority of this route is within a controlled access area that is only accessible through a padlocked gate and currently this area sees a low amount of vehicle traffic (5-10 vehicles a day). The major road crossings at Pohick Road, U.S. Route #1 and Santjer Drive would all be accomplished using trenchless techniques to avoid any potential for traffic disruption.

Once the ductbank is constructed, access for maintenance is expected to be limited to infrequent cable replacement or semi-annual inspection which would have minimal impact to transportation resources.

3.3.2 Transportation Resources – No Action Alternative

The No Action Alternative would not result in any direct or indirect impacts to transportation resources.

3.4 Coastal Zone Resources

The Proposed Action is governed by the Coastal Zone Management Act (CZMA) of 1972 and has been found to be consistent with the policies stipulated by Virginia's Coastal Resource Management Program (CRMP) to the maximum extent practicable.

Virginia's CRMP includes guidance for protecting designated wetlands and regulated waters of the U.S.; fisheries; subaqueous lands; dunes and beaches; coastal air pollution; point source water pollution; reducing non-point source water pollution; shoreline sanitation; and enhancing coastal land management, principles that would be adhered to with the Proposed Action.

These CRMP requirements are administered through a variety of state and local programs and project consistency reviews are coordinated through the Virginia Department of Environmental Quality (DEQ); the lead agency responsible for administering consistency reviews and issuing consistency determinations for federal projects at Fort Belvoir.

The Proposed Action would encroach upon Chesapeake Bay Program Resource Protection Areas (RPA) at several points along the proposed alignment and at the point where the ductbank crosses under Accotink Creek. In order to minimize potential impacts, wetland areas of the RPA crossings would be constructed by directionally boring underneath to avoid wetland and waterway

impacts within the designated RPA. The extent of these borings will be further defined during design to enable all work to be conducted outside the limit of jurisdictional wetlands and to avoid impacts to water quality in accordance with CRMP criteria.

Directional drilling will be accomplished from upland areas that avoid impacts within the mapped RPA boundary or from locations that have been previously developed for road embankments or utility right-of-way to avoid and minimize impacts to RPA resources. In areas where construction activity may impact existing vegetation within an RPA vegetation will be restored using native plant, shrub and tree species following the DCR's Chesapeake Bay Program Riparian Buffers Modification and Mitigation Guidance Manual. All work within RPA areas would also be appropriately permitted through the Virginia Marine Resources Commission (VMRC) process as part of project design.

3.4.1 Coastal Resources – Poe Road Alternative

The Poe Road Alternative would have minor impacts to coastal resources, however these minor impacts would be limited to the construction phase of the project. All construction work would be developed to avoid direct encroachment into wetlands and waterways to the maximum extent practical. All work in these areas would be coordinated and permitted through the Virginia Marine Resources Commission Joint Permit Application (JPA) process following the conditions and limitations of U.S Army Corps of Engineers' Nationwide Permit #12 (NWP#12). Temporary impacts to wetland areas would be kept below one half acre in accordance with NWP#12 permitting criteria.

Appendix E contains a Coastal Zone Consistency Determination for the Poe Road Alternative for DEQ coordination during the public consultation process for this project. This consistency determination confirms that construction of the proposed ductbank can be conducted consistent with Virginia's CRMP to the maximum extent practicable and the development and subsequent facility operations would be consistent with the CZMA requirements. This determination includes route mapping highlighting Chesapeake Bay Resource Protection Areas (RPA Figure 3-1) and National Wetland Inventory (NWI) mapping along the ductbank route and additional project narrative about potential coastal zone resources affected by the Proposed Action.

The wetlands delineation report prepared for the Poe Road Alternative, Appendix A, also documents several pockets of emergent scrub-shrub wetlands along the initial part of the ductbank between Gunston and Pohick Roads that are not indicated on record RPA or NWI mapping. Potential wetland impacts in these areas of the Poe Road Alternative would be minimal as the proposed ductbank skirts along the northwest limit of these areas and the resultant total temporary construction impact is less than the 0.5 acre. These areas would be restored to preconstruction contours and revegetated to match existing conditions upon completion of the ductbank construction.

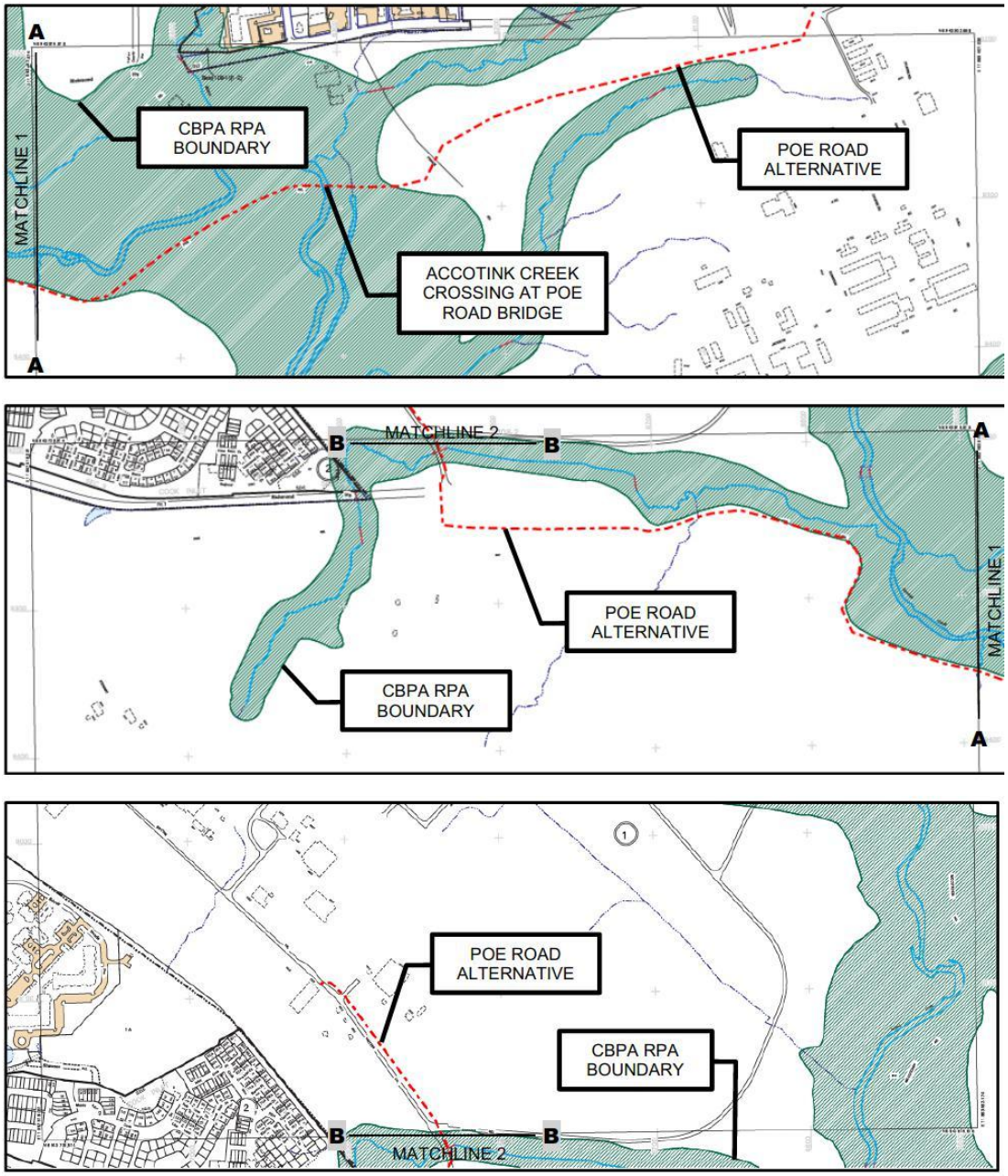


Figure 3-1 Poe Road Alternative: Chesapeake Bay Resource Protection Area (RPA) Mapping
(Base image: 2016 Fairfax County GIS)

Directionally drilling the ductbank under Accotink Creek would enable the Proposed Action to avoid and minimize potential wetland impacts in this area. Construction plans for this crossing would be submitted to the Virginia Resources Commission for review to ensure that this crossing can be executed in a manner that is most protective of aquatic resources in this area. Operation of the ductbank along the Poe Road Alternative route would not result in continued impacts to wetland areas as the ductbank is accessible from existing roadways and utility right-of-way clearings outside of coastal resource area boundaries. Project construction documents will include provisions for replacement of existing trees with species selected from the recommended list of coastal plant species in accordance with DCR's Chesapeake Bay Program Riparian Buffers Modification and Mitigation Guidance Manual.

3.4.2 Coastal Resources – No Action Alternative

The No Action Alternative would not result in any impacts to coastal resources.

3.5 Recreational and Wildlife Management Area (WMA) Resources

The Proposed Action would not impact any Formerly Classified Lands or Federal Highway Administration Section 4(f) resources including publicly owned parks, recreation areas, designated wildlife or waterfowl refuges.

Sections of the proposed ductbank near Accotink Creek adjoin the Accotink Creek Wildlife Corridor which links the Jackson Miles Abbott Wildlife Refuge in the northeast quadrant of Fort Belvoir to the Accotink Bay Wildlife Refuge to the southwest of the potential ductbank route. None of these refuges or wildlife corridors are managed by the U.S. Fish and Wildlife Service.

The designated wildlife corridor is a vital link between these refuges and Fort Belvoir does not permit any development within this corridor. As the proposed underground ductbank follows existing road right-of-ways through these areas, there would be no direct impacts to these resources and no development within this corridor is planned.

Potential temporary construction impacts to wildlife resources within these areas will be minimized by planning and phasing work to avoid impacts to potential species of concern, including adhering to seasonal land disturbance limits (phasing of work) and use of perimeter controls around the active work area to contain sediment, exclude wildlife, and protect water quality.

Several of the utility and road right-of-ways to be utilized on this project have been planted with a native meadow seed mixture to enhance wildlife foraging and food availability. This native seed mixture that has been specifically formulated for Ft. Belvoir and will be used in restoring wildlife areas upon completion of final grading.

3.5.1 Recreational and WMA Resources – Poe Road Alternative

The Poe Road Alternative is compatible with all adjacent land resources and there is no expected effect on recreational areas or wildlife resources projected with the proposed action. Temporary noise and disturbance associated with ductbank construction would be minimal and timed to avoid impacts to nesting species in addition to threatened and endangered species that may occur along the proposed ductbank route.

Recreational trail users, joggers and other outdoor enthusiasts would have to be rerouted around construction areas, but given the limited footprint of construction, these impacts can be minimized by providing appropriate signage and safety barriers around the work zone. Seasonal use of areas along the corridor by hunters and other permitted activities will need to be managed in accordance with Ft. Belvoir outdoor programs, and Ft. Belvoir DPW to avoid unnecessary disruption to outdoor activities.

3.5.2 Recreational and WMA Resources – No Action Alternative

The No Action Alternative would not result in any impacts to recreational or wildlife management area resources.

3.6 National Farmland, Rangeland and Forest (NFRF) Resources

There are no land resources designated as Important Farmland, Prime Rangeland or Forestlands as designated by the U.S. Department of Agriculture within or adjacent to the project area.

3.6.1 NFRF Resources – Poe Road Alternative

The Poe Road Alternative would not impact any land resources designated as Important Farmland, Prime Rangeland or Forestlands as designated by the U.S. Department of Agriculture. The Proposed Action would not result in any indirect effects to farmland, prime rangeland, or forestland resources.

3.6.2 NFRF Resources – No Action Alternative

The No Action Alternative would not impact any land resources designated as Important Farmland, Prime Rangeland or Forestlands as designated by the U.S. Department of Agriculture.

3.7 Biological Resources – Rare, Threatened and Endangered Species

There are a variety of known resident and migratory state and federally protected, threatened, and endangered plant and animal species within the Fort Belvoir region that may be directly or indirectly affected by the Proposed Action. Portions of the proposed ductbank are within the bounds of the locally designated Accotink Creek Wildlife Corridor. This area is designated for natural area preservation as part of Fort Belvoir's natural resource program and provides a critical wildlife habitat link between established natural areas of the garrison.

As the proposed underground ductbank follows existing roadway clearings through these areas, there would be no permanent impact to the Accotink Creek Wildlife Corridor. There would be some limited temporary impacts within this wildlife corridor associated with construction of the ductbank due to construction noise and excavation activity. These temporary impacts are considered minor and would be addressed by planning work to avoid nesting species and using trenchless techniques to avoid impacts to aquatic species around Accotink Creek.

Summary of Area Protected Animal Species:

Protected animal species in the project area include three resident species, the *Haliaeetus leucocephalus (bald eagle; federally protected);* the *Glyptemys insculpta (wood turtle; state listed*); and the *Stygobromus phreaticus* (*Northern Virginia Well Amphipod; under consideration for state listing*). In addition to these resident fauna, the peregrine falcon (*Falco peregrinus; state threatened*) is also known to migrate through Fort Belvoir during its seasonal fall migration.

Fort Belvoir also is within the federally designated habitat protection area for *Myotis septentrionalis* (Northern long-eared bat) a federally and state listed threatened species. In order to avoid and minimize potential impacts to these protected bats, project work will be executed according to recently promulgated USFWS and state guidelines regarding protection of this bat species and shall follow the U.S. Army Installation Management Command May, 2015 Section 7 programmic consultation with the USFWS regarding protection of bats and bat habitats on Army lands. The state listed state endangered species *Myotis lucifugus* (Little Brown Bat*) and Perimyotis subflavus* (Tri-Colored Bat) are also known to occur on the installation. State and federal guidance for protecting these threatened and endangered bat species is included in Appendix B of this analysis.

Project work would avoid and minimize impacts to this species by following current best management practices for conserving these bat species as promulgated by the Virginia Department of Game and Inland Fisheries. Project construction documents will also include requirements to avoid seasonal impacts to protected avian and northern long eared bat species consistent with USFWS and Fort Belvoir Integrated Natural Resources Management Plan (INRMP) guidance. These measures will ensure there are no direct impacts to these protected avian and mammalian species associated with the Proposed Action.

In addition to avoiding potential direct impacts to bat species of concern, it is important to review the potential for indirect effects associated with the Proposed Action. This includes adhering to protection requirements for the bald eagle which is known to nest in the area. The nearest known active eagle nesting site is approximately 1.5 miles to the southeast of the Poe Road Alternative as documented by the USFWS species database (Watts and Byrd, 2013). Given this degree of separation from the project and lack of impacts to bald eagle habitat, the Proposed Action is not expected to directly or indirectly effect the bald eagle species.

Migratory peregrine falcons have been noted to frequent the area in and around the Accotink Creek and the Accotink Bay transition area approximately 0.25 miles southeast of the proposed Poe Road Alternative according to the VDGIF Fish and Wildlife Information Service database. Given the transient nature of their occurrence in the area, degree of spatial separation from observed specimens and lack of direct falcon habitat impact associated with the Proposed Action, the Proposed Action is not expected to present any direct or indirect effects to the Peregrine falcon.

The Proposed Action includes work in close proximity to Accotink Bay-Gunston Cove and includes crossing under Accotink Creek using a directionally drilled crossing to avoid impacts to the waterway. This area has been previously documented as suitable habitat for the state threatened wood turtle, *Glyptemys insculpta,* and the Eastern lampmussel, *Lampsilis radiate*, according to the Virginia DCR Natural Heritage Program inventory included in Appendix B.

Although this protected turtle species has not been specifically documented within the construction limits of the Proposed Action, construction documents would include a requirement for providing a pre-construction survey of the corridor and erection of turtle exclusion fencing (silt fence) to protect any potential for mobile terrestrial turtle specimens to enter the construction zone. Construction personnel would also be briefed on wood turtle identification procedures in accordance with guidance provided by the Virginia Department of Game and Inland Fisheries, reference information regarding these identification procedures is provided in Appendix B. These measures follow regional conservation guidance for these species and would be coordinated with Fort Belvoir environmental management staff to appropriately avoid and minimize any impacts.

Potential impacts to Eastern lampmussel habitat will be minimized by providing appropriate sedimentation and erosion controls during construction activity and restoring vegetative cover upon completion of work to preserve water quality. No direct impacts to lampmussel habitat are projected due to the Proposed Action.

The final animal species of potential concern noted on Fort Belvoir is the Northern Virginia Well Amphipod, *Stygobromus phreaticus*. This endangered crustacean has been documented in one specific groundwater seep location on Fort Belvoir in the T-17 area of the garrison. This location is outside the limits of the Proposed Action and there are no anticipated direct or indirect effects to this species of concern.

Summary of Area Protected Plant Species:

The sole endangered plant species currently documented on Fort Belvoir is the *Isotria medeoloides* (*small whorled pogonia, federally listed plant species*). The small whorled pogonia is a federally endangered orchid found in deciduous woodland and emergent area clearings. Potential habitat within this project is therefore limited to off-road utility right-of-way areas that are overgrown with emergent hardwood trees. Although this species has been documented to occur in the Fort Belvoir area, no small whorled pogonia have been documented within the limits of the Proposed Action.

3.7.1 Biological Resources – Poe Road Alternative

Protected Animal Species:

The Poe Road Alternative ductbank route would follow existing utility right-of-ways and road corridors that have been previously cleared and are routinely mowed for access purposes. Installation of the ductbank in these areas is projected to have minimal effects on protected animal species. Potential impacts to protected species would be minimized by following published conservation guidance for protected bat species and installing perimeter controls around work area to exclude the endangered wood turtle species from areas of construction activity.

In order to protect nesting bat species, no trees over 3-inches in diameter would be removed on the project between April 15th and September 15th in accordance with current USFWS guidelines promulgated to protect the northern long-eared bat species and corresponding Ft. Belvoir northern long eared bat protection documents. In addition to adhering to these bat specific regulatory protection requirements, incidental clearing of shrubs, bushes and small trees will be planned to occur outside the primary bird and wildlife nesting season of April 1st - July 31st to avoid general impacts to wildlife. If vegetation removal is required within this timeframe the area will be surveyed for nesting wildlife species and if an active nest is discovered, the nest area will be partitioned off and left undisturbed until the nest is naturally vacated.

Based on these management controls, development and operation of the ductbank following the Poe Road Alternative is not expected to have any direct or indirect impacts to protected, threatened or endangered animal species, their habitat, or other natural heritage resources.

Protected Plant Species:

Installation of the ductbank would require maintenance mowing and brush hogging of the proposed ductbank corridor and select cutting of overhanging tree branches to permit ductbank installation but no trees over four-inches are projected to be impacted by project work on either proposed route.

After completion of the ductbank installation, vegetation along the route would be replanted in native grass species using Fort Belvoir's native seed mix to stabilize the excavation and restore natural conditions. Specific planting and species selection for replanting will be coordinated with the Fort Belvoir natural resources program staff to insure no invasive species are utilized and planting enhances wildlife habitat in a low-maintenance manner consistent with master planning objectives.

The Poe Road Alternative includes work within a previously cleared deciduous woodland utility right-of-way between Gunston and Pohick Roads and this area could potentially provide suitable

habitat for the federally listed small whorled pogonia plant species. As this area has been recently utilized for installation of sanitary sewer, waterline and underground electrical utility installations it has been extensively disturbed and is therefore considered a poor potential habitat for this species. This utility right-of-way is also currently overgrown with a dense canopy of emergent shrubs and trees (less than 4-inches in diameter) further reducing the likelihood of this species being present.

Based on these considerations and low potential for impact to the small whorled pogonia on this project, site surveys for this plant species would be deferred to pre-construction site surveys during design of the final ductbank route. This survey work would be timed with the appropriate seasonal observation period for this species to confirm that no plant species are located within the final selected ductbank corridor closer to the anticipated construction timeframe. If the small whorled pogonia is found along the ductbank route, trenchless techniques will be used to avoid impacts to this species consistent with current USFWS and the Virginia Department of Conservation regulations.

Based on these considerations the Proposed Action can be completed with only minor temporary impacts to plant and wildlife resources. By following established regulatory guidance related to protection of threatened and endangered species and associated habitat, there are no foreseeable impacts to protected wildlife or plants related to the construction or operation of the proposed ductbank along the Poe Road Alternative. This assessment of potential impacts to species of concern is being further coordinated with the U.S. Fish and Wildlife service and Virginia Department of Conservation during the public review and comment period of this NEPA analysis in accordance with the Endangered Species Act. Copies of this correspondence are included in Appendix B of this analysis.

3.7.2 Biological Resources – No Action Alternative

Protected Animal Species:

The No Action Alternative would not impact any protected animal species.

Protected Plant Species:

The No Action Alternative would not impact any protected plant species.

3.8 Floodplain Resources

The proposed ductbank route traverses through the Accotink Creek watershed and associated floodplain, crossing the open waterway area at the Poe Road Bridge. The approach areas around this crossing are located within the 100-year floodplain (Zone A mapped by FEMA) indicating these areas are subject to periodic inundation and flooding. As the proposed ductbank would be constructed below grade there would be no impact to floodplain resources associated with the Proposed Action. Temporary installation trenching impacts would be minimized by appropriately designing soil containment areas and following approved erosion and sediment control and stormwater pollution prevention plans developed in conjunction with construction documents.

Based on this evaluation and setting, the Proposed Action is not expected to have any impacts on the 100-year floodplain or associated floodway.

3.8.1 Floodplain Resources – Poe Road Alternative

The Poe Road Alternative would not result in any filling, alteration or impact to floodplain resources. All work would be completed to match existing grades and topography in a manner such that floodways and floodplains are not altered or impacted.

3.8.2 Floodplain Resources – No Action Alternative

The No Action Alternative would not impact any floodplain resources.

3.9 Wetland Resources

Based on review of record area mapping provided by Fort Belvoir DPW, national wetland inventory mapping obtained from the USFWS and field surveys completed in April 2016 the proposed ductbank routing is expected to have minor impacts on limited areas of Section 10 or 404 regulated waters of the U.S. The formal wetland delineation report in Appendix A highlights potential impact areas along the Poe Road Alternative.

The extent of these potential wetland impacts is temporary in nature as documented in Appendix A and the Proposed Action can be authorized under Nationwide Permit #12 (NWP #12) as issued by the U.S. Army Corps of Engineers. This nationwide permit is applicable for construction, maintenance, repair and removal of utility lines and associated facilities in waters of the U.S. provided the activity does not result in the loss of greater than one half of an acre of waters of the U.S. for each single and complete project.

All work in wetlands and waters of the U.S. would be appropriately permitted through the U.S. Army Corps of Engineers, Virginia Marine Resources Commission, Virginia Department of Environmental Quality, and the Local Wetlands Board as required by scope of the project.

Installation of the ductbank may require temporary dewatering of construction areas but no permanent drainage or groundwater profile modification is required for the ductbank installation. Any dewatering activity during construction would include appropriate measures to minimize sediment transport and erosion consistent with state and federal land and water quality criteria. As the ductbank would be backfilled and encased in concrete there is no potential for drainage of groundwater along the ductbank route due to the installation.

3.9.1 Wetland Resources – Poe Road Alternative

Wetland impacts associated with the Poe Road Alternative would be limited to temporary impacts within the utility corridor between Gunston and Pohick Roads as mapped in Appendix A. These impacts would be limited to the duration of construction and will not exceed the threshold requirement of 0.5 acre as required by NWP #12.

Future operation of the ductbank will be limited to periodic maintenance and inspection of communications cabling within the ductbank which will occur on an infrequent basis. Access to the ductbank will be limited to access vaults or manholes sited outside of wetland boundaries so there will be no ongoing wetland impact associated with operation of the ductbank based upon implementation of the Poe Road Alternative.

3.9.2 Wetland Resources – No Action Alternative

The No Action Alternative would not result in any known impacts to wetland areas.

3.10 Water Quality and Stormwater

The Proposed Action will have minimal impact to water quality resources, with impacts constrained to temporary impacts during construction activity. There will be no increase in impervious land cover associated with the proposed ductbank installation other than the periodic manhole covers typical of utility construction.

The proposed ductbank follows existing roadways and utility right-of-ways and will be routed around existing drainage infrastructure. As there is no increase in impervious land cover associated with the Proposed Action no project specific stormwater improvements are required. Appropriate erosion and sediment controls will be specified for incidental road culvert crossings required along the ductbank. All existing drainage channels will remain unaltered by the project and will be restored to pre-construction conditions as part of ductbank installation.

The Proposed Action will include requirements to comply with the Fort Belvoir municipal separate stormwater system (MS-4) stormwater program. The MS-4 program includes specific construction project stormwater management requirements including installation and maintenance of appropriate erosion and sediment controls to protect land quality and ensure adequate perimeter controls and buffers are used to protect off-site areas from sediment migration. The Proposed Action will be coordinated and approved through the Fort Belvoir MS-4 stormwater permit manager and routine inspections conducted throughout construction to ensure compliance with these standards. Temporary construction controls will be utilized to appropriately manage stormwater quality and quantity in accordance with federal, state, and local Fort Belvoir regulations.

As the proposed ductbank would result in over 10,000 square feet of land disturbance within a Chesapeake Bay Resource Protection Area the project will be required to obtain a stormwater VPDES permit in accordance with Chesapeake Bay Preservation Act requirements.

3.10.1 Water Quality and Stormwater – Poe Road Alternative

The Poe Road Alternative would not result in any permanent impact to water quality or stormwater as disturbed areas would be restored to preconstruction conditions upon completion of construction. There would be minor temporary impacts to water quality and stormwater quality due to land disturbing activity. These impacts would be minimized by adhering to approved erosion and sediment control and stormwater pollution prevention plans relative to the work. Installation of the ductbank within DAAF and along Poe Road would also require coordination with Fort Belvoir's Industrial Stormwater (ISW) program, including additional inspections and monitoring of existing permitted Outfall #003 throughout construction. Strict adherence to erosion and sediment control practices will be required on this project to avoid any impacts to water quality or contributions to suspended solids or other pollutant loadings at Outfall #003. This will require close coordination with the Fort Belvoir DPW-ENRD ISW program staff to ensure adequate controls are implemented and monitoring and sampling is scheduled in coordination with construction activity.

Upon completion of construction, operation of the ductbank is not anticipated to have any impacts to water quality or stormwater resources. The route of the ductbank is readily accessible from existing road right-of-ways and maintenance of the ductbank would be limited to new cable installation and repair which can be accomplished without significant land disturbance or water

quality impact. Manholes and utility vaults would be strategically placed to accommodate maintenance and repair work to avoid disruption of off-road areas of the alignment.

3.10.2 Water Quality and Stormwater – No Action Alternative

The No Action Alternative would not impact any water quality or stormwater resources.

3.11 Wild and Scenic River Resources

There are no federally listed wild and scenic rivers located within the area of potential effect of the Proposed Action as defined by Public Law 90-542; 16 U.S.C. 1271 et seq. Currently, no rivers in Virginia are federally designated as wild and scenic rivers. There are several state designated scenic rivers in Virginia; however, none are located in the vicinity of the Proposed Action.

The nearest named river system to the project is the Potomac River which is approximately one mile southeast of the site. The named water bodies of Accotink Creek and Accotink Bay and Pohick Bay are located downstream of the project area, representing the tidal areas of Accotink Creek as it flows into the Potomac River. The Proposed Action would be configured to avoid and minimize impacts to these water bodies following local, state, and federal guidelines including adherence to required setbacks and buffer spaces as appropriate.

3.11.1 Wild and Scenic River Resources – Poe Road Alternative

The Poe Road Alternative would not impact any wild and scenic river resources.

3.11.2 Wild and Scenic River Resources – No Action Alternative

The No Action Alternative would not impact any wild and scenic river resources.

3.12 Historical, Architectural, Archeological and Cultural (HAAC) Resources

There are over 300 known historic and archaeologic sites located within the Fort Belvoir area, of these sites only one, the Fort Belvoir Military Railroad is noted to be within the limits of the Proposed Action. The Poe Road Alternative would cross this historic resource area approximately 600 feet west of Gunston Road. This crossing has been coordinated with the State Historic Preservation Office (SHPO) and potential impacts would be managed by using directional drilling to install the ductbank under this historic resource.

Given the extensive amount of HAAC documented at Fort Belvoir project construction documents will include provisions for stopping work in the event that unanticipated historic or cultural resources are encountered during field work. In the event that HAAC resources are encountered, work in the area will be halted until the Fort Belvoir cultural resources manager can define appropriate measures to avoid and minimize potential resource impacts consistent with the Fort Belvoir Integrated Cultural Resources Management Plan (ICRMP). The Proposed Action is also being coordinated publicly with federally recognized Indian Tribes and the general public in accordance with Fort Belvoir's ICRMP Section 106 historic resources consultation process.

3.12.1 HAAC Resources – Poe Road Alternative

Fort Belvoir staff have coordinated resource impact analysis along the Poe Road Alternative with the Virginia State Historic Preservation Office (SHPO). This coordination was conducted in accordance with Section 106 (54 U.S.C. 306108) of the National Historic Preservation Act (54

U.S.C. 300101 et seq.) and the corresponding implementing regulation, "Protection of Historic Properties" (36 CFR Part 800), regarding requirements to avoid impacts. Specifically, this coordination documented that the ductbank must be bored under the historic railroad embankment to preserve this resource. Copies of this Section 106 historic resources confirmation are provided in Appendix F. No other known historic resources were noted along the route of the Proposed Action.

3.12.2 HAAC Resources – No Action Alternative

The No Action Alternative would not impact any historic, architectural or archaeological resources as there would be no ductbank constructed.

3.13 Hazardous Material, Solid and Hazardous Waste (HM/SW/HW) Resources

The Proposed Action would include limited amounts of land clearing and construction waste generation. Project specifications will require construction and demolition debris segregation and recycling consistent with the Army's Sustainable Design and Development Policy. This will include mulching of non-saleable timber and vegetation from land clearing activities for reuse as temporary stabilization of exposed slopes, and separation of construction debris for recycling consistent with regional recycling program availability.

All recycling and disposal of this material will be managed in accordance with local, state, and federal waste disposal regulations to appropriately minimize solid waste impacts of construction activities. The Proposed Action would not result in additional solid waste generation or alter the types and quantities of materials and wastes currently used and produced by ongoing activities at Fort Belvoir.

The proposed ductbank route has been selected to avoid impacts to known hazardous material or hazardous waste treatment, storage, or disposal areas currently managed under Fort Belvoir's environmental restoration program. Further details on management strategies to avoid potential impacts to these resources along the Poe Road Alternative are discussed below.

The Proposed Action requires work within areas of Fort Belvoir that are designated as munitions response areas which are currently under assessment in accordance with CERCLA following guidance of the Military Munitions Response Program. Due to this context, appropriately credentialed on-call UXO safety personnel must be available during construction to appropriately address any suspect objects that are discovered during project excavation activity. This is a routine protocol for excavation work consistent with the CERCLA munitions assessment program at the airfield and does not indicate any direct concern about the proposed ductbank route.

Proposed construction activities would include limited use of hazardous materials including miscellaneous adhesives, sealants, and coatings that may contain toxic or flammable constituents. Construction documents would mandate proper management of these materials in accordance with Fort Belvoir's existing hazardous material, hazardous waste and pollution prevention programs.

3.13.1 HM/SW/HW Resources – Poe Road Alternative

The Poe Road Alternative is specifically routed along the northwest shoulder of Poe Road to avoid encroaching within the 150 buffer zone of two former landfill sites located southeast of the roadway (DPW-ENRD Landfill Sites A-11 and A-13).

Existing monitoring wells and landfill gas monitoring probes in this area used as part of long-term monitoring of these closed landfills would not be impacted by the Proposed Action. Construction measures in this area would include limiting excavation work to areas along the northern shoulder of Poe Road and monitoring of methane levels within the work zone to ensure that potential landfill gas explosion risks are minimized. This would require completion of an Accident Protection Plan (APP) and site-specific safety and health plan (SSHP) as part of construction activity coordination in this area. If any residual solid wastes or suspect material are encountered during excavation activity site work would be halted the Fort Belvoir restoration manager would be consulted before resuming project work.

In addition to working around these landfill sites, the Poe Road Alternative also passes near a known Military Munitions Response Program site (Site No. FTBL-007-R-01, Grenade Court). This site is located along the eastern end of the Poe Road Alternative. All construction activity in proximity to this site would need to be coordinated with the munitions response program coordinator to ensure construction work area is appropriately screened, planned and executed to avoid impacts to this area.

There are also several known underground storage tank locations located near the terminus of the ductbank adjacent to Building 3162 however the proposed route does not impact any of these fuel storage areas.

3.13.2 HM/SW/HW Resources – No Action Alternative

The No Action Alternative would not impact any hazardous material, solid or hazardous waste resources.

3.14 Light Emissions and Visual Impacts

Neither the Proposed Action nor the No Action Alternative would have any impacts to area nighttime lighting profile or visual impacts.

3.15 Energy Supply and Sustainable Design Impacts

Neither the Proposed Action nor the No Action Alternative would have any impact to known energy sources or supplies. The ductbank routing follows existing road and utility clearings and can be constructed without impact to energy resources. The Proposed Action will not require commitment of any irreversible or irretrievable natural resources or energy supplies.

3.16 Noise Impacts

The only noise impacts associated with the Proposed Action are temporary construction noise impacts. These impacts will be minimized by using appropriately equipped and maintained construction equipment and limiting noise intensive work to normal working hours in accordance with standard construction practices at Fort Belvoir. The No Action Alternative would not have any noise impacts.

3.17 Socioeconomic Impacts and Environmental Justice, Health and Safety Impacts

The Proposed Action would have minor beneficial impacts to local employment conditions during construction of the proposed ductbank. There would be no impacts to off-site populations and therefore no disproportionately adverse impacts to minority or low-income populations associated with the Proposed Action.

There are no socioeconomic, environmental justice, environmental health or public safety concerns associated with implementing the Proposed Action or the No Action Alternative.

3.18 Indirect Effects

The Proposed Action is not projected to induce any additional development or activities other than activities currently outlined in the Fort Belvoir Real Property Master Plan. The Proposed Action would improve communications capability at DAAF to support current and planned tenant command operations consistent with the currently approved Real Property Master Plan for Fort Belvoir. This is not expected to result in any additional indirect effects beyond that projected in the current garrison planning documents.

No indirect effects to regional transportation, telecommunications, utilities or drainage systems are anticipated due to the Proposed Action or the No Action Alternative.

3.19 Cumulative Effects

Considered independently, the Proposed Action to install the new communications ductbank to DAAF is a minor project in the regional development context. Table 3.1 provides a tabular summary of potential resource impacts associated with the Proposed Action for general comparison with ongoing public (local, state and federal) as well as private sector projects in the region. These projects are generally much larger in scope and potential environmental impact than the Proposed Action and as such may result in a combination of or cumulative impact to area resources that could be significant. It is therefore important to evaluate and consider the past, present and reasonably foreseeable effects of the Proposed Action in conjunction with these project to assess potential cumulative impact.

Primary cumulative impacts relative to the Proposed Action are increased urbanization within the region including associated increases in traffic, air pollution and creation of impervious surfaces. As the Proposed Action would not increase traffic loading, create any additional impervious surfaces, and only generate minor amounts of air pollution during construction of the proposed improvements the cumulative effects of the Proposed Action are considered negligible.

Assessing the reasonably foreseeable impacts of the Proposed Action on regional personnel loading, the Proposed Action is not expected to result in any relocation of staff from existing facilities on Fort Belvoir and there are no cumulative effects of increasing the urban population due to the Proposed Action. The proposed action is designed to support previously approved tenant command relocations to the DAAF (Skills Training Facility) as indicated in the current Fort Belvoir RPMP.

The potential for cumulative regional effects has been discussed in detail in the recently completed Environmental Impact Statement prepared for the Fort Belvoir Real Property Master Plan (Volume 1, June 2015 update). This document confirmed that cumulative elements of concern are primarily focused on socio-economics; transportation and traffic; air quality; soil and water resources; and biological resources (tree cover impacts). Of these potential cumulative impact concerns, the Proposed Action is expected to only have minor effects on air quality and soil and water resources related to temporary impacts during construction.

Similarly, there are no relative cumulative impacts of note related to the Proposed Action compared to the impacts documented in the EA prepared for the Skills Training Facility in 2014. The impacts of the Proposed Action are consistent with the impacts documented in this earlier

NEPA analysis and do not present any cumulative impact concerns relative to this ongoing construction project at DAAF (other than temporary construction impacts).

In addition to these directly relative projects there are several other Fort Belvoir sponsored projects within a one-mile radius of the Proposed Action that have been recently analyzed under NEPA for potential cumulative effects, including:

- DAAF Hazardous Tree Removal
- Construction of the National Museum of the U.S. Army
- Founders Hall of the National Museum of the U.S. Army

Reviewing the cumulative effect analyses presented within these previously executed NEPA documents there are no coincident or cumulative adverse effects related to the Proposed Action and these adjacent planned projects that are significant or that would require specific conjunctive mitigation strategies. Reviewing the scope of these projects, development of the proposed ductbank would occur in the same timeframe as the on-going construction of the U.S. Route 1 roadway improvements; Accotink Village development, NMUSA and Founders Hall development, and the DAAF Skills Training Facility construction.

Coincident effects of these projects include general construction traffic and land disturbance during the same timeframe as construction of the ductbank. Based on the limited scope of the ductbank construction and ability and requirement of all relative projects to comply with construction phase environmental protection standards there would be no adverse cumulative effects from past, present, or reasonably foreseeable actions. Table 3.2 provides a summary of these relative projects reviewed as part of cumulative impact analysis.

The No Action Alternative would not have any reasonably foreseeable cumulative environmental effects relative to the ongoing projects in the region.

Table 3-1 IMPACT ANALYSIS SUMMARY		
EA Narrative Section	**Environmental Resource**	***Poe Road Alternative***
3.1	**Land Use**	**No Impact**
a.	Compatible with Zoning/Ordinances?	Yes
b.	Total Land Area Required	No Impact
c.	Total Land to be Disturbed	7.5 Acres
d.	Affected Land Area Classification	Military Reservation
e.	Directly Affected Population	None
3.2 & 3.3	**Air Quality & Transportation Issues**	**No Impact**
a.	Complies w/ State and Federal Air Quality?	Yes
3.4	**Coastal Resource Impacts**	**No Impact**
a.	Consistent with State or Federal Coastal Zone?	Yes
3.5	**Recreational & WMA Resources**	**No Impact**
a.	National parks and monuments	No Impact
b.	National natural landmarks	No Impact
c.	National battlefield park sites	No Impact
d.	National historic sites and parks	No Impact
e.	Wilderness areas	No Impact
f	Wildlife refuges	No Impact
g.	National seashores, lake shores, and trails	No Impact
h.	State parks	No Impact
i.	Bureau of Land Management (BLM) administered lands	No Impact
j	National forests and grasslands	No Impact
k	Native American owned lands and leases administered by the Bureau of Indian Affairs (BIA).	No Impact
Key Notes/Code Identification:		
	Insignificant Impact of Preferred Alternative (Below regulatory levels or any foreseeable impact)	
	Minor Impact , (Impacts manageable, no regulatory required mitigation, permitting required)	
	Significant Impact	
	Positive Impact	

Table 3-1 IMPACT ANALYSIS SUMMARY (continued)		
3.6	**Farmland, Rangeland and Forest Land**	**No Impact**
a.	Prime Farmland	No Impact
b.	Prime Rangeland	No Impact
c.	Forest Land	No Impact
3.7	**Biological Resources**	**Minor**
a.	Threatened and Endangered Species	No Impact
b.	Fish and Wildlife Resources	Seasonal Considerations
c.	Habitat and Vegetation	Native Re-Planting
3.8	**Floodplains**	**Minor**
a.	Located in 100 or 500 yr Floodplain?	Yes
b.	Complies with State Floodplain Program	Yes
c.	Floodplain Mitigation Required?	No
d.	Floodplain/Floodway Impact (Acres)	None
3.9	**Wetlands**	**Minor**
a.	Section 10 or 404 Wetland Areas on Site?	Yes
b.	Area and Type of Wetland Impact	< 0.5 Acre Scrub-Shrub (Temp)
c.	Wetland Mitigation Area Required (Acres)	No
3.10	**Water Quality & Stormwater**	**Minor**
a.	Discharge Impacts	No Impact
b.	Intake Impacts	No Impact
c.	Aquifer Impacts	No Impact
d.	Watershed Management Plan Impact	No Impact
e.	Water Quality Construction Impacts	SWPPP/VDPES
3.11	**Wild and Scenic and Recreational Rivers**	No Impact
3.12	**Historic/Cultural Resources**	**Minor**
a.	Impacts to National Historic Register Sites	Crosses Military RR
b.	Tribal Land Impacts	No Impact
c.	Mitigation Effort Required	No Impact
d.	Visual Aesthetic Impacts/Sensitive Areas	No Impact
Key Notes/Code Identification:		
	Insignificant Impact of Preferred Alternative (Below regulatory levels or any foreseeable impact)	
	Minor Impact , (Impacts manageable, no regulatory required mitigation, permitting required)	
	Significant Impact	
	Positive Impact	

Table 3-1 IMPACT ANALYSIS SUMMARY (continued)		
3.13	**Construction Impacts Hazardous Materials/P2/SW**	**Minor**
a.	Fugitive Dust	Dust Control Measures
b.	Land Quality	E&S Control
c.	Noise	Const. Equipment
d.	Hazardous Materials	Const. Materials
e	Pollution Prevention	Const. Waste
f	Solid Waste	Const. Waste
3.14	**Light Emissions**	**No Impact**
3.15	**Natural Resources, Energy, Sustainability**	**No Impact**
3.16	**Noise**	**Minor Const. Equip.**
3.17	**Socio-Economic Issues/Environmental Justice**	**No Impact**
a.	Minority/Low-Income Impacts?	No Impact
b.	Supports Economic Development Issues?	No Impact
c.	Environmental Justice Requirements	No Impact
3.18	**Indirect Effects**	**No Impact**
3.19	**Cumulative Effects**	**No Impact**
Key Notes/Code Identification:		
	Insignificant Impact of Preferred Alternative (Below regulatory levels or any foreseeable impact)	
	Minor Impact , (Impacts manageable, no regulatory required mitigation, permitting required)	
	Significant Impact	
	Positive Impact	

Table 3-2 CUMULATIVE REGIONAL PROJECT IMPACT ANALYSIS SUMMARY				
REFERENCE PROJECT	**DESCRIPTION**	***PROJECT TYPE***	***TIMEFRAME***	***CURRENT STATUS/IMPACT SUMMARY***
U.S. ROUTE 1 IMPROVEMENTS AT FORT BELVOIR	STATE AND FEDERALLY FUNDED REGIONAL HIGHWAY WIDENING OF 3.68 MILES OF U.S. ROUTE 1, EXPANDING HIGHWAY FROM 4 TO 6 THROUGH LANES AND ADDITIONAL TURN LANES, MULTI-USE TRAILS, PEDESTRIAN SIDEWALKS AND NEW BRIDGE OVER ACCOTINK CREEK TO ACCOMMODATE REGIONAL TRAFFIC GROWTH AND MODERNIZE EXISTING INTERSECTIONS, TRAFFIC CONTROLS AND ACCESS ROADWAYS.	TRANSPORTATION ROAD IMPPROVEMENTS	2012-2017	EA AND FNSI COMPLETE, SIGNED NOVEMBER 2012; CONSTRUCTION UNDERWAY, SCHEDULED FOR COMPLETION IN EARLY 2017. CUMULATIVE IMPACTS RELATED TO TEMPORARY CONSTRUCTION DISTURBANCE COINCIDENT WITH PROPOSED ACTION.
SKILLS TRAINING FACILITY, DAAF	DEVELOP 10-ACRE PARCEL FOR NEW TRAINING FACILITY ON DAAF NEAR INTERSECTION OF FARRAR AND SANTJER DRIVES.	BUILDING/SITE CONSTRUCTION	2015-2017	EA AND FONSI COMPLETE; CONSTRUCTION UNDERWAY, SCHEDULED FOR COMPLETION IN LATE 2017. CUMULATIVE IMPACTS RELATED TO TEMPORARY CONSTRUCTION DISTURBANCE COINCIDENT WITH PROPOSED ACTION.
NATIONAL MUSEUM OF THE U.S. ARMY	DEVELOP 80-ACRE PARCEL FOR NEW NATIONAL MUSEUM HONORING HISTORY OF U.S. ARMY, INCLUDING ROADWAYS, OUTDOOR EXHIBITS, PARKING AND INTEPRETATIVE SPACES. SITE IS LOCATED NORTH OF FAIRFAX COUNTY PARKWAY AND WEST OF J.J. KINGMAN DRIVE.	BUILDING/SITE CONSTRUCTION	2016-2020	EA AND FONSI COMPLETE; CONSTRUCTION UNDERWAY, SCHEDULED FOR COMPLETION IN LATE 2020 SUBJECT TO PRIVATE DONATIONS AND FUNDING. CUMULATIVE IMPACTS RELATED TO TEMPORARY CONSTRUCTION DISTURBANCE COINCIDENT WITH PROPOSED ACTION.
FOUNDERS HALL, NATIONAL MUSEUM OF THE U.S. ARMY	DEVELOP 13,400 SQ.FT. BUILDING AND ASSOCIATED PARKING AND ACCESS IMPROVEMENTS NEAR MAIN ENTRANCE TO FUTURE NMUSA AS EARLY PHASE OF NMUSA BUILDOUT PROGRAM. SITE IS LOCATED NORTH OF FAIRFAX COUNTY PARKWAY AND WEST OF J.J. KINGMAN DRIVE.	BUILDING/SITE CONSTRUCTION	2016-2017	EA AND FONSI COMPLETE; CONSTRUCTION UNDERWAY, SCHEDULED FOR COMPLETION IN 2017 SUBJECT TO PRIVATE DONATIONS AND FUNDING. CUMULATIVE IMPACTS RELATED TO TEMPORARY CONSTRUCTION DISTURBANCE COINCIDENT WITH PROPOSED ACTION.
DAAF HAZARDOUS TREE REMOVAL	GENERAL TREE CLEARING AROUND THE AIRFIELD TO MEET AVIATION CLEARZONE SAFETY REQUIREMENTS	GENERAL FACILITY OPERATIONS AND MAINTENANCE	2016-2017	EA AND FONSI COMPLETE; MAINTENANCE TREE REMOVAL PENDING, SCHEDULED FOR COMPLETION IN 2017. CUMULATIVE IMPACTS RELATED TO TEMPORARY CONSTRUCTION DISTURBANCE COINCIDENT WITH PROPOSED ACTION.

Table 3-2 Cumulative Regional Project Impact Analysis Summary: Coincidental projects occurring within the vicinity of proposed communications line extension.

4.0 MITIGATIVE MEASURES

The Proposed Action would not require any specific regulatory required mitigative measures other than standard requirements to avoid and minimize disturbance of sensitive areas and limit potential for resource impacts. None of these measures currently meet the threshold of actionable mitigation measures warranting further environmental analysis under NEPA but are enumerated below so they can be considered during project design. Specific, routine mitigative practices shall include avoidance of delineated wetland areas during routing of the ductbank. This would require obtaining appropriate jurisdictional confirmations and permits for crossing Accotink Creek and any other wetland areas associated with this work. Where the ductbank must cross these areas they shall be installed from outside the jurisdictional boundary of these areas using trenchless techniques. Similarly, the crossing under the historic railroad corridor would need to be accomplished using trenchless installation techniques to preserve the integrity of this historic embankment.

Although field surveys have not identified any listed threatened or endangered plant or animal species within the proposed project area of potential effect, construction would be coordinated in accordance with fish and wildlife management guidance to avoid impacts to protected species. This would include conducting preconstruction turtle protection surveys and installation of silt fencing around potential turtle habitat areas during the winter months to exclude turtles from construction areas. Any turtles found during pre-construction screening of the fenced area shall be relocated by trained personnel in accordance with VDGIF guidance to avoid impacts. Preconstruction small whorled pogonia verification surveys would also be included as part of preconstruction activity coordination. Seasonal land clearing requirements would also be followed to reduce potential impacts to protected bird and bat species.

Fort Belvoir staff would also monitor design development for adherence to sustainability principles in accordance with local, state and federal regulatory guidance to confirm redevelopment follows practices described in this SEA and the Fort Belvoir Integrated Natural Resources Management Plan and associated implementing policies and guidance. During final route selection and design if any trees over four inches in diameter would need to be removed compensatory mitigation will follow *Fort Belvoir Policy Memorandum #27, Tree Removal and Protection* dated 26 June 2014 regarding tree removal and restoration. Due to limited on-site opportunities for tree mitigation, out-of-kind compensatory mitigation within the Accotink Creek watershed will be incorporated within the scope of the project as appropriate.

All construction shall follow state and federal stormwater management, erosion control and water quality and wetland permitting requirements. Construction projects on Fort Belvoir are subject to a tiered stormwater and erosion control permit process. Projects that disturb over 2,500 sq. ft. of land must prepare a formal erosion and sediment control plan prepared in accordance with the Chesapeake Bay Program criteria. If land disturbance is greater than 10,000 sq. ft. then the erosion and sediment control plan must be submitted to DEQ for review and approval. If the land disturbance exceeds one acre (43,560 sq. ft.) then a stormwater management plan must also be developed and submitted to DEQ for approval, projects of this scale must also obtain Construction General Permit coverage under the VPDES stormwater permitting program. The Proposed Action will be designed and permitted in accordance with these procedures as outlined in Fort Belvoir's MS4 program bulletin, Bulletin #1.

5.0 LIST OF AGENCIES AND PERSONS CONSULTED

The following agencies and points of contact were consulted regarding preparation of this Environmental Assessment.

Name	Mailing Address
Honorable Scott Surovell	Virginia Senate P.O. Box 289 Mount Vernon, Virgina 22121
Honorable Paul E Krizek	Virginia House of Delegates 2201 Whiteoaks Drive Alexandria, Virginia 22306
Honorable David Albo	Virginia House of Delegates 6367 Rolling Mill Place, Suite 102 Springfield, Virginia 22152
Honorable Vivian E. Watts	Virginia House of Delegates 8717 Mary Lee Lane Annandale, Virginia 22003
Honorable Adam P. Ebbin	Virginia Senate P.O. Box 26415 Alexandria, Virginia 22313
Honorable George L. Barker	Virginia Senate P.O. Box 10527 Alexandria, Virginia 22310
Honorable Jeremy S. McPike	Virginia Senate P.O. Box 2819 Woodbridge, VA 22195
Honorable David W. Marsden	Virginia Senate P.O. Box 10889 Burke, VA 22009
Honorable Richard L. Saslaw	Virginia Senate P.O. Box 1856 Springfield, VA 22151-0856
Honorable Mark Levine	Virginia House of Delegates 301 King Street Alexandria, VA 22314
Honorable L. Mark Dudenhefer	Virginia House of Delegates P.O. Box 657 Garrisonville, VA 22463
Honorable Mark D. Sickles	Virginia House of Delegates P.O. Box 10628 Franconia, VA 22310

Honorable Luke E. Torian	Virginia House of Delegates 4222 Fortuna Plaza, Suite 659 Dumfries, VA 22025
Honorable Gerry Connolly	Representative in Congress Annandale District Office 4115 Annandale Road, Suite 103 Annandale, Virginia 22003
Honorable Don Beyer	Representative in Congress 5285 Shawnee Road, Suite 250 Alexandria, Virginia 22312
Honorable Mark Warner	Senator of Virginia 475 Russell Senate Office Bldg Washington, DC 20510
Honorable Tim Kaine	Senator of Virginia 231 Russell Senate Office Bldg Washington, DC 20510
Governor Terrance McAuliffe	Office of the Governor P.O. Box 1475 Richmond, VA 23218
Mr. Ray Fernald - Manager	Virginia Department of Game and Inland Fisheries Environmental Services Section P.O. Box 90778 Henrico, VA 23228
Mr. Todd Hafner	Director of Planning and Development Northern Virginia Regional Park Authority 5400 Ox Road Fairfax Station, Virginia 22039
Ms. Helen Cuervo, P.E.	Virginia Department of Transportation Northern Virginia District 4975 Alliance Drive Fairfax, Virginia 22032
Ms. Bettina Sullivan	Office of Environmental Review, Virginia Department of Environmental Quality P.O. Box 1105 Richmond, VA 23218
Mr. Steve Walz	Metropolitan Washington Council of Governments 777 N. Capitol Street, N.E., Suite 300 Washington, DC 20002
Ms. Kelly Coyner	Northern Virginia Transportation Commission Executive Director 2300 Wilson Boulevard, Suite 620 Arlington, Virginia 22201

Ms. Valerie Fulcher	Executive Secretary Senior Office of Environmental Impact Review Virginia Department of Environmental Quality P.O. Box 1105 Richmond, Virginia 23218
Mr. John Bricker	State Conservationist USDA, Natural Resources Conservation Service 1606 Santa Rosa Road, Suite 209 Richmond, Virginia 23229-5014
Mr. Marcel Acosta	Executive Director National Capital Planning Commission 401 Ninth Street NW, Suite 500, North Lobby Washington, DC 20004
Ms. Kimberly Damon-Randall	Greater Atlantic Region Fisheries Office National Marine Fisheries Service Protected Resources 55 Great Republic Drive Gloucester, Massachusetts 01930
Ms. Patricia Soriano	Mount Vernon Group, Sierra Club 5405 Barrister Place Alexandria, Virginia 22304
Ms. Hillary Clawson	Mason Neck Citizens Association P.O. Box 505 Mason Neck, Virginia 22199
Mr. Dale Rumberger	South County Federation P.O. Box 442 Lorton, Virginia 22079
Ms. Judy Riggin	2405 Nemeth Court Alexandria, Virginia 22306
Ms. Judy Riggin	Alexandria Friends Meeting at Woodlawn 8990 Woodlawn Road Fort Belvoir, Virginia 22060
Chairman Cathy Ledec	Mount Vernon Council of Citizen's Associations P.O. Box 203 Mount Vernon, Virginia 22121-0203
Chairman David Dale	Mount Vernon Council of Citizen's Associations P.O. Box 203 Mount Vernon, Virginia 22121-0203
Ms. Stella Koch	Northern Virginia Environment Network 1056 Manning Street Great Falls, Virginia 22066

Ms. Cathy Ledec	Friends of Huntley Meadows C/O Huntley Meadows Park 3701 Lockheed Blvd. Alexandria, Virginia 22306
Mr. Kevin Monroe	Huntley Meadows Park Fairfax County Parks Authority 3701 Lockheed Boulevard Alexandria, Virginia 22306
Ms. Martha Wingfield	The Virginia Conservation Network 409 East Main Street, Suite 201 Richmond, Virginia 23219
Pastor Brian Collison	Pillar Church of Woodlawn 9001 Richmond Highway Alexandria, Virginia 22309
Ms. Tish Tyson	8641 Mount Vernon Highway Alexandria, Virginia 22309
Ms. Kevin Casalenuovo	Park Manager Pohick Bay Regional Park 6501 Pohick Bay Drive Lorton, Virginia 22079
Mr. Peyton Robertson	Director, Chesapeake Bay Program Office National Marine Fisheries Service 410 Severn Avenue, Suite 107-A Annapolis, MD 21403
Mr. Greg Weiler	Refuge Manager Mason Neck National Wildlife Refuge 12638 Darby Brooke Court Woodbridge, Virginia 22192
Mr. Kris Unger	Friends of Accotink Creek 127 Poplar Road Fredericksburg, Virginia 22406-5022
Ms. Genevieve LaRouche	Field Supervisor, Annapolis Field Office U.S. Fish and Wildlife Service 177 Admiral Cochrane Drive Annapolis, Maryland 21401-7307
Ms. Mary Josie Blanchard	Director U. S. Department of the Interior Office of Environmental Policy and Compliance 1849 C Street, NW, MS 2462 Washington, DC 20240

Ms. Pat Montanio	National Oceanic Atmospheric Administration National Marine Fisheries Service Habitat Conservation Division 1315 East-West Highway SSMC3, 14th Floor F/HC Silver Spring, Maryland 20910
Ms. Dawn Roberts	U. S. Environmental Protection Agency Office of Federal Activities WJC South Room 7228 Mail Code 2252A 1200 Pennsylvania Avenue, NW Washington, DC 20460
Chairman Chris Soule	Lee District Association of Civic Organizations P.O. Box 10413 Alexandria, Virginia 22310
Mr. Walter C. Clarke	Southeast Fairfax Development Corporation 6677 Richmond Highway, Second Floor Alexandria, Virginia 22306
Honorable Sharon Bulova	Chairman, Fairfax County Board of Supervisors Fairfax County Government Center 12000 Government Center Parkway, Suite 530 Fairfax, Virginia 22035-0071
Supervisor Daniel G. Storck	Fairfax County Board of Supervisors Mount Vernon Government Center 2511 Parkers Lane Alexandria, Virginia 22306-3273
Supervisor Jeff McKay	Fairfax County Board of Supervisors Franconia Government Center 6121 Franconia Road Franconia, Virginia 22310-2508
Supervisor Pat Herrity	Fairfax County Board of Supervisors West Springfield Governmental Center 6140 Rolling Road Springfield, Virginia 22152-1580
Mr. Edward L. Long Jr.	Fairfax County Executive 12000 Government Center Parkway, Suite 552 Fairfax, Virginia 22035-0066
Chairman Peter F. Murphy, Jr.	Fairfax County Planning Commission Government Center 12000 Government Center Parkway, Suite 330 Fairfax, Virginia 22035

Mr. Thoms P. Biesiadny	Fairfax County Department of Transportation Centrepoint 1 Office Building 4050 Legato Road, Suite 4th Floor Fairfax, Virginia 22033
Mr. Noel Kaplan	Fairfax County Department of Planning and Zoning 12055 Government Center Parkway, Suite 730 Fairfax, Virginia 22035
Mr. Kirk W. Kincannon	Fairfax County Park Authority Planning and Development Division 12055 Government Center Parkway, Suite 421 Fairfax, Virginia 22035-1118
Supervisor John Cook	Fairfax County Board of Supervisors 9002 Burke Lake Road Burke, VA 22015
Supervisor Penelope A. Gross	Fairfax County Board of Supervisors Mason District Government Center 6507 Columbia Pike Annandale, VA 22003
Ms. Stacey A. Kincaid	Fairfax County Sheriff 10459 Main Street Fairfax, VA 22030
Ms. Allison Silderburg	Alexandria City Hall 301 King Street, Room 2300 Alexandria, VA 22314
Chairman Corey A. Stewart	Chairman At-Large Prince William County Board of Supervisors 1 County Complex Court Prince William, VA 22192
Supervisor John D. Jenkins	Prince William County Board of Supervisors 4361 Ridgewood Center Woodbridge, VA 22192
Supervisor Ruth M. Anderson	Prince William County Board of Supervisors 2241-K Tacket's Mill Drive Woodbridge, VA 22192

Supervisor Frank J. Principi	Prince William County Board of Supervisors 15941 Donald Curtis Drive Woodbridge, VA 22191
Ms. Caitlin Totherow	Catawba Indian Nation Tribal Historic Preservation Office 1536 Tom Steven RoadRock Hill, South Carolina 29730
Mr. Neil Patterson Jr.	Tuscarora Environmental Program 5226E Walmore Road Tuscarora Nation Via: Lewiston, NT 14092
Ms. Lisa LaRue-Baker	Tribal Historic Preservation Officer United Keetoowah Band of Cherokee Indians in Oklahoma P.O. Box 746 Tahlequah, OK 74465
Ms. Laura McKay	Virginia Department of Environmental Quality Coastal Zone Management Program 629 East Main Street Richmond, Virginia 23219
Ms. Barbara Rudnick	NEPA Team Leader Office of Environmental Programs (3EA30) U.S. Environmental Protection Agency Region 3 1650 Arch Street Philadelphia, PA 19106
Ms. Katry Harris	Office of Federal Agency Programs Advisory Council on Historic Preservation 401 F Street NW, Suite 308 Washington, DC 20001-2637
Ms. Linda Cornish Blank	Fairfax County Department of Planning and Zoning Historic Preservation Planner 12055 Government Center Parkway, Suite 730 Fairfax, Virginia 22035
Colonel Edwin C. Roessler, Jr.	Fairfax County Police Department 4100 Chain Bridge Road Fairfax, Virginia 22030
Mr. Carl Kikuchi	The Audubon Society of Northern Virginia 11100 Wildlife Venter Drive, Suite 100 Reston, Virginia 20190

Mr. Marc Holma	Virginia Department of Historic Resources 2801 Kensington Ave. Richmond, Virginia 23221
Mr. John Hildreth	National Trust for Historic Preservation Eastern Field Services 517 Savannah Highway Charleston, SC 29407
Ms. Stephanie K. Meeks	President and CEO National Trust for Historic Preservation Watergate Office Building 2600 Virginia Avenue NW, Suite 1100 Washington, DC 20037
Mr. Bob Vogel	National Historic Landmarks Program National Park Service National Capitol Regional Office 100 Ohio Drive SW Washington, DC 20242
Mr. Steve Smith	Historical Society of Fairfax County Virginia P.O. Box 415 Fairfax, Virginia 22038
Laurie Ossman	Executive Director Woodlawn Plantation and Frank Lloyd Wright's Pope Leighey House 9000 Richmond Highway Alexandria, Virginia 22309
Mr. Troy M. Anderson	Conservation Planning Assistance Supervisor U. S. Fish and Wildlife Service Virginia Field Office 6669 Short Lane Gloucester, Virginia 23061-4410
Mr. Robert Lazaro	Environmental and Planning Services Director Northern Virginia Regional Commission 3040 Williams Drive, Suite 200 Fairfax Virginia 22031
Mr. Harold Peaks	U. S. Department of Transportation Federal Highway Administration 1200 New Jersey Ave, SE, HEPE-30 Washington, DC 20590-0001
Ms. Elizabeth Crowell	Fairfax County Cultural Resources Management and Protection Branch James Lee Center 2855 Annandale Road Fairfax, Virginia 22042

Reverend Donald Binder	Pohick Episcopal Church 9301 Richmond Highway Lorton, Virginia 22079
Mr. George Ksenics	Mount Vernon Lee Chamber of Commerce Chamber of Commerce Building 6821 Richmond Highway Alexandria, VA 22306
Mr. Curt Vierbranz	Mount Vernon Ladies' Association P.O. Box 110 Mount Vernon, Virginia 22121
Mr. Scott Stroh	Director Gunston Hall Plantation 10709 Gunston Road Mason Neck, Virginia 22079
Ms. Martha Catlin	8324 Mount Vernon Hwy. Alexandria, Virginia 22309
Mr David Folmar - Branch Manager Fairfax County Public Library	John Marshall Branch 6209 Rose Hill Drive Alexandria, Virginia 22310-6299
Ms. Barbara Rice - Branch Manager Fairfax County Public Library	Kingstowne Branch 6500 Landsdowne Centre Alexandria, Virginia 22315-5100
Ms. Gari Plehal - Branch Manager Fairfax County Public Library	Lorton Branch 9520 Richmond Highway Lorton, Virginia 22079-2124
Ms. Linda Schlekau - Branch Manager Fairfax County Public Library	Sherwood Regional Branch 2501 Sherwood Hall Lane Alexandria, Virginia 22306-2799
Ms. Kathryn Hoffman - Branch Manager Fairfax County Public Library	City of Fairfax Regional Branch 10360 North Street Fairfax, Virginia 22030-2514
Ms.Nilya Carrato - Director Van Noy Library	5966 12th St. Building 1024 Fort Belvoir, Virginia 22060
Mr. Burk Andrews - Chairman, Prince William County Public Library	Prince William County Public Library 13083 Chinn Park Drive Prince William, VA 22192
Mr. Doug Allen - Chief Executive Officer	Virginia Railway Express 1500 King Street, Suite 202 Alexandria, VA 22314
Ms. Jennifer Mitchell	Virginia Department of Rail and Public Transportation 600 East Maine Street, Suite 2102 Richmond, VA 23219

Ms. Amanda Ciampolillo	Federal Emergency Management Agency 615 Chestnut Street One Independence Mall, 6th Floor Philadelphia, PA 19106-4404

In addition to these individual personal notifications, public notice of availability of the SEA and draft FNSI was advertised twice within a 30-day period in the Mount Vernon Gazette and Mount Vernon Voice, the Fairfax Station/Clifton/Lorton Connection and the Springfield Connection.

Copies of the document were also posted to public reading rooms at the following Fairfax County Libraries; Lorton Branch; Sherwood Regional Branch, and Kingstowne Branch. The documents were also available for review online at: http://www.belvoir.army.mil/environdocssection2.asp.

Comments from federal, state and local agencies received during the public review period will be addressed by Fort Belvoir and responses will be included in final record SEA as Appendix G.

6.0 LIST OF PREPARERS

The U.S. Army Corps of Engineers project manager responsible for executing this NEPA analysis was Sarah E. Doerfler, Project Manager with the Baltimore District, Real Property Services Field Office.

Mr. Frederick David, Acting NEPA Program Manager at Fort Belvoir DPW-ENRD coordinated the internal Fort Belvoir preparation and review of this SEA with assistance from Christopher K. Yesmant and Sean T. Schatzel, contract Environmental Scientists supporting the Fort Belvoir DPW-ENRD NEPA Program.

Mr. Thomas L. Fitzgerald, P.E. was the principal author and project manager responsible for leading the consulting team assisting Fort Belvoir and the U.S. Army Corps of Engineers with preparation of this document. A registered professional engineer in four states and the District of Columbia with a specialization in environmental engineering, Mr. Fitzgerald has 25 years of experience developing infrastructure projects; managing environmental programs; preparing NEPA documents; and administering environmental studies in the Mid-Atlantic and European regions. Mr. Fitzgerald was also the principal author of the related Environmental Assessment for the Skills Training Facility completed in 2014.

Mr. Brian S. Harvey, L.S. led the field survey, wetland delineation, and tree inventory portions of this analysis for the consulting team. In addition to being a Virginia licensed land surveyor, Mr. Harvey holds a BS in Forestry, (Industrial Operations) and has 16 years' experience conducting land surveys, Phase I environmental site assessments, wetland delineations, environmental and topographic mapping. Mr. Harvey also led the forest stand delineation, land survey and wetland delineation effort for the Skills Training Facility completed in 2014.

7.0 LIST OF REFERENCES

The following list of references were used in preparation of this Environmental Assessment:

1. Fairfax County DPWES, 2013; *Chesapeake Bay Preservation Ordinance*. Accessed February 27, 2016; http://www.fairfaxcounty.gov/dpwes/environmental/cbay/
2. NatureServe Explorer Website; *Bald eagle; Peregrine falcon; Small whorled Pogonia; Wood turtle*. Accessed February 27, 2016; http://www.natureserve.org/explorer/index.htm
3. Natural Resources Conservation Service (NRCS). 2016. *Web Soil Survey.* Accessed February 27, 2016; http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm
4. United States Army Garrison Fort Belvoir, Virginia, March 2001; *Fort Belvoir Integrated Natural Resources Management Plan,* prepared by Horne Engineering Services, Inc.
5. United States Army Garrison Fort Belvoir, Virginia, 2014; *Draft Fort Belvoir Integrated Cultural Resources Management Plan, Executive Summary*
6. United States Army Garrison Fort Belvoir, Virginia, 2015, *Final Environmental Impact Statement for Short-Term Projects & Real Property Master Plan Update, Volume I and II*
7. United States Army Garrison Fort Belvoir, Virginia, 2008, *Davison Army Airfield Area Development Plan*
8. *United States Army Garrison Fort Belvoir, Virginia, September, 2010; The National Museum of the U.S. Army, Environmental Assessment (EA).*
9. United States Army Garrison Fort Belvoir, Virginia, May 19, 2011; *The National Museum of the U.S. Army, Finding of No Significant Impact (FNSI).*
10. *United States Army Garrison Fort Belvoir, Virginia, 2014, Environmental Assessment, Construct Skills Training Facility, Davison Army Airfield*
11. *United States Army Garrison Fort Belvoir, Virginia, 2015; Geographic Information Systems files provided by Fort Belvoir Department of Public Works.*
12. *United States Army Garrison Fort Belvoir, Virginia, January, 2016; Founders Hall of the National Museum of the U.S. Army The National Museum of the U.S. Army, Supplemental Environmental Assessment (EA).*
13. *United States Army Garrison Fort Belvoir, Virginia, January, 2016; Founders Hall of the National Museum of the U.S. Army The National Museum of the U.S. Army, Finding of No Significant Impact (FNSI).*
14. United States Army Garrison Fort Belvoir, Virginia, June, 2016; DAAF Hazardous Tree Removal Environmental Assessment
15. United States Environmental Protection Agency (USEPA), December 2009; *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act,* EPA Publication 841-B-09-001.
16. USEPA. 2012. *Currently Designated Nonattainment Areas for All Criteria Pollutants*. Accessed March 5, 2016; http://www.epa.gov/airquality/greenbook/ancl.html#virginia

17. USEPA. 2012. *Monitor Values Report – Criteria Air Pollutants – Fairfax County, Virginia and Alexandria City, Virginia*. Accessed March 5, 2016;http://www.epa.gov/airdata/ad_rep_mon.html

18. US Fish and Wildlife Service, *National Wetlands Inventory*. Accessed January 23, 2016; http://www.fws.gov/wetlands/Data/Mapper.html

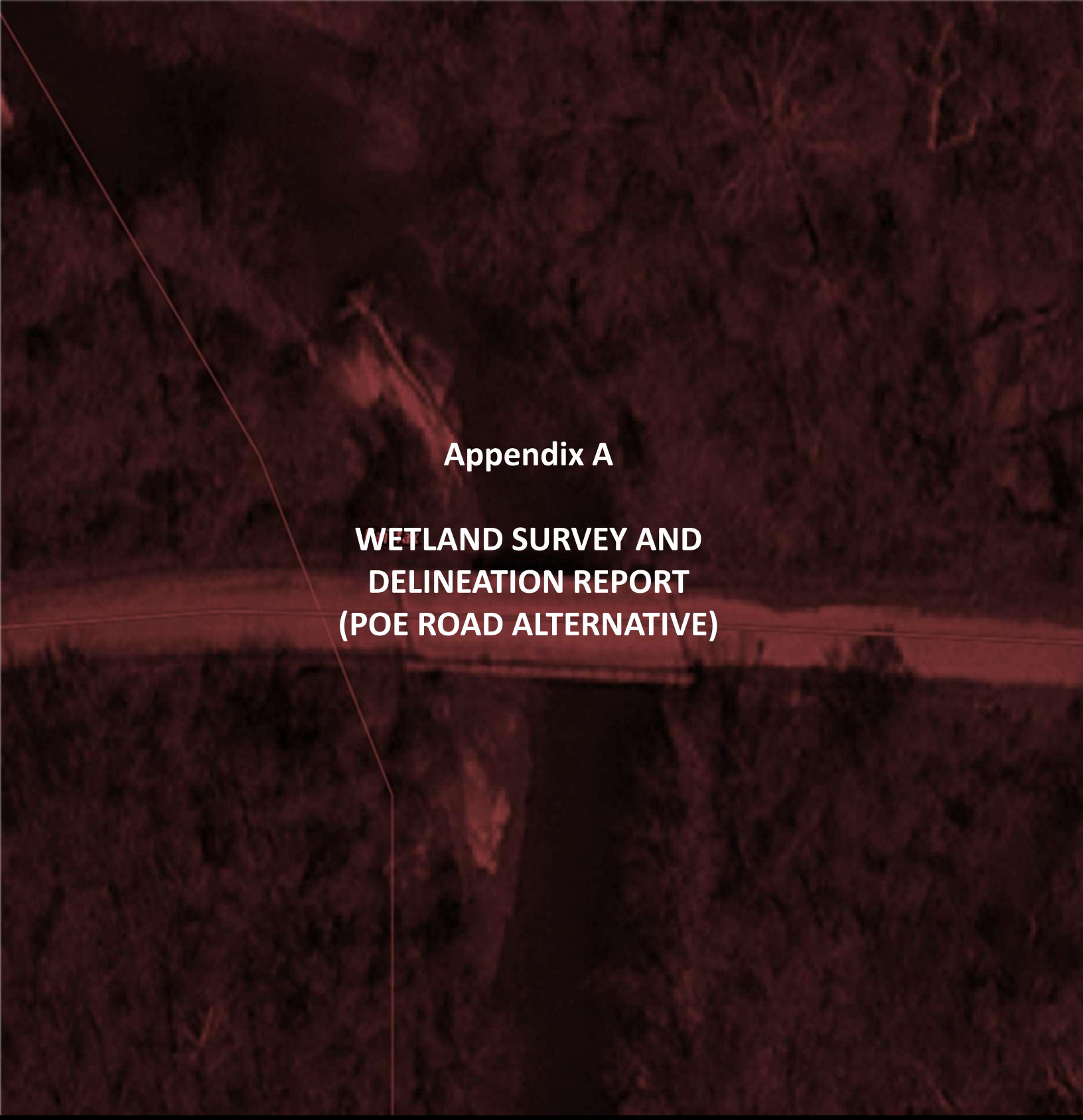
19. Virginia Department of Conservation and Recreation, 2016; *Natural Heritage*. Accessed February 27, 2016; http://www.dcr.virginia.gov/natural_heritage/mission.shtml

20. Virginia Department of Environmental Quality, 2016; *CZMA;* Accessed February 27, 2016; http://www.deq.state.va.us/Programs/CoastalZoneManagement.aspx

8.0 LIST OF ACRONYMS AND ABBREVIATIONS

The following is a list of common acronyms and abbreviations that may appear in this SEA and supporting documentation.

BMP ..... Best Management Practice
CBP ..... Chesapeake Bay Program
CBPA……..Chesapeake Bay Preservation Act
CEQ……..Council on Environmental Quality
CERCLA…… ….Comprehensive Environmental Response, Compensation, and Liability Act
CFR…… ……..Code of Federal Regulations
CRMP…… ……Coastal Resource Management Program
CZMA ..... Coastal Zone Management Act
DAAF……Davison Army Airfield
DEQ.....Department of Environmental Quality
DPW .....Department of Public Works
EA .....Environmental Assessment
ENRD…… ...Environmental Natural Resources Division
FEMA……Federal Emergency Management Agency
FNSI .....Finding of No Significant Impact
FY…… ……Fiscal Year
HAAC ..... Historic, Architectural, Archaeological, Cultural
HM/SW/HW ..... Hazardous Material/Solid Waste/Hazardous Waste
INRMP…… ……Integrated Natural Resource Management Plan
JPA.....Joint Permit Application
NAAQS…… ……..National Ambient Air Quality Standards
NCPC…….... ……..National Capital Planning Commission
NEPA.....National Environmental Policy Act
NRCS…… ……Natural Resource Conservation Service
NFRF ..... National Farmland, Rangeland and Forest
RCRA……Resource Conservation and Recovery Act
RPA…… ….....Resource Protection Area
SHPO .....State Historic Preservation Office
SWPPP.....Stormwater Water Pollution Prevention Plan
USACE ..... U.S. Army Corps of Engineers
USEPA…… ……..US Environmental Protection Agency
USGS…… ……United States Geologic Survey
VDGIF..... Virginia Department of Game and Inland Fisheries
VMRC .....Virginia Marine Resources Commission
VPDES ..... Virginia Pollutant Discharge Elimination System
VSMP .....Virginia Stormwater Management Program



Appendix A

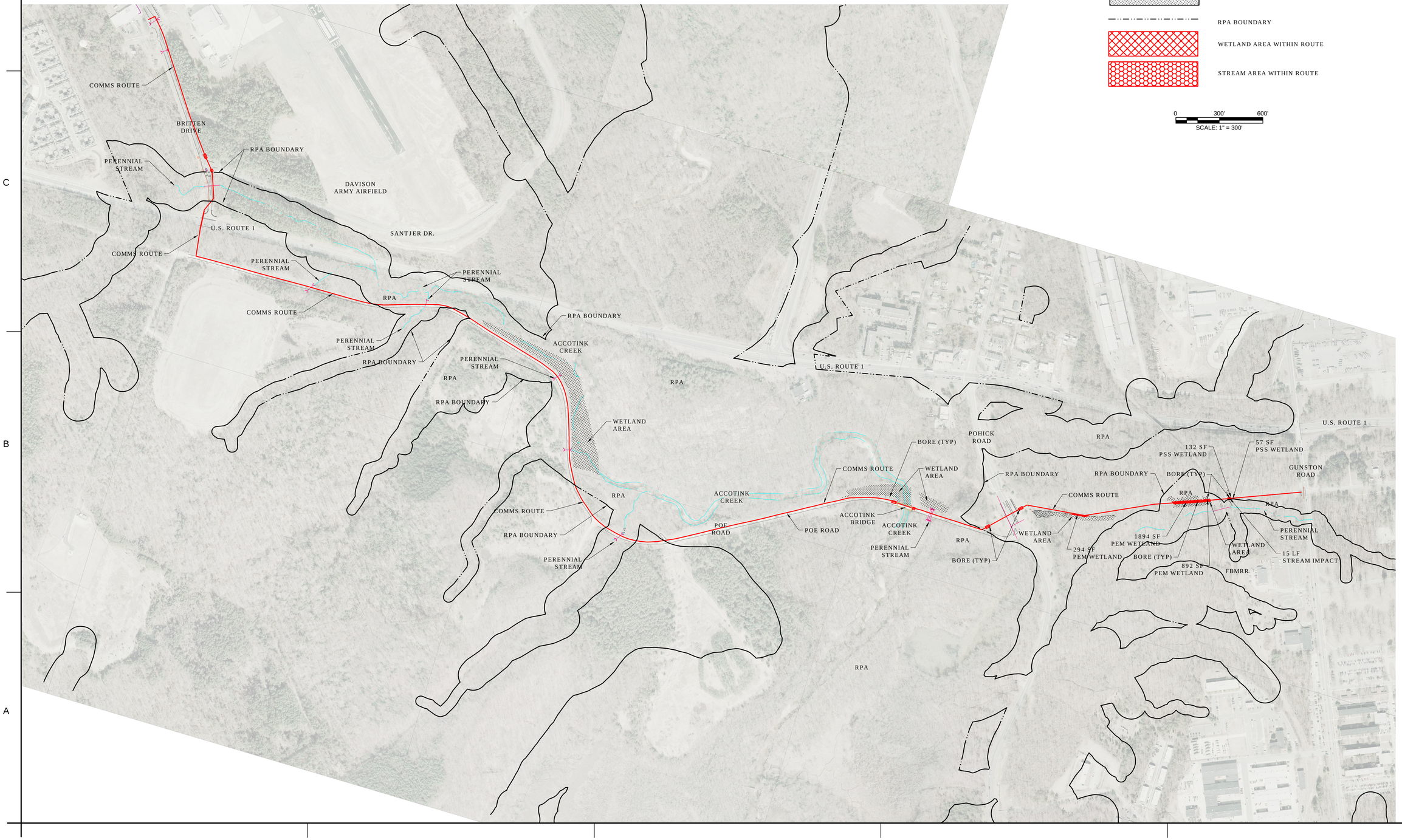
WETLAND SURVEY AND DELINEATION REPORT (POE ROAD ALTERNATIVE)

LEADERS IN EXCELLENCE!

U.S. ARMY GARRISON FORT BELVOIR

THIS PAGE INTENTIONALLY BLANK

PROPOSED DAAF COMM ROUTE
POTENTIAL RPA AND WETLAND
IMPACT MAPPING



WETLAND AREAS WITHIN PROPOSED ROUTE

PALUSTRINE EMERGENT WETLAND (PEM)	3,900 SF
PALUSTRINE SCRUB-SHRUB WETLAND (PSS)	189 SF
STREAM IMPACT	15 LF

LEGEND

- DELINEATED WETLAND
- RPA BOUNDARY
- WETLAND AREA WITHIN ROUTE
- STREAM AREA WITHIN ROUTE

0 300' 600'

SCALE: 1" = 300'

Wiley | Wilson™
Centered on Solutions
2851 Eisenhower Avenue, Suite 200
Alexandria, VA 22314 | 703.329.3200

US Army Corps of Engineers

MARK	REVISION DESCRIPTION	Date	App

Designed by: TLF
Drawn by: BSH
Cad by: TLF
RSFO Project Manager: SED
Date: 11/01/16
Project No: 215217.00
QA Manager: TAW
Submitted by: BSH
File name:
Plot date: 11/01/16
Plot scale:
Title of Submitter: PM

FORT BELVOIR
DAVISON ARMY AIRFIELD
CONCEPT COMMUNICATIONS
DUCTBANK ROUTE
WETLANDS AND RPA MAPPING

Drawing Sheet No.
GOVERNMENT ISSUED

Sheet Reference No.
RPA1

Sheet 1 of 1

NOTE:
DETAILED WETLAND DELINEATION REPORT AND MAPPING ON FILE WITH FORT BELVOIR DPW-ENRD FOR REFERENCE PURPOSES. FILE FORMAT TOO LARGE TO INCLUDE IN DOCUMENT

Wiley|Wilson®
Constant Progress

DOCUMENTATION FORM

Date:	3/11/16	**From:**	Brian Harvey, L.S.
Send to:	Tom Fitzgerald	**Office Location:**	Lynchburg
Subject:	DAAF Comm Line Wetlands	**Action:**	For Your Information
Commission No.:	215217	**cc:**	

[x] OFFICE CORRESPONDENCE [ ] TELEPHONE LOG [ ] CONFERENCE NOTES [ ] MEMORANDUM

Comments:

From January to March 2016 an on-onsite wetland investigation and land survey of the proposed area for the construction of a 4-way communications ductbank from Gunston Road to the Davison Army Airfield (DAAF) along Poe Road (referenced as Poe Road Alternative in NEPA analysis) was conducted at Fort Belvoir, VA. The wetland analysis and site investigation consisted of in-office review of existing mapping and an on-site field walk and delineation per current USACE wetland delineation guidance (2007 Manual and Mid-Atlantic Regional Supplement).

The approximately 2-mile ductbank route follows a cleared utility area from Gunston Road to Pohick Road just west of the Tulley Gate entrance to Fort Belvoir. After crossing under Pohick Road, the proposed alignment runs along the northern shoulder of Poe Road across Accotink Creek to the point where the alignment connects to a previously installed casing pipe at the VDOT right-of-way for U.S. Route 1 (adjacent to Britten Road entrance to the DAAF). The alignment then follows the eastern edge of Britten Road along a utility corridor to the proposed terminal point. .

Office analysis included a review of available aerial mapping, NRCS soil mapping, and the National Wetlands Inventory Map (enclosed). There were areas of visible inundation noted on aerial mapping along the alignment (Accotink Creek and nearby floodplain). Review of current NRCS soil survey revealed 5 areas within the construction limits where hydric soils were present. Hatboro silt loam was present in an area along a small drainage branch that parallels the existing utility corridor between Gunston and Pohick Roads. Mattapex loam and Elkton silt loam were noted in the area where the proposed alignment crosses Pohick Road. The area adjacent to Accotink creek is indicated as Codurus and Hatboro soils, this soil group parallels the proposed alignment in a low floodplain area and continues across Route 1 up the creek that crosses under Britten Road. Of these areas only the Accotink Creek crossing and the area between Gunston and Pohick road appear to be potentially impacted by the proposed alignment as the selected alignment is along the shoulder of the existing roadway (Poe Road). The stream crossing at Accotink Creek will require either an aerial crossing on the existing bridge or a directionally drilled crossing under the creek bed and wetlands in this area. Office review of the National Wetland Inventory (NWI) Mapping revealed that the area adjacent to Accotink Creek as a Palustrine Forested Wetland. This was the only area within the area of study that that was marked as wetland area on the NWI mapping.

The field survey began near the south edge of Gunston Road and proceeded southwesterly along a previously cleared utility corridor (existing underground water, sewer, and electrical utilities) to Poe Road and across U.S. Route 1 to the DAAF. The existing utility corridor (hereafter known as the utility corridor) appeared to have been cleared 5-10 years ago as there was natural regeneration of American sweetgum, *Liquidambar styriciflua.* This initial utility corridor segment is bisected by a large earthen embankment relic of the former Fort Belvoir Military Railroad. This embankment appears to be currently used as a gravel access road and utility corridor. There is a small spring that parallels the base of this slope on the East side. The area was flagged as a Water of the United

States (WOUS) and soil profiles in the adjacent area were investigated and a small area of scrub/shrub wetlands demarked.

The investigation then proceeded westerly along the utility corridor across the old rail bed to a large wet area at the base of the opposing rail bed side slope. This area showed up on mapping provided by the utilities department of Fort Belvoir as a delineated wetland area. Sample Point 1 was taken within the borders of this area and the findings confirmed this area was a wetland. Sample Point 2 was taken adjacent to the wetland boundary as an upland point. The boundaries were flagged and coincided with other wetland flags that had been placed by other previous delineation work in this area.

The field investigation then continued down the utility corridor to Pohick Road. There was a large linear area of wetlands present paralleling the utility corridor and actually encroaching into the utility corridor as the route approaches Pohick Road clearing. This area is outside the proposed ductbank routing limits but was flagged and identified on attached mapping for informational purposes.

The proposed alignment then crosses Pohick Road at an angle and begins to parallel Poe Road. After traveling through the controlled access point (gate) the Accotink floodplain becomes readily apparent at the base of the existing roadway fill section, with large areas of mud stained leaves noted. This area is adjacent to Accotink Creek and it was obvious from the amount of staining and drift deposits that this area is frequently inundated during storm events. It was flagged and noted as a Palustrine Forested wetland as it is adjacent to the proposed ductbank alignment so impacts can be avoided during future design efforts.

Accotink Creek was then studied to define appropriate WOUS boundaries along the Poe Road approaches. The banks in this area are steep and heavily scoured, with WOUS delineation noted approximately 12-18 inches above the toe of the road embankment slope. The scour lines on the bank were flagged and identified as within WOUS and the adjacent floodplain area was flagged and identified as a Palustrine Forested wetland for planning purposes. It is understood that the design approach for the ductbank utility crossing in this area will be optimized to achieve minimal wetlands impacts as part of the project by utilizing either directional boring or a utility bridge.

From the Accotink creek crossing the proposed alignment follows the northwestern shoulder of Poe Road, along the edge of the existing asphalt to minimize potential wetland impacts. Existing wetlands are noted on site survey adjacent to the toe of road embankment slope in this area so the ductbank will minimize and avoid impacts to wetlands by tracking along the edge of the roadway as close as possible. There are several small drainage channels (branches) and a larger stream culvert that cross under Poe Road along this area of the proposed alignment. These streams were flagged as WOUS for a short distance in case the ductbank alignment needs to traverse around the end of these culvert crossings to maintain proper utility clearances.

Continuing westerly, the project area increases in elevation as the alignment stays along the edge of Poe Road to a small rise or hill on the south side of U.S. Route 1. This is the point where the alignment turns northerly and connects with the existing casing pipe installed as part of the U.S. Route 1 road widening project which is currently under construction.

Once the alignment crosses U.S. Route 1 the alignment connects with the DAAF at the Britten Drive entry gate (not currently active or in use). There were forested wetland and stream channels noted on both sides of this entry road fill section and the proposed alignment avoids these areas by tracking along the entry road shoulder into the DAAF. Once inside the boundaries of the air field property, the alignment follows along the northeastern side of Britten Road in a large maintained grass utility strip along the northeast shoulder of the road. The proposed alignment crosses several dry drainage ditches along this section of the alignment before reaching the terminal point in the developed area of the airfield where field survey ended. Complete field survey notes and reference documents are attached to this narrative introduction and delineation survey report for further reference.

Based on a thorough field investigation and observations made of soils, vegetation, and hydrology, there are jurisdictional wetlands and WOUS that will need to be addressed on the proposed project. The majority of these wetlands occur along the existing Accotink Creek and its floodplain and adjacent to the existing utility corridor.

Flagged wetland areas and creek centerlines, banks, etc. were field surveyed in during the topographic land survey of the route for future design reference. This data was used to calculate the area of potential impact to delineated wetlands and WOUS.

Based on the current project alignment, the total jurisdictional wetland impact for the Poe Road Alternative route is projected to be less than 4,100 square feet, with total stream impact less than 25 linear feet. The breakdown of individual areas is indicated on the attached exhibits.

Attachments:
1. Wetland Determination Data Forms
2. NRCS mapping
3. NWI Mapping
4. USGS Mapping
5. Routing Concept Plan Sheets with Wetland Impact Areas (Under Separate Cover)

THIS PAGE INTENTIONALLY BLANK

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Davison Army Airfield City/County: Fort Belvoir, Va Sampling Date: 3/1/16

Applicant/Owner: United States of America State: Virginia Sampling Point: SP 1

Investigator(s): Brian Harvey Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-2%

Subregion (LRR or MLRA): Lat: 38°42'26.72"N Long: 77°09'11.78W Datum: WGS 84

Soil Map Unit Name: Hatboro silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes Y No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☑ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 1"
Water Table Present?	Yes _____	No _____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 10"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP 1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styriciflua	15%	Y	FAC
2. Platanus occidentalis	10%	Y	FAC-
3. Liriodendron tulipifera	10%	Y	FACU
4.			
5.			
6.			
7.			
8.			
	35%	= Total Cover	

50% of total cover: 17.5 20% of total cover: 7

Sapling/Shrub Stratum (Plot size: 15)			
1. Celtis occidentalis	65%	Y	FACU
2. Liquidambar styriciflua	20%	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	85%	= Total Cover	

50% of total cover: 42.5 20% of total cover: 17

Herb Stratum (Plot size: 15)			
1. Leersia oryzoides	20%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20%	= Total Cover	

50% of total cover: 10 20% of total cover: 4

Woody Vine Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	20%	x 2 =	40
FAC species	45%	x 3 =	135
FACU species	75%	x 4 =	300
UPL species		x 5 =	
Column Totals:	140% (A)		475 (B)

Prevalence Index = B/A = 3.4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1" - 8"	2.5 Y 6/3							
8" - 16"	2.5 Y 6/1							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☑ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

THIS PAGE INTENTIONALLY BLANK

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Davison Army Airfield City/County: Fort Belvoir, Va Sampling Date: 3/1/16

Applicant/Owner: United States of America State: Virginia Sampling Point: SP 2

Investigator(s): Brian Harvey Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 10-20%

Subregion (LRR or MLRA): Lat: 38°42'26.60"N Long: 77°09'14.93W Datum: WGS 84

Soil Map Unit Name: Sassafras-Marumsco complex NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes Y No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: SP 2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fagus grandifolia	40%	Y	FACU
2. Quercus alba	15%	Y	FACU-
3.			
4.			
5.			
6.			
7.			
8.			
	55%	= Total Cover	

50% of total cover: 27.5 20% of total cover: 11

Sapling/Shrub Stratum (Plot size: 15)			
1. Liquidambar styriciflua	55%	Y	FAC
2. Fagus grandifolia	10%	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	65%	= Total Cover	

50% of total cover: 32.5 20% of total cover: 13

Herb Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	55	x 3 =	165
FACU species	65	x 4 =	260
UPL species		x 5 =	
Column Totals:	120 (A)		435 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: SP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1"-6"	10YR 5/4							
6"-18"	2.5Y 5/6							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

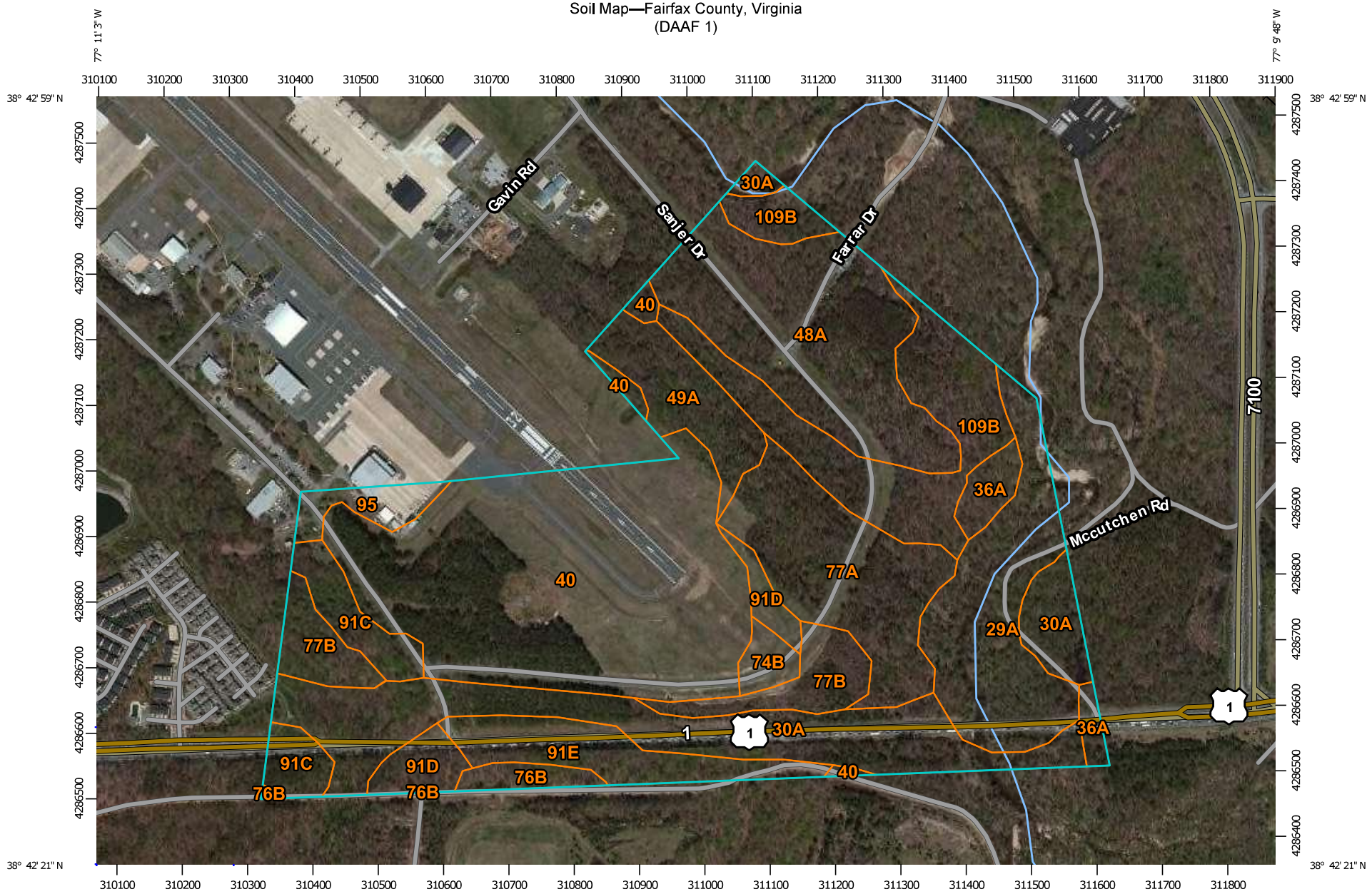
Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

THIS PAGE INTENTIONALLY BLANK

Soil Map—Fairfax County, Virginia
(DAAF 1)



Map Scale: 1:8,250 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 100 200 400 600

Feet
0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fairfax County, Virginia
Survey Area Data: Version 12, Sep 23, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

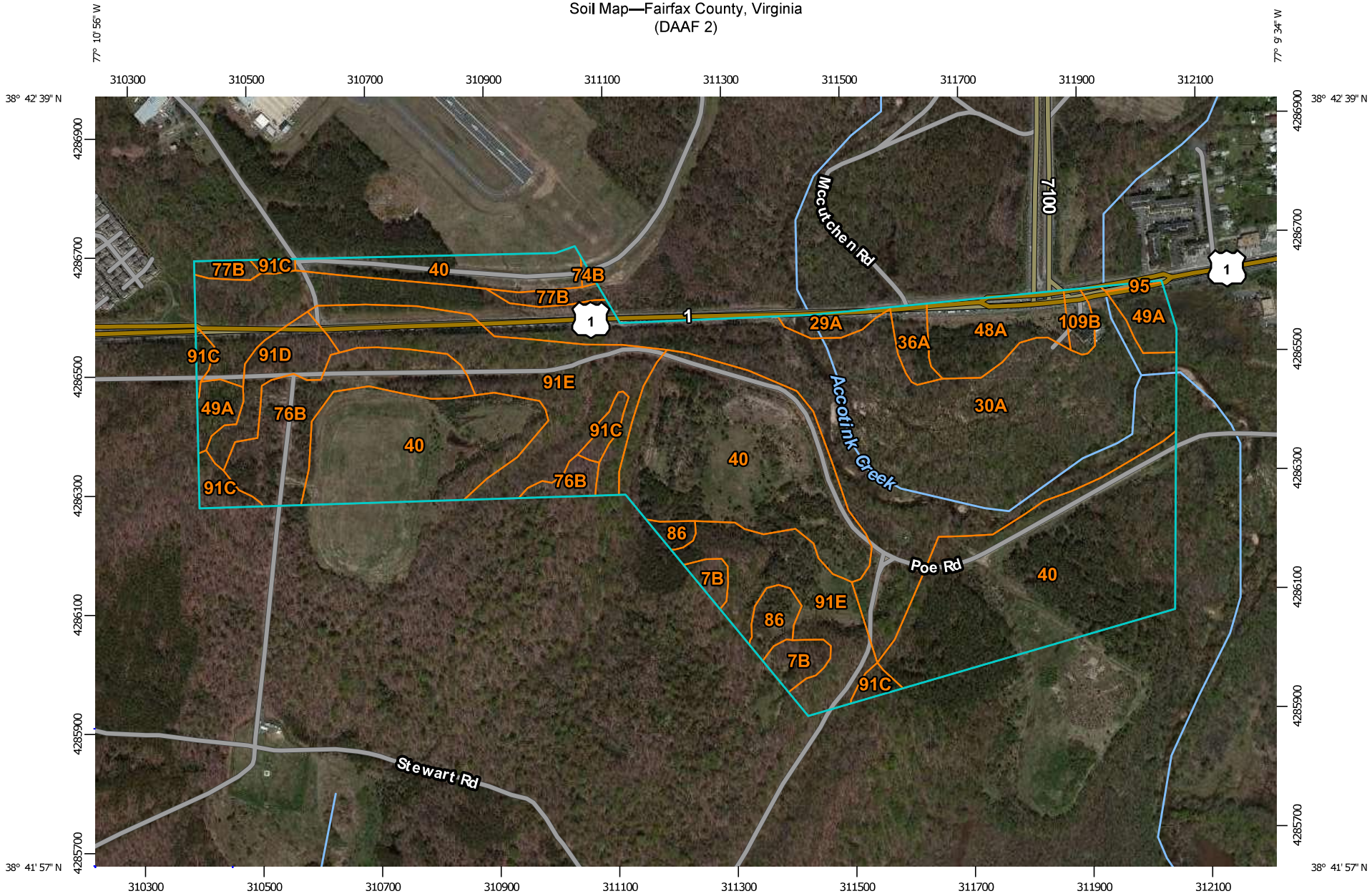
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Fairfax County, Virginia (VA059)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
29A	Codorus silt loam, 0 to 2 percent slopes, occasionally flooded	16.8	8.8%
30A	Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded	26.3	13.7%
36A	Elkton silt loam, 0 to 2 percent slopes, occasionally ponded	3.1	1.6%
40	Grist Mill sandy loam, 0 to 25 percent slopes	47.2	24.6%
48A	Gunston silt loam, 0 to 2 percent slopes	23.6	12.3%
49A	Hatboro silt loam, 0 to 2 percent slopes, frequently flooded	7.4	3.8%
74B	Lunt-Marumsco complex, 2 to 7 percent slopes	1.8	0.9%
76B	Matapeake silt loam, 2 to 7 percent slopes	1.9	1.0%
77A	Mattapex loam, 0 to 2 percent slopes	16.4	8.5%
77B	Mattapex loam, 2 to 7 percent slopes	8.2	4.3%
91C	Sassafras-Marumsco complex, 7 to 15 percent slopes	6.3	3.3%
91D	Sassafras-Marumsco complex, 15 to 25 percent slopes	4.2	2.2%
91E	Sassafras-Marumsco complex, 25 to 45 percent slopes	7.8	4.1%
95	Urban land	2.8	1.4%
109B	Woodstown sandy loam, 2 to 7 percent slopes	18.2	9.5%
Totals for Area of Interest		**191.8**	**100.0%**

THIS PAGE INTENTIONALLY BLANK

Soil Map—Fairfax County, Virginia
(DAAF 2)



Map Scale: 1:9,110 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fairfax County, Virginia
Survey Area Data: Version 12, Sep 23, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Fairfax County, Virginia (VA059)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
7B	Beltsville silt loam, 2 to 7 percent slopes	2.5	1.2%
29A	Codorus silt loam, 0 to 2 percent slopes, occasionally flooded	1.4	0.7%
30A	Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded	62.3	30.6%
36A	Elkton silt loam, 0 to 2 percent slopes, occasionally ponded	1.8	0.9%
40	Grist Mill sandy loam, 0 to 25 percent slopes	72.3	35.5%
48A	Gunston silt loam, 0 to 2 percent slopes	6.2	3.0%
49A	Hatboro silt loam, 0 to 2 percent slopes, frequently flooded	3.8	1.9%
74B	Lunt-Marumsco complex, 2 to 7 percent slopes	0.2	0.1%
76B	Matapeake silt loam, 2 to 7 percent slopes	11.3	5.5%
77B	Mattapex loam, 2 to 7 percent slopes	1.9	0.9%
86	Pits, gravel	2.4	1.2%
91C	Sassafras-Marumsco complex, 7 to 15 percent slopes	3.8	1.9%
91D	Sassafras-Marumsco complex, 15 to 25 percent slopes	4.3	2.1%
91E	Sassafras-Marumsco complex, 25 to 45 percent slopes	28.2	13.9%
95	Urban land	0.2	0.1%
109B	Woodstown sandy loam, 2 to 7 percent slopes	1.1	0.5%
Totals for Area of Interest		**203.6**	**100.0%**

THIS PAGE INTENTIONALLY BLANK

Soil Map—Fairfax County, Virginia
(DAAF 3)

Map Scale: 1:7,240 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fairfax County, Virginia
Survey Area Data: Version 12, Sep 23, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Fairfax County, Virginia (VA059)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
7B	Beltsville silt loam, 2 to 7 percent slopes	7.1	4.4%
30A	Codorus and Hatboro soils, 0 to 2 percent slopes, occasionally flooded	23.2	14.5%
33A	Downer loamy sand, 0 to 2 percent slopes	3.5	2.2%
36A	Elkton silt loam, 0 to 2 percent slopes, occasionally ponded	5.3	3.3%
40	Grist Mill sandy loam, 0 to 25 percent slopes	16.5	10.3%
48A	Gunston silt loam, 0 to 2 percent slopes	3.0	1.8%
49A	Hatboro silt loam, 0 to 2 percent slopes, frequently flooded	14.0	8.7%
77B	Mattapex loam, 2 to 7 percent slopes	17.2	10.8%
91C	Sassafras-Marumsco complex, 7 to 15 percent slopes	17.3	10.9%
91D	Sassafras-Marumsco complex, 15 to 25 percent slopes	18.6	11.6%
91E	Sassafras-Marumsco complex, 25 to 45 percent slopes	5.7	3.6%
95	Urban land	20.5	12.8%
109B	Woodstown sandy loam, 2 to 7 percent slopes	8.0	5.0%
Totals for Area of Interest		**159.9**	**100.0%**

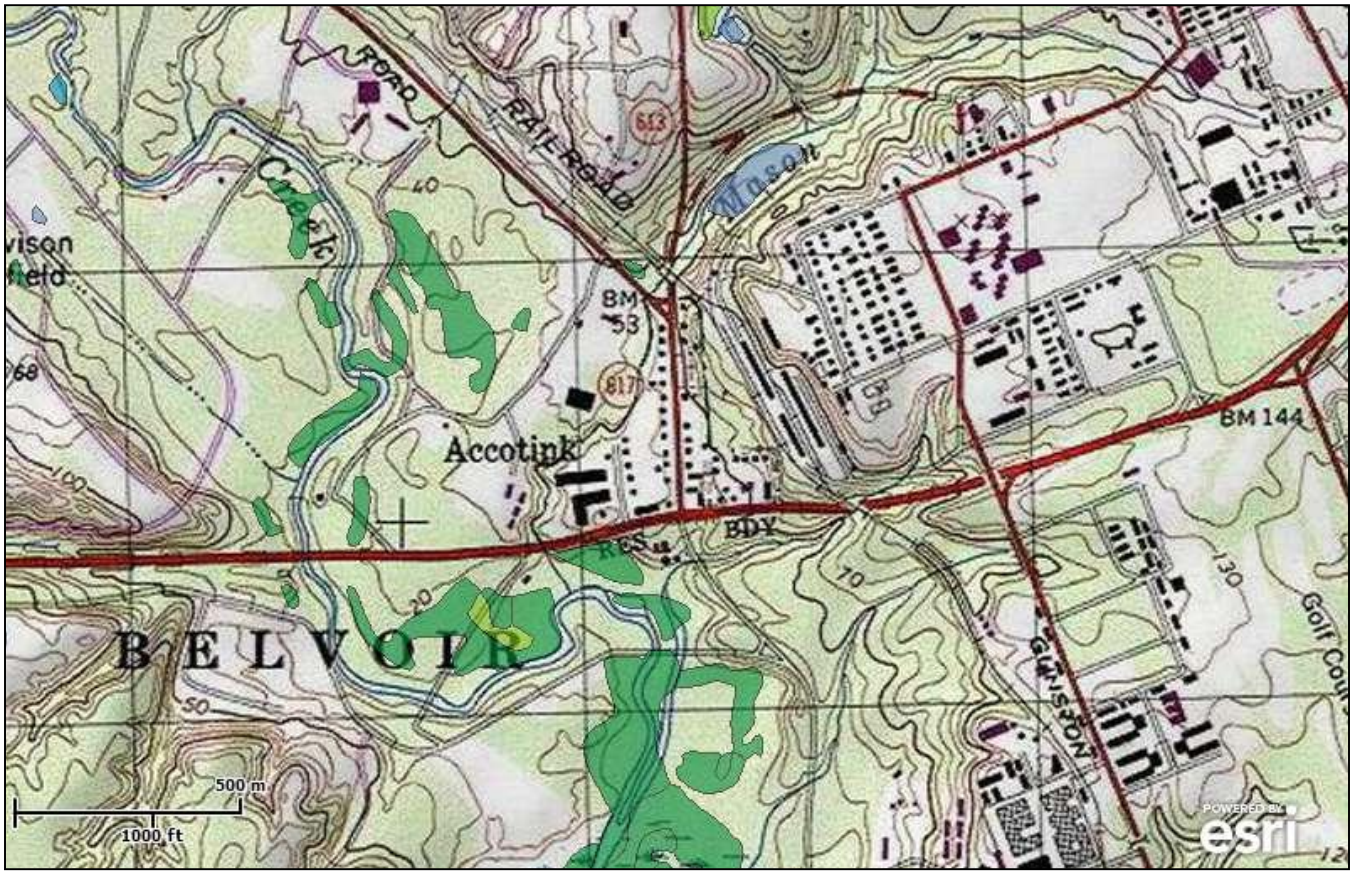
THIS PAGE INTENTIONALLY BLANK

U.S. Fish and Wildlife Service

National Wetlands Inventory

NWI Mapping

Dec 23, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI Mapping

Dec 23, 2015

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

NWI Mapping

March 23, 2016

- Riparian Mapping Areas
- Forested/Shrub
- Herbaceous
- Estuarine and Marine Deepwater

1:6,305

0 0.05 0.1 0.2 mi

0 0.075 0.15 0.3 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

DAAF Poe Road

February 29, 2016

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

1:12,609

0 0.1 0.2 0.4 mi

0 0.15 0.3 0.6 km

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

THIS PAGE INTENTIONALLY BLANK

Appendix B

THREATENED AND ENDANGERED SPECIES ASSESSMENT

LEADERS IN EXCELLENCE!

U.S. ARMY GARRISON FORT BELVOIR

THIS PAGE INTENTIONALLY BLANK

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

David C. Dowling
Deputy Director of Soil and Water Conservation and Dam Safety

Thomas L. Smith
Deputy Director of Operations

September 8, 2016

Thomas Fitzgerald
Wiley & Wilson, Inc.
127 Nationwide Drive
Lynchburg, VA 24502

Re: Communications Line Extension, Davison Army Airfield, Fort Belvoir, VA

Dear Mr. Fitzgerald:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Accotink Bay – Gunston Cove Stream Conservation Unit is located within the project site. Stream Conservation Units (SCUs) identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Accotink Bay – Gunston Cove SCU has been given a biodiversity ranking of B5, which represents a site of general significance. The natural heritage resources associated with this site are:

Lampsilis radiate	Eastern lampmussel	G5/S2S3/NL/NL
Glyptemys insculpta	Wood turtle	G3/S2/NL/LT

The Eastern lampmussel is a freshwater mussel which inhabits river systems in areas with substrates composed of silt, sand, cobble, gravel and exposed bedrock (NatureServe, 2009). This species has a wide range, from eastern Canada west to Ontario and Quebec and south to South Carolina (NatureServe, 2009). In Virginia, there are records from the Chowan and York River drainages.

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species.

The Wood turtle ranges from southeastern Canada, south to the Great Lake states and New England. In Virginia, it is known from northern counties within the Potomac River drainage (NatureServe, 2009). The Wood turtle inhabits areas with clear streams with adjacent forested floodplains and nearby fields, wet meadows, and

farmlands (Buhlmann et al., 2008; Mitchell, 1994). Since this species overwinters on the bottoms of creeks and streams, a primary habitat requirement is the presence of water (Mitchell, 1994).

Threats to the wood turtle include habitat fragmentation, urbanization, and automobile or farm machinery mortality (Buhlmann et al., 2008). Please note that the Wood turtle is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

In addition, the Accotink Wetlands Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Accotink Wetlands Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resources of concern at this site are:

Lathyrus palustris	Marsh pea	G5/S1/NL/NL
Bolboschoenus fluviatilis	River bulrush	G5/S2/NL/NL
Ranunculus ambigens	Water-plantain crowfoot	G4/S1/NL/NL
Tidal Freshwater Marsh (Mixed High Marsh Type)		G3/S4?/NL/NL

Marsh pea is a state rare perennial with erect to sprawling stems and leaves with well-developed, branched tendrils and 4 – 10 leaflets. It occupies calcareous fens and marshes in the western part of Virginia and freshwater tidal marshes in the eastern part of the state. It is known from only a few sites in the northern Coastal Plain and Ridge and Valley (Weakley, et al).

River bulrush, a state-rare plant species, inhabits fresh tidal marshes of the coastal plain of Virginia. This species forms predominantly sterile colonies that spread by rhizomes. Water pollution and sedimentation, sea level rise, and invasive species such as *Phragmites* australis pose the greatest threats to populations of this sedge. Nine populations of river bulrush are believed to be extant in Virginia.

Water-plantain crowfoot is a perennial wetland herb in the buttercup family (Ranunculaceae). The global distribution of water-plantain spearwort includes the eastern, midwestern, and southern U.S. and Ontario, Canada. Although apparently globally secure, water-plantain spearwort, also known as water-plantain crowfoot, is regionally rare to historical or extirpated, particularly in some eastern states (Kartesz 1999). In Virginia, it has been documented in scattered locations in the Coastal Plain, Piedmont, and Ridge and Valley. Many Virginia occurrences are historical, but more recent occurrences include those in Fairfax, Charlotte, and Lee counties. The lower stem of this relatively stout herb may recline, producing roots from the nodes, then become ascending to erect and extending sometimes to over 3 feet long. Leaves are lance-shaped, with margins smooth to finely-toothed. Yellow-petaled flowers bloom from April-July and can be solitary or in a branching inflorescence; the round to oval fruiting head is composed of numerous, small, 1-seeded, fruits (Godfrey and Wooten 1981). Habitat in Virginia occurrences includes a variety of wetlands: freshwater marshes, both tidal and non-tidal; a spring seep within a clearcut; wet soil within a floodplain; a muddy stream bottom; ditches; and very wet, mucky ground in a small pastured wetland. Threats include habitat degradation or destruction, and competition from invasive alien plant species.

Tidal Freshwater Marsh (Mixed High Marsh Type) (*Impatiens capensis-Peltandra virginica-Polygonum arifolium-Schoenoplectus fluviatilis-Typha angustifolia* Tidal Herbaceous Vegetation) occupies the higher elevation zone of freshwater to slightly oligohaline marshes on the Atlantic Coast from Maine to Virginia. From Delaware to northern Virginia, this is the principal mixed freshwater tidal marsh community and forms extensive patches along many tidal rivers. This community is composed of mixed, dense, and often diverse marsh vegetation with highly variable species composition and patch dominance. The soils are highly variable, varying

from silts and silty mucks to peats and sands across the range (NatureServe, 2010). In Virginia, this community occurs most extensively in estuarine reaches of the Potomac River drainage, but has also been documented along the Rappahanock, Pamunkey, Mattoponi, and James Rivers.

Freshwater tidal marshes are naturally dynamic systems that are best developed where there is a major input of freshwater, daily tidal range of at least 0.5 m, and a geomorphology that tends to constrict and magnify tidal influence in the upper reaches of the estuary. These marshes are subject to diurnal flooding by tides and river discharge (NatureServe, 2010). Principal threats include chronic sea-level rise leading to increasing upstream salinity, pollutants, and invasive exotic plants such as marsh dewflower (*Murdannia keissak*) (Fleming et al. 2011).

Furthermore, Dogue Creek and an unnamed tributary to Dogue Creek have been designated by the VDGIF as "Threatened and Endangered Species Waters" for the Wood turtle.

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of Wood turtle, DCR also recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of $150.00 has been assessed for the service of providing this information. Please find enclosed an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, **DCR - Division of Natural Heritage, 600 East Main Street, 24th Floor, Richmond, VA 23219.** Payment is due within thirty days of the invoice date. Please note the change of address for remittance of payment as of July 1, 2013. Late payment may result in the suspension of project review service for future projects.

The VDGIF maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov.

Should you have any questions or concerns, feel free to contact me at (804) 692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

Alli Baird

Alli Baird, LA, ASLA
Coastal Zone Locality Liaison

CC: Amy Ewing, VDGIF

Literature Cited

Buhlmann, K, T. Tuberville, and W. Gibbons. 2008. Turtles of the southeast. University of Georgia Press. Athens, GA. 252 pp.

Fleming, G.P., K.D. Patterson, K. Taverna, and P.P. Coulling. 2011. The natural communities of Virginia: classification of ecological community groups. Second approximation. Version 2.4. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.

Godfrey, R.K. and J.W. Wooten. 1981. Aquatic and Wetland Plants of the Southeastern United States. The University of Georgia Press, Athens, GA. 933 pp.

Kartesz, J.T. 1999. A Synonymized Checklist and Atlas with Biological Attributes for the Vascular Flora of the United States, Canada, and Greenland. First Edition. In: Kartesz, J.T. and C.A. Meacham. Synthesis of the North American Flora, Version 1.0. North Carolina Botanical Garden, Chapel Hill, NC.

Ludwig, J. Christopher. 1996. Personal communication. Virginia Department of Conservation and Recreation, Division of Natural Heritage.

Mitchell, J. C. 1994. Reptiles of Virginia. Smithsonian Institution Press, Washington. pp. 88-91.

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: April 8 and 27, 2010).

NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: December 13, 2011).

Weakley, A.S., J.C. Ludwig and J.F. Townsend. 2012. *Flora of Virginia.* Botanical Research Institute of Texas Press, Fort Worth. p. 322.

Williams, J.D., M.L. Warren, Jr., K.S. Cummings, J.L. Harris, and R.J. Neves. 1993. Conservation status of freshwater mussels of the United States and Canada. Fisheries 18: 6-9.

VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES
GUIDANCE DOCUMENT ON
BEST MANAGEMENT PRACTICES FOR
CONSERVATION OF LITTLE BROWN BATS AND TRI-COLORED BATS

(Approved February 16, 2016)

Summary: This guidance document specifies the best management practices and processes to be utilized in conserving little brown and tri-colored bats and in determining whether a specific practice is eligible for incidental take of either of these species.

Electronic Copy: An electronic copy of this guidance in PDF format is available online on the Virginia Department of Game and Inland Fisheries (VDGIF) Web site at http://www.dgif.virginia.gov/wildlife/LBBA_TCBA_Guidance.pdf.

Contact Information: Please contact the Department of Game and Inland Fisheries at Rick.Reynolds@dgif.virignia.gov or by calling 540-248-9360 with any questions regarding the application of this guidance.

Disclaimer: This document is provided as guidance and, as such, sets forth standard operating procedures of the Board of Game and Inland Fisheries and the Department of Game and Inland Fisheries that administers the program on behalf of the Board. This guidance provides a general interpretation of the applicable Code and Regulations, but is not meant to be exhaustive in nature. Each situation may differ and may require additional interpretation of the Virginia Endangered Species Act and attendant regulations.

I. Background:

The Virginia Endangered Species Act, Article 6 of Title 29.1 of the Code of Virginia, specifies that the Board of Game and Inland Fisheries may allow the incidental take of state-designated endangered or threatened species under certain provisions. State endangered and threatened species are designated as such by regulation of the Board (4VAC15-20-130.B); the updated list may be found online at http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+4VAC15-20-130. The Act also clearly indicates that the taking of state endangered or threatened species is illegal unless specifically allowed by Code or regulation. The Code of Virginia specifies that any regulation adopted by the Board that allows the incidental take of state endangered or threatened species must describe the circumstances that must exist to allow for incidental take, include appropriate conservation actions that must be taken that enhance the survival of the species, and require the actual taking to be at a minimum.

This guidance document shall provide additional details on the circumstances under which the Board will allow the incidental take of little brown bats and tri-colored bats, consistent with the designation of these species as state endangered.

II. Definitions (pursuant to Article 6, Title 29.1, Code of Virginia and 4VAC15-20-140):

"Species" are defined as any subspecies of fish or wildlife and any distinct population segment of any species or vertebrate fish or wildlife which interbreed when mature.
"Take" is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, possessing, or collecting, or attempting to do any of these activities.

"Incidental take" is defined as any taking of an endangered or threatened species of fish and wildlife, excluding those species appearing on the federal list of endangered and threatened species, that otherwise would be prohibited by law or regulation, if the taking is incidental to, but not the purpose of, an otherwise lawful activity.

III. Authority:

The Endangered Species Act in the Code of Virginia contains the following authorities applicable to this guidance:

§ 29.1-564. Taking, transportation, sale, etc., of endangered species prohibited.
The taking, transportation, possession, sale, or offer for sale within the Commonwealth of any fish or wildlife appearing on any list of threatened or endangered species published by the United States Secretary of the Interior pursuant to the provisions of the federal Endangered Species Act of 1973 (P.L. 93-205), or any modifications or amendments thereto, is prohibited except as provided in § 29.1-568.

§29.1-566. Regulations.
The Board is authorized to adopt the federal list, as well as modifications and amendments thereto by regulations; to declare by regulation, after consideration of recommendations from the Director of the Department of Conservation and Recreation and from other reliable data sources, that species not appearing on the federal lists are endangered or threatened species in Virginia; and to prohibit by regulation the taking, transportation, processing, sale, or offer for sale within the Commonwealth of any threatened or endangered species of fish or wildlife.

§ 29.1-568. When Board may permit taking of endangered or threatened species; designated experimental populations.

A. The Board may permit the taking, exportation, transportation, or possession of any fish or wildlife which is listed by the provisions of this article, for zoological, educational, or scientific purposes and for propagation of such fish or wildlife in captivity for preservation purposes. Any person may, in accordance with all applicable federal and state laws, possess, breed, sell, and transport any nonnative wildlife included on any list of threatened or endangered species published by the United States Secretary of the Interior pursuant to provisions of the federal Endangered Species Act of 1973 (P.L. 93-205), as amended, when (i) the federal designation does not specifically prohibit such possession, breeding, selling, or transporting and (ii) the nonnative wildlife is not included on the list of predatory or undesirable animals specified by regulations of the Board adopted pursuant to § 29.1-542.

B. The Board may adopt regulations that:

1. Allow the taking, possession, exportation, transportation, or release of fish or wildlife within or among designated experimental populations of a specific species, within the context of an approved conservation plan for the species. Any regulation designating an experimental population shall (i) specify the circumstances under which taking of an individual member of an experimental population will be exempt from the prohibitions and penalties authorized under this article and (ii) describe the geographic extent of the experimental population, which shall be distinct from naturally occurring populations continuing to be subject to the prohibitions and penalties authorized under this article.

2. Allow incidental take provided such regulations shall (i) describe the allowable circumstances; (ii) include provisions that ensure offsets through the implementation of conservation actions specified by the Department to enhance the long-term survival of the species or population; and (iii) require any actual taking to be at a minimum.

IV. Discussion and Interpretation:

Little brown bats and tri-colored bats have experienced substantial declines across the Commonwealth since the discovery of white-nose syndrome (WNS) in2009. Recent monitoring surveys document that populations of both species have declined more than 95% across the state since then. The following best management practices are provided as guidance for maintaining and improving habitats for these species, minimizing purposeful or accidental take of these animals, and enhancing the long-term survival of these species in Virginia.

Hibernacula: Current Knowledge of Hibernacula and Conservation Measures

The VDGIF knows about 132 hibernacula (places where these animals hibernate during the winter) with little brown and or tri-colored bats present. These hibernacula typically are located in western Virginia and are typically caves. Of the 132 hibernacula, 50 have combined little brown and tri-colored counts of 50 or more individuals and supported over 95% of the hibernating populations pre white-nose syndrome. Of the 50, 10 are on public lands, and an additional four have private landowner protections (e.g., easements). Our goal is to protect and manage these 50 hibernacula and surrounding fall swarm habitat (roost trees, open areas, riparian, and other habitats within a 0.25-mile radius of a hibernaculum used by bats for roosting or foraging before hibernating) that historically supported 97.5% of the hibernating populations of these two species.

While there is no literature guiding the decision to protect a specific number of hibernacula or percentage of a population to maintain these species in Virginia during hibernation, the VDGIF thinks that protecting and managing approximately one-third of the known hibernacula, that supported a majority of known pre-WNS hibernating populations, is appropriate. As new information is gathered through surveys, monitoring and modeling, sites may be added or removed from the list.

- *Conservation Measures:* For hibernacula containing over 50 individuals of little brown and/or tri-colored bats (documented between 1995 to present), a two tiered buffer zone is recommended:
  - Between December 1 and April 30, implement a 250-foot radius buffer zone with the following restrictions: no tree removal, prescribed fire, or land disturbance impacting the entrance(s) to the hibernacula. This action will protect the immediate area around the hibernacula by reducing disturbance during fall swarm, hibernation, and spring emergence. Tree removal and prescribed fire are permitted outside of these dates.
    - *Incidental Take Protocol:* If tree removal needs to occur due to public safety or property damage concerns, and there are no known roost trees, then no further action is necessary. If there are known tree roosts, follow the guidance under Roost Trees below.
  - Between September 1 and November 30, increase the buffer to a 0.25-mile radius, with the following conditions: for timber harvests greater than 20 acres, retain snags (dead, broken-off trees), "wolf" trees (large trees with wide spreading crowns that may have broken branches, cavities or sloughing bark) (if not presenting public safety or property risk) and small tree groups (1 per 20 acres harvested) of up to 15 trees of 3 inches diameter at breast height (dbh) or greater. Because of the significant decline (greater than 90%) documented for little brown and tri-colored bats, the VDGIF does not anticipate that fall swarm roost trees will be a limiting factor in the protection and conservation of these species. These timber harvest actions will retain and provide fall roost trees for these species near their winter hibernating areas. Tree removal and prescribed fire are permitted outside these dates.
    - *Incidental Take Protocol:* If there are known tree roosts that need to be removed due to public safety or property damage concerns, follow the guidance under Roost Trees below.

  Under these circumstances and conditions, we anticipate little to no lethal take of little brown bats or tri-colored bats.

<u>Roost Trees: Current Knowledge of Roost Trees and Conservation Measures</u>

The VDGIF has not tracked and is not aware of any little brown or tri-colored bat roost trees (places where the animals live when not hibernating) in Virginia. The VDGIF is in the process of surveying for roost trees and will provide updated guidance as new information becomes available. Typically, both species utilize human dwellings (barns, sheds, attics, buildings, etc.) as well as trees for maternity roosts. Our goal is to identify and protect as many of the remaining maternity colonies as possible

- *Conservation Measures:*
  - Between June 1 and July 31, implement a 150-foot radius buffer zone with the following restrictions: no tree removal, prescribed fire, or land disturbance within the buffer zone. This will protect the known roost tree(s) and foraging habitat close to the roost tree during the maternity season. Tree removal and prescribed fire are permitted outside these dates.

- If a little brown or tri-colored maternity roost needs to be excluded due to public safety or property damage concerns, then the following *Incidental Take Protocol* will apply:
  - The exclusion will be performed by a Nuisance Wildlife Control Operator (NWCO) or individual that is certified in bat exclusion techniques through a program recognized by the VDGIF and is permitted by the VDGIF.
  - Exclusion devices will be used to allow volant (capable of flight) individuals to escape.
  - Individual animals incapable of sustaining themselves will be collected and transport to a willing and appropriate VDGIF-permitted wildlife rehabilitation facility.

  Under these circumstances and conditions, we anticipate little to no lethal take of little brown bats or tri-colored bats.

Human Structures: Current Knowledge of Human Structure Use and Conservation Measures

Little brown and big brown bats are the two species most commonly found in human-occupied dwellings and the ones most likely to cause human conflicts. The VDGIF is currently aware of three structures that serve as roosts for little brown bats. Tri-colored bats utilize human structures as well, but are more commonly found in barns, sheds, and abandoned structures and less so in occupied dwellings. Currently, the VDGIF is not aware of any tri-colored bat roosts in Virginia. The VDGIF is in the process of surveying for roost trees and artificial roost structures and will provide updated guidance as new information becomes available.

- *Conservation Measures*: Between May 15 and August 31, no exclusion of bats from maternity colonies, except for human health concerns or property damage, as determined by the landowner.
  - If a little brown or tri-colored maternity roost needs to be excluded due to human health or property damage concerns, then the following *Incidental Take Protocol* will apply:
    - The exclusion will be performed by a Nuisance Wildlife Control Operator (NWCO) or individual that is certified in bat exclusion techniques through a program recognized by the VDGIF and is permitted by the VDGIF.
    - Exclusion devices will be used to allow volant (capable of flight) individuals to escape.
    - Individual animals incapable of sustaining themselves will be collected and transport to a willing and appropriate VDGIF-permitted wildlife rehabilitation facility.

  Under these circumstances and conditions, we anticipate little to no lethal take of little brown bats or tri-colored bats.

Facility or Project Operations: Operation under a VDGIF-approved plan

The VDGIF understands and recognizes that white-nose syndrome is the primary cause for the rapid and significant decline of little brown and tri-colored bats in Virginia. However, additional losses that result from other activities may exacerbate these losses. Under certain approved circumstances, the VDGIF can allow facility operations that might otherwise result in taking of bats when those operations are conducted in a manner than implements measures to specifically minimize impacts to these species.

- *Conservation Measures*: Project or facility operations that might incidentally take little brown or tri-colored bats can be allowed when conducted in accordance with a plan developed by the project or facility operator and approved by the VDGIF. The plan must include, but is not limited to, the following information:
  - the specific circumstance/operational activity or condition that may result in taking:
  - the specific measures to be implemented that avoid, minimize and/or mitigate incidental take associated with an otherwise lawful activity;
  - the expected incidental take;
  - the implementation schedule; and
  - an explicit point of contact for communications to and from the VDGIF.

  The operator must acknowledge and implement practices to report bats taken, even in circumstances where specific measures have been approved and implemented. If project operations occur within areas described in other parts of this document (e.g., Hibernacula; Known Roosts), the operator is expected to abide by the conservation measures described in those sections.

  Under these circumstances and conditions, we anticipate little to no lethal take of little brown bats or tri-colored bats.

In any instance of allowable incidental take, it is the landowner's responsibility to document the circumstance, actions taken, and number of animals taken (if any), in making a determination that these species should be removed to address human health, public safety or property damage issues. The landowner is responsible for retaining this documentation.

V. Adoption, Amendments, and Repeal:

This document will remain in effect until rescinded or superseded.

Robert W. Duncan — 02/16/2016

Robert W. Duncan
Executive Director, Department of Game and Inland Fisheries

Date

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Date: November 1, 2016

Self-Certification Letter

Project Name: Communications Line Extension DAAF, Fort Belvoir, VA

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. . 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in:

- "no effect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, not likely to adversely affect" determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- "may affect, likely to adversely affect" determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016 Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat; and/or
- "no Eagle Act permit required" determinations for eagles.

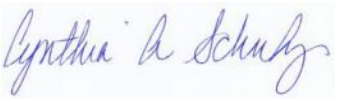
We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the "no effect" or "not likely to adversely affect" determinations for proposed and listed species and proposed and designated critical habitat; the "may affect" determination for Northern long-eared bat; and/or the "no Eagle Act permit required" determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Troy Andersen of this office at (804) 824-2428.

Sincerely,



Cindy Schulz
Field Supervisor
Virginia Ecological Services

Enclosures - project review package

Project Review Package (See Reference Project NEPA Environmental Assessment)

Self-Certification regarding Northern long-eared bat:

Species/Resource Name
Northern long-eared bat

ESA Section 7/Eagle Act Determination
Suitable habitat present

Note/Documentation:
Implementing a Time of Year Restriction (TOYR) (April 15 - Sept 15) for tree clearing that is not substantial acreage.

Conclusion:
No Effect/Not Likely to Adversely Affect

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

IMBV-PW

21 October 2015

MEMORANDUM FOR US Army Fort Belvoir Personnel

SUBJECT: Memorandum of Instruction — Northern Long-eared Bat Protection on Fort Belvoir

1. PURPOSE. The purpose of this memorandum is to disseminate the requirements for protecting northern long-eared bat (NLEB), a species recently listed as "threatened" under the Endangered Species Act. This memorandum summarizes the protection measures of the Endangered Species Act, as well as the Conservation Measures agreed upon between the US Army Environmental Command and the US Fish and Wildlife Service (FWS) in the "Informal Conference & Management Guidelines on the Northern Long-eared Bat (*Myotis septentrionalis*) for Ongoing Operations on Installation Management Command Installations", May 2015 (i.e., the Programmatic Consultation). This memorandum establishes DPW's sole responsibility for conducting consultation with FWS when required for all activities and operations (projects) and project proponent responsibility for providing DPW all project-specific materials required for the consultation. This memorandum will be revised, as necessary, to reflect any changes resulting from Fort Belvoir's ongoing installation-specific coordination with FWS's Virginia Field Office, and to reflect bat survey results.

2. APPLICABILITY. This memorandum applies to all military, civilian, tenant, partner, and contractor activities on Fort Belvoir.

3. SUMMARY OF NORTHERN LONG-EARED BAT PROTECTION REQUIREMENTS.

The Endangered Species Act requires federal agencies to protect listed species and to consult with FWS (and/or National Marine Fisheries Services) on any action that "may adversely affect" a listed species. Activities at Fort Belvoir with the potential to affect northern long-eared bat include tree cutting or clearing; construction; pest control operations (e.g., pesticide application, removal, or exclusion, of animals from buildings); military training, firing and maneuvering activities; aircraft operations; forest management; and, development of new recreational areas.

Tree Cutting or Clearing.

The Programmatic Consultation establishes a time-of-year restriction (TOYR) prohibiting all tree cutting or clearing of trees 3 inches or greater in diameter at breast

height from 15 April through 15 September (see enclosed FWS message dated 28 May 2015) annually. An exception is possible for trees that pose a hazard to personnel or property, and for removal of individual non-hazardous trees. Such removals must be coordinated through the Fort Belvoir Directorate of Public Works (DPW). For those exceptions, Fort Belvoir must survey and document the absence of northern long-eared bat prior to authorizing removal of any trees during the TOYR period. Individual non-hazardous trees cannot be removed, if northern long-eared bat is present. Hazardous trees may be removed, but Fort Belvoir must initiate emergency consultation with FWS for trees to be removed during the TOYR period, if northern long-eared bat is present.

Consultation with FWS is required for the following actions any time of the year: clearing 10 acres or more of trees (unless the project is entirely within 100 feet of an existing road surface); or clearcutting within 0.25 mile and overstory roost tree removal within 100 meters of a documented maternity roost tree, or within 0.5 mile of a known hibernacula.

DPW has sole responsibility for conducting consultation with FWS when required for all activities and operations (projects). Project proponents will be responsible for providing DPW all project-specific materials required for the consultation.

Construction Activities, Other than Tree Removal.

Project-specific consultation with FWS is required if the project cannot angle the lighting away from a potential bat foraging area, or cannot provide a 100-meter buffer around areas of suitable bat habitat. Consultation is also required for projects within 0.25 mile of a known roost or within 0.50 mile of a known hibernacula. The Programmatic Consultation allows exemptions to these requirements for some situations, such as activities entirely within an existing road surface. All construction must be coordinated with DPW to assess Consultation requirements.

Pest Control Operations.

No glue traps/adhesive traps are to be placed where they could capture bats. No lethal control measures are permitted for bats unless there is a suspected human health risk for exposure to rabies or other disease. The Programmatic Consultation establishes a TOYR prohibiting installation of bat exclusions to buildings from 1 May through 31 August annually, and only allows the sealing of building cracks and crevices from late fall through early spring annually. Insecticides are to be used sparingly in buildings with

bats, and the use of foggers is prohibited. The Programmatic Consultation establishes a Military Training, Firing and Maneuver Activities, and Aircraft Operations.

Any changes to existing military training, firing, or maneuver activities, or to existing flight training activities or aircraft operations must be coordinated with DPW to determine if FWS consultation is required.

Recreational Activities.

Project-specific consultation with FWS is required for the development of new recreation areas.

Other Requirements.

No one is allowed to handle any bats on Fort Belvoir unless they are in possession of the appropriate state and/or federal permits. They also are required to be current on their rabies pre-exposure vaccinations.

4. PROPONENT. The Directorate of Public Works, Environmental and Natural Resource Division (DPW-ENRD) is the proponent for this memorandum. Point of contact for tree work is Brice Bartley at 703-806-4142; point of contact for pest control work is Steve Watters at 703-806-0684; and point of contact for northern long-eared bat Endangered Species Act consultation requirements is Dorothy Keough at 703-806-0049.

Encl

FOR Joseph P. Booth, Deputy
MICHELLE D. MITCHELL
Colonel, AG
Commanding

Informal Conference & Management Guidelines

on the

Northern Long-eared Bat (*Myotis septentrionalis*)

for

Ongoing Operations on Installation Management Command Installations

May 2015

Prepared By:
U.S. Army Environmental Command

Table of Contents

List of Tables:

I. General

A. *Purpose.* Pursuant to Section 7(a)(4) of the Endangered Species Act (ESA), federal action agencies are required to confer with the United States Fish and Wildlife Service (USFWS) if their proposed action is likely to jeopardize the continued existence of a listed species (50 CFR 402.10(a)). Action agencies may also confer with the USFWS if the proposed action may affect a proposed species or proposed critical habitat. Species listed as threatened or endangered under the ESA are afforded protection against "take". After the listing becomes effective, pursuant to Section 7(a)(2) of the ESA, federal action agencies are required to consult with the USFWS if their proposed action may affect the listed species (50 CFR 402.14(a)).

The intent of this informal conference and subsequent consultation is to evaluate military operations and sustainment/enhancement activities on Installation Management Command (IMCOM) installations and facilities that may affect, but are not likely to adversely affect (NLAA) the northern long-eared bat (*Myotis septentrionalis*; NLEB), a species to be listed as threatened under the ESA on 04 May 2015 (USFWS 2015). No additional species are addressed or covered within this action. IMCOM has determined effects and proposes conservation measures to avoid or minimize adverse effects to the NLEB. If USFWS concurs in the resulting conference report, this will be a programmatic informal conference and programmatic informal consultation. Any activities not included in this consultation will be subject to separate section 7(a)(2) consultation after the listing becomes effective.

This evaluation includes: 1) consultation requirements; 2) IMCOM structure; 3) distribution and status of the species; 4) description of Military Missions and Operations; 5) survey results; 6) proposed conservation measures to limit potential impacts from Military operations and activities; and 7) conclusions.

The resulting conference report will serve as guidelines that establish a programmatic baseline for managing the NLEB on applicable IMCOM installations and facilities to avoid likely future conflicts. It can be used in developing management and conservation goals and objectives for the NLEB as part of an installation's Integrated Natural Resource Management Plan (INRMP). An installation INRMP will supplement these guidelines with detailed measures to meet installation-specific NLEB conservation and unique military mission needs. The requirements established for the NLEB in the INRMPs will apply to all activities on the installation.

B. *Applicability.* The programmatic guidelines are applicable to IMCOM installations and areas of operations identified in this document. Some of these IMCOM installations have already completed an informal/formal conference/consultation with their local USFWS Field Office and will not be subject to this programmatic conference but instead retain the requirements within their specific document, unless the requirements are complimentary and/or the installation, in coordination with USFWS, chooses to adopt the conservation measures defined herein. The remaining IMCOM installations identified in this document with no prior USFWS coordination will be subject

to this programmatic conference and consultation. All IMCOM installations outside the known range of the NLEB are not considered in this programmatic document. The overarching intent is to facilitate IMCOM installations ability to utilize the most appropriate conservations measures in regards to NLEB though section 7conference/consultation.

C. *Timeline and Revision.* HQ IMCOM will revise these guidelines as necessary to be consistent with the listing rule of the NLEB, future Recovery Plans, or incorporation of the latest and best scientific data available. This informal conference will cover a period of three years but will be reviewed annually for applicability and continued concurrence between IMCOM & USFWS on its content. During the annual review if there is continued concurrence or if the document needs to be amended IMCOM and USFWS will coordinate according to the guidelines in the conference report. At any time, IMCOM or the USFWS may revoke or revise this programmatic consultation if it is determined that it is not being implemented as intended.

D. *Goal.* This documents intent is to provide programmatic coverage to all IMCOM installations for the training and land management activities and processes that are similar throughout. Additionally it is IMCOM's goal to implement management guidelines that will allow the accomplishment of military missions & sustainment while concurrently developing and implementing methods to assist in the conservation of the NLEB.

II. Additional Conference/Consultation

A. *Conference/Consultation Requirement.* In proposing actions that deviate from these guidelines that "may affect" the NLEB or for actions in which further consultation has been agreed to, IMCOM installations will comply with the conference/consultation requirements of section 7 of the ESA per the implementing regulations at 50 CFR part 402; and Army policies and guidance.

1. *Informal Conference/Consultation.* IMCOM recognizes that informal conference/consultation with the USFWS is critical to resolving potential problems and establishing the foundation to address issues in a proactive and positive manner. For any "may affect" determinations, IMCOM and IMCOM installations will seek to modify proposed actions and work with the USFWS to obtain concurrence on a "may affect, but not likely to adversely affect" (NLAA) determination. Issue resolution through informal conference/consultation is the preferred method.

2. *Formal Consultation.* If implementation of these guidelines is not possible or feasible for a proposed action and adverse affects cannot be avoided, the subject IMCOM installation will initiate formal Section 7 conference/consultation in accordance with the procedures in 50 CFR 402 and applicable Army policies and guidance. For formal consultations, the IMCOM installation will implement the reasonable and prudent measures (RPMs) identified in the Biological Opinion (BO) to ensure no impacts on mission implementation.

B. *Confirmation.* IMCOM will re-initiate consultation on these guidelines if (i) information arises indicating that implementation of the guidelines may not avoid adverse impacts on the NLEB for certain activities; (ii) data/new research endorses inclusion of new, or modification of established, measures in the guidelines that still support a NLAA determination; or (iii) a "take" occurs even though IMCOM is fully implementing the guidelines. IMCOM will notify USFWS within five business days if issues pertaining to (i) and/or (iii) arise, and work with the USFWS on addressing such issues through informal consultation. IMCOM will make the necessary changes to the guidelines, if any, and conduct the necessary internal staffing prior to submitting the revised document to USFWS for concurrence. During this period, the NLAA concurrence will still be valid for the conservation measures not subject to any scrutiny or concern.

C. *Programmatic Informal Consultation Process.* Each IMCOM installation will screen applicable installation activities through an IMCOM/USFWS cooperatively generated checklist to ensure the activity is conducted as described in this BE. For each activity completed under the programmatic informal consultation, each installation will document their activities and actions taken describing how compliance was maintained with the conservation guidelines within this document. IMCOM will collectively report annually to the USFWS on information collected in the annual Army Environmental Database Environmental Quality (AEDB-EQ) data call for actions taken in regards to NLEB at each installation. This informal conference will cover a period of three years but will be reviewed annually for applicability and continued concurrence between IMCOM & USFWS on its content. All other species that require Section 7 consultation or Migratory Bird Treaty Act compliance will be reported in separate documentation by the individual installation if applicable.

D. *Emergency Consultation*. Unpredictable catastrophes such as wildfires, tornados, or significant hurricane damage may present conditions that cannot be anticipated under these guidelines. In the case of a catastrophic event, IMCOM installations will implement these guidelines to the greatest extent possible, but imminent threat to life or property may take precedence. IMCOM installations will record impacts on NLEB habitat and any definitive impacts on bats resulting from the event, and document any actions that were necessary during the event such as creation of fire breaks, removal of hazardous trees, etc. The subject IMCOM installation(s) will initiate emergency consultation with their associated USFWS field office as soon as possible. IMCOM will reevaluate conservation and management requirements, if necessary, to better prepare for the conservation of the NLEB during such unanticipated events.

E. *Endangered Species Act 4(d) Rule*. With a 4(d) rule in place, any actions taken by an agency that are exempted in the 4(d) rule will not require an incidental take statement in a biological opinion. Therefore installations could drastically reduce the consultation timeframes and conservation measures required for forestry activities (including harvest & prescribed burning), prairie management, right of way expansion,

and other activities defined therein by conducting Section 7 Consultation only on activities contained within the 4d Rule.

F. *Other Listed Species*. Other ESA listed Threatened or Endangered species may occur on IMCOM installations listed in this BE. This BE only addresses the NLEB because consultation has already occurred for the other listed or, depending on the IMCOM installation, activities may have no effect on other listed species. Prior to implementing any Conservation Measure identified in this PBE, the IMCOM installation will address and assess impacts of such measures on applicable listed species. Conservation Measures and Reasonable and Prudent Measures of any relevant Biological Opinion(s) will continue to be implemented for listed species on sites subject to this consultation. If necessary, the IMCOM installation will informally consult with the USFWS to address a situation where implementation of a Conservation Measures may affect NLEB or other listed species.

III. Installation Management Command (Action Area).

Military installations particularly those managed by IMCOM have a demonstrated track record of sound natural resource stewardship and management. This demonstrated ability creates some of the most diverse natural resource areas supporting a multitude of rare and imperiled species while seamlessly blending that with the daily needs of advanced military training. It is the blending of these two seemingly contradictory things which continues to be the IMCOM goal as training capability is directly dependent on our ability to maintain the natural infrastructure of Army lands.

The primary purpose of IMCOM installations is to provide for the sustainment, enhancement, and readiness of the U.S. Military. Military training and enhancement activities are generally divided into the following categories: sustainment operations, engineering operations, air operations, water operations, field training operations, live munitions training, demolition, smokes/obscurants, and research, development, testing, and evaluation (RDTE). All of these activities occur in dispersed Training Areas; some of these activities occur in localized Training Areas year-round at all times of the day and night. Natural resource management activities also occur on most IMCOM installations which may include forest management, prairie management, wildlife management, recreation, erosion control, and other land management activities and uses as described in each installations INRMP.

The U.S. Army Command, IMCOM is a federal agency, and as such, must comply with Federal statutes and regulations. IMCOM supports active and reserve military installations worldwide. IMCOM is organized into four regions (Europe, Atlantic, Central, & Pacific), of which the Atlantic and Central Regions are within the range of the NLEB. There are 19 individual Army installations within the Atlantic Region and 6 installations within the Central Region that have the potential for NLEB's. Table 1 below lists each installation, its IMCOM Regions, the State in which it exists, and its approximate size. While there are approximately 809,000 million acres in total for these

installations only 453,000 of that is forested habitat which may or may not be suitable NLEB habitat.

Funding and policy guidance for natural resources management on installations are provided by IMCOM. IMCOM also provides natural resources technical support, and is responsible for tracking projects, quality assurance of compliance documents, and execution of funds. While IMCOM provides support across its installations, the individual installations are relatively autonomous in their completion of day-to-day management of the installation. Therefore some installations have conducted or are in the process of conducting individual Section 7 actions as it relates to their local situation and may not need the programmatic coverage provided by this document.

Table 1: IMCOM Installations Within the Range of the Northern Long-eared Bat.

IMCOM Region	Installation Name	State	Approx. Size (ac)	Approx. Forested (ac)	Indiana or Gray Bat	NLEB	Bat Surveys	Hibernacula <=5 miles	Consultation	WNS Decon
ATL	Aberdeen Proving Ground*	MD	72,500	18,000			scheduled FY15	No	No - poor habitat	NA
ATL	Carlisle Barracks*	PA	500	0						
CEN	Detroit Arsenal*	MI	341	0			None			
ATL (Reserve)	Devens Reserve Training Facility	MA	5,000	4,000	Verified absence	Historic presence	Occasional	No	No	NA
ATL	Fort AP Hill	VA	76,000	66,500	Out of Range	Historic presence	Occasional-in process	No	Informal	No
ATL	Fort Belvoir	VA	8,658	4,300	Indiana	Assumed	By project & Annual	No	Consultation in progress	Developing
ATL	Fort Campbell	KY	102,414	48,200	Indiana & Gray	Present	By project & Annual	Yes and on-site	Informal and Formal with INRMP	Yes
ATL	Fort Detrick*	MD	12,000	82			None	No Known	No	No
ATL	Fort Drum	NY	107,625	74,000	Indiana	Present	Annual	No	Informal and Formal BO	Yes
ATL	Fort George G. Meade	MD	5100	1,700	Out of Range	Assumed	None	No Known	Informal	N/A
ATL	Fort Hamilton*	NY	50	0			None			
ATL	Fort Knox	KY	109,000	81,000	Indiana	Present	Annual	Yes and on-site	Informal and Formal with INRMP	Yes
CEN	Fort Leavenworth	KS	5,600	3,500	Verified absence	Not Detected	Occasional	No Known	No	NA

IMCOM Region	Installation Name	State	Approx. Size (ac)	Approx. Forested (ac)	Indiana or Gray Bat	NLEB	Bat Surveys	Hibernacula <=5 miles	Consultation	WNS Decon
ATL	Fort Lee*	VA	5,376	2,300	Not Detected	Not Detected	Periodic (every 2-3 years)	No	No - poor habitat	Yes
CEN	Fort Leonard Wood	MO	61,000	44,500	Indiana & Gray	Present	Annual	Yes and on-site (Indiana)	Informal	
CEN (Reserve)	Fort McCoy	WI	60,000	45,400	Out of Range	Present	Periodic (every 2-3 years)	Yes	Informal	No
CEN	Fort Riley	KS	100,656	16,400	Out of Range	Verified absence	Annual	No	Informal	Yes
ATL	Joint Base Myer-Henderson Hall*	VA	270	0			None			
ATL	Natick Soldier System Center*	MA	124	0						
ATL	Picatinny Arsenal	NJ	6,400	4,000	Indiana	Present	Occasional	Yes	Informal	Yes
ATL	Redstone Arsenal	AL	38,000	23,900	Gray	Present	By project & Annual	Yes	Informal Consultation	Yes
CEN	Rock Island Arsenal	IL	946	200	Verified absence	Assumed	Periodic (every 2-3 years)	No	Informal Consultation	Developing
ATL	U.S. Army Adelphi	MD	200	120			scheduled FY15	No Known	No	Developing
ATL	U.S. Army Adelphi - Blossom Point*	MD	1,600	1,000			None	No	No - poor habitat	NA
ATL	West Point Military Reservation	NY	16,080	14,000	Possible Historic Presence	Present	Annual	Yes and on-site	Informal Consultation	Yes
Total			809,348	453,102						

* Indicates no habitat or highly unlikely to occur due to unsuitable habitat.

IV. Distribution and Status of the NLEB.

According to the NLEB final rule (USFWS 2015), the bat is known or believed to occur throughout or part of 37 States and the District of Columbia within the US. In Canada it is found from all Provinces from the Atlantic Coast westward to the southern Yukon Territory and eastern British Columbia. The northeast is considered to be the core range of the species and the area that has been hit hardest by white-nose syndrome. Based on hibernacula data, population numbers of NLEB have experienced a decline of approximately 99% in this core area (USFWS 2013). White-nose syndrome is the most severe and immediate threat to NLEB survival, and is the basis for the final listing of the species as threatened IAW ESA sections 3(6) and 4(a)(1) – Factor C: Disease or Predation. Currently, 12 IMCOM installations representing 9 States assume

NLEB presence or have recorded the NLEB potentially occurring on site (Table 1). A few other IMCOM installations have the potential for the NLEB to occur onsite, but surveys have not been completed to date. In general, the status of the species as a whole is declining and the status of the species on various installations ranges from declining in the east to stable in areas where effects of WNS have not yet occurred.

The active season of the NLEB is roughly April – October (USFWS 2015a). However, the spring staging and fall swarming periods can begin earlier in mid-March and extend to late November (USFWS 2014) (refer to Table 2). During the active season NLEBs roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and snags, typically ≥3 inches diameter at breast height (DBH) in over 35 different tree species. They are also known to roost in sheds and barns, but the overwhelming majority of roosts are in trees (USFWS 2014). NLEBs have been known or suspected of occurring on some of the installations listed in Table 1. Tree species such as black and red oak, silver and sugar maples, hickories, American beech, short-leaf pine, hemlock, birch, spruce, etc. ≥3 inches DBH are known to occur on IMCOM installations throughout the range of NLEB. Summer roosting habitat is available and possibly used on these sites.

Table 2: Active Season Dates for the Northern Long-eared Bat based on Table 1 of the Northern Long-Eared Bat Conference Guidance (USFWS 2014). Individual IMCOM installations should confirm dates with their local USFWS Field Office.

State/Region	**Active Season**
Alabama	Apr 1-Nov 30
Illinois	Apr 1-Nov 15
Kansas	Apr 1-Nov 1
Kentucky	Apr 1-Nov 15
Massachusetts	Contact FO
Maryland	Contact FO
Michigan	Apr 1-Oct 1
Missouri	Apr 1-Nov 15
New Jersey	Apr 1-Nov 15
New York	Apr 1-Oct 30
Pennsylvania	Contact FO
Virginia	Apr 1-Nov 15
Wisconsin	Apr 1 - Oct 15

As described in the final rule (USFWS 2015), NLEBs predominantly overwinter in hibernacula that include caves and abandoned mines. The hibernacula are typically large, with large passages and entrances, relatively constant, cooler temperatures (0 to 9 °C (32 to 48 °F), and with high humidity to such a large degree that droplets of water are often observed on their fur. The NLEB has also been found to overwinter in structures resembling mines and caves such as abandoned railroad tunnels and hydro-electric dam facilities, to name a few. There are only a few known NLEB hibernacula on

or within five miles of the IMCOM installations. Through development of the IMCOM INRMPs and the Army ACUB program, IMCOM installations have a very good knowledge base on hibernacula occurring on the installation or in the local region. This document addresses potential impacts on or conservation of hibernacula and associated swarming and staging areas for known hibernacula on or within 5 miles of an IMCOM installation. More specific information on NLEB seasons by state is depicted in Table 2.

IMCOM installations, described in Table 1, have conducted both project-level and installation-wide bat surveys to support the military mission. Installations will continue to survey at the level necessary to meet their mission requirements and comply with ESA. Installations that have not surveyed will conduct NLEB surveys to determine presence/absence in suitable habitat as funding allows.

More detailed information on the life history and habitat requirements of the NLEB can be found in the 2015 final rule (USFWS 2015).

As used in this BE, known roost trees are defined as trees that NLEBs have been documented as using during the active season (approximately April–October). Once documented, a tree will be considered to be a ‘‘known roost’’ as long as the tree and surrounding habitat remain suitable for NLEB. However, a tree may be considered to be unoccupied if there is evidence that the roost is no longer in use by NLEB (USFWS 2015).

Known, occupied hibernacula are defined as locations where one or more northern long-eared bats have been detected during hibernation or at the entrance during fall swarming or spring emergence. Given the documented challenges of surveying for northern long-eared bats in the winter (use of cracks, crevices), any hibernacula with northern long-eared bats observed at least once, will continue to be considered ‘‘known hibernacula’’ as long as the hibernacula and its surrounding habitat remain suitable for northern long-eared bat. However, a hibernaculum may be considered to be unoccupied if there is evidence (*e.g.,* survey data) that it is no longer in use by following the USFWS Indiana Bat Hibernacula Survey protocols (USFWS 2015).

Refer to the Glossary, Section X, for additional definitions.

V. Activities That Will Not Affect NLEB.

All activities at installations outside the range of the NLEB will result in no effect to the species. Within the range, all activities that occur in unsuitable habitat will result in no effects to the species and do not require the implementation of any conservation measures. The Northern Long-eared Bat Interim Conference and Planning Guidance (USFWS 14) states, “Trees found in highly-developed urban areas (e.g., street trees, downtown areas) are extremely unlikely to be suitable NLEB habitat.” Therefore, IMCOM considers that all sites within highly-developed urban areas that are not within 1000 feet of suitable forested/wooded habitat are excluded from these guidelines and

ESA conference/consultation requirements. Examples of highly-developed areas include but are not limited to: some cantonment areas, some housing areas, industrial areas, highly developed training sites, and developed testing facilities

IMCOM determines that all of the above proposed actions and sites will have "no effect" on the NLEB.

VI. Activities That May Affect NLEB.

For installations that contain habitat elements for the NLEB within its range, as identified in Table 1, IMCOM will adopt the below conservation practices, unless the installation has verified NLEB absence by utilizing the published USFWS Indiana bat (and NLEB) summer survey protocols.

A. Existing Military Training, Firing and Maneuver ranges: Military training activities are generally divided into the following categories: sustainment operations, engineering operations, air operations, water operations, field training operations (such as but not limited to: foot training, bivouacking, etc), live munitions training, demolition, smokes/obscurants, and research, development, testing, and evaluation (RDTE). All of these activities occur in dispersed Training Areas; some of these activities occur in localized Training Areas. Firing and maneuver ranges on IMCOM installations provide training and testing for the M16/M4 weapons family, M249 and M240 series machine guns, M9 and M1911 series pistols, M203 and MK19 grenade launchers, anti-tank weapons, helicopter gunnery, tank firing, 105 mm through 203 mm cannons, tracked and wheeled vehicles, live grenades, demolitions, and other military operations. The NLEB within these active ranges have been repeatedly exposed to loud noises associated with munitions, detonations, and training vehicles. Camp Atterbury (USFWS 2010), Fort Leonard Wood (USFWS 2010), and Fort Drum (USFS 2008) have assessed range and training noise impacts on Indiana bats (*Myotis sodalis*). Fort Leonard Wood monitored radio-telemetered Indiana bats and found that the bats did not avoid active ranges or alter foraging behavior during night-time maneuvers. A 2002 study on Camp Atterbury found that five of eleven Indiana bats tracked with radio transmitters periodically roosted in the impact area (Whitaker & Gummer 2002). Given these findings, along with the abundance and installation-wide distribution of the bats on the sites, they concluded, and USFWS concurred, that sound intensity and duration associated with past training events have not adversely affected Indiana bats due to the bats having become habituated to such stimuli. It is reasonable to believe that the NLEB have also become habituated to ongoing operational noise on existing IMCOM ranges.

Recent studies have indicated that anthropogenic noise can alter foraging behavior and success of bats, including some gleaning species like the NLEB (Bunkley et al., 2015; Schaub et al., 2008; Siemers and Schaub, 2011). Based on the potential that new sound stimuli may affect the NLEB by influencing foraging behavior and success, the relevant IMCOM installation will consult with the USFWS when new

activities are proposed that significantly differ in sound intensity, quantity/duration of noise events, from those described above.

Bats are vulnerable to mortality from vehicle strikes (Siebert and Connor, 1991; Glista and DeVault, 2008; Russell et al., 2009). Collisions with vehicles are documented for the endangered Indiana bat, as well as the NLEB (Russell et al., 2009). In this study, researchers monitored highway crossings of a roost of approximately 23,000 bats, mainly little brown bats (*Myotis lucifigus*). A total of 26,442 occurrences of bats crossing the highway during dusk (10 days) and dawn (six days) were recorded and 29 road-killed bats were found, one being an Indiana bat. In Glista and DeVault (2008), researchers surveyed 158.5 km of roads for mortality of vertebrates. A total of one road-killed bat (eastern red bat, *Lasiurus borealis*) was found during the road mortality detection surveys – travelling at speeds less than 40 km/h). Finally, Siebert and Connor recorded one road-killed bat during their 50 surveys of a 1.6km of highway (U.S. 33 NW of Athens, OH) spanning from June 1987 to August 1988. The Biological Opinion for Construction, Operation, And Maintenance of the U.S. 33 Nelsonville Bypass Road, OH (USFWS 2005), identified vehicle collision as an anticipated take of Indiana bat. Although we might expect bat mortality associated with vehicle collisions to diminish along with road size/traffic volume, the frequency at which bats attempt to cross roads, especially forest species like the NLEB, likely increases as road size and traffic decrease. Effects of vehicle collisions to bats are likely to be discountable regardless of road size, but should be considered that bats may respond differently to different types of roads. However, in contrast to the roads and maneuver sites on IMCOM installations, the stretches of road discussed above have a constant volume of traffic during times of bat activity, and vehicles are travelling at greater speeds than what typically occurs on IMCOM installations. The numbers and intensity of night time maneuvers and vehicle use on IMCOM installations, as well as operating speed of such vehicles, do not rise to the level associated with public highway use. Therefore, the likelihood of bat road mortality occurring during dusk to dawn on IMCOM installations is determined to be discountable.

In conclusion training activities at firing and maneuver ranges are not likely to adversely affect the NLEB.

B. Aircraft Operations. As with ranges, flight training has and continues to occur on multiple IMCOM installations within the range of the NLEB. Studies have shown that helicopters tend to elicit a heightened response compared to fixed-wing aircraft. Even though that may be the case, helicopter training on IMCOM installations usually occurs as hovering operations occurring over fields or other open areas, thus any impacts from noise or downdrafts would be temporary and minimal to roosting bats and trees. For ongoing night time operations, foraging bats will continue to be exposed to sound levels that have been shown not to alter foraging behavior (USFWS 2010). Given that NLEB forages in the canopy layer (USFWS 2013), collision during night time flight operations are very unlikely to occur. Based on the nature and implementation of air operations, and the assumed level of habituation to flight training stimuli, it is determined that sound generated by ongoing training activities at existing ranges is not likely to adversely

affect the NLEB. Similar conclusions were made at Fort Leonard Wood, (3D/I 1996), involving night-time maneuvers; air operations at Fort Drum, (USFWS 2009); and ongoing training activities at Camp Atterbury (USFWS 2010).

If there are any indications that flight training may be adversely impacting bats such as the observation of tree limbs and/or bark being blown off by helicopter downdraft, the applicable IMCOM installation will initiate consultation with their local USFWS field office. Consultation with the appropriate USFWS field office will also occur if flight training activities are introduced to new sites that have new impacts not discussed above, or if there is intensive low level hovering over forested areas during the active season (summer maternity season, and if applicable to the site, spring staging and fall swarming season), or if there is any other change to flight operations that may affect NLEB in a manner significantly different than those described above.

In conclusion, use of aircraft is not likely to adversely affect the NLEB.

C. Military Training Smoke and Obscurants: Smoke/obscurants are used to conceal military movements and help protect troops and equipment in combat conditions. They can be used throughout the Training Area as part of another military operation, or as part of an independent training scenario. Although they would be primarily used during the day, smoke/obscurants may be deployed at night. Training on some IMCOM installations may include, but is not limited to smokes and obscurants such as fog oil, colored smoke grenades, white phosphorous, and graphite smoke. The effects of these smokes and obscurants were assessed in the Fort Drum (USFS 2008;; Army 2014; USFWS 2009; USFWS 2013; USFWS 2015) and Camp Atterbury BAs and associated BOs (USFWS 2010). Research was cited indicating that prolonged dermal and respiratory exposures to these items, except for the graphite smoke, could have adverse effects on roosting and foraging Indiana bats. Given the similar roosting behavior and foraging locations of the NLEB, it is likely they will also be adversely affected by these smokes and obscurants. However, measures can be taken to avoid adverse effects of some smokes.

Camp Atterbury (USFWS 1998) conducted an ecological risk assessment (ERA) to assess which training materials and pesticides may cause adverse effects to Indiana bats. The ERA indicated that chemicals found in M18 colored smoke grenades may cause acute toxicological effects. They determined that Indiana bats roosting within 36 meters of the deployed grenades may inhale unsafe concentrations of M18 colored smoke during a one-minute period following release. To avoid the potential for adverse effects from colored smoke on NLEB, installations will not release M18 colored smoke grenades within 50 meters of forested suitable NLEB habitat during the active season if USFWS protocol surveys have not been completed. However, sites where surveys have been conducted and determined NLEB roost locations, M18 colored smoke grenades will not be used during the NLEB active season within 50 meters of known roost trees, which are described in Section IV of this document. Therefore, by implementing this measure, it is believed the effects of colored smoke on NLEB will be insignificant.

Citing data from a National Research Council's report on the toxicity of military smokes and obscurants, Fort Drum determined that based on the low toxicity on experimental animals, the use of graphite smoke may affect, but is not likely to adversely affect the known and undiscovered maternity colonies of Indiana bats. The USFWS concurred that any adverse effects associated with graphite smoke are discountable or insignificant (USFWS 2009).

In the 2012 Fort Drum BO (USFWS 2012), the USFWS included a table of a number of studies that provided estimates of fog oil concentrations from typical smoke screening operations. The highest level of fog oil recorded was 140 mg/m3, which was the upper level of a range for a 30 minute release that averaged a 51.8 mg/m3 concentration 200 meters from the source. A 120 min release recorded a maximum level of 105 and 102 mg/m3 at 200 and 100 meters, respectively, from the source of release. The COE Engineer Research and Development Center conducted a study to evaluate the health effects of fog oil aerosols in a surrogate species (Red-winged Blackbird) for the Red-cockaded Woodpecker (Driver et al. 2002). Based on the results of the study, they concluded that adult Red-winged Blackbirds can apparently sustain fog oil exposures of about 400 mg/m3 for 4 hours with no detectable adverse effects.

Table 3. 2012 Fort Drum BO of Estimates of Fog Oil Concentrations Resulting From Typical Smoke Screening Operations at Given Distances From the Source.

Study	Distance from source (meters)	Average (mg/m3)	Range (mg/m3)	Maximum (mg/m3)
Lilegren et al. 1988[A]	100	7.7		
	200	3.6		
	400	2.6		
Policastro et al. 1989[A]	25	116		
	100	8		
	200	3		
Driver et al. 1993[B] (30 min release)	100	64.3	27-120	
	200	51.8	7-140	
	400	27.9	1.8-93	
	1000	6.9	1.6-24	
Driver et al. 1993[B] (300 min release)	100	64		
	200	29		
	400	8.7		
	1000	1.6		
Getz et al. 1996 (120 min release)	100	64	25-102	
	200	56	8-105	
	500	46	1.3-90	
	1000	13	0.8-25	
U.S. Army 1997[B]	100	3.8		13.5
	250	3.5		12.7
	500	2.7		11.2
	1,000	1.2		4.3
Department of the Army 1997 (30 min release)	100		0-14	
	1000		0.1-1	

A- Results from studies conducted in the field
B- Results from modeling

Table is summarized from Getz et al. 1996 and ENSR 1999.

The Lethal Concentration (LC)50 of rats for inhalation of fog oil after 3.5 hours was 5,200 mg/m3. Less than 15% of the rats died at 4,000 mg/m3 (NRC 1999). Roosting NLEBs would most likely be exposed to fog oil levels well below those lethal to rats and having no detectable adverse effects on blackbirds. It would appear that release of fog oil at least 100 meter from any known or suspected roost sites would be sufficient to avoid impacts on NLEB. However, in a study conducted on Fort Leonard Wood, it was estimated that Indiana bats within 4,000 m of static smoke training and 7,000 m of mobile smoke training had the potential to inhale unsafe quantities of fog oil (USFWS 2009). To ensure that NLEB are not adversely affected by fog oil, IMCOM sites will not use fog oil during the NLEB active period, unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

White phosphorous (WP) ignites when it is exposed to air and may cause burns. Smoke typically lasts up to 15 minutes. Rats exposed to WP for 15 min/day, 5 days/week for 13 weeks at 1,740 mg/m3 (H_3PO_4) resulted in the death of 32% of the rats within 6 weeks. Rats produced clear signs of irritation when exposed to H_3PO_4 at a concentration of 525 mg/m3 for 60 minutes. Longer term exposure at concentrations of 884 mg/m3 (15 min per day, 5 days per week for 6 or 13 weeks), resulted in slight laryngitis and tracheitis. A similar exposure, but at higher concentrations (H_3PO_4 at 1,742 mg/m3), resulted in wheezing, dyspnea, moderate-to-severe laryngitis and tracheitis, and interstitial pneumonia. No such effects were reported for rats exposed for 15 min per day, 5 days per week for 13 weeks with H_3PO_4 at 280 mg/m3. Reproduction and development of rats showed that higher WP exposure (1,742 mg/m3 for 15 min/day, 5 days/week for 10 weeks) were associated with lower natal weights and had severe effects on survivability (NRC 1999).

It has been estimated that an exposure concentration of WP could reach 202 mg/m3 (H_3PO_4) 100 m downwind from deployment and about 1.4 mg/m3 (H_3PO_4) 5,000 m downwind. It was cited that the EPA does not expect community exposures to be severe at a distance of greater than 300 m; however, particularly susceptible individuals might experience respiratory irritation even at a distance of 5,000 m (NRC 1999).

To avoid the potential for adverse effects WP on NLEB, installations will not release WP within 200 meters of forested suitable NLEB habitat during the active season if USFWS protocol surveys have not been completed. However, sites where surveys have been conducted and determined NLEB roost locations, WP will not be used during the NLEB active season within 200 meters of known roost trees, which are described in Section IV of this document. Therefore, by implementing this measure, the anticipated level of WP at that distance should not expose NLEB to concentrations of H_3PO_4 that would be likely to adversely affect them.

For “other” smokes and obscurants, we cannot negate the potential for adverse affects on NLEB from exposure. Therefore, to avoid any potential for adverse affects, these items will not be employed during the NLEB active season. IMCOM installations will consult with the USFWS if any of these “other” smokes or obscurants are being

considered for release during the NLEB active season and there is scientific evidence to support that such substances can be released in a manner to avoid adverse effects or ensure such effects are insignificant or discountable.

Summary of Conservation Measures for Military Smoke & Obscurants:

1. M18 colored smoke grenades will not be used within 50m of forested suitable NLEB habitat during the NLEB active season (see Table 2) unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

2. M18 colored smoke grenades will not be used within 50m of known roost trees during the active season (see Table 2) after USFWS protocol surveys have been completed or site specific consultation has been completed with the local USFWS Field Office.

3. Fog oil will not be released within forested suitable NLEB habitat during the NLEB active season (see Table 2) unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

4. WP will not be released within 200 meters of forested suitable NLEB habitat during the NLEB active season (see Table 2) unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

5. WP will not be used within 200m of known roost trees during the active season (see Table 2) after USFWS protocol surveys have been completed or site specific consultation has been completed with the local USFWS Field Office.

6. Other smoke/obscurants will not be employed during the NLEB active season (see Table 2) unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

7. No smoke or obscurants will be released within 0.5 miles of known hibernacula outside of the active season as defined in Table 2.

In conclusion military smoke and obscurants may affect, but are not likely to adversely affect the NLEB by implementing the above conservation measures.

D. Construction: Construction projects can include new buildings, building additions, new or upgraded utilities, etc. As part of construction there may be multiple activities including tree removal, site preparation, equipment staging and maintenance areas, etc. On IMCOM installations where NLEB are known (or assumed – no P/A

surveys conducted to date but within range and suitable summer habitat) to roost, tree cutting and clearing for construction projects will occur during the NLEB inactive season (Table 2) or when verified absence has been determined utilizing the published USFWS protocols. If there is a need to remove a single or small cluster of trees during the active season, the installation will follow procedures listed in Section VI.G. below to determine if such removal can be done with insignificant or discountable effects on NLEB. Tree cutting and clearing may cause loss of habitat; however, inactive season tree removal effects would be discountable by following similar conservation measures to the Federal Highway Administration and Federal Railroad Administration's Range-wide Biological Assessment for Transportation Projects for Indiana Bat and NLEB (FHA 2015)

Other construction activities such as site grading, road construction, vertical and horizontal building, and other activities are likely to occur during the NLEB active season during day light hours. Noise and vibrations generated by heavy equipment within or directly adjacent to roosting trees could temporarily disturb roosting bats. For known roost sites, or areas of suitable habitat without verified absence, that are greater than 100m from the construction site, it is anticipated that the intensity of noise and vibration associated with the construction will diminish a sufficient amount to reduce the likelihood of disturbing bats that roost in these particular areas. Also High light levels may deter bats from areas as their nocturnal behavior may have evolved in response to predation risks (Speakman 1991, Sparks et al. 2005). By angling the light away from potential foraging and roosting areas, the area will be darker thus providing bats more protection from predators. By implementing 100 meter buffers around areas of suitable habitat without verified absence, IMCOM determines that such activities "may affect, but not likely to adversely affect" the NLEB in regards to disturbance activities related to construction. Additional coordination will occur for projects within 0.25 miles of known roosts.

Hibernacula may be affected by construction activities if the activity is conducted too close to or during the inactive season. Construction activities such as site grading, road construction, vertical and horizontal building, and other activities are likely to occur during the NLEB inactive season (Table 2) during day light hours. Noise and vibrations generated by heavy equipment within or directly adjacent to hibernacula could temporarily disturb roosting bats. Because all construction activities will occur >0.5 miles from hibernacula during the winter to be included as part of this informal consultation, no direct effects to NLEB will occur. Additional consultation is required for any construction activities <0.5 miles from hibernacula.

In addition, in areas where NLEBs are already subject to noise and vibrations associated with ongoing actions, construction activities occurring in such area would not likely have an adverse effect on NLEBs.

Additionally, site-specific consultation with the local USFWS field office will often be needed to adequately assess the potential direct and indirect effects associated with construction projects. However, across the range of the species no effects are anticipated if construction projects:

1) Are located entirely (including staging areas & construction footprint) beyond 100 m[1] of NLEB suitable summer habitat and 5 mi of hibernacula OR
2) Involve maintenance, alteration, or demolition of bridges/structures without any signs of bats as verified by a trained biologist, pest management specialist, or similar professional individual.

Some projects may occur near or within suitable NLEB habitat, but the project will result in no effects or discountable likelihood of effects even without the implementation of any avoidance or minimization measures, if the proposed project is based on the following:

1) Activities are completely within existing road surfaces (e.g., road line painting).
2) Activities are within existing ROWs or at existing facilities that contain suitable habitat but that do not remove or alter the habitat (e.g., mowing, brush removal).
3) Activities are wetland or stream protection associated with wetland mitigation without any tree removal.
4) Are located in areas with verified absence determined by USFWS protocol surveys[2]

Other projects may occur near or within NLEB suitable habitat which will require the implementation of conservation measures to avoid or minimize impacts to the point of insignificant/discountable for the projects to be included in this programmatic consultation. Construction projects that involve any of the features listed below are not likely to adversely affect NLEBs.

1) Structure Maintenance: during the active season (Table 2) that does not bother roosting bats in any way (e.g., activity away from roosts inside common rooms in structures, normal cleaning and routine maintenance).
2) Bridge Maintenance: during the active season (Table 2) that does not bother roosting bats in any way (e.g., road paving, wing-wall work, work above that does not drill down to the underside of the deck, some abutment, beam end, scour, or pier repair).
3) Structure or Bridge Maintenance: outside the active season that does not alter roosting potential for bats.
4) Tree Removal must occur outside the active season (Table 2) AND must not remove known roosts (as defined herein) AND
    - must be entirely within 100 feet of existing road surfaces in order to have no linear acreage limits; (this would include roads within cantonment , state, local roads, paved roads, and developed hard packed roads, but does not include trails or other travel corridors in training areas)

    OR

[1] Addresses potential for noise/disturbance adjacent to suitable habitat.
[2] See protocols for minimum number of years negative survey results are valid

- if located >100 feet of existing road surfaces, must be limited to no more than 10 acres per project (10 acres is 5% of a 200 acre home range)

The following additional conservation measures will be taken for all construction to further eliminate the potential to affect NLEB:

1. Roost Tree Protection. No known roost trees, as defined herein, will be felled, unless there is a human health and safety concern. If there is a need to remove a known roost tree, the installation will follow procedures listed in Section VI.G. below to determine if such removal can be done with insignificant or discountable effects on NLEB.

2. Construction activities outside of suitable habitat will not occur within 100 meters of any known roost trees without additional site-specific consultation.

3. Construction activities that remove suitable habitat within 0.25 miles of any known roost trees without additional site-specific consultation. Construction activities will also take into account factors such as the surrounding landscape, habitat connectivity, and distance to other roosts, distance to known foraging areas, and any other issue important NLEB.

4. Time of Year Restriction for Tree Falling. A time of year restriction for clearing trees (> 3 in DBH) has been established to protect known or potential roost trees during the active season (see Table 2), unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

5. Flagging or signs will be used to demarcate areas to be cleared vs. not cleared prior to any construction activities for a given project. Flagging will be removed upon completion of the project.

6. Via Scope of Works, Contracts, Briefings, etc., all personnel responsible for construction activities will be informed about the need to follow design plans, stay within flagging, and minimize impacts to wildlife and other environmental concerns.

7. Outdoor Lighting Minimization. For all future projects, IMCOM will evaluate the use of outdoor lighting and seek to minimize light pollution by angling lights downward or via other light minimization measures.

8. Demolition. If the building has pre-existing known NLEB colonies, then the appropriate environmental personnel of the IMCOM installation must be contacted before demolition is to occur. If during the course of demolition, NLEB are discovered, then all work must cease and USFWS must be immediately contacted. If the structure is safe to leave as is, then it will be left

until after October 15, or until bats have stopped using the structure. If the structure is unsafe and poses a risk to human health and safety, IMCOM will attempt to exclude the bats immediately. If this is not possible, or NLEB are found to be using the structure during the maternity season when pups are not volant, IMCOM will contact USFWS to discuss the most appropriate next course of action.

9. Water Quality BMPs will be established for each construction site in accordance with the appropriate federal laws and state permits.

In conclusion construction & maintenance activities may affect, but are not likely to adversely affect the NLEB by implementing the above screening criteria and conservation measures.

E. Forest management: Forest management includes both even-aged (e.g., clearcutting or shelterwood) and uneven-aged (single tree or group selection) harvest methods to manage forests to support military training, timber production/health, and wildlife habitat creation/enhancement. Environmental conditions (e.g., wet or rocky soils), training requirements, and stand characteristics dictate harvest methods. Forest management practices such as timber harvest and silviculture are essential to maintaining diverse quality forested habitat for both the NLEB and military training. A number of forest management practices occur on military installation such as but not limited to: harvest, thinning, and/or planting operations. Operations that require tree removal have the potential to alter NLEB habitat. In the final listing rule USFWS anticipates that habitat modifications resulting from forest management and silviculture will not significantly affect the conservation of the northern long-eared bat. However, timber harvest operations performed during the species' active season may directly kill or injure individuals.

Removal of trees could have an indirect effect from loss of potential roosting and foraging areas. The degree of potential impact would be dependent on whether the removal is temporary (i.e., timber harvest, to include clearcuts) or permanent (construction). As stated in the proposed listing rule for NLEB (USFWS 2013), studies to date have found that NLEBs show a varied degree of sensitivity to timber harvesting practices and the amount of forest removal occurring varies by State.

The following additional conservation measures will be taken for all forest management activities to further eliminate the potential to affect NLEB:

1. Time of Year Restriction for Tree Falling. A time of year restriction for clearing trees (> 3 in DBH) has been established to protect known or potential roost trees during the active season (see Table 2) unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office

2. Roost Tree Protection: No known roost trees, as defined herein will be felled, unless there is a human health and safety concern. If there is a need to

remove a known roost tree, the installation will follow procedures listed in Section VI.G. below to determine if such removal can be done with insignificant or discountable effects on NLEB. Clearcutting or similar harvest will not occur within 0.25 mi (250 m) and overstory roost tree removal within 100 meters of documented maternity roost trees without further consultation with the USFWS. Tree thinning/removal will also take into account factors such as the surrounding landscape, habitat connectivity, and distance to other roosts, distance to known foraging areas, and any other issue important to NLEB.

3. Forest Management will not be conducted within 0.5 miles from "known hibernacula" when bats are present during the inactive season. Forest management near hibernacula may affect swarming and staging areas through habitat loss around the hibernacula. Additional site-specific consultation will occur for forest management within 0.5 miles of hibernacula.

4. Tree Removal Acreage Limits:
   - if located >100 feet of existing road surfaces, must be limited to no more than 10 acres of clearcutting (or similar forest practice like seed tree or shelterwood harvest) per project (10 acres is 5% of a 200 acre home range). NOTE: There is no acreage limit for selective harvest practices conducted during winter, as roosting habitat will remain available.

   OR
   - must be entirely within 100 feet of existing road surfaces in order to have no acreage limits; (this would include roads within cantonment , state, local roads, paved roads, and developed hard packed roads, but does not include trails or other travel corridors in training areas)

5. Snag Retention. All snags will be left in silvicultural treatments unless there is a safety concern for the contractor or the military units training in the stands (e.g., maneuver corridors), or unless the treatment is a salvage harvest or clearcut. Snags should be distributed and retained throughout the landscape.

In conclusion forest management activities may affect, but are not likely to adversely affect the NLEB by implementing the above screening criteria and conservation measures.

F. Prescribed Burns: Prescribed fire is used to improve line-of-sight on ranges and observation points for direct and indirect firing, maintain grassland/open shrubland for open maneuver training, reduce fuel accumulation to minimize wildfire risk, and manage species habitat. It is also used as a tool to maintain ecological health of grassland and forested areas and regenerate oak ecosystems. The majority of natural and prescribed fires on IMCOM installations occur in impact or surface danger zone areas, due to live fire training and testing operations. The vegetation that occupy these areas are fire dependent. Other prescribed fires are generally conducted in grasslands

and forests, during the growing and dormant seasons, and all prescribed fires are implemented in accordance with the installation's Integrated Wildland Fire Management Program and State regulations.

Prescribed fire is gaining acceptance as a means of restoring and perpetuating oak (*Quercus*) dominated ecosystems in the eastern U.S. (Dickinson et al., 2010). As stated in the final listing rule (USFWS 2015), a U.S. Forest Service review of prescribed fire and its effects on bats generally found that fire had beneficial effects on bat habitat. Bats are resilient to fire and some species prefer burned areas for foraging and roosting (e.g. Boyles and Aubrey 2005, Loeb and Waldrop 2007). There is little scientific evidence to indicate that fire has adverse effects on NLEB. NLEB roost-switching frequency, distance between successive roosts, and duration of individual roost tree use were similar between fire and control treatment areas (Johnson et al. 2009). Following prescribed fires, NLEB benefit from increased abundance of insects and availability of roost sites (Lacki et al. 2009). During prescribed fire, NLEB have been shown to exit their roosts during the day and switch roosts as necessary to limit their exposure (Dickinson et al. 2009). In fact, most bats are quick and highly vagile so that escape and relocation to unburned areas easily can occur (Carter et al. 2009). However, neonatal bats that cannot fly would be at greater risk to smoke and fire effects than juveniles or adults. Although, exposure of tree roosting bats to carbon monoxide (CO) is unlikely to be a concern when fireline intensity is low (~1.5 m flame length) (Dickinson et al., 2010). In largely forested landscapes, there are infinite amounts of available roosts for alternate use (Carter et al. 2000). During the active season, bats frequently roost-switch but use torpor to conserve energy and extra arousals when bats are in deep torpor are a cause for concern. The maternity roosting season, from 01 June to 31 July when young pups are not Volant, and to a much lesser extent during the active season, is the only time NLEB might be directly affected by prescribed burns to elicit take. During all other times of the year research has shown that NLEB are not adversely affected by burns conducted under prescribed conditions.

Conservation Measures for Prescribed Burning:

1. Not within 0.5 miles from "known hibernacula" when bats are present during the inactive season (see Table 2 for active season).

2. Not within forested suitable NLEB habitat during the active season (see Table 2) unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

3. Prescribed burns will be conducted under a site specific burn plan per the Installation Integrated Wildland Fire Management Plan which is integrated with the ecosystem management goals and objectives of a tripartite approved (IMCOM, State, and USFWS) Integrated Natural Resource Management Plan (INRMP).

4. Time of Day Restriction. Fore prescribed burns not within forested suitable NLEB habitat, whenever possible, all efforts will be made to have all flames extinguished and smoke generation minimized by sunset to reduce potential direct impacts to foraging bats during the active season (see Table 2

5. Containment Measures. For prescribed burns within 100 meters of forested suitable NLEB habitat, make use of naturally occurring firebreaks or, if necessary, establish wet lines to preclude fire from entering the adjacent NLEB habitat during the active season (see Table 2), unless USFWS protocol surveys have been completed to verify absence or site specific consultation has been completed with the local USFWS Field Office.

In conclusion prescribed burning activities may affect, but are not likely to adversely affect the NLEB by implementing the above conservation measures. Additionally prescribed burning is determined to provide an overall beneficial effect to overall habitat quality.

G. Specific Single, Group, or Hazard Tree Removal: Removal of single, multiple, or cluster of trees during the active season in suitable habitat, trees that do not pose a risk to human life or property will be analyzed for signs of bats being present (emergence surveys) prior to removal according to USFWS Indiana bat (and NLEB) summer survey protocols. If NLEB are roosting in such tree(s), the applicable IMCOM installation will consult with their local USFWS field office. If bat species are determined present and immediate removal of the tree(s) is necessary, the tree(s) will be removed in a manner that will minimize impacts on the bats such as first disturbing the tree(s) to cause them to abandon the roost. If there are hazard trees that are considered an imminent threat to human life or loss of property and need to be removed during the active season, the IMCOM installation will remove such trees and inform the USFWS field office of the action only if NLEB are present on the installation and the IMCOM installation will initiate emergency consultation per the procedures in accordance with 50 CFR 402.05.

H. Pesticide Use: All pesticides will be applied in accordance with their label and applicable laws and regulations. All pesticides are also applied in accordance with the installation INRMP and the Integrated Pest Management Plan (IPMP).IMCOM installations will regularly check Protection Bulletins on EPA's Endangered Species Protection Program (ESPP) website to determine whether pesticide use in a certain geographic area may affect NLEB. Limitations on pesticide use will be implemented as required to protect NLEBs in all areas. Application of pesticides in and around buildings or other structures are not likely to have any effect on NLEB. If NLEBs are found roosting in a building, then pesticides will be used sparingly and no foggers will be used in and around the occupied building.

To minimize the exposure of NLEB to pesticide and to keep in from drifting into known roost tree areas or water bodies the following conservation measures will be followed:

Conservation measures for Pesticide use:

1. Only pesticides registered by the EPA and State of use may be applied and only in accordance with their label.

2. Aerial application of pesticide will only occur outside the active season unless additional consultation with the USFWS is accomplished. Aerial applications will occur between the hours of sunrise and one hour before sunset. This will protect foraging bats in undiscovered foraging areas from direct exposure.

3. Whenever possible, herbicides that have low toxicity to mammals will be utilized with the tow behind power blowers. Herbicides that may be somewhat toxic to mammals will be mixed and applied at a rate that should minimize any potential exposure concerns.

4. Application of pesticides from ground mounted vehicles (i.e., ATVs, tractors) that spray chemicals directly onto the ground and do not result in broad dispersal will be conducted at least 100 ft (30 m) from known roost trees during the active season (coordinate with local USFWS field office).

5. Application of pesticides that result in broad dispersal (e.g., tow behind power blowers) will be conducted at least 250 ft (76 m) away from known roost trees during the active season (coordinate with local USFWS field office). Pesticides will not be applied between sunrise and one hour before sunset. Location-specific applications (i.e. hatchet or stem injections of trees, individual application to specific plants) may be used within 50 ft (15 m) of known roosts. This measure minimizes the risk of exposure to bats and potential effects from pesticides.

6. Pesticides applied from tow behind power blowers will use appropriate nozzles and drift control additives, and will be applied using low pressure to reduce drift and potential swirling motion from the blower. All efforts will be made to only spray 10 feet from ground level or below.

7. Pesticides will not be applied outdoors when the wind speed exceeds 8 mi/hr for all applications except power mist blowers. Pesticides applied via power mist blower will only be applied with wind speeds <5 mi/hr. This is to reduce the risk of pesticide drift, which could impact water quality or non-target areas. Care will be taken to make sure that any spray drift is kept away from non-target areas and individuals. Additionally, aerial application utilizing helicopters should employ large droplet technology through special nozzles on drop tubes to ensure the herbicide stays on target.

8. If a bat colony is found roosting in a building, then insecticides will be used sparingly and no foggers will be used. This will minimize impacts to roosting northern long-eared bats if they are found within a building.

In conclusion by implementing these conservation measures IMCOM believes the effects on NLEB will be insignificant.

I. Pest Control: IMCOM facilities may have pest control complaints, such as but not limited to bats, moles (order Insectivora), raccoons (*Procyon lotor*), squirrels (order Rodentia), skunks (order Carnivora), woodchucks (order Rodentia), insects, and other such species. Each issue is handled on a case-by-case basis depending on the pest species and the situation. When possible, wildlife will be deterred from areas by removing features that are attractive to the species (e.g. eliminating potential food/nesting sources, plugging openings into buildings, etc.). If deterrence efforts are ineffective, then it may be necessary to set live traps and relocate or euthanize animals, or use lethal control methods such as trapping, shooting, and/ or chemical control. All pest control efforts are performed in accordance with the installation INRMP and the IPMP.

Lethal traps are primarily used for rodents and moles. Adhesive traps are allowable for rodent and insect control in buildings, however, if placed incorrectly, they may inadvertently capture bats. Both adult and juvenile bats are susceptible to capture in glue traps which could result in injury or mortality. To prevent accidental capture of bats, no adhesive traps can be placed in such a manner that they could capture bats. Glue traps will not be placed in any crawl space or attic compartment within buildings or in areas where bats are known to occur. If bats are present within the building, then live traps for rodents will be used instead of glue traps.

If there are large scale infestations of rodents and moles, chemical means may be necessary to effectively manage the outbreak. Bait stations will not be placed where it may be accessible to children or pets and must be monitored to prevent access to non-target animals.

Conservation Measures for Pest Control:

1. No Lethal Control. No lethal control methods are permitted for bats unless there is a suspected human health risk for exposure to rabies or other disease. If individual bats are in buildings and there is no evidence of maternity use, then all efforts will be made to safely capture and release individual bats. Or, the bats will be excluded by establishing one-way valves over the roost's exit (if feasible).

2. Time of Year Restriction for Exclusion. The exclusion will only be done during times of the year when pups are not present or when they are volant (i.e., August - early May). The time of year restriction will minimize the risk of separating mothers from non-volant young, so it will prevent potential pup mortality during exclusion activities. Sealing cracks and crevices in buildings will also be done during the late fall through early spring. Sealing cracks and

crevices prevents bats from entering a building and reduces human/bat conflicts.

3. Adhesive Trap Restrictions. No adhesive traps used for rodents or insects will be placed in such a manner that they could capture bats—glue traps will not be placed in any crawl space or attic compartment within buildings or in areas where bats are known to occur.

4. Chemical Measures. Any use of chemical or insecticides will be utilized in accordance with section "H" above.

In conclusion by implementing these conservation measures IMCOM believes the effects on NLEB will be insignificant in regards to pest control management activities.

J. Recreational Activities: Recreational activities on IMCOM installations typically consist of hunting, fishing, trapping, hiking, mountain biking, camping, horseback riding, wildlife watching, and other consumptive and non-consumptive activities. These activities whether dispersed or concentrated are low impact activities that do not alter the landscape or generate a disturbance that would be considered to affect the NLEB. Continued use of IMCOM installations for these or similar activities is expected to continue without restriction, in accordance with the Sikes Act (16 U.S.C. 670, et seq.). However development of new areas for these activities that would be considered construction or habitat alteration "may affect"; therefore those projects would utilize the conservation measures identified earlier in this document for those actions.

Hunting activities have the potential to directly affect roosting NLEB if a hunter should place a stand in a NLEB roost. Hunters are unlikely to place tree stands in snags due to the instability of snags and the risk that the tree may fall. Thus, NLEB roosting in standing dead trees are not likely to be adversely affected by tree stands during the non-hibernation seasons. Tree stands may disturb roosting NLEB or damage roosts that are located within crevices of live trees or are in a dead tree limb of a live tree. Installment of a tree stand may cause NLEB to abandon the roost. Hunting primarily occurs in the fall-winter when NLEB are moving to the hibernacula or are already in the hibernacula, so NLEB are more likely to roost alone or in small groups within trees or are within the hibernacula. But since hunting typically occurs in seasons when NLEB are less likely to be present, the use of tree stands may affect but is not likely to adversely affect roosting NLEB.

Hunting activities also have the potential to directly affect roosting NLEB if a hunter should shoot at game flying through the air or in a tree and the shot hits a tree containing roosting NLEB. The likelihood of this happening is expected to be extremely rare, given the combination of occurrences that need to come together (i.e., the hunter being in a location suitable for NLEB to be roosting and game birds or waterfowl to be flying, the hunter shooting at the right angle into a tree to hit and kill a NLEB, etc.).

Additionally, most NLEB would presumably be within the hibernacula when the majority of hunting is conducted (October-February).

There is potential that individuals hunting game may shoot into a forested area which has NLEB roosts. Fired projectiles may strike a NLEB roost and remove bark from the tree, rendering the roost unsuitable for future use. Snags are ephemeral in nature and frequently slough bark. NLEB are known to frequently switch roosts assumed because of the fleeting nature of snags. Since strikes of snags are expected to occur infrequently, NLEB are unlikely to be adversely affected by hunting. Thus effects are discountable.

Skeet shooting could potentially result in injury or mortality of a foraging NLEB if skeet shooting was conducted in extreme early morning or at sunset when NLEB may be active. Skeet ranges located adjacent to suitable NLEB summer foraging habitat have a likelihood that a NLEB could be struck during skeet shooting but is highly improbable.

Legal use of Off Road Vehicles (ORV) should have no known indirect effects to NLEB as ORV's will remain on the road at all times and will not damage vegetation in the area. However, unauthorized ORV use off-trail may damage vegetation which can expose the soil to the elements and could lead to increased soil erosion. Soil erosion may lead to declines in water quality. Lower water quality may reduce aquatic insect availability, which are prey for NLEB. In addition, streams/wetlands may be converted overtime into mud pits that are unsuitable for drinking by NLEB. Given the amount of ample water and natural habitat available on IMCOM installations, it is unlikely that ORV use will adversely affect NLEB. Thus, effects are discountable.

Recreational activities that occur in the vicinity of hibernacula are pass through in nature except possibly for stationary hunting. Stationary hunting would only create a disturbance when a shot or shots were fired but no different than the single unlikely instance as with pass through hunting. Additionally as in section "A" noise activities associated with the firing of weapons has been shown to not adversely affect NLEB.

In conclusion, the majority of recreational activities with the exclusion of ORV use, hunting, and skeet shooting, are expected to have no known effects on NLEB. Given the conservation measures for each and remote nature of potential effects, recreational activities may affect but are not likely to adversely affect NLEB.

VII. Additional General Conservation Measures

This section identifies the Conservation Measures (CM) proposed throughout this document that are considered necessary to either avoid adverse affects or to ensure the expected effects are beneficial, insignificant or discountable. Additional CMs are also proposed to promote the conservation of the NLEB.

- IMCOM will use the most current National WNS Decontamination Protocols approved by USFWS for planned activities that involve close or direct contact with bats, their environments, and/or associated materials.
- IMCOM will explore cooperative management efforts with adjacent landowners, if such efforts would complement installation NLEB conservation initiatives and/or support mission implementation.
- IMCOM will explore cooperative NLEB management strategies, solutions, and efforts with other federal, state, and private organizations and landowners in the region.
- IMCOM will seek funding opportunities to conduct USFWS presence/absence surveys on individual installations subject to the availability of funds.
- IMCOM installations will continue to manage their ecosystems to support and enhance military training, testing, & readiness in accordance with their INRMP to retain habitat and biological diversity, and long term sustainability.
- IMCOM & the USFWS will develop a screening criteria check list so individual installations may quickly and categorically apply the above listed measures described in the programmatic process.
- IMCOM will centrally report activities taken by individual installations under this programmatic opinion annually to the USFWS from data gathered through the annual AEDB-EQ installation data call.

VIII Conclusions

A. Northern Long-Eared Bat. Based on IMCOM's intent to follow USFWS guidance on NLEB management, carry out actions as described in Section V, and to implement the conservation measures identified in Section VI, IMCOM has determined that implementation of actions IAW with this document **"may affect, but not likely to adversely affect"** the NLEB as a threatened species listed under the ESA.

B. Request of Conference Report. IMCOM requests that the USFWS review our findings and determinations stated herein and provide a conference report that reflects IMCOM's proposed conservation measures for reducing adverse effects. If necessary, the applicable IMCOM installation(s) will initiate site specific consultation with their USFWS Field Office on activities that are not included in this BE or if there is additional site specific information to suggest alternate conservation measures.

IX Literature Cited

3D/I (3D/International). 1996. Biological Assessment of the Master Plan and Ongoing Mission, US Army Engineer Center and Fort Leonard Wood. Prepared for Kansas City Corps of Engineers.

Bunkley, J.P., C.J.W. McClure, N.J. Kleist, C.D. Francis, and J.R. Barber. 2015. Anthropogenic noise alters bat activity levels and echolocation calls. Global Eco. and Conserv. 3 (2015) 62–71.

Boyles, J.G. and D.P. Aubrey. 2005. Managing forests with prescribed fire: Implications for a cavity-dwelling bat species. Forest Ecology and Management 222:108-115.

Carter, T.C., W.M. Ford, and M.A. Menzel. 2000. Fire and bats in the southeast and mid-Atlantic: more questions than answers? In The Role of Fire in Nongame Wildlife Management and Community Restoration: Traditional Uses and New Directions, Proceedings of a Special Workshop, 15 September, 2000. U.S. For. Serv. Gen. Tech. Rep. NE-288. Pp.139-143.

Dickinson, M.B., J.C. Norris, A.S. Bova, R.L. Kremens, V. Young, and M.J. Lacki. 2010. Effects of wildland fire smoke on a tree-roosting bat: integrating a plume model, field measurements, and mammalian dose-response relationships. Can. J. For. Res. 40: 2187–2203.

Dickinson, M.B., M.J. Lacki,, and D.R. Cox. 2009. Fire and the endangered Indiana bat. In Proceedings of the 3rd Fire in Eastern Oak Forests Conference, 20-22 May 2008. Carbondale, Il. Edited by Todd Hutchinson. U.S. For. Serv. Gen. Tech. Rep. NRS-P-46. Pp.51-75.

Driver, C. J., M. W. Ligotke, H. Galloway-Gorby, G. Dennis, K. A. Reinbold and H. E. Balbach. 2002. Acute Inhalation Toxicity of Fog Oil Smoke in the Red-winged Blackbird, a Size specific Inhalation Surrogate for the Red-cockaded Woodpecker. ERDC/CERL Technical Report, TR-02-6, Engineer Research and Development Center, U.S. Army Construction Engineering Research Laboratory, Champaign, Illinois. 48 pp.

Federal Highway Administration & Federal Railroad Administration. 2015. Range –wide Biological Assessment for Transportation Projects for Indiana Bat and Northern Long Eared Bat. U.S. Department of Transportation, Washington , D.C.

Glista DJ, T.L. De Vault. 2008. Road mortality of terrestrial vertebrates in Indiana. Proc Indiana Acad Sci 117:55–62

Johnson, J.B., J.W. Edwards, W.M. Ford, and J.E. Gates. 2009. Roost tree selection by northern myotis (*Myotis septentrionalis*) maternity colonies following prescribed fire in a central Appalachian Mountains hardwood forest. Forest Ecology and Management 258:233-242.

Lacki, M.J., D.R. Cox, L.E. Dodd, and M.B. Dickinson. 2009. Response of northern bats (*Myotis septentrionalis*) to prescribed fires in eastern Kentucky forests. Journal of Mammalogy 90: 1165-1175

National Research Council (NRC). 1999. Toxicity of Military Smokes and Obscurants. Volume 2.National Academy Press, Washington, D.C. 113 pp.

Russell, A.L., C.M. Butchkoski, L. Saidak, G.F. McCracken. 2009. Road-killed bats, highway design, and the commuting ecology of bats. Endang Species Res. Vol. 8: 49–60

Schaub, A., J. Ostwald, and B.M. Siemers. 2008. Foraging bats avoid noise. J. Exp. Biol. 211, 3174-3180.

Siebert, H.C., J.H. Conover. 1991. Mortality of Vertebrates and Invertebrates on an Athens County, Ohio, Highway. Ohio J. Science: Volume 91, Issue 4

Siemers, B.M., and A. Schaub. 2011. Hunting at the highway: Traffic noise reduces foraging efficiency in acoustic predators. Proceedings of the Royal Society B: Biological Sciences 278:1646–1652.

Sparks, D.W., C.M. Ritzi, J.E. Duchamp, and J.O. Whitaker, Jr. 2005. Foraging habitat of the Indiana bat, (*Myotis sodalis*) at an urban-rural interface. Journal of Mammalogy 86:713-718.

Speakman, J.R., P.I. Webb, and P.A. Racey. 1991. Effects of disturbance on the energy expenditure of hibernating bats. The Journal of Applied Ecology 28:1087-1104.

U.S. Army. September 2014. Fort Drum, New York, Biological Assessment on the Proposed Activities on Fort Drum Military Installation for the Indiana Bat (*Myotis sodalist*) and the Northern Long-eared Bat (*Myotis septentrionalis*). 2015-2017

U.S. Fish and Wildlife Service. 1998. Biological Opinion on the Construction and Operation of the Multi-Purpose Training Range (MPTR) at the Camp Atterbury Army National Guard Training Site. U.S. Fish and Wildlife Service Bloomington Field Office, Bloomington, IN. 22 pp.

U.S. Fish and Wildlife Service. 2005. Biological Opinion on the Construction, Operation, and Maintenance of the U.S. 33 Nelsonville Bypass for the Federally-Listed Endangered Indiana Bat (*Myotis Sodalis*). Submitted to the Federal Highway Administration. U.S. Fish and Wildlife Service Ohio Ecological Services Field Office, Reynoldsburg, Ohio. 63 pp.

U.S. Fish and Wildlife Service. 2009. Biological Opinion on the Proposed Activites on the Fort Drum Military Installation (2009-2011) for the Federally-Endangered

Indiana Bat (*Myotis Sodalis*) in the Towns of Antwerp, Champion, Leray, Philadelphia, and Wilna, Jefferson County and the Town of Diane, Lewis County, New York. U.S. Fish and Wildlife Service New York Field Office, Cortland, NY. 108 pp.

U.S. Fish and Wildlife Service. 2010. Programmatic Biological Opinion on the Effects of Ongoing and Future Military and Land Management Activities at ahe Camp Atterbury Joint Maneuver Training Center. U.S. Fish and Wildlife Service Bloomington Field Office, Bloomington, Indiana. 80 pp.

U.S. Fish and Wildlife Service. 2012. Biological Opinion on the Effect of Proposed Activites on the Fort Drum Military Installation (2012-2014) in the Towns of Antwerp, Champion, Leray, Philadelphia, and Wilna, Jefferson County and the Town of Diane, Lewis County, New York on the Federally-Endangered Indiana Bat (*Myotis Sodalis*). U.S. Fish and Wildlife Service New York Field Office, Cortland, NY. 80 pp w/o appendices.

U.S. Fish and Wildlife Service. 2013. Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List the Eastern Small-Footed Bat and the Northern Long-Eared Bat as Endangered or Threatened Species; Listing the Northern Long-Eared Bat as an Endangered Species. Federal Register 78:61046-61080.

U.S. Fish and Wildlife Service. 2014. Northern Long-Eared Bat Interim Conference and Planning Guidance. 67 pp.

U.S. Fish and Wildlife Service. 2015. Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Northern Long-eared Bat with 4(d) Rule; Final Rule & Interim Rule. Federal Register 80:17974-18033.

U.S. Forest Service and U.S. Army Garrison Fort Drum. November 2008. Fort Drum, New York, Biological Assessment for the Indiana Bat (*Myotis sodalis*), 2009-2011.

Whitaker, J.O., Jr. and C.L. Gummer. 2002. Bats of Camp Atterbury, with emphasis on roosting of Indiana Myotis and evening bats 2002. Report for the Military Department of Indiana. 51 pp. plus appendices.

X. Glossary

Action area - all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action.

Active season – the time period when bats are not in hibernation. This includes spring emergence, young rearing, and breeding (swarming) and is typically from April through October (specific dates are defined by geographical area see Table 2).

Critical habitat - (i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the provisions of the ESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the ESA, upon a determination by the Secretary that such areas are essential for the conservation of the species (defined in Section 3 of the ESA).

Emergency - An emergency is a situation involving an act of God, disasters, casualties, national defense or security emergencies, etc., and includes response activities that must be taken to prevent imminent loss of human life or property.

Exfoliating bark - tree bark that peels away from a trunk or a branch of a tree; when a tree dies, plates of bark spring away from the bole of the tree. Some living trees, such as shagbark hickory and white oak, have bark that peels back from the living cambium.

Hibernaculum (plural **hibernacula)** - a site, usually a cave or mine, where any bat species hibernates during the winter (see suitable habitat).

Is likely to adversely affect – the appropriate finding in a biological assessment (or conclusion during informal consultation) if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not: discountable, insignificant, or beneficial.

Known hibernacula – a location where one or more northern long-eared bats have been detected during hibernation or at the entrance during fall swarming or spring emergence. Given the documented challenges of surveying for northern long-eared bats in the winter (use of cracks, crevices), any hibernacula with northern long-eared bats observed at least once, will continue to be considered ‘‘known hibernacula’’ as long as the hibernacula and its surrounding habitat remain suitable for northern long-eared bat. However, a hibernaculum may be considered to be unoccupied if there is evidence (*e.g.,* survey data) that it is no longer in use by northern long-eared bats (USFWS 2015).

Known roost tree – a tree that male or female NLEBs have been documented as using during the active season (approximately April–October). Once documented, a tree will

be considered to be a ‘‘known roost’’ as long as the tree and surrounding habitat remain suitable for NLEB. However, a tree may be considered to be unoccupied if there is evidence that the roost is no longer in use by NLEB (USFWS 2015).

May affect - the appropriate conclusion when a proposed action may pose any effects on listed species or designated critical habitat.

No effect - the appropriate conclusion when the action agency determines its proposed action will not affect a listed species or designated critical habitat**.**

Not likely to adversely affect (NLAA) - the appropriate conclusion when effects on listed species are expected to be discountable, insignificant, or completely beneficial. **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species. **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs. **Discountable effects** are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

Snag - a standing dead (or mostly dead) tree, generally with <10 percent living canopy.

Staging - the departure of bats from hibernacula in the spring, including processes and behaviors that lead up to departure (see suitable habitat).

Suitable habitat - Summer and/or winter habitat that is appropriate for use by NLEB (may be known or unknown in terms of documented use). See most recent summer survey guidance)

- **Winter** (hibernacula) is restricted to underground caves and cave-like structures (e.g.,abandoned mines, railroad tunnels). These hibernacula typically have large passages with significant cracks and crevices for roosting; relatively constant, cooler temperatures (0-9 degrees C) and with high humidity and minimal air currents.

- **Summer** for NLEB consists of the variety of forested/wooded habitats where they roost, forage, and travel. This includes forested patches as well as linear features such as fencerows, riparian forests and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Isolated trees are considered suitable habitat when they exhibit the characteristics of a suitable roost tree and are less than 1000 feet from the next nearest suitable roost tree, woodlot, or wooded fencerow. May also include structures for roosting (e.g., barn).

- **Spring staging/fall swarming** for NLEBs consists of the variety of forested/wooded habitats where they roost, forage, and travel within 5 miles of a hibernaculum. This includes forested patches as well as linear features

such as fencerows, riparian forests and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Isolated trees are considered suitable habitat when they exhibit the characteristics of a suitable roost tree and are less than 1000 feet from the next nearest suitable roost tree, woodlot, or wooded fencerow.

Suitable roost tree - any tree in which bats roost when they emerge from the hibernacula. Females gather in maternity colonies and males may roost singly or in small groups. During summer NLEBs roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and snags, typically ≥3 inches dbh.

Survey - a method of sampling, such as mist netting, that provides data concerning the presence/absence of bats at a site; also, the act of enumerating the bats hibernating in a cave or mine. NLEB summer survey guidance can be found at http://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html

Swarming - A phenomenon in which, during late summer and autumn, numerous bats are observed entering and exiting entrances to caves and mines, but few, if any, of the bats may roost within the site during the day. Swarming probably is related to fall breeding activities and locating potential hibernation sites. (See suitable habitat).

Take - Take is defined in Section 3 of the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Torpor – a period of inactivity, with reduced body temperature and metabolism.

Volant - able to fly.

Verified absence - refers to known or suitable habitat determined to be unoccupied at the time of impact by utilizing USFWS approved protocols.

XI. Summary of IMCOM NLEB Programmatic Biological Evaluation Conservation Measures

A) Activities/Areas Not Subject to Conservation Measures:

- Any Activity that occurs outside the known range of the NLEB (see Section V for details)
- Any activity that occurs within the known range of the NLEB but does not contain suitable NLEB habitat. (see Section V for details)
- Any activity in a highly developed urban area that is <1000' from suitable NLEB habitat. (see Section V for details)
- Any area where NLEB absence has been verified by USFWS Protocol survey.
- Any activity that is conducted under a site specific consultation with the local USFWS Field Office.
- All military activities such as but not limited to: air operations, water operations, field training operations, live munitions training, demolition, and research, development, testing, and evaluation (RDTE). (see Section VI-A for details)
- All activities involving the use of aircraft such as but not limited to: fixed wing, rotary wing, drone, etc…(see Section VI-B for details)
- All categories of outdoor recreation such as but not limited to: hunting, fishing, trapping, hiking, mountain biking, camping, horseback riding, wildlife watching, and other consumptive/non-consumptive activities. (see Section VI-J for details)

B) Activities Subject to Conservation Measures:

- Military Training Smoke and Obscurants: (see Section VI-C for details)
  1. M18 colored smoke grenades will not be used within 50m of forested known/presumed occupied NLEB during the active season (see PBE Table 2 Below). Or within 50m of known roost trees during the active season if USFWS protocol surveys have been completed.
  2. Fog oil will not be released within forested known/presumed occupied habitat during the NLEB active season (see PBE Table 2 Below).
  3. WP will not be released within 200 meters of forested known/presumed occupied NLEB during the active season (see PBE Table 2 Below). Or within 200m of known roost trees during the active season if USFWS protocol surveys have been completed.
  4. Other smoke/obscurants will not be employed during the NLEB active season (see PBE Table 2 Below).
  5. No smoke or obscurants will be released within 0.5 miles of known hibernacula outside of the active season as defined in PBE Table 2 Below.

- Construction: (see Section VI-D for details)
  1. If there is a need to remove a single or small cluster of trees during the active season, the installation will follow procedures listed in that section below.
  2. Consult with USFWS for projects within 0.25 miles of known roost trees. Buffers may also take into account factors such as the surrounding landscape, habitat connectivity, and distance to other roosts, distance to known foraging areas.

3. Implement a 0.5 mile buffer around “known” hibernacula where additional consultation is required
4. Conduct structure, sign, utility, & bridge maintenance: during the active season that does not bother roosting bats in any way (e.g., activity away from roosts inside common rooms in structures, normal cleaning and routine maintenance)
5. Tree removal outside the active season (see PBE Table 2 Below), that is entirely within 100’of an existing road surface has no acreage limit. This would include roads within cantonment , state, local roads, paved roads, and developed hard packed roads, but does not include trails or other travel corridors in training areas)
6. Tree removal outside the active season (see PBE Table 2 Below), that is >100’ of an existing road surface has a 10 acre per project limit.
7. Flagging or signs will be used to demarcate areas to be cleared vs. not cleared prior to any construction activities for a given project. Flagging will be removed upon completion of the project.
8. Via Scope of Works, Contracts, etc., all personnel responsible for construction activities will be informed about the need to follow design plans, stay within flagging, and minimize impacts to wildlife and other environmental concerns.
9. Outdoor Lighting Minimization. For all future projects, IMCOM will evaluate the use of outdoor lighting and seek to minimize light pollution by angling lights downward or via other light minimization measures.
10. Demolition. If the building has pre-existing known NLEB colonies, then the environmental contact of the IMCOM installation must be contacted before demolition is to occur. If during the course of demolition, NLEB are discovered, then all work must cease and USFWS must be immediately contacted. If the structure is safe to leave as is, then it will be left until after October 15, or until bats have stopped using the structure. If the structure is unsafe and poses a risk to human health and safety, IMCOM will attempt to exclude the bats immediately. If this is not possible, or NLEB are found to be using the structure during the maternity season when pups are not volant, IMCOM will contact USFWS to discuss the most appropriate next course of action.
11. Water Quality BMPs will be established for each construction site in accordance with the appropriate federal laws and state permits.

- <u>Forest management:</u> (see Section VI-E for details)
  1. IMCOM will screen projects that required tree removal for forest management activities the same as identified for construction.
  2. If there is a need to remove a single or small cluster of trees during the active season, the installation will follow procedures listed in that section below.
  3. Implement a 0.25-mile buffer around known roost trees where additional consultation is required for clearcutting or similar harvest. Buffers will be may also take into account factors such as the surrounding landscape, habitat connectivity, and distance to other roosts, distance to known foraging areas.

4. Implement a 0.5 mile buffer around “known” hibernacula where additional consultation is required.
5. Tree removal outside the active season (see PBE Table 2 Below), that is entirely within 100’of an existing road surface has no acreage limit. This would include roads within cantonment , state, local roads, paved roads, and developed hard packed roads, but does not include trails or other travel corridors in training areas)
6. Clearcutting or similar harvest outside the active season (see PBE Table 2 Below), that is >100’of an existing road surface has a 10 acre per project limit. No acreage limit on selective harvest.
7. Flagging or signs will be used to demarcate areas to be cleared vs. not cleared prior to any forest management activities for a given project. Flagging will be removed upon completion of the project.
8. Snag Retention. All snags will be left in silvicultural treatments unless there is a safety concern for the contractor or the military units training in the stands (e.g., maneuver corridors), or unless the treatment is a salvage harvest or clearcut.

- Prescribed Burns: (see Section VI-F for details)
  1. Will not be conducted within 0.5 miles from “known hibernacula” when bats are present during the inactive season (see Table 2 for active season).
  2. Will not occur within forested suitable NLEB habitat during the active season (see PBE Table 2 Below).
  3. Prescribed burns will be conducted under a site specific burn plan per the Installation Integrated Wildland Fire Management Plan
  4. Whenever possible, all efforts will be made to have all flames extinguished and smoke generation minimized by sunset to reduce potential direct impacts to foraging bats during the active season (see PBE Table 2 Below)
  5. Make use of naturally occurring firebreaks or if necessary, establish wet lines 100m around forested known/presumed occupied NLEB habitat during the active season (see PBE Table 2 Below), to preclude fire from entering, to the maximum extent practicable.

- Specific Single, Group, or Hazard Tree Removal (see Section VI-G for details)
  1. Removal of single, multiple, or cluster of trees during the active season, in areas where there are known roost trees, trees that do not pose a risk to human life or property will be analyzed for signs of bats being present (emergence surveys) prior to removal according to USFWS Indiana bat (and NLEB) summer survey protocols.
  2. If known roost tree removal is determined to be necessary, the applicable IMCOM installation will consult with their local USFWS field office.
  3. If such tree removal is preferred immediately, the applicable IMCOM installation will consult with their local USFWS field office.
  4. If non-ESA bat species are determined present and immediate removal of the tree(s) is necessary, the tree(s) will be removed in a manner that will minimize

impacts on the bats such as first disturbing the tree(s) to cause them to abandon the roost.

5. If there are hazard trees that are considered an imminent threat to human life or loss of property occurring in suitable NLEB habitat and need to be removed during the active season, the IMCOM installation will remove such trees and inform the USFWS field office of the action only if NLEB are present on the IMCOM installation will initiate emergency consultation per the procedures in accordance with 50 CFR 402.05.

- Pesticide Use: (see Section VI-H for details)
  1. Only pesticides registered by the EPA and State of use may be applied and only in accordance with their label.
  2. Aerial applications will occur outside the active season (see PBE Table 2 Below) and between the hours of sunrise and one hour before sunset. When utilizing helicopters for application they should employ large droplet technology through special nozzles on drop tubes to ensure the herbicide stays on target.
  3. Whenever possible, herbicides that have low toxicity to mammals will be utilized with the tow behind power blowers. Herbicides that may be somewhat toxic to mammals will be mixed and applied at a rate that should minimize any potential exposure concerns.
  4. Application of pesticides from ground mounted vehicles (i.e., ATVs, tractors) that spray chemicals directly onto the ground and do not result in broad dispersal will be conducted at least 100 ft (30 m) from known roost trees during the active season (see PBE Table 2).
  5. Application of pesticides that result in broad dispersal (e.g., tow behind power blowers) will be conducted at least 250 ft (76 m) away from known roost trees during the active season (see PBE Table 2 Below) and will not be applied between sunrise and one hour before sunset.
  6. Location-specific applications (i.e. hatchet or stem injections of trees, individual application to specific plants) may be used within 50 ft (15 m) of known roosts.
  7. Pesticides applied from tow behind power blowers will use appropriate nozzles and drift control additives, and will be applied using low pressure to reduce drift and potential swirling motion from the blower. All efforts will be made to only spray 10 feet from ground level or below.
  8. Pesticides will not be applied outdoors when the wind speed exceeds 8 mi/hr for all applications except power mist blowers. Pesticides applied via power mist blower will only be applied with wind speeds <5 mi/hr.
  9. If a bat colony is found roosting in a building, then insecticides will be used sparingly and no foggers will be used. This will minimize impacts to roosting northern long-eared bats if they are found within a building.

- Pest Control: (see Section VI-I for details)
  1. No Lethal Control. No lethal control methods are permitted for bats unless there is a suspected human health risk for exposure to rabies or other

disease. If individual bats are in buildings and there is no evidence of maternity use, then all efforts will be made to safely capture and release individual bats. Or, the bats will be excluded by establishing one-way valves over the roost's exit (if feasible).

2. Exclusion will only be done during times of the year when pups are not present or when they are volant (i.e., August - early May). Sealing cracks and crevices in buildings will also be done during the late fall or early spring.
3. No adhesive traps used for rodents or insects will be placed in such a manner that they could capture bats—glue traps will not be placed in any crawl space or attic compartment within buildings or in areas where bats are known to occur.
4. Chemical Measures. Any use of insecticides will be utilized in accordance with the conservation measure associated with "Pesticide Use".

C) Additional General Conservation Measures.

1. IMCOM will use the most current National WNS Decontamination Protocols approved by USFWS for planned activities that involve close or direct contact with bats, their environments, and/or associated materials.
2. IMCOM will explore cooperative management efforts with adjacent landowners, if such efforts would complement installation NLEB conservation initiatives and/or support mission implementation.
3. IMCOM will explore cooperative NLEB management strategies, solutions, and efforts with other federal, state, and private organizations and landowners in the region.
4. IMCOM will seek funding opportunities to conduct USFWS presence/absence surveys on individual installations subject to the availability of funds.
5. IMCOM installations will continue to manage their ecosystems to support and enhance military training, testing, & readiness in accordance with their INRMP to retain habitat and biological diversity, and long term sustainability.
6. IMCOM & the USFWS will develop a screening criteria check list so individual installations may quickly and categorically apply the above listed measures described in the programmatic process.
7. IMCOM will centrally report activities taken by individual installations under this programmatic opinion annually to the USFWS from data gathered through the annual AEDB-EQ installation data call.

WOOD TURTLE (*Glyptemys insculpta*)

A Virginia *Threatened* Species

Note the sculptured scales of the top of shell (carapace).

Bottom view (plastron) of a male wood turtle. The concaved plastron is characteristic of a male. Note the distinct black markings and the brightly colored legs and tail.

Wood turtles, a state Threatened species, may be found in or near this project area. Wood turtles are medium-sized (6-9 inches adult shell length) semi-terrestrial turtles found in streams or in riparian uplands. The dull brown upper shell is very rough, and each section of the shell reflects growth rings that form an irregular pyramid. There is great variation in this trait, however, and the upper shell of older turtles may appear smooth. The bottom shell is yellow with black marginal blotches. Wood turtles have a black head, and dark brown extremities with characteristic yellow to burnt-orange skin patches on the neck and leg sockets. Wood turtles that are found in an instream construction area should be carefully relocated downstream to safety in suitable habitat (a run or deep pool with sandy or muddy bottom and submerged roots, branches, or logs). Wood turtles found within the project area uplands during construction should be relocated within the same watershed, approximately ¼ to ½ mile downstream of their original location. It is a violation of Virginia law to harm or to possess a wood turtle. If you have any questions concerning wood turtles, please contact John Kleopfer of the Virginia Department of Game and Inland Fisheries (804-829-6703; John.Kleopfer@dgif.virginia.gov).

THE WOOD TURTLE IS A PROTECTED SPECIES IN VIRGINIA: IT IS UNLAWFUL TO HARM, COLLECT, OR POSSESS THESE TURTLES.

THIS PAGE INTENTIONALLY BLANK

The Program Manager continued the management of the +$2M, NFWF funded, project at the Virginia Science Museum. The Manager shares the Project Management role with the Director of Science at the Museum to facilitate full coverage of all aspects of project implementation. During the reporting period, the Program Manager directed the research aspects of the project, refining the treatment structures, modifying for enhanced performance and coordinating with outside interests for expanded monitoring research. The Program Manager provided presentations, lead tours and conducted field workshops illustrating the LID installed practices to various industry, nonprofit and public sector participants.

b) DCR – Division of Natural Heritage

This report lists projects and activities conducted by the Department of Conservation and Recreation, Division of Natural Heritage (DCR-NH) during this period that were not funded by or otherwise reported to the VCZMP

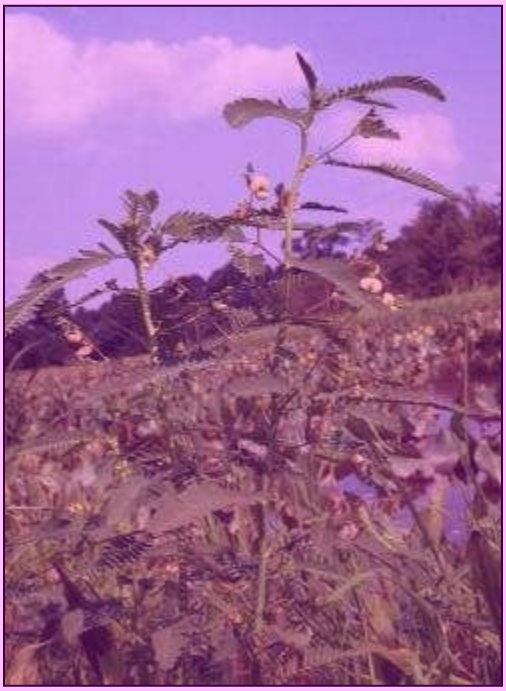
Inventory

Fort Belvoir Sensitive Joint-vetch Report – 5/3/13
The DCR-DNH field botanist submitted a final report to U. S. Army Garrison Fort Belvoir in Fairfax County on surveys conducted in 2011-2012 for the federal and state listed plant species sensitive joint-vetch (Aeschynomene virginica, G2/S2/LT/LT). Sensitive joint-vetch, a tall annual herb in the pea family (Fabaceae), occurs in freshwater to slightly brackish wetland habitats, primarily marshes, in the intertidal zone of major coastal rivers in Virginia, Maryland, and New Jersey. It also has been found in North Carolina, in ditches and wet fields, although these are not considered stable populations. It is known historically from Delaware and Pennsylvania. In Virginia, the plant has been documented within the Chickahominy, James, Mattaponi, Pamunkey, Rappahannock, and Potomac Rivers. The nearest population that has been documented on the Potomac River lies approximately 20 miles downstream from Fort Belvoir. Although appropriate marsh habitat was present in the lower sections of Accotink Creek, Dogue Creek, and Pohick Creek, no sensitive joint-vetch was found. This project was part of a larger natural resource survey, including zoological surveys, conducted by DCR-DNH in 2011-2013 with funding from Fort Belvoir.

Fort Belvoir Small Whorled Pogonia Report – 5/3/13
The DCR-DNH field botanist submitted a final report to the U. S. Army Garrison Fort Belvoir in Fairfax County on surveys conducted in 2012 in selected areas of the Fort for the federal and state listed plant species small whorled pogonia (Isotria medeoloides, G2/S2/LT/LE). Small whorled pogonia is a globally rare orchid restricted to the eastern U.S. and Ontario, Canada, and in Virginia ranges from the Coastal Plain to the Cumberland Plateau with most of the Virginia occurrences located in the Coastal Plain and Piedmont. In Virginia, small whorled pogonia is most typically found in deciduous second or third growth successional hardwood forests with fairly sparse ground cover and highly acidic, nutrient-poor, sandy loam soils although plants have been found in a wider range of habitats in recent years. The focus of the surveys at Fort Belvoir was on areas that might be affected by proposed improvements in the sewer and water lines on the Fort. Additional areas included the site of a proposed building construction and the site of a previously documented occurrence on the Fort. No small whorled pogonia was found at any of the survey sites, and in general herbaceous cover was lacking, presumably due to heavy deer browsing. This project was part of a larger natural resources survey, including zoological surveys, conducted by DCR-DNH in 2011-2013 with funding from Fort Belvoir.

Fort Belvoir Small Whorled Pogonia Habitat Delineation Report – 5/3/13
The DCR-DNH field botanist submitted a final report to the U. S. Army Garrison Fort Belvoir in Fairfax County on the small whorled pogonia (Isotria medeoloides, G2/S2/LT/LE) habitat delineation work conducted within the “300 Area” on the Fort in March and early April 2013. Earlier work had been conducted by a consultant in 2012 on targeted areas of this 309 acre section of Fort Belvoir, and Fort Belvoir requested that

DCR-DNH evaluate the remaining areas and delineate potential habitat and non-habitat. A review of aerial photos resulted in an initial delineation of 130 acres in 13 polygons of forest habitat that would need to be field evaluated. A protocol for evaluating the habitat was developed after reviewing other such delineation protocols as well as taking into account the broadening of the habitat types where small whorled pogonia occurs and the limitations of conducting habitat delineation in early spring before some characteristics, such as ground cover and shade, are fully, if at all, developed. Of the 130 acres of forested areas delineated from the aerial photos, almost 95 acres, or 73%, were evaluated as potential small whorled pogonia habitat; 35 acres, or 27% were evaluated as having low to no potential for small whorled pogonia. The maps and shapefiles of the delineated habitat that were provided to Fort Belvoir will allow their planners to determine when proposed actions / developments might affect small whorled pogonia habitat and so require surveys for this species.



Sensitive Joint-vetch

Small whorled pogonia

Report on James Spinymussel Survey – 6/7/13

Natural Heritage zoologists submitted a final report entitled 'Results of James Spinymussel Surveys in Tributaries to the James River in Central and Eastern Virginia, 2012-2013' to the Virginia Department of Game and Inland Fisheries (DGIF). The report summarized results of 50 surveys for the federally endangered James Spinymussel (Pleurobema collina, G1 S2, Tier I). While no new populations were discovered, the Pedlar River population was found alive in the farthest upstream location known. The Green Floater (Lasmigona subviridis, state threatened, G3 S2, Tier II) was reconfirmed in the Tye River which remains one of the best populations of this species throughout its range. This project was funded by DGIF through an Endangered Species Section 6 grant from the U.S. Fish and Wildlife Service.

Fort Belvoir Zoology Survey Report – 6/14/13

DCR Natural Heritage zoologist Chris Hobson recently completed a final report summarizing the findings of surveys for six taxonomic groups at Fort Belvoir, Fairfax County, Virginia. The surveys began in September 2011, and continued through early 2013. Findings include more than 385 species of moths, 60 dragonflies and damselflies, 54 butterflies and skippers, 5 freshwater mussels, and 3 bat species. The report also includes information on several groundwater inhabiting crustacean species including the globally rare Northern Virginia well amphipod (Stygobromus phreaticus G1 S1). Eight specimens of S. phreaticus were discovered, and water quality monitoring provided details into the unique habitat where this species occurs at Fort Belvoir. One rare mussel, the Eastern lampmussel (Lampsilis radiata G5 S2S3) was documented along the shore of Accotink Bay,

and a rare damselfly, the Sphagnum Sprite (Nehalennia gracilis G5 S2) was documented at a previously known location. The report also included information on several exotic species of plants and animals found at Fort Belvoir.

Rare Specimen Search at the University of Connecticut and Rutgers University –7/19/13
The Natural Heritage staff zoologist recently visited the University of Connecticut and Rutgers University insect collections to search for specimens of rare Lepidoptera (butterflies, skippers, and moths) and Odonata (dragonflies and damselflies) collected in Virginia. One of the largest private Lepidoptera collections in North America (based in Connecticut) also was examined. Collectively, these three collections yielded more than 100 specimens of 25 rare species from Virginia. These records will be entered into the Division of Natural Heritage's Biotics database and also added to the web-based atlas of rare Lepidoptera and Odonata that recently went on-line.

Dyke Marsh Follow Up Visit Yields New Rare Species and Washington Post Article – 7/22/13
DCR Natural Heritage zoology staff led a three-hour canoe/kayak trip to Dyke Marsh Nature Preserve (DMNP) along the Potomac River in Fairfax County. In attendance were Friends of Dyke Marsh president Glenda Booth, a Washington Post photographer and reporter Patterson Clark. The trip was a follow up to a 2011 DCR project that documented 16 species of dragonflies and damselflies at DMNP. The trip started out on a great note when two shells of a state rare mussel (Lampsilis radiata G5 S2S3) were found at the put in point just south of DMNP. Over the next three hours, many of the same species documented in 2011 were seen in abundance and the survey team added four new species of dragonflies to the known fauna of the preserve. A story about Dyke Marsh, the 2011 DNH project, and the 24 species of dragonflies and damselflies that occur at DMNP is slated to be published in the Health and Science Section of the Washington Post on August 13, 2013.

Rare Plant and Significant Natural Community Discovered in Essex County – 8/19/13
A new population of the federally threatened vascular plant species sensitive joint vetch (Aeschynomene virginica – G2/S2/LT/LT) and a significant example of Tidal Oligohaline Marsh were discovered during a site visit along the Rappahannock River in Essex County. The marshes on this property cover approximately 600 acres, with only two small areas known to harbor sensitive joint vetch. Due to the difficulty of searching such a large area, additional individuals may be present on site.

Tom Fitzgerald

From: Tom Fitzgerald
Sent: Monday, August 15, 2016 5:52 PM
To: 'katie_temple@fws.gov'
Subject: Project TES consultation request, Communication Line Extension, Davison Army Airfield, Fort Belvoir, Virginia
Attachments: USFWS TES Consult.pdf

Good Afternoon –

We are assisting Fort Belvoir with preparation of a NEPA EA and potential impact analysis of a communications line extension to the Davison Army Airfield per the attached concept routing plan and wanted to connect with the field office to informally discuss potential impacts to TES in the area.

We have run the IPAC report and based on previous NEPA documents completed in the area for similar projects we do not anticipate any adverse impact to TES but wanted to reach out and discuss the project with your lead biologist or field person that is knowledgeable of these environs so we can appropriately address any unforeseen issues with this proposed project.

If you could please steer me to the correct contact there it would be most appreciated.

Thanks for your assistance.

All the Best,
Tom

THOMAS L. FITZGERALD, PE
Vice President, Project Manager

434.455.3209 | direct
434.665.2187 | mobile

Wiley|Wilson | 100% Employee-Owned
127 Nationwide Drive | Lynchburg, VA 24502

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
PHONE: (804)693-6694 FAX: (804)693-9032
URL: www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2016-SLI-3942 August 15, 2016
Event Code: 05E2VA00-2016-E-04629
Project Name: Communications Line Extension, Davison Army Airfield, Ft. Belvoir, VA

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

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

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

endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

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

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

Attachment

Official Species List

Provided by:

Virginia Ecological Services Field Office
6669 SHORT LANE
GLOUCESTER, VA 23061
(804) 693-6694
http://www.fws.gov/northeast/virginiafield/

Consultation Code: 05E2VA00-2016-SLI-3942
Event Code: 05E2VA00-2016-E-04629

Project Type: ** OTHER **

Project Name: Communications Line Extension, Davison Army Airfield, Ft. Belvoir, VA
Project Description: Underground telecommunications ductbank installation

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Fairfax, VA

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your 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. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	Status	Has Critical Habitat	Condition(s)
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix A: FWS National Wildlife Refuges and Fish Hatcheries

There are no refuges or fish hatcheries within your project area.

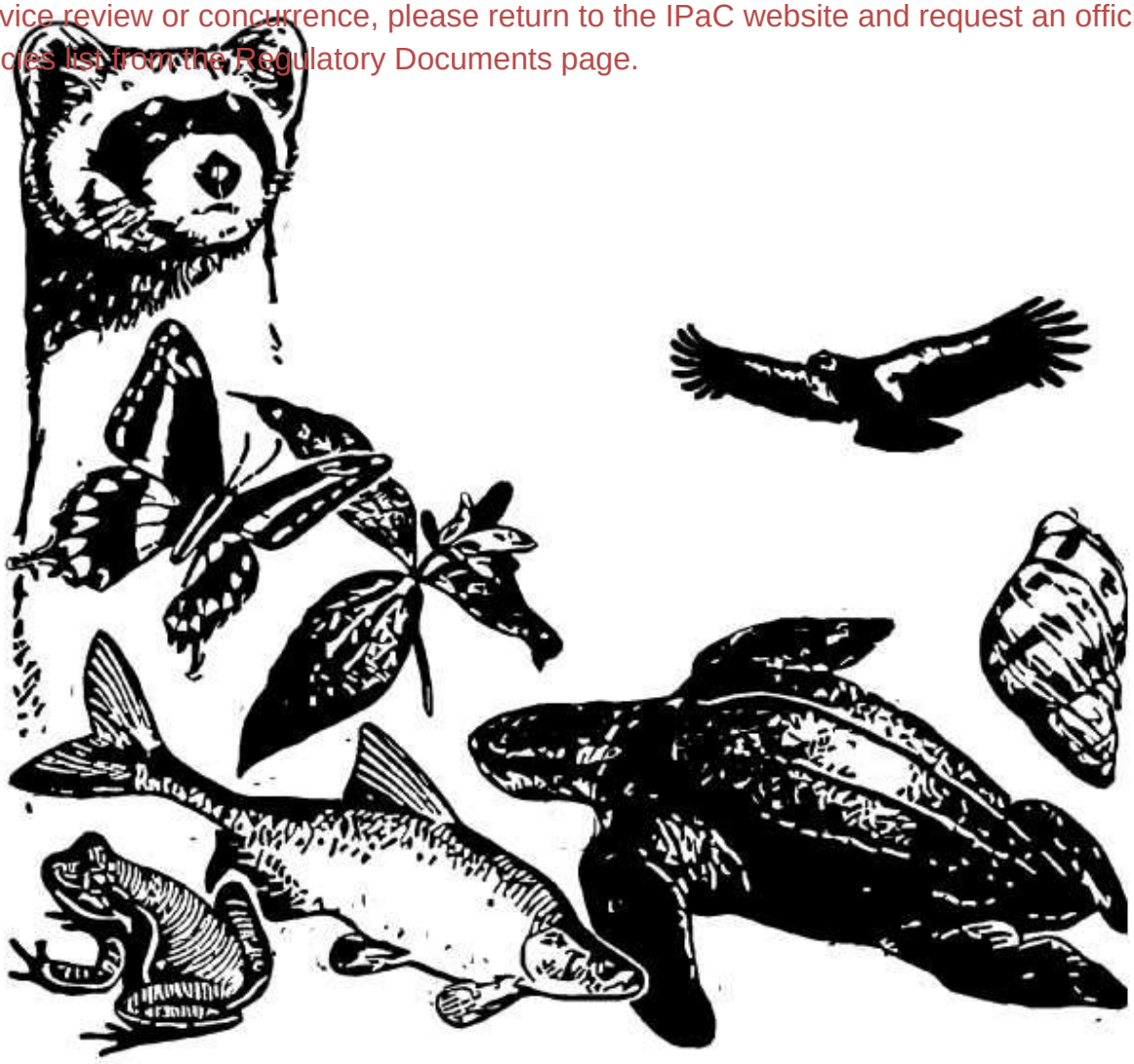
U.S. Fish & Wildlife Service

Communications Line Extension, Davison Army Airfield, Ft. Belvoir, VA

IPaC Trust Resources Report

Generated August 15, 2016 07:01 PM MDT, IPaC v3.0.8

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

Communications Line Extension, Davison Army Airfield, Ft. Belvoir, VA

LOCATION

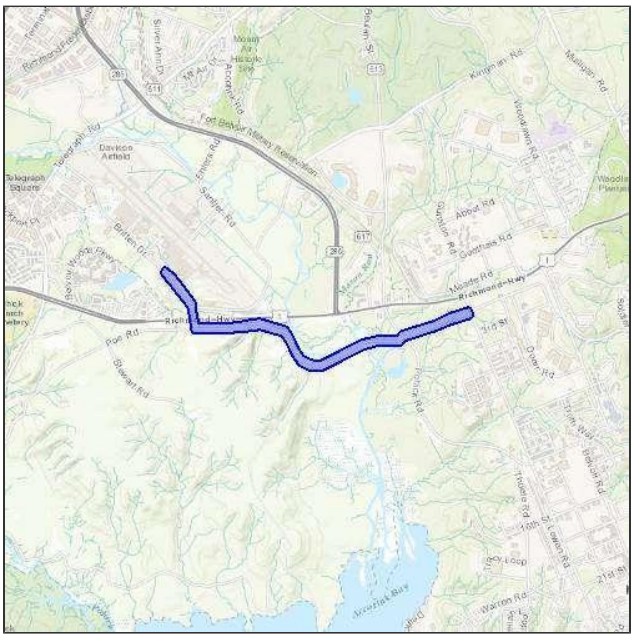
Fairfax County, Virginia

DESCRIPTION

Underground telecommunications ductbank installation

IPAC LINK

https://ecos.fws.gov/ipac/project/YHV4F-V5WV5-CLVAL-7VGYV-AWPCDA



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Mammals

Northern Long-eared Bat Myotis septentrionalis — Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

---

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The following species of migratory birds could potentially be affected by activities in this location:

American Oystercatcher Haematopus palliatus — Bird of conservation concern
Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Wintering

Gull-billed Tern Gelochelidon nilotica — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JV

Kentucky Warbler Oporornis formosus — Bird of conservation concern
Season: Breeding

Least Bittern Ixobrychus exilis
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Least Tern Sterna antillarum — Bird of conservation concern
Season: Breeding

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Season: Breeding

Prairie Warbler Dendroica discolor — Bird of conservation concern
Season: Breeding

Prothonotary Warbler Protonotaria citrea — Bird of conservation concern
Season: Breeding

Purple Sandpiper Calidris maritima — Bird of conservation concern
Season: Wintering

Red-headed Woodpecker Melanerpes erythrocephalus — Bird of conservation concern
Season: Year-round

Rusty Blackbird Euphagus carolinus — Bird of conservation concern
Season: Wintering

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula — Bird of conservation concern
Season: Breeding

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
Season: Breeding

Worm Eating Warbler Helmitheros vermivorum — Bird of conservation concern
Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

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.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

INFORMAL SECTION 7 - ENDANGERED SPECIES COORDINATION WITH
VIRGINIA DEPT. OF CONSERVATION AND RECREATION
NATURAL HERITAGE PROGRAM

Tom Fitzgerald

From: nhreview@dcr.virginia.gov
Sent: Monday, August 15, 2016 6:06 PM
To: Tom Fitzgerald
Subject: Communications Line Extension, Davison Army Airfield, Fort Belvoir, VA

Thank you for submitting your request. Upon review of this project, DCR-Natural Heritage will provide comments via email within 30 calendar days. Project reference ID is **16081518054956**.

Application: http://www.dcr.virginia.gov/natural-heritage/nhserviceform/?id=2016-08-15-18-05-49-563804-zm6

Visitor Options
Species Information
By Name
By Land Management
References
Geographic Search
By Map
By Coordinates
By Place Name
Help
Show This Page as Printer Friendly

INVENTORY OF KNOWN FEDERAL AND STATE LISTED SPECIES OF CONCERN WITHIN FORT BELVOIR REGION.

VaFWIS Search Report Compiled on 8/10/2016, 3:22:33 PM

Help

Known or likely to occur within a **3 mile radius around point 38,42,29.3 -77,09,51.7** in **059 Fairfax County, VA**

View Map of Site Location

701 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 31) (31 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis
050020	SE	Ia	Bat, little brown	Myotis lucifugus lucifugus
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus
060006	SE	Ib	Floater, brook	Alasmidonta varicosa
030062	ST	Ia	Turtle, wood	Glyptemys insculpta
040096	ST	Ia	Falcon, peregrine	Falco peregrinus
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus
040379	ST	Ia	Sparrow, Henslow's	Ammodramus henslowii
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans
030063	CC	IIIa	Turtle, spotted	Clemmys guttata
010077		Ia	Shiner, bridle	Notropis bifrenatus
040040		Ia	Ibis, glossy	Plegadis falcinellus
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera
100248		Ia	Fritillary, regal	Speyeria idalia idalia
040213		Ic	Owl, northern saw-whet	Aegolius acadicus
070027		Ic	Amphipod, Northern Virginia well	Stygobromus phreaticus
040052		IIa	Duck, American black	Anas rubripes
040033		IIa	Egret, snowy	Egretta thula
040029		IIa	Heron, little blue	Egretta caerulea caerulea
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea
040181		IIa	Tern, common	Sterna hirundo
040320		IIa	Warbler, cerulean	Setophaga cerulea
040140		IIa	Woodcock, American	Scolopax minor
060071		IIa	Lampmussel, yellow	Lampsilis cariosa
060029		IIa	Lance, yellow	Elliptio lanceolata
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus
040105		IIb	Rail, king	Rallus elegans
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii
100154		IIc	Butterfly, Persius duskywing	Erynnis persius persius

To view **All 701 species** View 701

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Anadromous Fish Use Streams (4 records) View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C18	Dogue creek	Confirmed	4		IV	Yes
C2	Accotink creek	Confirmed	2		IV	Yes
C62	Pohick creek	Confirmed	3		IV	Yes
C64	Potomac river	Confirmed	6		IV	Yes

Impediments to Fish Passage (1 records) View Map of All Fish Impediments

ID	Name	River	View Map
1176	HILLTOP_DAM	TR-DOGUE CREEK	Yes

Threatened and Endangered Waters (2 Reaches) View Map of All Threatened and Endangered Waters

Stream Name	T&E Waters Species							View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name						
Dogue Creek (02070010)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta		Yes
Unnamed trib. of Dogue Creek (02070010)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta		Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

are present. View Map of Bald Eagle Concentration Areas and Roosts

(6 records)

BECAR ID	Observation Year	Authority	Type	Comments	View Map
53	2006 - 2007	VDGIF, Center for Conservation Biology	Summer Concentration Area	Eagle_use High	Yes
54	2006 - 2007	VDGIF, Center for Conservation Biology	Summer Concentration Area	Eagle_use Low	Yes
55	2006 - 2007	VDGIF, Center for Conservation Biology	Summer Concentration Area	Eagle_use Moderate	Yes
56	2006 - 2007	VDGIF, Center for Conservation Biology	Winter Concentration Area	Eagle_use High	Yes
57	2006 - 2007	VDGIF, Center for Conservation Biology	Winter Concentration Area	Eagle_use Low	Yes
58	2006 - 2007	VDGIF, Center for Conservation Biology	Winter Concentration Area	Eagle_use Moderate	Yes

Bald Eagle Nests (8 records) View Map of All Query Results Bald Eagle Nests

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
FF0301	2	May 1 2003	HISTORIC	Yes
FF0401	15	Apr 24 2011	RECENTLY ACTIVE	Yes
FF0402	5	May 3 2006	HISTORIC	Yes
FF0501	14	Apr 24 2011	RECENTLY ACTIVE	Yes
FF0601	5	Apr 29 2007	HISTORIC	Yes
FF0801	8	Apr 24 2011	RECENTLY ACTIVE	Yes
FF9001	2	Jan 1 1991	HISTORIC	Yes
FF9202	18	Apr 27 2000	HISTORIC	Yes

Displayed 8 Bald Eagle Nests

Habitat Predicted for Aquatic WAP Tier I & II Species (6 Reaches) View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species

Stream Name	Tier Species							View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name						
Accotink Creek (20700102)		010077		Ia	Shiner, bridle	Notropis bifrenatus		Yes
(20700102)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta		Yes
Accotink Creek (20700102)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta		Yes

Dogue Creek (20700102)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
South Run (20700102)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Unnamed trib. of Dogue Creek (20700102)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species (3 Species)

View Map of Combined Terrestrial Habitat Predicted for 3 WAP Tier I & II Species Listed Below

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040105		IIb	Rail, king	Rallus elegans	Yes
040038			Bittern, American	Botaurus lentiginosus	Yes
040093			Eagle, bald	Haliaeetus leucocephalus	Yes

Virginia Breeding Bird Atlas Blocks (6 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
53196	Annandale, SE	73		III	Yes
53184	Fort Belvoir, CE	85		II	Yes
53183	Fort Belvoir, CW	37		III	Yes
53182	Fort Belvoir, NE	71		II	Yes
53181	Fort Belvoir, NW	43		III	Yes
54181	Mount Vernon, NW	57		III	Yes

Public Holdings: (3 names)

Name	Agency	Level
Fort Belvoir Military Reservation	U.S. Dept. of Army	Federal
Jackson Mile Abbott Wetland Refuge	U.S. Dept. of Army	Federal
George Washington Grist Mill State Park	VA Dept. of Conservation and Recreation	State

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
059	Fairfax	559	FESE	I

USGS 7.5' Quadrangles:
Fort Belvoir
Annandale
Mount Vernon

USGS NRCS Watersheds in Virginia:

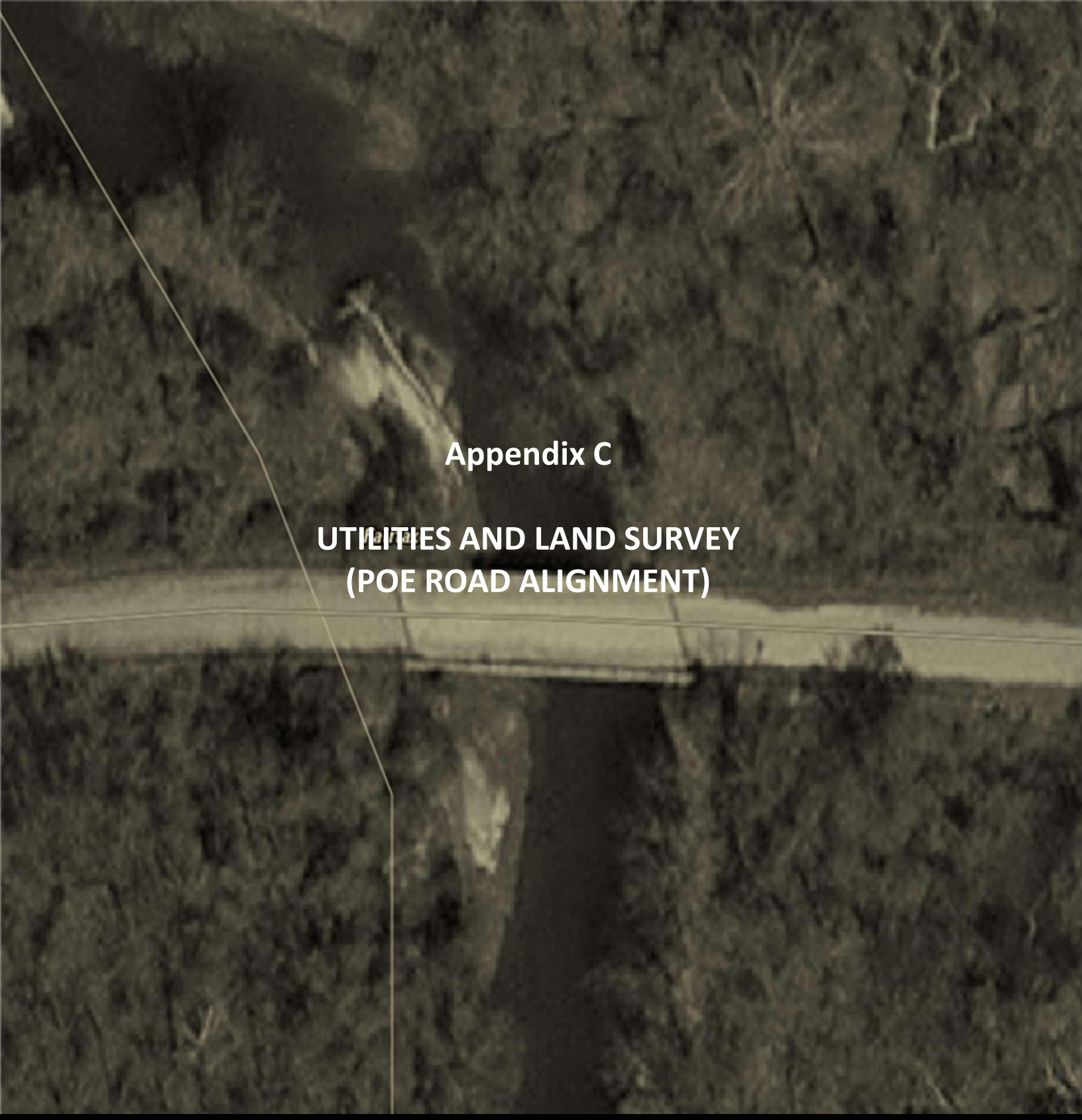
N/A

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
PL27	Dogue Creek	77	ST	I
PL28	Potomac River-Little Hunting Creek	71	ST	I
PL29	Pohick Creek	75	ST	I
PL30	Accotink Creek	81	SE	I
PL48	Occoquan River-Belmont Bay	74	ST	I
PL50	Potomac River-Occoquan Bay	74	ST	I

Compiled on 8/10/2016, 3:22:33 PM V759966.0 report=V searchType= R dist= 4828.032 poi= 38,42.29.3 -77,09,51.7

THIS PAGE INTENTIONALLY BLANK



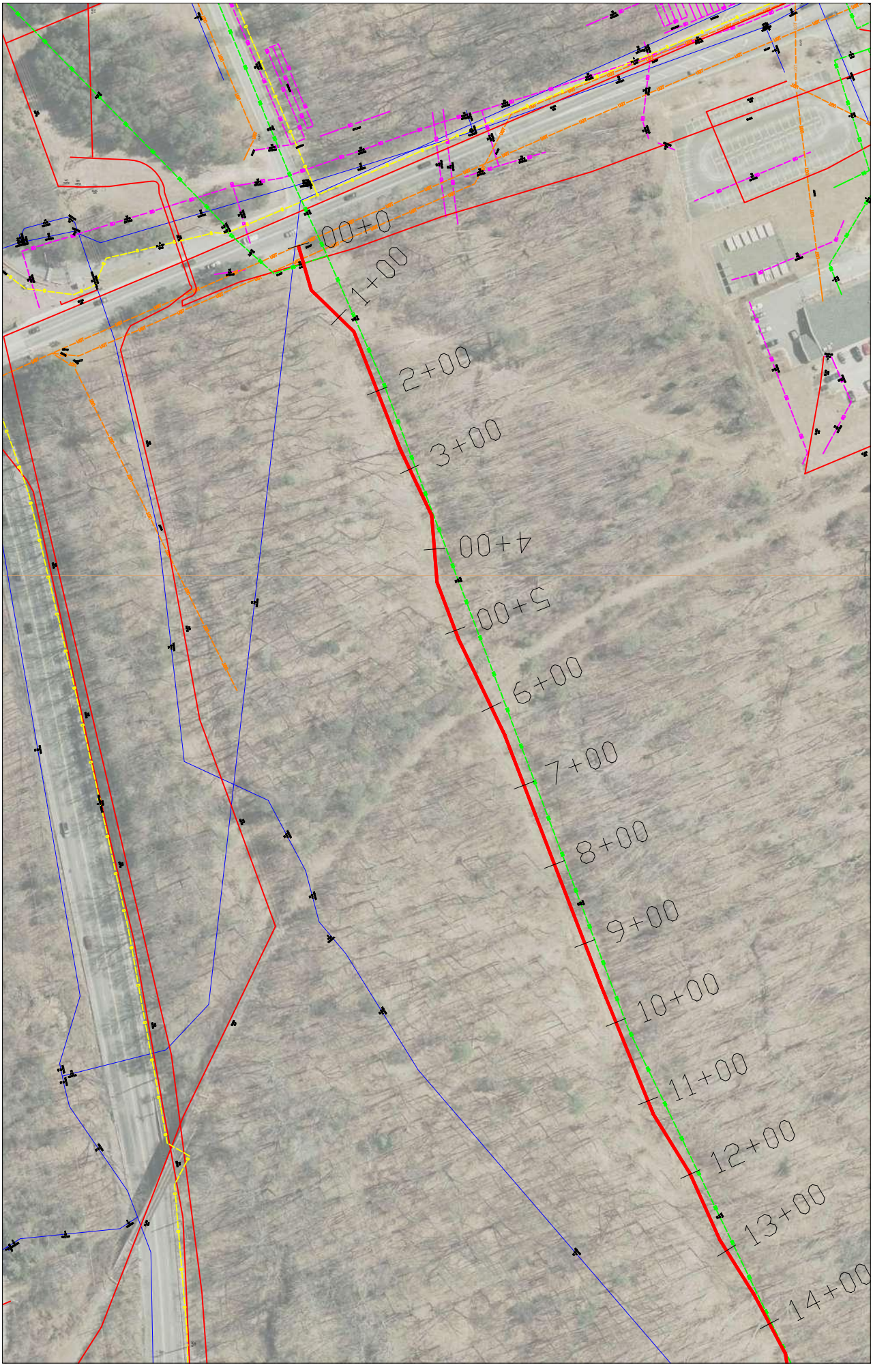
Appendix C

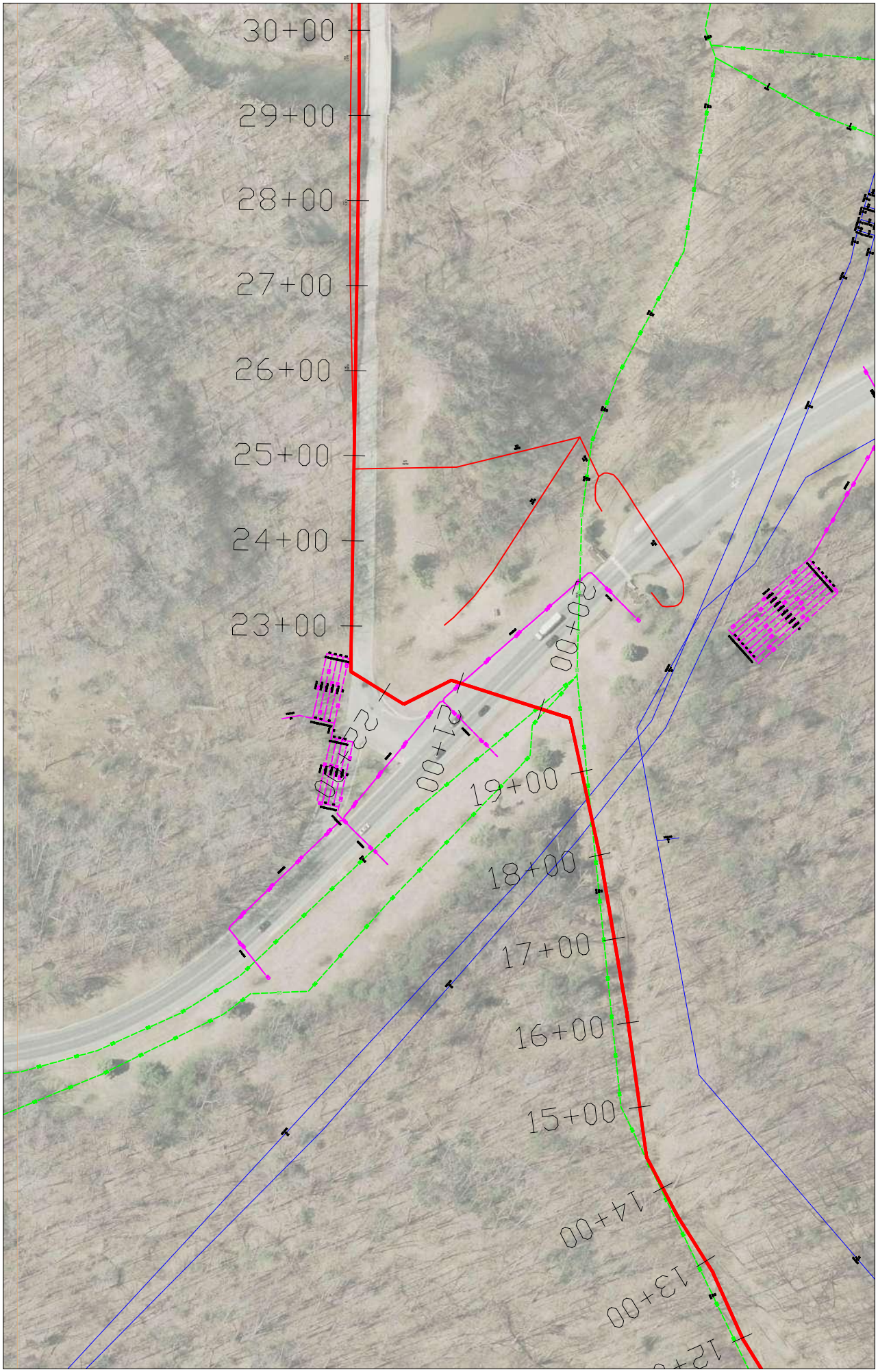
UTILITIES AND LAND SURVEY
(POE ROAD ALIGNMENT)

LEADERS IN EXCELLENCE!

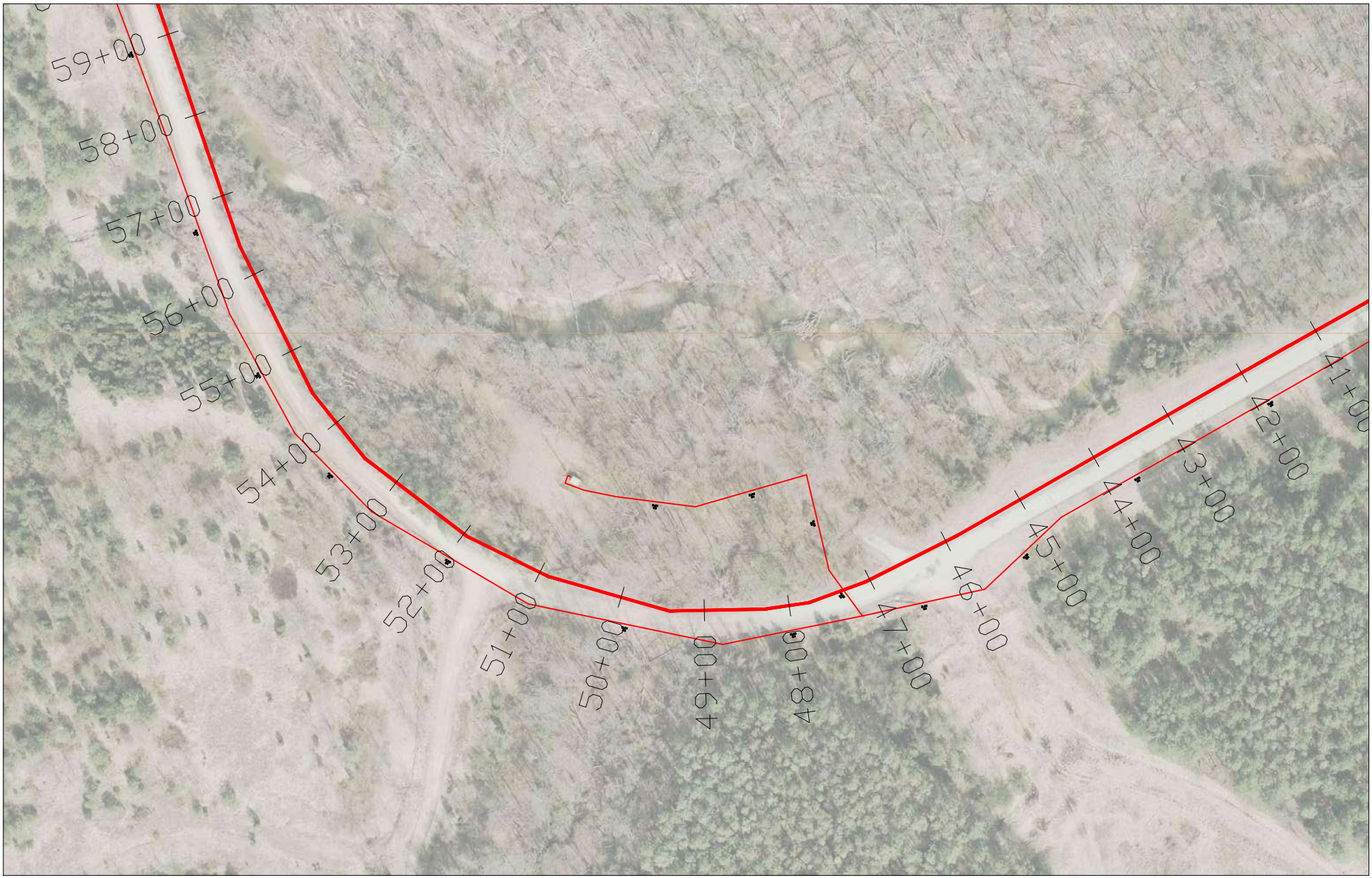
U.S. ARMY GARRISON FORT BELVOIR

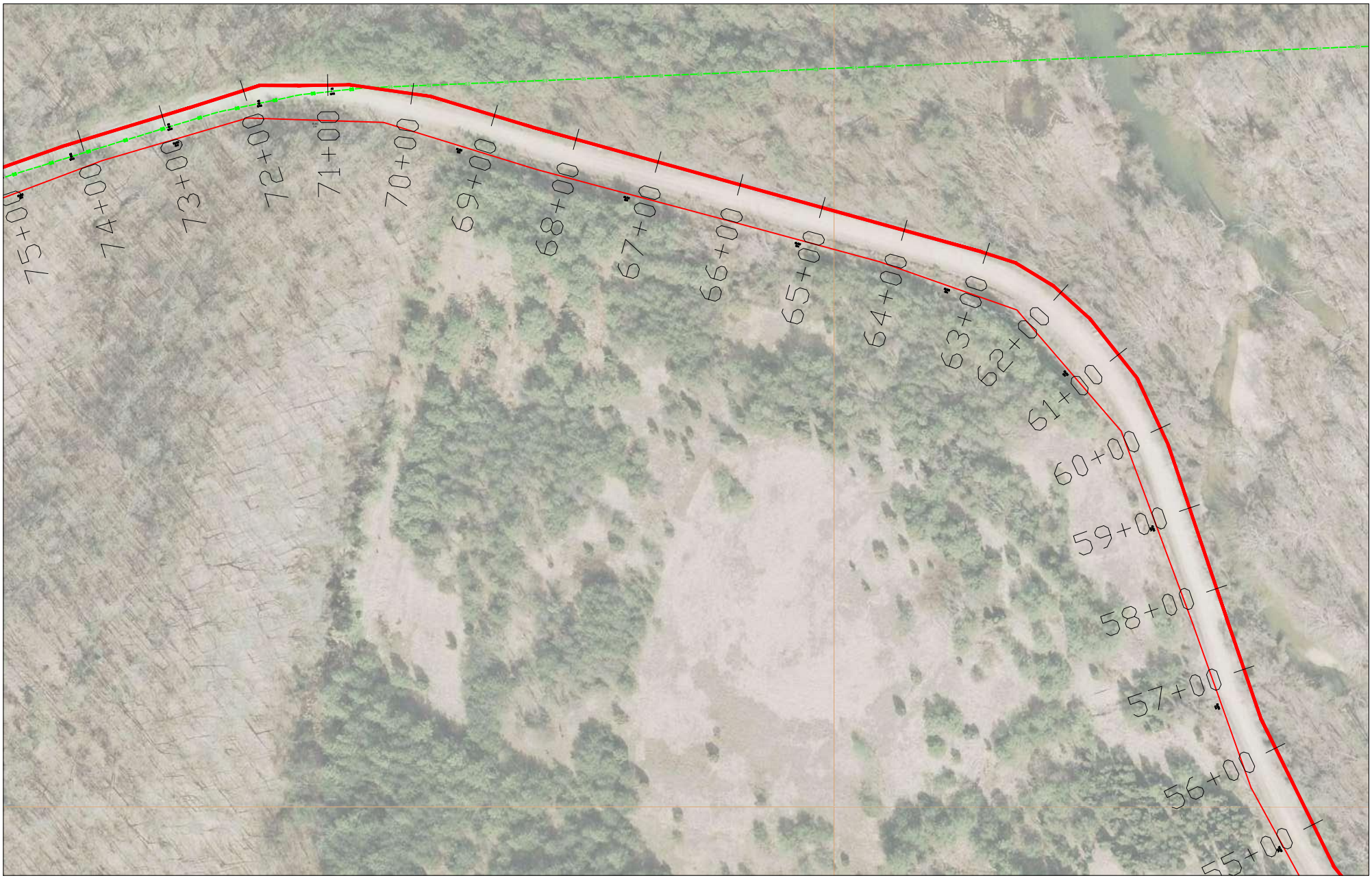
THIS PAGE INTENTIONALLY BLANK

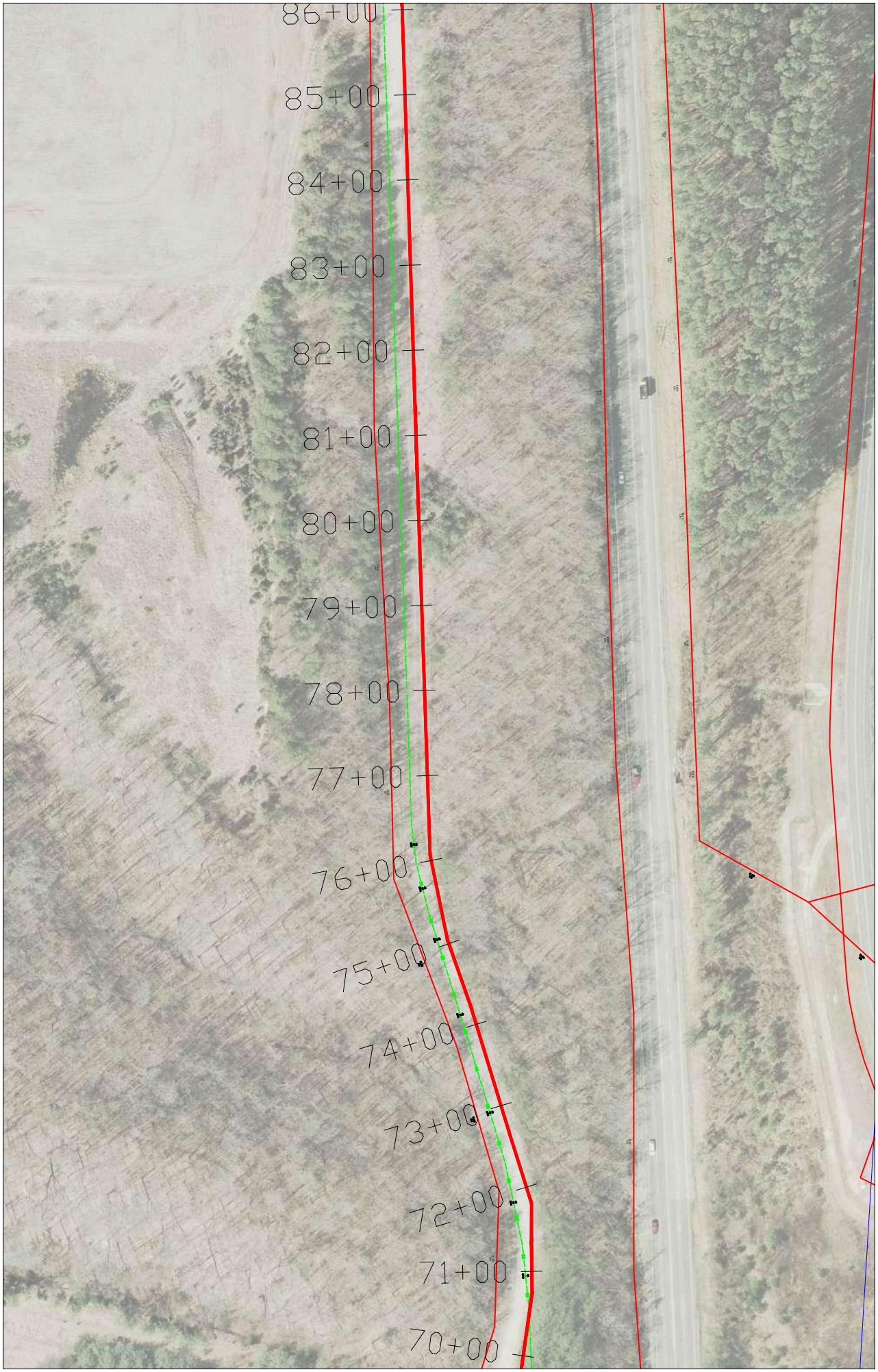

0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
12+00
13+00
14+00

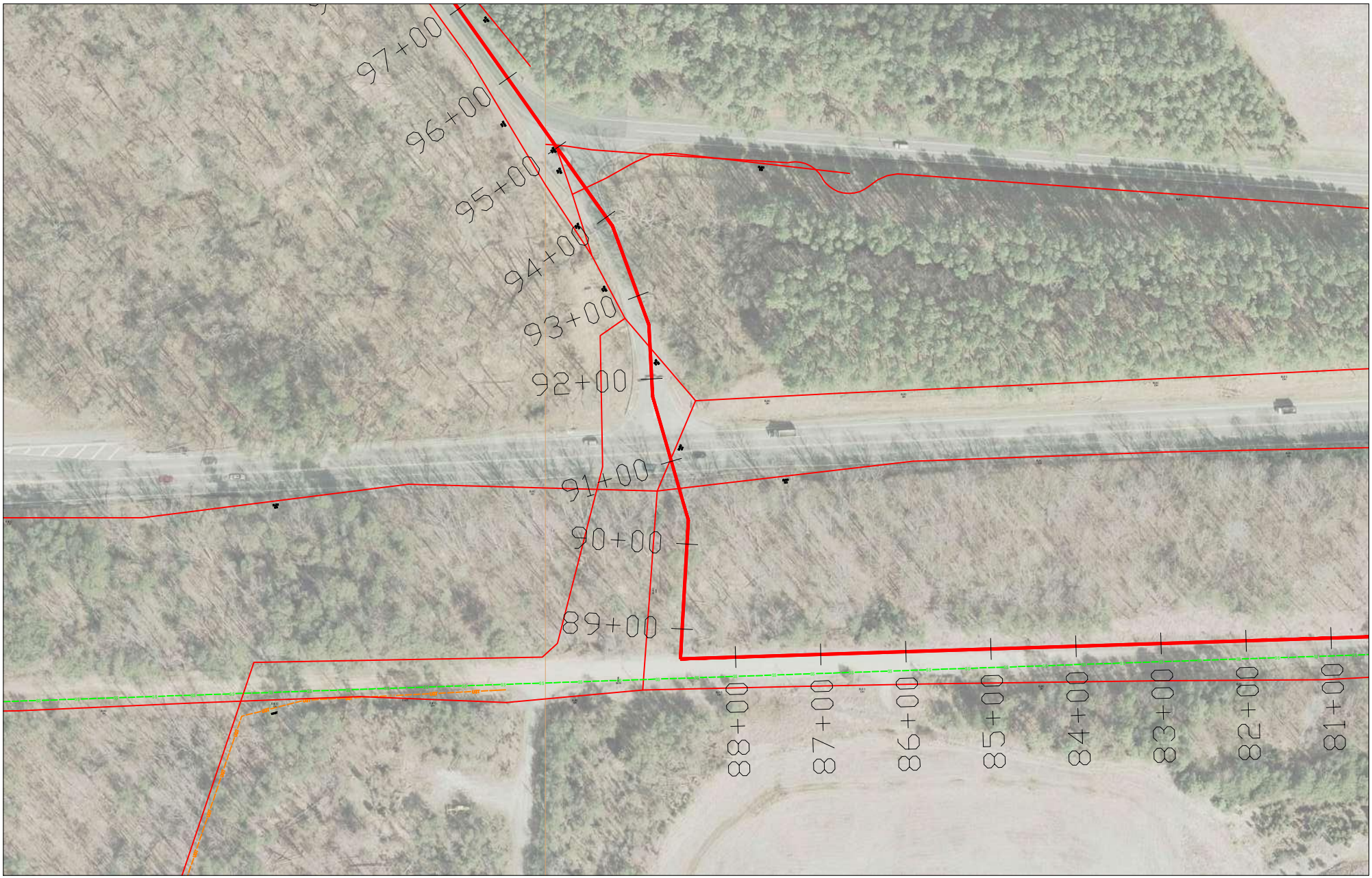

30+00
29+00
28+00
27+00
26+00
25+00
24+00
23+00
22+00
21+00
20+00
19+00
18+00
17+00
16+00
15+00
14+00
13+00

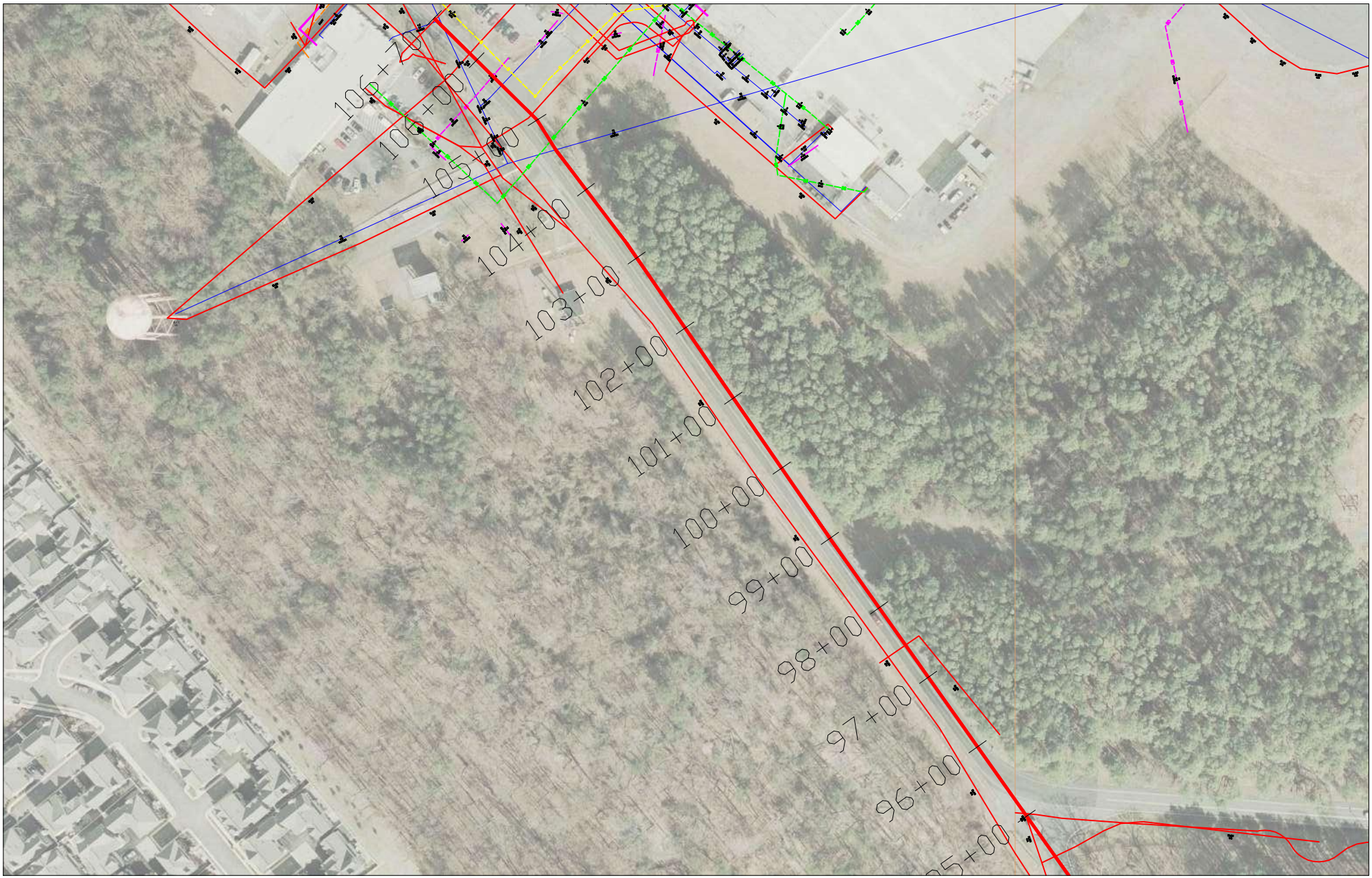
29+00
30+00
31+00
32+00
33+00
34+00
35+00
36+00
37+00
38+00
39+00
40+00
41+00
42+00
43+00
44+00
45+00
46+00
7+00


59+00
58+00
57+00
56+00
55+00
54+00
53+00
52+00
51+00
50+00
49+00
48+00
47+00
46+00
45+00
44+00
43+00
42+00
41+00


75+00
74+00
73+00
72+00
71+00
70+00
69+00
68+00
67+00
66+00
65+00
64+00
63+00
62+00
61+00
60+00
59+00
58+00
57+00
56+00
55+00


86+00
85+00
84+00
83+00
82+00
81+00
80+00
79+00
78+00
77+00
76+00
75+00
74+00
73+00
72+00
71+00
70+00


97+00
96+00
95+00
94+00
93+00
92+00
91+00
90+00
89+00
88+00
87+00
86+00
85+00
84+00
83+00
82+00
81+00


106+70
106+00
105+00
104+00
103+00
102+00
101+00
100+00
99+00
98+00
97+00
96+00


101+00
102+00
103+00
104+00
105+00
106+00
107+00
108+00

THIS PAGE INTENTIONALLY BLANK

Appendix D

Fairfax AIR QUALITY CONFORMITY DETERMINATION

LEADERS IN EXCELLENCE!

U.S. ARMY GARRISON FORT BELVOIR

THIS PAGE INTENTIONALLY BLANK

RECORD OF NON-APPLICABILITY
In Accordance with the Clean Air Act General Conformity Rule for:
Supplemental Environmental Assessment
Communications Line Extension
Davison Army Airfield, Fort Belvoir, Virginia

November 8, 2016

The Army proposes to develop approximately two miles of underground communications ductbank to serve the Davison Airfield area of the garrison. The Proposed Action includes:

- Maintenance clearing of existing utility rights-of-way, select trimming of existing plants and trees currently impinging on said right-of-way and associated road shoulders along the proposed alignment as required to install and maintain subject ductbank system.
- Trenching, conduit installation, concrete placement and backfill of ductbank corridor to match preconstruction conditions, including, as required jack and bore installation of four way conduit bundle to avoid sensitive wetland and or coastal water resources, including relative crossing of Accotink Creek and public thoroughfares. This work will include installation of utility marking and delineators, manholes, hand holes and vaults as required miscellaneous components of the ductbank system.
- Restoration of disturbed areas to match preconstruction conditions including pavement patching, shoulder stabilization, mulching, final grading, erosion control measures and site seeding to re-establish vegetative cover. The total disturbed area includes up to 7.5 acres of land clearing for utility installation and restoration of up to 80,000 square feet of pavement required for underground utility construction.

The Proposed Action has been evaluated under the General Conformity provisions of the Clean Air Act, Section 176 as codified in Title 40 of the Code of Federal Regulations Part 93, Subpart B. The requirements of this rule have been found not to be applicable to the Proposed Action because:

The highest total annual direct and indirect emissions from this Proposed Action have been estimated at 5.2 tons of nitrous oxides (NO_x); 0.8 tons of volatile organic compounds (VOCs); 0.4 tons of very fine particulate matter ($PM_{2.5}$); and 0.8 tons of sulfur dioxide (SO_2) per year, which are significantly below the applicability threshold values of 50 tons of VOCs; 100 tons of SO_2, $PM_{2.5}$, and NO_x

Supporting documentation and emissions estimates:
(X) Are Attached (F-1 to F-8)
( ) Appear in the National Environmental Policy Act documentation
( ) Other (not necessary)

Angie K. Holbrook
Colonel, U.S. Army
Commanding

9 Dec 16
Date:

F-1 EMISSIONS ESTIMATION AND METHODOLOGY

The Army has considered all reasonably foreseeable net air emissions generated from all direct and indirect sources associated with the proposed ductbank installation at Fort Belvoir. *Direct emissions* are defined as emissions directly caused or initiated by the proposed action and that will occur at the same time and place as the proposed action. *Indirect Emissions* are defined as reasonably foreseeable emissions that are caused by the action but may occur later in time and/or be further removed in distance from the action itself, and that the Federal agency can practically control. More specifically, project-related direct emissions would result from the following:

- *Construction Activities*: Including, the use of non-road equipment (e.g. backhoes and bulldozers), worker vehicles, the use of paints containing volatile organic compounds, off-gases from paving operations, and fugitive particles from land clearing and earth moving activities.
- *Operational Activities*: Including the use of building heating systems (boilers) and emergency generators not subject to major new source review, and the use of private motor vehicles. *(Not applicable to project)*

All direct and indirect emissions with proposed action to develop the proposed ductbank were estimated. Emissions related to Construction Activities were generated by estimating equipment uses required for installation of site utilities, site preparation work, final grading, landscaping and paving, including:

- Installation of approximately 2 miles of 4-way, concrete encased underground ductbank using a combination of open cut and trenchless installation techniques.
- Total disturbed area is a maximum of 7.5 acres, including up to 80,000 square feet of incidental roadway pavement patching

F-1-1 ESTIMATED EMISSIONS FROM CONSTRUCTION EQUIPMENT

Emissions related to construction equipment include estimates of the off-road equipment required to construct the proposed ductbank improvements as detailed in Table F-1. This table also includes an estimate of the emissions from this equipment and related facility construction efforts, (i.e. land clearing, earthwork and paving). Emission categories are detailed based on anticipated construction phasing, which includes an estimate of the overall project construction schedule being 9-months of site preparation and utility installation.

The following formula was used to estimate hourly emissions from non-road engine sources, including backhoes, excavators, cranes, lifts and other similar equipment using emission factors listed in EPA's NONROAD Emissions Model (2008a). Operating hours are based on projected construction schedule and typical workday operating hours. Hourly emissions from non-road equipment were estimated based on the following formula:

$M_i = (N \times EF_i) \times AI$

Where: M_i = mass of emissions of ith pollutant
N = number of pieces of equipment
EF_i = average emissions of ith pollutant/per hour
AI = anti-idling factor (0.98)

Table F-1

Project Construction Equipment Emissions (tpy)						
Year	**CO**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**
TOTAL	**2.7**	**5.2**	**0.4**	**0.4**	**0.8**	**0.8**

* Note project is projected to be complete in 9 months.

F-1-2 ESTIMATED EMISSIONS FROM CONSTRUCTION WORKER VEHICLES

Emissions due to construction worker commuting to the project were estimated using emission factors provided in EPA's MOBILE6.2 source modeling program. The estimate assumes that workers commute a total of 30 miles per day to the project site at an average speed of 35 miles/hour.

Table F-2

Annual Const. Worker Vehicle Emissions (tpy)					
Year	**CO**	**NO_x**	**VOC**	**$PM_{2.5}$**	**SO_2**
Em. Factor (g/mile)	2.918	0.30	0.34	0.0113	0.0068
TOTAL	**0.17**	**<0.05**	**<0.05**	**<0.05**	**<0.05**

* Projected Worker Population of 10 personnel, 230 work days/year, 9 months, 30 miles roundtrip = 51,750 miles/year; (908,000 grams/ton).

F-1-3 ESTIMATED EMISSIONS FROM ARCHITECTURAL COATINGS

Estimates of Volatile Organic Compound emissions associated with painting are generated based on coating the entire interior walls and ceiling spaces with 3 mm of paint, (primer and finish) is based on the following formula: ***(No coatings required on project)***

E= (F / G x H) / 2,000 Where: E = VOC emissions from Architectural finishes (tons)
F = total area to be coated (floor areas SFx 2)
G = paint coverage (SF/gal) (400 sf/gal)
H = pounds of VOC emissions per gallon (0.83 lb/gal)

F-1-4 ESTIMATED EMISSIONS FROM CURING ASPHALT PAVING

Estimates of Volatile Organic Compound emissions associated with curing of the pavements are independent of construction emissions associated with physically placing the asphalt paving (i.e. trucks and pavers are accounted for in construction operations phase emissions summary, Table F-1). These curing emissions are calculated based on surface area to be paved using the following formula:

E= (F x G) / 2,000 Where: E = VOC emissions from Architectural finishes (tons)
F = total area to be paved (acres)
G = curing emission rate (lb VOC/acre) (2.62 lb/acre)

Based on the projected site pavement patching area of 80,000 square feet along road alignment, this yields:

E= (80,000 / 43,560 sf/acre) x 2.62 lb/acre / 2,000 = **0.0024 tons of VOC's from Asphalt**

F-1-5 ESTIMATED PARTICULATE EMISSIONS FROM SURFACE DISTURBANCE

Particulate emissions associated with land disturbance are estimated based on $PM_{2.5}$ emission ratios listed in EPA guidance document AP-42 for fugitive dust sources. These emissions are based on the following formula:

$$E = A \times TSP \times R \times C/2{,}000$$

Where: E = $PM_{2.5}$ (tons)
A = total area to be cleared (acres)
TSP = PM_{10} total suspended particulate (80 lb/acre)
R = Ratio of $PM_{2.5}$ to PM_{10} (0.15 lb/lb)
CF = Capture Fraction (0.5)

Based on the maximum site clearing area of 7.5 acres, this yields:

$E = 7.5 \times 80 \times 0.15 \times 0.5/ 2{,}000 =$ **0.023 tons** of $PM_{2.5}$ from land disturbing activity

F-1-6 SUMMARY OF ESTIMATED CONSTRUCTION EMISSIONS

Table F-3 provides a summary of expected construction phase air emissions associated with the proposed ductbank extension:

Table F-3

Construction Activity Emissions Summary (tpy)						
Description	**CO**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**VOC**
Const. Equipment	2.7	5.2	0.4	0.4	0.8	0.8
Const. Workers	0.17	-	-	-	-	-
Arch. Finishes	-	-	-	-	-	-
Asphalt Curing	-	-	-	-	-	.0024
Land Disturbance	-	-	0.023	0.023	-	-
Total	**2.87**	**5.2**	**0.42**	**0.42**	**0.8**	**0.80**
Conformity Threshold	100	100	100	100	100	50

The highest total annual direct and indirect emissions from this Proposed Action have been estimated at 5.2 tons of nitrous oxides (NO_x); 0.8 tons of volatile organic compounds (VOCs); 0.4 tons of very fine particulate matter ($PM_{2.5}$); and 0.8 tons of sulfur dioxide (SO_2) per year, which are significantly below the applicability threshold values of 50 tons of VOCs; 100 tons of SO_2, $PM_{2.5}$, and NO_x

Table F-4 Facilities Construction Equipment Inventory

SCC	Equipment Description	HPavg	# of units in use	Avg Annual Hours	hp-hours
2265001060	4-Str Specialty Vehicle Carts	46	1	80	3680
2265002003	4-Str Pavers	62	1	40	2496
2265002006	4-Str Tampers/Rammers	8	1	120	902
2265002009	4-Str Plate Compactors	13	1	120	1520
2265002015	4-Str Rollers	83	1	120	9960
2265002021	4-Str Paving Equipment	37	1	40	1464
2265002024	4-Str Surfacing Equipment	9	1	40	357
2265002027	4-Str Signal Boards/Light Plants	5	1	80	403
2265002030	4-Str Trenchers	9	1	120	1066
2265002033	4-Str Bore/Drill Rigs	31	1	80	2511
2260002039	2-Str Concrete/Industrial Saws	5	1	80	363
2265002042	4-Str Cement & Mortar Mixers	8	1	120	1005
2265002045	4-Str Cranes	69	1	546	37696
2265002057	4-Str Rough Terrain Forklift	66	1	546	35981
2265002060	4-Str Rubber Tire Loaders	70	1	546	38438
2265002060	4-Str Rubber Tire Loaders	113	1	546	61698
2265002066	4-Str Tractors/Loaders/Backhoes	19	1	546	10418
2265002072	4-Str Skid Steer Loaders	18	1	546	10052
2265002078	4-Str Dumpers/Tenders	9	1	546	4652
2265003010	4-Str Aerial Lifts	21	1	546	11537
2265003030	4-Str Sweepers/Scrubbers	10	1	120	1183
2260004021	2-Str Chain Saws < 6 HP (com)	4	2	80	627
2265006010	4-Str Pumps	18	1	546	10019
2265006015	4-Str Air Compressors	10	1	546	5419
2270002003	Dsl - Pavers	135	1	40	5384
2270002015	Dsl - Rollers	85	1	40	3390
2270002018	Dsl - Scrapers	247	1	120	29628
2270002021	Dsl - Paving Equipment	131	1	40	5252
2270002030	Dsl - Trenchers	134	1	160	21488
2270002033	Dsl - Bore/Drill Rigs	132	1	80	10544
2270002036	Dsl - Excavators	138	1	546	75130
2270002045	Dsl - Cranes	238	1	40	9508
2270002048	Dsl - Graders	231	1	40	9248
2270002051	Dsl - Off-highway Trucks	161	1	546	87633
2270002057	Dsl - Rough Terrain Forklifts	61	1	546	33535
2270002060	Dsl - Rubber Tire Loaders	136	1	546	74420
2270002066	Dsl - Tractors/Loaders/Backhoes	87	1	546	47595
2270002069	Dsl - Crawler Tractor/Dozers	136	1	546	74311
2270002072	Dsl - Skid Steer Loaders	84	1	546	46055
2270002078	Dsl - Dumpers/Tenders	85	1	546	46628
2270003010	Dsl - Aerial Lifts	60	1	546	33011
2270003030	Dsl - Sweepers/Scrubbers	61	1	546	33202
2270004066	Dsl - Chippers/Stump Grinders (com)	242	1	120	29004
2270006005	Dsl - Generator Sets	419	1	120	50316
2270007015	Dsl - Forest Eqp - Feller/Bunch/Skidder	225	1	120	27024

F-1-7 ESTIMATED EMISSIONS FROM OPERATING FACILITY HEATING SYSTEMS

Not applicable

F-1-8 ESTIMATED EMISSIONS FROM FACILITY EMERGENCY POWER SYSTEMS

Not applicable

F-1-9 ESTIMATED EMISSIONS FROM FUTURE EMPLOYEE COMMUTING

Not applicable

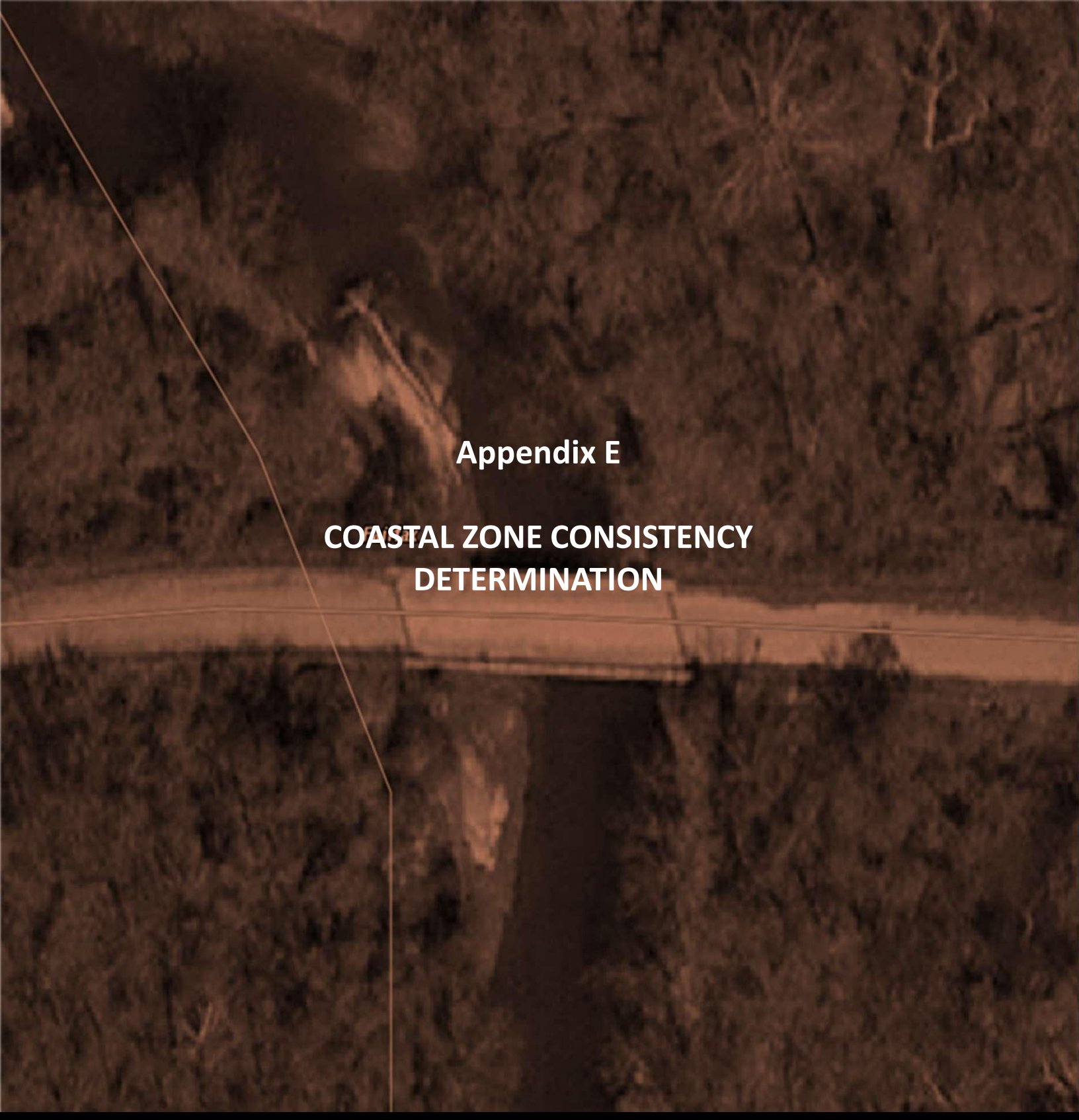
F-1-10 ESTIMATED EMISSIONS FROM FACILITIES MAINTENANCE

Not applicable

.

F-1-7 SUMMARY OF ESTIMATED OPERATIONS EMISSIONS

Not Applicable.



Appendix E

COASTAL ZONE CONSISTENCY DETERMINATION

LEADERS IN EXCELLENCE!

U.S. ARMY GARRISON FORT BELVOIR

THIS PAGE INTENTIONALLY BLANK

Determination of Consistency with
Virginia's Coastal Resources Management Program
Communications Line Extension, Davison Army Airfield
U.S. Army Garrison, Fort Belvoir, Virginia

Pursuant to Section 307(c)(1) of the Coastal Zone Management Act of 1972 as amended, this Federal Consistency Determination has been prepared regarding the proposed development of a new underground communications ductbank planned to serve the Davison Army Airfield (DAAF) at Fort Belvoir in Fairfax County, Virginia. The U.S. Army is hereby documenting and determining the consistency of its activities affecting Virginia's coastal resources of coastal uses as promulgated in the Virginia Coastal Resources Management Program (CRMP).

This document presents an analysis of project activities in light of established Virginia CRMP Enforceable Policies and Programs. Furthermore, submission of this Consistency Determination reflects the commitment of the Army to comply with those enforceable policies and programs. The proposed project will be constructed and operated in a manner that is consistent with the Virginia CRMP. The Army has determined that the construction and operation of the communications ductbank would have a negligible impact on any land and water uses or natural resources of the Commonwealth of Virginia coastal zone.

Description of Proposed Activity

The proposed activity includes installation of approximately 2 miles of concrete encased communications ductbank to provide an underground pathway for communications cabling to connect the core area of Fort Belvoir to Davison Army Airfield. This ductbank route will follow the Poe Road Alternative as shown on Figures 1-1 and 1-2 below.

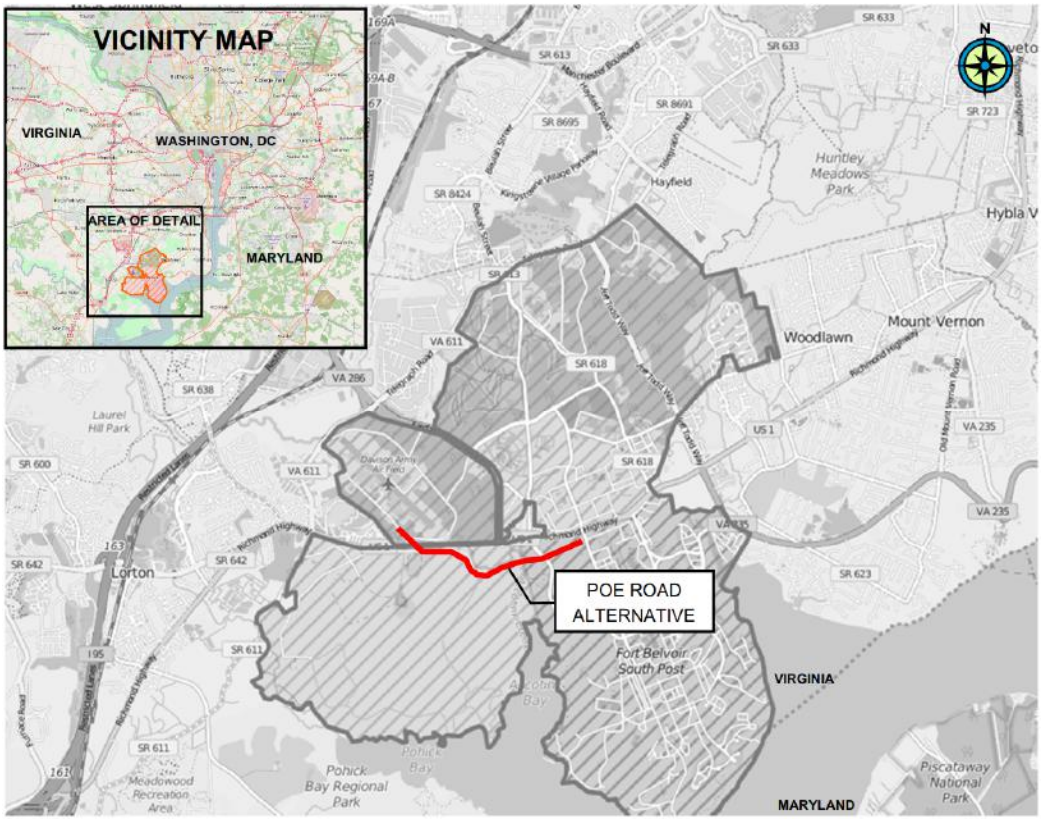


Figure 1-1: Project Vicinity Map, Poe Road Alternative Ductbank Routing Location
(Base image: 2016 Google Earth and OpenStreetMap.org© contributors)

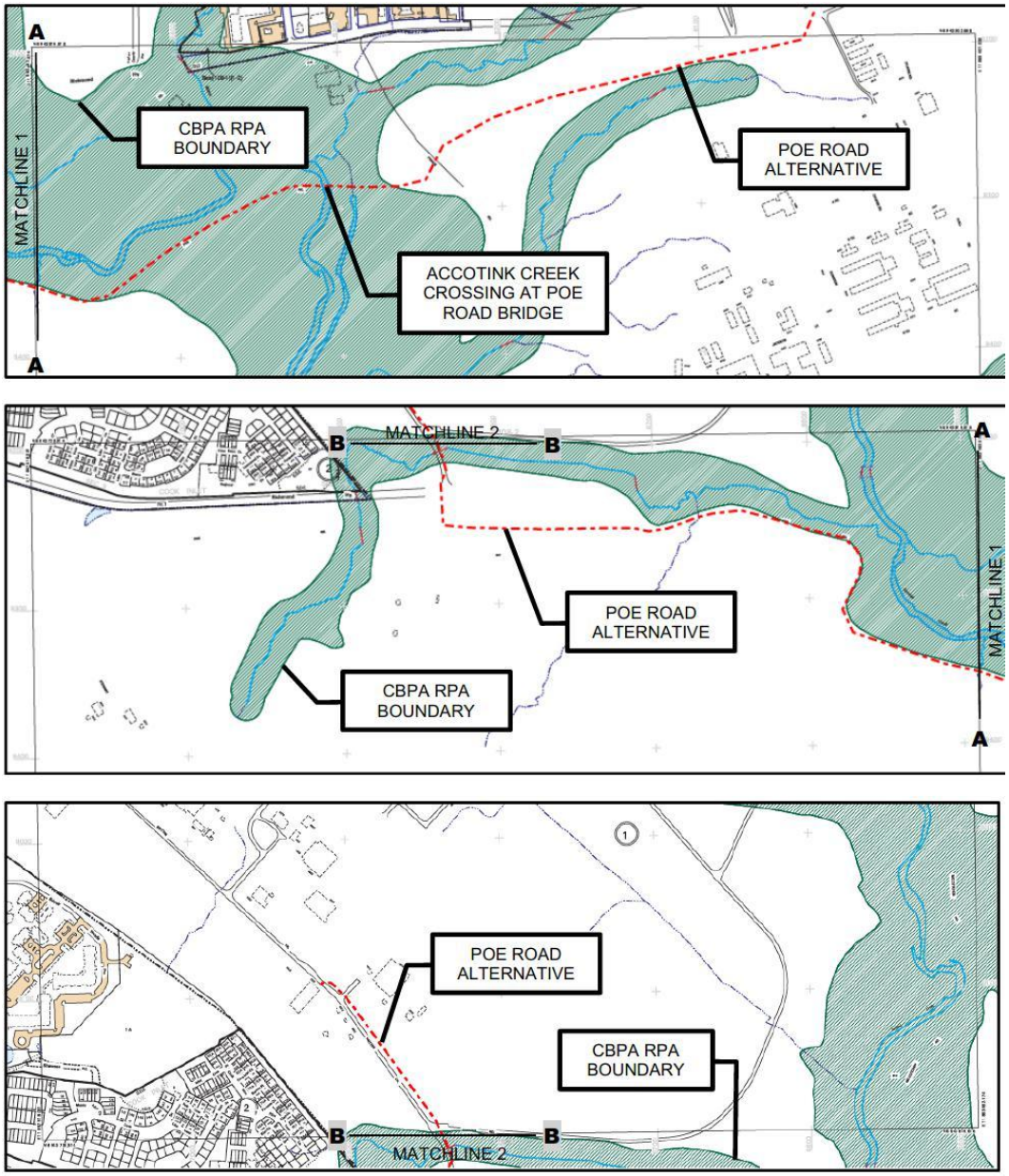


***Figure 1-2**:* Poe Road Alternative: Chesapeake Bay Resource Protection Area (RPA) Mapping
(Base image: 2016 Fairfax County GIS) (See reference figure RPA1 attached for further route details)

The proposed ductbank project will include the following:

- Maintenance clearing of existing utility right-of-ways, select trimming of existing plants and trees currently impinging on said right-of-way and associated road shoulders along the proposed alignment as required to install and maintain subject ductbank system.
- Trenching, conduit installation, concrete placement and backfill of ductbank trench to match preconstruction conditions, including directionally drilled installation of an encased, 4-way conduit bundle to avoid sensitive wetland and or coastal water resources, including crossing of Accotink Creek adjacent to the existing Poe Road bridge as permitted through the VMRC and other state and federal authorities, including permitting under U.S. Army Corps of Engineer's Nationwide Permit #12.
- Ductbank installation will include above ground utility marking and delineators, manholes, hand holes and vaults (miscellaneous components of the ductbank system).

- Restoration of disturbed areas to match preconstruction conditions including pavement patching, shoulder stabilization, mulching, final grading, erosion control measures and site seeding to re-establish vegetative cover.
- Impacts within the RPA will be limited to construction activity required to install the ductbank using existing access roads and established utility right-of-ways adjacent to and within RPA (Figure 1-2).
- Construction activities will be completed in accordance with Chesapeake Bay Program criteria applicable to utility line installations within RPA. Temporary impacts within wetland areas of RPAs will be limited to less than 0.5 acres in accordance with U.S. Army Corps of Engineer's Nationwide Permit #12.
- Shrubs and trees that are permanently disturbed in the RPA will be replaced in accordance with the Chesapeake Bay Program's Riparian Buffers Modification and Mitigation Guidance Manual.

Based upon the following CZMA regulatory program summary, the U.S. Army finds that the proposed action is consistent to the maximum extent practicable with the enforceable policies and procedures of the Virginia CZMA and the proposed action will not appreciably affect the land or water uses or natural resources of Virginia as documented within the NEPA Environmental Assessment of the proposed action.

Pursuant to 15 CFR Section 930.41, the Virginia Coastal Zone Management Program has 60 days from the receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR section 930.41 (b). Virginia's concurrence will be presumed if its response is not received by the Army within 60 days from receipt of this determination. The Commonwealth of Virginia's response should be sent to Chief, Environmental Division, Bldg. 1442, 9430 Jackson Loop, Fort Belvoir, VA 22060-5116.

Assessment of Probable Effects to CZMA Resources:

- **Fisheries Management**

  The fisheries program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC) (Virginia Code 28.2-100 through '28.2-1107) and the Department of Game and Inland Fisheries (VDGIF) (Virginia Code '29.1-100 to '29.1-829).

  The state Tributyltin (TBT) Regulatory Program has also been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine anti-foulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, VDGIF, and Virginia Department of Agriculture and Consumer Services (VDACS) share enforcement responsibilities (Virginia Code '3.2-3935 to '3.2-3937).

  Statement of Effect on Fisheries Management:

  Construction and operation of the proposed communications ductbank system will not involve building, dumping, or trespassing on or over, encroaching on, taking or using any material from the beds of the bays, ocean, rivers, streams, or creeks within Virginia. Where proposed utilities will cross streams, wetlands or waters of the state, crossings will be installed using trenchless techniques or integrated within existing bridge crossings in a manner that does not obstruct water passage.

All ductbank construction and operations within RPA and waterways will be executed in accordance with Virginia Marine Resources Commission guidelines and associated water quality and wetland protection construction permits

The proposed action would not have a reasonable foreseeable effect on fish spawning, nursery, or feeding grounds, and therefore there will be no impact to fisheries management as managed by the Virginia Marine Resources Commission and the Department of Game and Inland Fisheries.

No paints containing Tributyltin will be used under this proposed action.

- **Subaqueous Lands Management**

  The Virginia management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (DEQ), Water Division. The program is administered by the Marine Resources Commission (Virginia Code ’28.2-1200 to ’28.2-1213).

  Statement of Effect on Subaqueous Lands Management:

  No subaqueous land use is proposed under this action.

  This project involves no additional encroachments in, on, or over state-owned submerged lands.

  Where the ductbank crosses streams, wetlands or waters of the state, crossings will be installed within existing roadway cross sections or a minimum of three feet underneath the deepest reach of the channel bottom using trenchless techniques in accordance with Virginia Marine Resources Commission guidelines and associated project specific construction permits.

  Construction and operation of the proposed ductbank will be executed in a manner that does not impinge on water use, subaqueous lands or water passage. Directional drilling under Accotink Creek will be conducted from outside the limits of the waterway (from bank locations above the ordinary high water level).

- **Non-Point Source Pollution**

  Virginia’s Erosion and Sediment Control (ESC) Law requires land-disturbing activities to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Department of Environmental Quality (DEQ) (Virginia Code ’62.1-44.15:51 et seq.).

  Additionally, the Virginia Stormwater Management Act states that land disturbing activities that will disturb one acre or more, or are a construction activity of less than 1 acre but part of a larger common plan of development disturbing 1 or more acres and having the potential to discharge stormwater must obtain coverage under the Virginia Stormwater Management Program (VSMP) General VPDES Permit for Discharges of Stormwater for Construction Activities; or Construction Activity General Permit (CGP).

  Statement of Effect on Non-Point Source Pollution:

  Fort Belvoir has developed an integrated Stormwater and Erosion and Sediment Control (ESC) program, to include procedures and guidance on the development and implementation of ESC plans, Stormwater Management (SWM) plans, and Stormwater Pollution Prevention Plans (SWPPP).

All ESC plans are reviewed to ensure that minimum standards and specifications are met and plans are developed to avoid and/or minimize potential impacts as per Virginia ESC law.

All SWPPP are reviewed for completion and compliance with the requirements of the Stormwater General VPDES Permit and Fort Belvoir's MS4 and industrial stormwater program requirements.

Following these established processes ensures conformance with the CZMA to the maximum extent practicable.

All construction work within wetland and RPA areas will include protective perimeter controls to minimize potential for sediment and construction site runoff to enter into these sensitive aquatic areas in conformance with Chesapeake Bay Preservation Act criteria.

- **Wetlands Management**

  The purpose of the wetlands management program is to preserve tidal wetlands, prevent their despoliation and accommodate economic development in a manner consistent with wetlands preservation. The tidal wetlands program is Administered by the Marine Resources Commission (Virginia Code section 28.2-1300 through '28.2-1320) (ii). The Virginia Water Protection Permit Program administered by the Department of Environmental Quality Includes protection of wetlands both Tidal and non-tidal.

  This program is authorized by Virginia Code Section 62.1-44.15:20 and the Water Quality Certification requirements of Section 401 of the Clean Water Act of 1972.

  Statement of Effect on Wetlands Management:

  The proposed action will temporarily affect less than 1/2 of an acre of scrub-shrub wetlands during construction. A wetland delineation map documenting these impacts and avoidance measures has been included within the Environmental Assessment prepared for the project. This work will be permitted and conducted in accordance with U.S. Army Corps of Engineers' Nationwide Permit #12 and associated DEQ 401 WQ certification and General Virginia Water Protection (VWP) Permit.

  The project will not include any of the following activities:

  - *New activities to cause draining that significantly alters or degrades existing wetland acreage or functions.*
  - *Filling or dumping.*
  - *Permanent flooding or impounding.*
  - *New activities that cause significant alteration or degradation of existing wetland acreage or functions.*

  If unexpected conditions arise during the proposed ductbank installation that may impact wetlands, Fort Belvoir would apply for appropriate wetland protection permits prior to commencing the activity.

  Project ESC plans and practices will also be closely monitored to prevent potential sediment deposition in waterways or wetlands adjacent to construction areas.

  All construction work within wetland and RPA areas will include protective perimeter controls to minimize potential for sediment and construction site runoff to enter into these sensitive aquatic areas in conformance with Chesapeake Bay Preservation Act criteria. Directional drilling or jack and bore trenchless installation methods will be utilized to avoid and minimize potential impacts to wetland areas on the project. A frack-out monitoring plan to control potential borehole failure during directional drilling operations will be required as part of construction planning.

- **Sand Dune Management**

  Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction of alteration of primary dunes. This program is administered by the Marine Resources Commission (Virginia Code ’28.2-1400 through ’28.2-1420).

  Statement of Effect on Sand Dune Areas:

  No permanent alteration of or construction upon any coastal primary sand dune will take place under the proposed action.

- **Point Source Pollution Control**

  The point source program is administered by the State Water Control Board pursuant to Virginia Code ’62.1-44.15. Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.

  Statement of Effect on Point Source Pollution Control:

  No new point source permits would be required under the proposed action. As such the proposed redevelopment will have no impact to point sources of water pollution regulated by the VPDES program.

- **Coastal Lands Management**

  A state-local cooperative program administered by the Department of Environmental Quality’s Water Division and 84 localities in Tidewater, Virginia, established pursuant to the Chesapeake Bay Preservation Act; Virginia Code section 62.1-44.15:67 through 62.1-44.15:79 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative code 9 VAC 25-830-10 et seq.

  Statement of Effect on Coastal Lands Management:

  Development of the proposed ductbank system will not develop any additional above grade improvements (other than minimum required manhole/vault access points) within the minimum buffer space of 100 feet adjacent to and landward of the components listed in 9 VAC 25-830-*80, (including RPAs).*

  Construction activities will follow best management practices provided in the VSMP, including project specific SWPPP and the applicable provisions of the Chesapeake Bay Preservation Act. This will appropriately minimize potential affects to Coastal Lands in accordance with the CZMA.

- **Shoreline Sanitation**

  The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (Virginia Code ’32.1-164 through ’32.1-165)

  Statement of Effect on Sanitation Facilities:

  The proposed action does not include installation, modification or operation of any on-site septic tanks.

- **Air Pollution Control**

  The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code '10-1.1300 through 10.1-1322.4).

  Statement of Effect on Air Pollution:

  The estimated emissions from implementation of the proposed action would not exceed the de minimis threshold values. No individual air pollution control permits will be required and a record of non-applicability has been developed for the project in conformance with the Clean Air Act. Project construction activity will include appropriate dust controls to limit air-borne particulates in accordance with erosion and sediment control regulations. No open burning of debris or construction waste will be permitted.

Summary of Findings

The preceding analysis is further detailed in the NEPA Environmental Assessment prepared for the proposed action. Based on this analysis, Fort Belvoir will ensure that installation and construction of the proposed ductbank will include appropriate water quality features and best management practices during both design and construction of the proposed facilities to protect coastal resources. This shall include obtaining required permits and approvals for proposed site work, and completing all required mitigation referenced in these permits and approvals.

Based on this analysis Fort Belvoir finds that the construction and operation of the proposed ductbank following the Poe Road Alignment would be consistent to the maximum extent practicable with the federally-approved enforceable policies of the Virginia CRMP, pursuant to the Coastal Zone Management Act of 1972, as amended, and in accordance with 15 CFR Part 930.30.

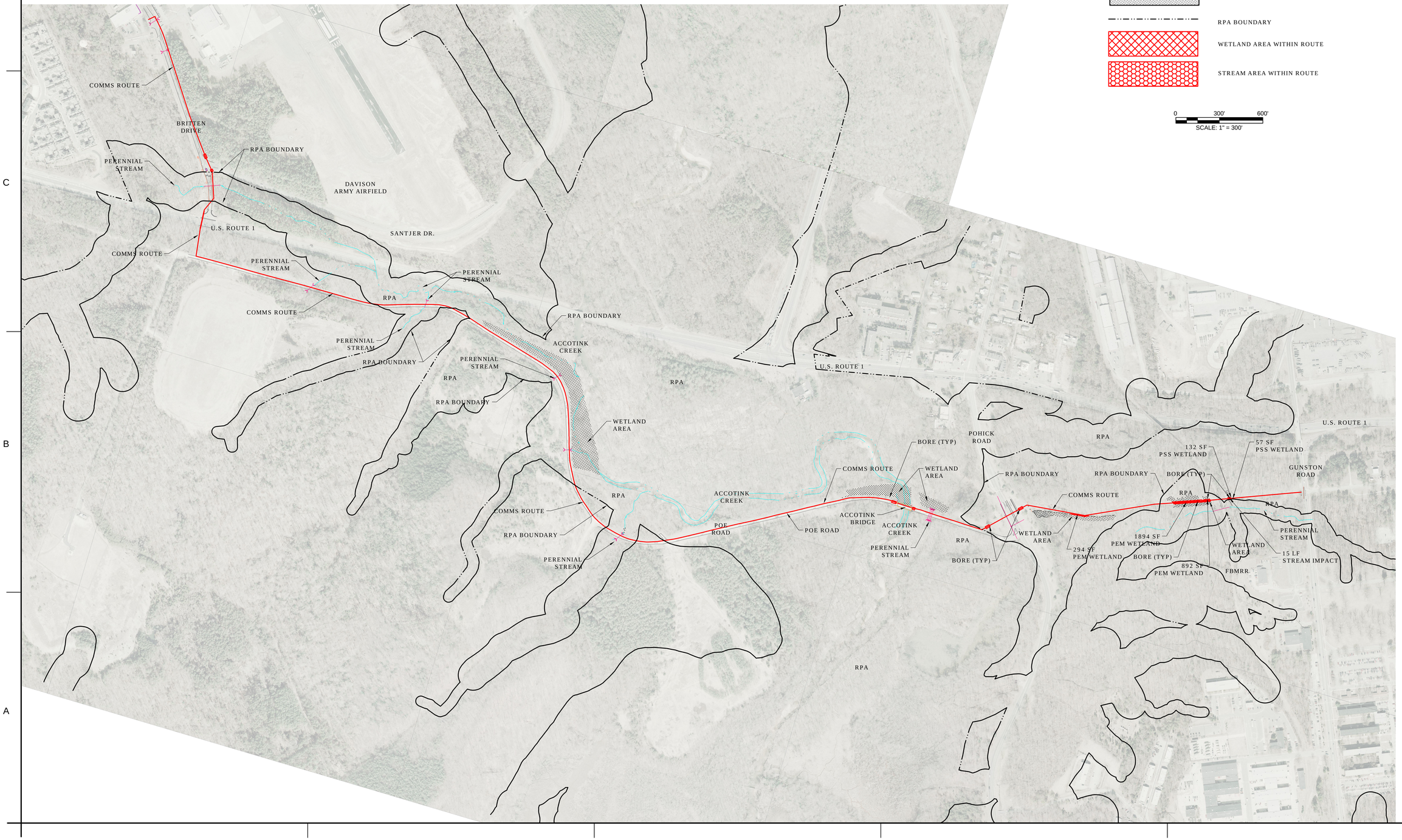
By certification that the proposed action is consistent with the Virginia CRMP Enforceable Policies, the Commonwealth of Virginia is hereby notified that it has 60 days from receipt of this document to concur with, or object to, this Federal Consistency Determination.

Within the 60-day review period, the Commonwealth may request an extension period of 15 days or less. Any such request shall be granted by Fort Belvoir. If neither a request for extension nor a decision is received within the 60-day review period, Fort Belvoir may presume that the Commonwealth concurs in this consistency determination.

Angie K. Holbrook
Colonel, U.S. Army
Commanding

9 Dec 16
Date:

PROPOSED DAAF COMM ROUTE
POTENTIAL RPA AND WETLAND
IMPACT MAPPING



WETLAND AREAS WITHIN PROPOSED ROUTE

PALUSTRINE EMERGENT WETLAND (PEM)	3,900 SF
PALUSTRINE SCRUB-SHRUB WETLAND (PSS)	189 SF
STREAM IMPACT	15 LF

LEGEND

- DELINEATED WETLAND
- RPA BOUNDARY
- WETLAND AREA WITHIN ROUTE
- STREAM AREA WITHIN ROUTE

0 300' 600'

SCALE: 1" = 300'

Wiley | Wilson™
Centered on Solutions
2851 Eisenhower Avenue, Suite 200
Alexandria, VA 22314 | 703.329.3200

US Army Corps of Engineers

MARK	REVISION DESCRIPTION	Date	App

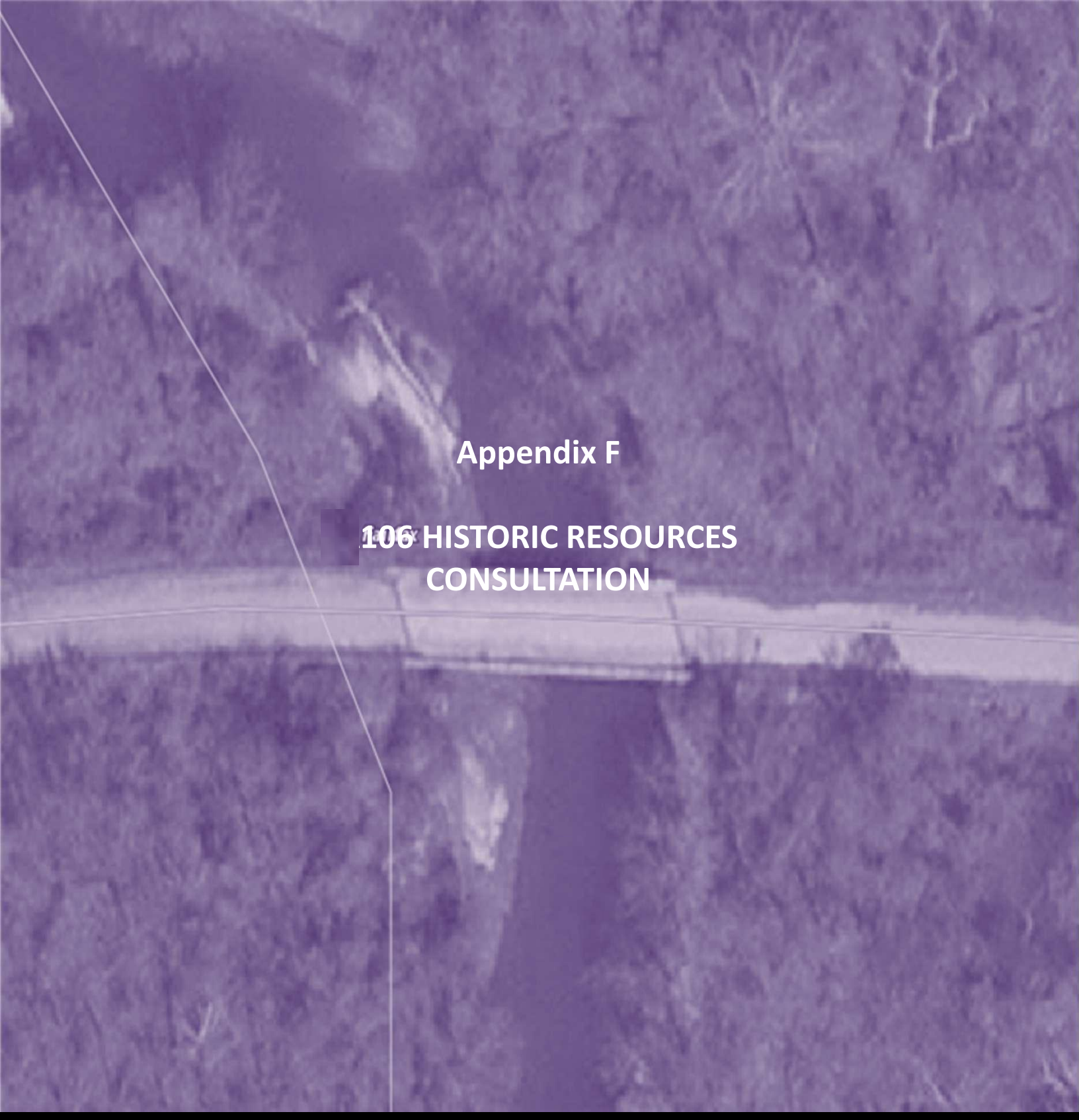
Designed by: TLF
Drawn by: BSH
Cad by: TLF
RSFO Project Manager: SED
Date: 11/01/16
Project No: 215217.00
QA Manager: TAW
Submitted by: BSH
File name:
Plot date: 11/01/16
Plot scale:
Title of Submitter: PM

FORT BELVOIR
DAVISON ARMY AIRFIELD
CONCEPT COMMUNICATIONS
DUCTBANK ROUTE
WETLANDS AND RPA MAPPING

Drawing Sheet No.
GOVERNMENT ISSUED

Sheet Reference No.
RPA1

Sheet 1 of 1



Appendix F

106 HISTORIC RESOURCES CONSULTATION

LEADERS IN EXCELLENCE!

U.S. ARMY GARRISON FORT BELVOIR

THIS PAGE INTENTIONALLY BLANK

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

JUN 6 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation, Davison Army Airfield (DAAF) Communication Line, Fort Belvoir, Virginia

Mr. Marc Holma
Architectural Historian
Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

Dear Mr. Holma:

Fort Belvoir proposes to install a communications ductbank to provide enhanced voice and data telecommunications connectivity to the DAAF from the established communications network within Fort Belvoir. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the 15-foot wide utility easement for the utility route (map enclosed).

The route begins at an existing communications vault along the south shoulder of Gunston Road following an existing utility line right-of-way in a southwesterly direction for approximately 2,000 feet, crossing Pohick Road just west of Tulley Gate, near the Poe Road intersection. From this point the proposed route tracks along the northern shoulder of Poe Road crossing Accotink Creek along the north edge of the existing bridge and continuing along the north shoulder of Poe Road a total distance of approximately 8,600 feet to the pre-installed Virginia Department of Transportation crossing point at U.S. Route 1. After crossing underneath U.S. Route 1 into the DAAF area, the proposed route tracks along the eastern shoulder of Britten Road past the U.S. Route 1 gated entry into the DAAF, then crossing under Santjer Road near the Britten Road intersection. The proposed alignment then proceeds northwest up Britten Drive to the termination point near Building No. 6921 on the south side of the roadway. A combination of directional boring and open trenching will be used to install the conduit and cable.

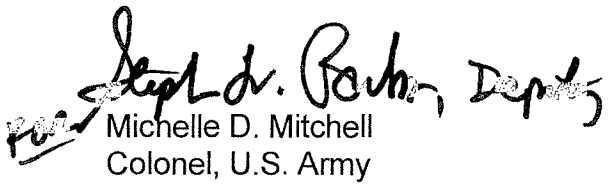
Fort Belvoir has undertaken archaeological resource identification efforts within and adjacent to the APE. The Fort Belvoir Military Railroad Historic Corridor is in within the APE and is potentially eligible for listing on the National Register of Historic Places (NRHP). The communication line will be directionally drilled under the railroad track bed to avoid affecting the site. Site Nos. 44FX1937, 44FX1640, 44FX1708, 44FX1808 and 44FX0627 are adjacent to the APE. These sites have previously been determined ineligible for listing on the NRHP. Sites 44FX1903 and 44FX1898 are adjacent to the

APE. Both Site Nos. 44FX1903 and 44FX1898 were surveyed as part of the *1992 Phase I Investigation of All Previously Unsurveyed Areas of Fort Belvoir, Virginia* and have not yet been evaluated for eligibility.

Fort Belvoir has applied the criteria of adverse effect and determined that the proposed communication line will have no adverse effect on historic properties (36 CFR § 800.5). Please provide comment on our determination of no adverse effect in accordance with 36 CFR § 800.5(c). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. A letter concerning the communication line has been sent to the Catawba Indian Nation, Eastern Band of Cherokee Indians, Pamunkey Indian Tribe, Tuscarora Nation of New York, and United Keetoowah Band of Cherokee Indians in Oklahoma.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Dorothy Keough, Conservation Branch Chief, at 703-806-0049 or dorothy.e.keough.civ@mail.mil.

Sincerely,



Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosures

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

JUN 6 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation, Davison Army Airfield (DAAF) Communication Line, Fort Belvoir, Virginia

Chief William Harris
Catawba Indian Nation
996 Avenue of the Nations
Rock Hill, South Carolina 29730

Dear Chief Harris:

Fort Belvoir proposes to install a communications ductbank to provide enhanced voice and data telecommunications connectivity to the DAAF from the established communications network within Fort Belvoir. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the 15-foot wide utility easement for the utility route (map enclosed).

The route begins at an existing communications vault along the south shoulder of Gunston Road following an existing utility line right-of-way in a southwesterly direction for approximately 2,000 feet, crossing Pohick Road just west of Tulley Gate, near the Poe Road intersection. From this point the proposed route tracks along the northern shoulder of Poe Road crossing Accotink Creek along the north edge of the existing bridge and continuing along the north shoulder of Poe Road a total distance of approximately 8,600 feet to the pre-installed Virginia Department of Transportation crossing point at U.S. Route 1. After crossing underneath U.S. Route 1 into the DAAF area, the proposed route tracks along the eastern shoulder of Britten Road past the U.S. Route 1 gated entry into the DAAF, then crossing under Santjer Road near the Britten Road intersection. The proposed alignment then proceeds northwest up Britten Drive to the termination point near Building No. 6921 on the south side of the roadway. A combination of directional boring and open trenching will be used to install the conduit and cable.

Fort Belvoir has undertaken archaeological resource identification efforts within and adjacent to the APE. The Fort Belvoir Military Railroad Historic Corridor is in within the APE and is potentially eligible for listing on the National Register of Historic Places (NRHP). The communication line will be directionally drilled under the railroad track bed to avoid affecting the site. Site Nos. 44FX1937, 44FX1640, 44FX1708, 44FX1808 and 44FX0627 are adjacent to the APE. These sites have previously been determined ineligible for listing on the NRHP. Sites 44FX1903 and 44FX1898 are adjacent to the

APE. Both Site Nos. 44FX1903 and 44FX1898 were surveyed as part of the *1992 Phase I Investigation of All Previously Unsurveyed Areas of Fort Belvoir, Virginia* and have not yet been evaluated for eligibility.

Fort Belvoir has applied the criteria of adverse effect and determined that the proposed communication line will have no adverse effect on historic properties (36 CFR § 800.5). Please provide comment on our determination of no adverse effect in accordance with 36 CFR § 800.5(c). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. A letter concerning the communication line has been sent to the Virginia Department of Historic Resources, Eastern Band of Cherokee Indians, Pamunkey Indian Tribe, Tuscarora Nation of New York, and United Keetoowah Band of Cherokee Indians of Oklahoma.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Dorothy Keough, Conservation Branch Chief, at 703-806-0049 or dorothy.e.keough.civ@mail.mil.

Sincerely,

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosure

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

JUN 6 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation, Davison Army Airfield (DAAF) Communication Line, Fort Belvoir, Virginia

Principal Chief Michell Hicks
Eastern Band of Cherokee Indians
P.O. Box 455
Cherokee, North Carolina 28719

Dear Principal Chief Hicks:

Fort Belvoir proposes to install a communications ductbank to provide enhanced voice and data telecommunications connectivity to the DAAF from the established communications network within Fort Belvoir. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the 15-foot wide utility easement for the utility route (map enclosed).

The route begins at an existing communications vault along the south shoulder of Gunston Road following an existing utility line right-of-way in a southwesterly direction for approximately 2,000 feet, crossing Pohick Road just west of Tulley Gate, near the Poe Road intersection. From this point the proposed route tracks along the northern shoulder of Poe Road crossing Accotink Creek along the north edge of the existing bridge and continuing along the north shoulder of Poe Road a total distance of approximately 8,600 feet to the pre-installed Virginia Department of Transportation crossing point at U.S. Route 1. After crossing underneath U.S. Route 1 into the DAAF area, the proposed route tracks along the eastern shoulder of Britten Road past the U.S. Route 1 gated entry into the DAAF, then crossing under Santjer Road near the Britten Road intersection. The proposed alignment then proceeds northwest up Britten Drive to the termination point near Building No. 6921 on the south side of the roadway. A combination of directional boring and open trenching will be used to install the conduit and cable.

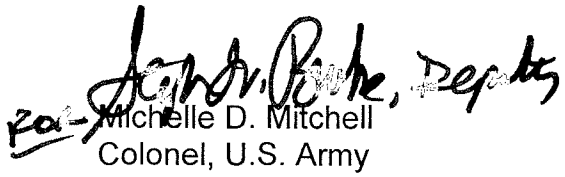
Fort Belvoir has undertaken archaeological resource identification efforts within and adjacent to the APE. The Fort Belvoir Military Railroad Historic Corridor is in within the APE and is potentially eligible for listing on the National Register of Historic Places (NRHP). The communication line will be directionally drilled under the railroad track bed to avoid affecting the site. Site Nos. 44FX1937, 44FX1640, 44FX1708, 44FX1808 and 44FX0627 are adjacent to the APE. These sites have previously been determined ineligible for listing on the NRHP. Sites 44FX1903 and 44FX1898 are adjacent to the

APE. Both Site Nos. 44FX1903 and 44FX1898 were surveyed as part of the *1992 Phase I Investigation of All Previously Unsurveyed Areas of Fort Belvoir, Virginia* and have not yet been evaluated for eligibility.

Fort Belvoir has applied the criteria of adverse effect and determined that the proposed communication line will have no adverse effect on historic properties (36 CFR § 800.5). Please provide comment on our determination of no adverse effect in accordance with 36 CFR § 800.5(c). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. A letter concerning the communication line has been sent to the Virginia Department of Historic Resources, Catawba Indian Nation, Pamunkey Indian Tribe, Tuscarora Nation of New York, and United Keetoowah Band of Cherokee Indians in Oklahoma.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Dorothy Keough, Conservation Branch Chief, at 703-806-0049 or dorothy.e.keough.civ@mail.mil.

Sincerely,



FOR Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosure

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

JUN 6 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation, Davison Army Airfield (DAAF) Communication Line, Fort Belvoir, Virginia

Chief Robert Gray
Pamunkey Indian Tribe
64 Lay Landing Road
King William, Virginia 23086

Dear Chief Gray:

Fort Belvoir proposes to install a communications ductbank to provide enhanced voice and data telecommunications connectivity to the DAAF from the established communications network within Fort Belvoir. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the 15-foot wide utility easement for the utility route (map enclosed).

The route begins at an existing communications vault along the south shoulder of Gunston Road following an existing utility line right-of-way in a southwesterly direction for approximately 2,000 feet, crossing Pohick Road just west of Tulley Gate, near the Poe Road intersection. From this point the proposed route tracks along the northern shoulder of Poe Road crossing Accotink Creek along the north edge of the existing bridge and continuing along the north shoulder of Poe Road a total distance of approximately 8,600 feet to the pre-installed Virginia Department of Transportation crossing point at U.S. Route 1. After crossing underneath U.S. Route 1 into the DAAF area, the proposed route tracks along the eastern shoulder of Britten Road past the U.S. Route 1 gated entry into the DAAF, then crossing under Santjer Road near the Britten Road intersection. The proposed alignment then proceeds northwest up Britten Drive to the termination point near Building No. 6921 on the south side of the roadway. A combination of directional boring and open trenching will be used to install the conduit and cable.

Fort Belvoir has undertaken archaeological resource identification efforts within and adjacent to the APE. The Fort Belvoir Military Railroad Historic Corridor is in within the APE and is potentially eligible for listing on the National Register of Historic Places (NRHP). The communication line will be directionally drilled under the railroad track bed to avoid affecting the site. Site Nos. 44FX1937, 44FX1640, 44FX1708, 44FX1808 and 44FX0627 are adjacent to the APE. These sites have previously been determined ineligible for listing on the NRHP. Sites 44FX1903 and 44FX1898 are adjacent to the

APE. Both Site Nos. 44FX1903 and 44FX1898 were surveyed as part of the *1992 Phase I Investigation of All Previously Unsurveyed Areas of Fort Belvoir, Virginia* and have not yet been evaluated for eligibility.

Fort Belvoir has applied the criteria of adverse effect and determined that the proposed communication line will have no adverse effect on historic properties (36 CFR § 800.5). Please provide comment on our determination of no adverse effect in accordance with 36 CFR § 800.5(c). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. A letter concerning the communication line has been sent to the Virginia Department of Historic Resources, Catawba Indian Nation, Eastern Band of Cherokee Indians, Tuscarora Nation of New York, and United Keetoowah Band of Cherokee Indians in Oklahoma.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Dorothy Keough, Conservation Branch Chief, at 703-806-0049 or dorothy.e.keough.civ@mail.mil.

Sincerely,

FOR Michelle D. Mitchell, Deputy

Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosure

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

JUN 6 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation, Davison Army Airfield (DAAF) Communication Line, Fort Belvoir, Virginia

Chief Leo R. Henry
Tuscarora Nation of New York
2006 Mt. Hope Road
Lewistown, New York 14092

Dear Chief Henry:

Fort Belvoir proposes to install a communications ductbank to provide enhanced voice and data telecommunications connectivity to the DAAF from the established communications network within Fort Belvoir. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the 15-foot wide utility easement for the utility route (map enclosed).

The route begins at an existing communications vault along the south shoulder of Gunston Road following an existing utility line right-of-way in a southwesterly direction for approximately 2,000 feet, crossing Pohick Road just west of Tulley Gate, near the Poe Road intersection. From this point the proposed route tracks along the northern shoulder of Poe Road crossing Accotink Creek along the north edge of the existing bridge and continuing along the north shoulder of Poe Road a total distance of approximately 8,600 feet to the pre-installed Virginia Department of Transportation crossing point at U.S. Route 1. After crossing underneath U.S. Route 1 into the DAAF area, the proposed route tracks along the eastern shoulder of Britten Road past the U.S. Route 1 gated entry into the DAAF, then crossing under Santjer Road near the Britten Road intersection. The proposed alignment then proceeds northwest up Britten Drive to the termination point near Building No. 6921 on the south side of the roadway. A combination of directional boring and open trenching will be used to install the conduit and cable.

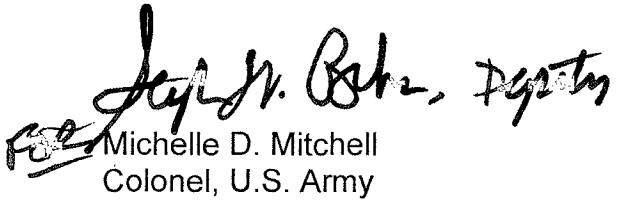
Fort Belvoir has undertaken archaeological resource identification efforts within and adjacent to the APE. The Fort Belvoir Military Railroad Historic Corridor is in within the APE and is potentially eligible for listing on the National Register of Historic Places (NRHP). The communication line will be directionally drilled under the railroad track bed to avoid affecting the site. Site Nos. 44FX1937, 44FX1640, 44FX1708, 44FX1808 and 44FX0627 are adjacent to the APE. These sites have previously been determined ineligible for listing on the NRHP. Sites 44FX1903 and 44FX1898 are adjacent to the

APE. Both Site Nos. 44FX1903 and 44FX1898 were surveyed as part of the *1992 Phase I Investigation of All Previously Unsurveyed Areas of Fort Belvoir, Virginia* and have not yet been evaluated for eligibility.

Fort Belvoir has applied the criteria of adverse effect and determined that the proposed communication line will have no adverse effect on historic properties (36 CFR § 800.5). Please provide comment on our determination of no adverse effect in accordance with 36 CFR § 800.5(c). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. A letter concerning the communication line has been sent to the Virginia Department of Historic Resources, Catawba Indian Nation, Eastern Band of Cherokee Indians, Pamunkey Indian Tribe, and United Keetoowah Band of Cherokee Indians in Oklahoma.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Dorothy Keough, Conservation Branch Chief, at 703-806-0049 or dorothy.e.keough.civ@mail.mil.

Sincerely,



FOR Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosure

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

JUN 6 2016

Directorate of Public Works

SUBJECT: Section 106 Consultation, Davison Army Airfield (DAAF) Communication Line, Fort Belvoir, Virginia

Chief George Wickliffe
United Keetoowah Band of Cherokee Indians
in Oklahoma
P.O. Box 746
Tahlequah, Oklahoma 74465

Dear Chief Wickliffe:

Fort Belvoir proposes to install a communications ductbank to provide enhanced voice and data telecommunications connectivity to the DAAF from the established communications network within Fort Belvoir. The Area of Potential Effect (APE) for this undertaking is defined as the bounds of the 15-foot wide utility easement for the utility route (map enclosed).

The route begins at an existing communications vault along the south shoulder of Gunston Road following an existing utility line right-of-way in a southwesterly direction for approximately 2,000 feet, crossing Pohick Road just west of Tulley Gate, near the Poe Road intersection. From this point the proposed route tracks along the northern shoulder of Poe Road crossing Accotink Creek along the north edge of the existing bridge and continuing along the north shoulder of Poe Road a total distance of approximately 8,600 feet to the pre-installed Virginia Department of Transportation crossing point at U.S. Route 1. After crossing underneath U.S. Route 1 into the DAAF area, the proposed route tracks along the eastern shoulder of Britten Road past the U.S. Route 1 gated entry into the DAAF, then crossing under Santjer Road near the Britten Road intersection. The proposed alignment then proceeds northwest up Britten Drive to the termination point near Building No. 6921 on the south side of the roadway. A combination of directional boring and open trenching will be used to install the conduit and cable.

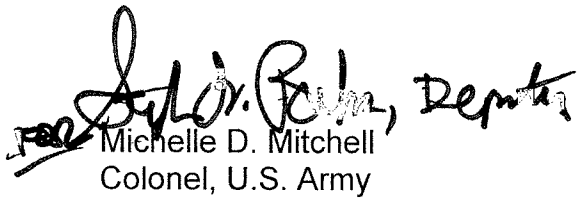
Fort Belvoir has undertaken archaeological resource identification efforts within and adjacent to the APE. The Fort Belvoir Military Railroad Historic Corridor is in within the APE and is potentially eligible for listing on the National Register of Historic Places (NRHP). The communication line will be directionally drilled under the railroad track bed to avoid affecting the site. Site Nos. 44FX1937, 44FX1640, 44FX1708, 44FX1808 and 44FX0627 are adjacent to the APE. These sites have previously been determined ineligible for listing on the NRHP. Sites 44FX1903 and 44FX1898 are adjacent to the

APE. Both Site Nos. 44FX1903 and 44FX1898 were surveyed as part of the *1992 Phase I Investigation of All Previously Unsurveyed Areas of Fort Belvoir, Virginia* and have not yet been evaluated for eligibility.

Fort Belvoir has applied the criteria of adverse effect and determined that the proposed communication line will have no adverse effect on historic properties (36 CFR § 800.5). Please provide comment on our determination of no adverse effect in accordance with 36 CFR § 800.5(c). If we do not receive your comments within the required 30 days, we will assume no comment and proceed with the project as planned. A letter concerning the communication line has been sent to the Virginia Department of Historic Resources, Eastern Band of Cherokee Indians, Pamunkey Indian Tribe, Catawba Indian Tribe, and Tuscarora Nation of New York.

Fort Belvoir's points of contact are Bill Sanders, Director of Public Works, at 703-806-3017 and Ms. Dorothy Keough, Conservation Branch Chief, at 703-806-0049 or dorothy.e.keough.civ@mail.mil.

Sincerely,



Michelle D. Mitchell
Colonel, U.S. Army
Commanding

Enclosure

US Army Garrison Fort Belvoir

Section 106 Consultation, Davison Army Airfield Communication Line, Fort Belvoir, Virginia

VDHR File #: 2016-0606

VDHR has reviewed the above referenced project and concurs with the Army's determination of No Adverse Effect.

Marc Holma, Architectural Historian
Office of Review and Compliance
Virginia Department of Historic Resources

5 July 16
Date

THIS PAGE INTENTIONALLY BLANK

Appendix G

ADMINISTRATIVE RECORD AND REGULATORY REVIEW COMMENTS

LEADERS IN EXCELLENCE!

U.S. ARMY GARRISON FORT BELVOIR

THIS PAGE INTENTIONALLY BLANK

Reviewer Comment #	Name of Reviewer	Program Area	Comment	Response
1.0	Bettina Sullivan, Program Manager, VA DEQ Environmental Impact Review Section	Environmental Impact Review, Virginia Department of Environmental Quality	Provided activities are performed in accordance with the recommendations which follow in the Environmental Impacts and Mitigation section of this report, this proposal is unlikely to have significant effects on ambient air quality, important farmland, forest resources, and wetlands. It is unlikely to adversely affect species of plants or insects listed by state agencies as rare, threatened, or endangered.	Comment noted, project will be designed according to all applicable federal state and local regulations
1.1	DEQ - Office of Water Quality on behalf of the State Water Control Board	Surface Waters and Wetlands	Agency Findings- The VWP program at the DEQ Northern Regional Office (NRO) did not indicate that authorization would be required as a result of the proposed temporary impacts to wetlands. In general, DEQ recommends that stream and wetland impacts be avoided to the maximum extent practicable. To minimize unavoidable impacts to wetlands and waterways, DEQ recommends the following practices: Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable. . Preserve the top 1 2 inches of trench material removed from wetlands for use as wetland seed and root-stock in the excavated area. Design erosion and sedimentation controls in accordance with the most current edition of the Virginia Erosion and Sediment Control Handbook. These controls should be in place prior to clearing and grading, and maintained in good working order to minimize impacts to State waters. The controls should remain in place until the area is stabilized. Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable. Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub, or forested). The applicant should take all appropriate measures to promote revegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed. Place all materials which are temporarily stockpiled in wetlands, designated for use for the immediate stabilization of wetlands, on mats, geotextile fabric in order to prevent entry in State waters. These materials should be managed in a manner that prevents leachates from entering state waters and must be entirely removed within thirty days following completion of that construction activity. The disturbed areas should be returned to their original contours, stabilized within thirty days following removal of the stockpile, and restored to the original vegetated state. Flag or clearly mark all non-impacted surface waters within the project or right-of way limits that are within 50 feet of any clearing, grading, or filling activities for the life of the construction activity within that area. The project proponent should notify all contractors that these marked areas are surface waters where no activities are to occur. Employ measures to prevent spills of fuels or lubricants into state waters. A VWP permit from DEQ may be required for impacts to surface waters and wetlands should the project not qualify under	Comment noted, project will be designed according to all applicable federal state and local regulations
1.2	DEQ-Office of Stormwater Management	Erosion and Sediment Control and Stormwater Management.	DEQ-Office of Stormwater Management (OSWM) did not respond to the request for comments for this proposal. However, based on responses to previous projects at Fort Belvoir, regulatory guidance for the control of nonpoint source pollution is presented below.	Comment noted, The Army and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with VESCL&R and VSWML&R, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e. g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Construction project contractor will be required to register for coverage under the VAR1 0 permit and shall develop a project-specific stormwater pollution prevention plan. The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit, and it must address water quality and quantity in accordance with the VSMP Permit Regulations.
1.3	DEQ Office of Local Government Programs	Chesapeake Bay Preservation Act	DEQ-OSWM finds that the proposed project will result in land disturbance on lands analogous to locally designated RPA and RMA. DEQ-OLGP concludes that, provided adherence to the above requirements, the proposed activity would be consistent with the Bay Act and the Regulations.	Comment noted, construction will be permitted as appropriate through the VMRC and CBPA program by complying with the Virginia Erosion and Sediment Control Law and the Stormwater Management Act. This will include preparing an erosion and sediment control plan and DEQ approved stormwater management plan for the project.

SUMMARY TABLE BELOW PROVIDED FOR REFERENCE TO AGENCY COMMENT REVIEW CORRESPONDENCE WHICH FOLLOWS

Reviewer Comment #	Name of Reviewer	Program Area	Comment	Response
1.4	DEQ Air Division on behalf of the State Air Pollution Control Board	Air Pollution Control	According to the DEQ Air Division, the project site is located in a designated ozone nonattainment area and an emission control area for the control of oxides of nitrogen (NOx) and volatile organic compounds (VOCs). The Army should take all reasonable precautions to limit emissions of NOx and VOCs, principally by controlling or limiting the burning of fossil on the project.	Comment noted, project construction will managed to limit impacts to Nitrogen Oxides, VOCs, and Ozone generating compounds as documented in the air quality conformity analysis. This will include control of particulates and fugitive dust emissions, compliance with asphalt paving material restrictions, and prohibition on open-burning of construction debris or materials. No fuel burning equipment will be installed on this project.
1.5	DEQ Division of Land Protection and Revitalization on behalf of the Virginia Waste Management Board	Solid and Hazardous Wastes and Hazardous Materials	Any soil that is suspected of contamination or wastes that are generated during construction must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations.	Comment noted, project plans will include requirements to manage waste materials in accordance with solid and hazardous waste handling and disposal requirements.
1.6	Department of Agriculture and Consumer Service	Pesticides and Herbicides	DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used to the extent feasible.	Comment noted, project will adhere to Fort Belvoir Integrated Pest Management policies and guidelines.
1.7	DCR) Division of Natural Heritage (DNH)	Natural Heritage Resources	DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control and stormwater management laws and regulations to minimize adverse impacts to aquatic ecosystems. Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before it is utilized. New and updated information is continually added to the Biotics Data System.	Comment noted, The Army and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with VESCL&R and VSWML&R, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e. g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act).
1.8	Virginia Department of Game and Inland Fisheries {DG1F}	Wildlife Resources and Protected Species	DGIF does not anticipate the project to result in adverse impacts upon listed species or designated resources under its jurisdiction, based on the scope and location of the proposed work, including the directional bore under Accotink Creek. DGIF finds the project consistent with the fisheries management enforceable policy of the Virginia Coastal Zone Management Program assuming adherence to erosion and sediment controls.	Comment noted, The Army and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with VESCL&R and VSWML&R, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e. g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act).
1.9	Virginia Department of Historic Resources (DHR}	Historic and Archeological Resources.	DHR confirms that the Army previously coordinated this project with agency staff pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800. In July 2016 DHR concurred with the Army that the proposed undertaking will have No Adverse Effect on historic properties.	Comment noted, impacts to historic railroad corridor will be avoided per agreed approach.
1.10(a)	Virginia Department of Transportation (VDOT)	Transportation Resources	The Army will be responsible for ensuring compliance with all applicable federal and state environmental laws and regulatory clearances required for construction within any permanent easements (transportation, drainage, maintenance, etc.) granted to VDOT.	All project work within VDOT right-of-way will be coordinated and permitted according to VDOT requirements and recommendations noted shall be considered during design development.
1.10(b)	Virginia Department of Transportation (VDOT)	Transportation Resources	Applicable VDOT permits will be required for any work done within the VDOT controlled right-of-way.	All project work within VDOT right-of-way will be coordinated and permitted according to VDOT requirements and recommendations noted shall be considered during design development.

Reviewer Comment #	Name of Reviewer	Program Area	Comment	Response
1.10(c)	Virginia Department of Transportation (VDOT)	Transportation Resources	According to the SEA (page 1), no additional land acquisitions or off-site improvements are required for the proposed action other than potential acquisition of additional utility corridor easements required to install the communications lines across the U.S. Route 1 right-of-way. The proposed alignment (horizontal and vertical) of the conduits and the location of the access vaults and manholes should be located so as not to interfere with future widening of U. S. Route 1 in the area (i. e. roadway widening, curb and gutter, sidewalks, ramps, guardrails, signalization poles, conduits, control boxes, etc.). The most optimum crossing alignment would be either east or west of the U. S. Route 1 intersection. However, the Army should take into consideration the potential widening of U. S. Route 1 from Mount Vernon Highway to Napper Road, which includes a 58-foot wide median for Bus Rapid Transit (BRT). VDOT does not foresee any conflicts with U. S. Route 1 provided the recommendations above are followed when locating the new communications line. The vertical alignment of the line may need to be adjusted to ensure that future conflicts don't occur.	All project work within VDOT right-of-way will be coordinated and permitted according to VDOT requirements and recommendations noted shall be considered during design development.
1.10(d)	Virginia Department of Transportation (VDOT)	Transportation Resources	The current widening of Route 1 from 4 to 6 lanes is substantially complete (completion is scheduled for June 2017). A 32-foot median is being constructed to provide for future transit when Fairfax County's current EMBARK Richmond 15 Highway program changes to BRT. The Army should review and take into consideration the utility relocation plans developed with the ongoing widening project to identify any potential conflicts.	All project work within VDOT right-of-way will be coordinated and permitted according to VDOT requirements and recommendations noted shall be considered during design development.
1.10(e)	Virginia Department of Transportation (VDOT)	Transportation Resources	In addition, VDOT provided the following non-transportation related comments: The EA does not reference the White House Council on Environmental Quality (CEQ) guidance in consideration of greenhouse gas (GHG) emissions and the effects of climate change in NEPA reviews effective August 5, 2016, which is applicable to all NEPA documents. The SEA does not reference the U. S. Fish and Wildlife Service (USFWS) proposed listing of the rusty patched bumble bee (RPBB) as an endangered species under the Endangered Species Act on September 22, 2016 and the recommended voluntary conservation measures for RPBB by USFWS.	Pursuant to Executive Order 13783, "Promoting Energy Independence and Economic Growth," of March 28, 2017, the "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews" has been withdrawn by CEQ for further consideration.
1.10(f)	Virginia Department of Transportation (VDOT)	Transportation Resources	The SEA does not reference the U. S. Fish and Wildlife Service (USFWS) proposed listing of the rusty patched bumble bee (RPBB) as an endangered species under the Endangered Species Act on September 22, 2016 and the recommended voluntary conservation measures for RPBB by USFWS.	At the time of publication, the listing status of the rusty patched bumble bee was uncertain due to a pending review of all federal regulations pursuant to the "Memorandum for the Heads of Executive Departments and Agencies" issued January 20th, 2017. Upon implementation of the listing on March 21st, 2017, The rusty patched bumble bee has been identified in three counties within Virginia; Clarke, Fauquier, and Loudon. The rusty patched bumble bee is not known to or believed to occur in Fairfax County, Virginia. Therefore the proposed action would have no impact on the recently listed rusty patched bumble bee.
1.11	Fairfax County Department of Planning and Zoning	Coastal Program Consistency Review	The County identified a statement in the document that needs clarification. According to the SEA (page 22), "All existing drainage channels will remain unaltered by the project and will be restored to pre-construction conditions as part of the ductbank installation. " However the County notes that if there would be no alteration of drainage channels (which would appear to be the anticipated outcome of the Army's sensitive siting of the proposed ductbank), there should not be any need for restoration of the channels. The County concludes that, aside from the clarification noted above, staff has no objections or concerns in regard to this proposal provided all applicable construction requirements (e. g, erosion and sedimentation controls) and restoration actions are pursued as outlined in the document.	This statement regarding restoration of any temporary impacts is related to standard permit terminology contained in the U.S. Army Corps of Engineer's Nationwide Permit requirements. No work is intended to occur within the stream channels but if inadvertent impacts occur the Army is committed to restoration consistent with state and federal regulatory requirements. No additional clarification within the document is needed at this time.

Reviewer Comment #	Name of Reviewer	Program Area	Comment	Response
1.12	DEQ Office of Pollution Prevention	Pollution Prevention	We have several pollution prevention recommendations that may be helpful in the construction of this project and in the operation of the development: Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the Army is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and it recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program. Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts. Consider contractors' commitment to the environment (such as an EMS) when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals. Choose sustainable materials and practices for infrastructure construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things. Integrate pollution prevention techniques into utility maintenance and operation, to include the following: inventory control (record-keeping and centralized storage for hazardous materials), product substitution (use of non-toxic cleaners), and source reduction (fixing leaks, energy-efficient HVAC and equipment). Maintenance facilities should be designed with sufficient and suitable space to allow for effective inventory control and preventative maintenance.	Comment noted, project will adhere to Fort Belvoir affirmative procurement and applicable pollution prevention policies and guidelines.
1.13	DEQ Office of Environmental Impact Review (OEIR)	Virginia Coastal Zone Management Program	DEQ concurs that the proposal is consistent with the CZM Program provided all applicable permits and approvals are obtained as previously described. the applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations	Comment noted, construction will be permitted as appropriate through the VMRC and CBPA program by complying with the Virginia Erosion and Sediment Control Law and the Stormwater Management Act. This will include preparing an erosion and sediment control plan and DEQ approved stormwater management plan for the project.
2.1	REGULATORY AND COORDINATION NEEDS	Surface Waters and Wetlands	Surface water and wetland impacts associated with this proposal may require a VWP Permit issued by the DEQ-NRO pursuant to Virginia Code §62. 1-44. 15:20 should the project not qualify under a Corps NWP #12. A Joint Permit Application may be obtained from and submitted to the VMRC which serves as a clearinghouse for the joint permitting process involving the VMRC, DEQ, Corps, and local wetlands boards. For additional information and coordination, contact DEQ-NRO. Trisha Beasley at (703) 583-3940	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.
2.2		Erosion and Sediment Control and Stormwater Management	This project must comply with Virginia's Erosion and Sediment Control Law (Virginia Code §62. 1-44. 15:61) and Regulations (9 VAC 25-840-30 et seq.) and Stormwater Management Law (Virginia Code § 62 .1-44. 15:31) and Regulations (9 VAC 25-870-210 et "seq.) as administered by DEQ Activities that disturb 10, 000 square feet or more (2, 500 square feet or more in CBPAs) would be regulated by VESCL&R and VSWML&R. Erosion and sediment control, and stormwater management requirements should be coordinated with the DEQ Northern Regional Office, Kelly Vanover at (804) 837-1073.	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.
2.3		General Permit for Stormwater Discharges from Construction Activities (VAR10)	For land-disturbing activities of equal to or greater than one acre, the applicant is required to apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-1 et seq.). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Holly Sepetv at 698-4039.	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.

Reviewer Comment #	Name of Reviewer	Program Area	Comment	Response
2.4		Chesapeake Bay Preservation Areas	The project must be conducted in a manner which is consistent with the coastal lands management enforceable policy of the CZM Program which is governed by the requirements of the Chesapeake Bay Preservation Act (Virginia Code §§10. 1-2100 through 10. 1-2114) and Chesapeake Bay Preservation Area Designation and Management Regulations (Virginia Code 9 VAC 25'-830-10 et seq.). The proposed project is subject to the general performance criteria of 9 VAC 25-830-130 for construction in lands analogous to RPA and RMA. In addition, the communications line project must meet the conditions found in 9 VAC 10-20-150 B to qualify for exemption under the Regulations. For additional information and coordination, contact DEQ-OLGP, Daniel Moore at (804) 698-4520.	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.
2.5		Air Quality Regulations	This project is subject to air regulations administered by the Department of Environmental Quality. The following sections of the Code of Virginia and Virginia Administrative Code are applicable: Asphalt paving operations (9 VAC 5-45-780 et seq.); Fugitive dust and emissions control (9 VAC 5-50-60 et seq.); and open burning restrictions (9 VAC 5-130). The installation of fuel burning equipment (e. g. boilers and generators), may require a permit (9VAC 5-50-10 et seq. and 9 VAC 5-80-10 et seq.) prior to construction. ' Also, contact Fairfax County fire officials for information on any local requirements pertaining to open burning. For more information and coordination contact DEQ-NRO, James LaFratta at (703) 583-3928.	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.
2.6		Solid and Hazardous Wastes	All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. For additional information concerning location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered, contact DEQ-NRO, Richard Doucette at (703) 583-3813.	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.
2.7		Natural Heritage Resources	Contact DCR-DNH, Rene Hypes at (804) 371-2708, to secure updated information on natural heritage resources if the scope of the project changes and/or six months passes before the project is implemented, since new and updated information is continually added to the Biotics Data System.	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.
2.8		Wildlife Resources and Protected Specie	Contact DGIF, Amy Ewing at (804) 367-2211 for the development of project-specific measures to minimize project impacts upon wildlife resources.	Project plans will be coordinated with permit agencies as part of design development, including contacts noted.
2.9		Transportation Resources	Contact the Northern Virginia Transportation Planning Section, Regina Moore at (703) 259-1999, for guidance on applicable permits for work performed within the VDOT controlled right-of-way. In addition, contact the Federal Highway Administration (FHWA) Eastern Federal Lands Highway Division (EFLHD), Tom Shifflett, at (703) 404-6323 or thomas.shifflett@dot.gov for additional information and coordination regarding the communications line project and the current Route 1 widening project to identify any potential conflicts	Cumulative Effects of the U.S. Route 1 Roadway Improvements project are addressed in Section 3.19 of the SEA. Project plans will be coordinated with permit agencies in addition to the provided contacts throughout the design development process.
3.00	Karen DelGrosso (3EA30) U.S. EPA Region III;	USEPA Region III Review	EPA Region III reviewed the subject EA and has no comments on the Proposed Action.	No Action Required

THIS PAGE INTENTIONALLY BLANK

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

March 16, 2017

Commander, U.S. Army Garrison Fort Belvoir
Attn: Directorate of Public Works, Building 1442
9430 Jackson Loop
Fort Belvoir, Virginia 22060-5116

RE: Supplemental Environmental Assessment and Federal Consistency Determination for the Communications Line Extension, Davison Army Airfield, Fort Belvoir, Fairfax County, (DEQ 17-010F).

Dear Commander:

The Commonwealth of Virginia has completed its review of the above-referenced document. The Department of Environmental Quality is responsible for coordinating Virginia's review of federal environmental documents submitted under the National Environmental Policy Act (NEPA) and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of federal consistency documents submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. This is in response to the December 2016 Supplemental Environmental Assessment (SEA) (received January 19, 2017) for the above-referenced project. In addition, the SEA includes a Federal Consistency Determination (FCD) (Appendix E) for the proposed action. The following agencies and locality participated in the review of this proposal:

Department of Environmental Quality
Department of Conservation and Recreation
Department of Game and Inland Fisheries
Department of Transportation
Department of Historic Resources
Fairfax County

In addition, the Marine Resources Commission, Department of Agriculture and Consumer Services, Department of Forestry, and the Northern Virginia Regional Commission were invited to comment on the proposal.

PROJECT DESCRIPTION

The Department of the Army (Army) at Fort Belvoir proposes to extend a communications line at the Davison Army Airfield in Fairfax County. The proposed activity includes the installation of approximately 2 miles of concrete encased communications ductbank to provide an underground pathway for communications cabling to connect the core area of Fort Belvoir to Davison Army Airfield. The ductbank route will follow the Poe Road Alternative which begins at an existing communications vault along the west shoulder of Gunston Road, follows an existing cleared utility line right-of-way, crosses Pohick Road to an alignment along the northern shoulder of Poe Road where the ductbank turns north crossing U.S. Route 1 to Britten Drive, and proceeds along the cleared shoulder on the northeast side of Britten Drive to the terminal point in front of Building 3165. The proposed project will include the following:

- clearing of existing utility right-of-ways, select trimming of existing plants and trees currently impinging on the right-of-ways and associated road shoulders;
- trenching, conduit installation, concrete placement and backfill of the ductbank trench to match preconstruction conditions, including directionally drilled installation of an encased, 4-way conduit bundle to avoid sensitive wetland and/or coastal water resources, including Accotink Creek adjacent to the existing Poe Road bridge; and
- the installation of above ground utility markers and delineators, manholes, hand holes and vaults; restoration of disturbed areas to match preconstruction conditions including pavement patching, shoulder stabilization, mulching, final grading, erosion control measures and site seeding to re-establish vegetative cover.

Construction activities will be completed in accordance with Chesapeake Bay Program criteria applicable to utility line installations within Resource Protection Areas (RPA). Temporary impacts within wetland areas will be limited to less than 0.5 acres in accordance with U.S. Army Corps of Engineer's Nationwide Permit #12. Shrubs and trees that are permanently disturbed in the RPA will be replaced in accordance with the Chesapeake Bay Program's Riparian Buffers Modification and Mitigation Guidance Manual.

CONCLUSION

Provided activities are performed in accordance with the recommendations which follow in the Environmental Impacts and Mitigation section of this report, this proposal is unlikely to have significant effects on ambient air quality, important farmland, forest resources, and wetlands. It is unlikely to adversely affect species of plants or insects listed by state agencies as rare, threatened, or endangered.

Reference Comment 1.0

ENVIRONMENTAL IMPACTS AND MITIGATION

1. Surface Waters and Wetlands. According to the SEA (page 6), the ductbank will be directionally bored under Accotink Creek for up to 400 feet. No direct impacts to surface waters are anticipated.

The document (page 22) states that wetland impacts would be limited to temporary impacts within the utility corridor between Gunston and Pohick Roads. These impacts would be limited to the duration of construction and will not exceed the threshold requirement of 0.5 acre as required by Nationwide Permit (NWP) #12.

1(a) Agency Jurisdiction. The State Water Control Board promulgates Virginia's water regulations covering a variety of permits to include the Virginia Pollutant Discharge Elimination System Permit regulating point source discharges to surface waters, Virginia Pollution Abatement Permit regulating sewage sludge, storage and land application of biosolids, industrial wastes (sludge and wastewater), municipal wastewater, and animal wastes, the Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection (VWP) Permit regulating impacts to streams, wetlands, and other surface waters. The VWP permit is a state permit which governs wetlands, surface water, and surface water withdrawals and impoundments. It also serves as §401 certification of the federal Clean Water Act §404 permits for dredge and fill activities in waters of the U.S. The VWP Permit Program is under the Office of Wetlands and Stream Protection, within the DEQ Division of Water Permitting. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities:

- Clean Water Act, §401;
- Section 404(b)(i) Guidelines Mitigation Memorandum of Agreement (2/90);
- State Water Control Law, Virginia Code section 62.1-44.15:20 *et seq.*; and
- State Water Control *Regulations*, 9 VAC 25-210-10.

1(b) Agency Findings. The VWP program at the DEQ Northern Regional Office (NRO) did not indicate that authorization would be required as a result of the proposed temporary impacts to wetlands.

Reference Comment 1.1

1(c) Recommendations. In general, DEQ recommends that stream and wetland impacts be avoided to the maximum extent practicable. To minimize unavoidable impacts to wetlands and waterways, DEQ recommends the following practices:

- Operate machinery and construction vehicles outside of stream-beds and wetlands; use synthetic mats when in-stream work is unavoidable.
- Preserve the top 12 inches of trench material removed from wetlands for use as wetland seed and root-stock in the excavated area.
- Design erosion and sedimentation controls in accordance with the most current

edition of the Virginia Erosion and Sediment Control Handbook. These controls should be in place prior to clearing and grading, and maintained in good working order to minimize impacts to State waters. The controls should remain in place until the area is stabilized.

- Place heavy equipment, located in temporarily impacted wetland areas, on mats, geotextile fabric, or use other suitable measures to minimize soil disturbance, to the maximum extent practicable.
- Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub, or forested). The applicant should take all appropriate measures to promote revegetation of these areas. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed.
- Place all materials which are temporarily stockpiled in wetlands, designated for use for the immediate stabilization of wetlands, on mats, geotextile fabric in order to prevent entry in State waters. These materials should be managed in a manner that prevents leachates from entering state waters and must be entirely removed within thirty days following completion of that construction activity. The disturbed areas should be returned to their original contours, stabilized within thirty days following removal of the stockpile, and restored to the original vegetated state.
- Flag or clearly mark all non-impacted surface waters within the project or right-of-way limits that are within 50 feet of any clearing, grading, or filling activities for the life of the construction activity within that area. The project proponent should notify all contractors that these marked areas are surface waters where no activities are to occur.
- Employ measures to prevent spills of fuels or lubricants into state waters.

Reference Comment 1.1

1(d) Requirements. A VWP permit from DEQ may be required for impacts to surface waters and wetlands should the project not qualify under NWP #12. Upon receipt of a Joint Permit Application (JPA), VWP permit staff at DEQ-NRO will review the proposed project in accordance with the VWP permit program regulations and guidance.

2. Erosion and Sediment Control and Stormwater Management. According to the SEA (page 22), there would be minor temporary impacts to water quality and stormwater quality due to land-disturbing activity. These impacts would be minimized by adhering to approved erosion and sediment control and stormwater pollution prevention plans relative to the work.

2(a) Agency Jurisdiction. The DEQ Office of Stormwater Management (OSWM) administers the following laws and regulations governing construction activities:

- Virginia Erosion and Sediment Control (ECS) Law (§ 62.1-44.15:51 *et seq.*) and Regulations (9 VAC 25-840);
- Virginia Stormwater Management Act (§ 62.1-44.15:24 *et seq.*);

- Virginia Stormwater Management Program (VSMP) regulation (9 VAC 25-870); and
- 2014 General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880).

In addition, DEQ is responsible for the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to Municipal Separate Storm Sewer Systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program (9 VAC 25-890-40).

2(b) Requirements. DEQ-OSWM did not respond to the request for comments for this proposal. However, based on responses to previous projects at Fort Belvoir, regulatory guidance for the control of nonpoint source pollution is presented below.

Reference Comment 1.2

(i) Erosion and Sediment Control and Stormwater Management Plans

The Army and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R* and *VSWML&R*, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in the total land disturbance of equal to or greater than 10,000 square feet (2,500 square feet in Chesapeake Bay Preservation Area) would be regulated by *VESCL&R*. Accordingly, the Army must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to the DEQ Piedmont Regional Office that serves the area where the project is located for review for compliance. The Army is ultimately responsible for achieving project compliance through oversight of on-site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL 62.1-44.15 *et seq.*]

(ii) General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10)

The operator or owner of a construction project involving land-disturbing activities equal to or greater than one acre is required to register for coverage under the VAR10 permit and develop a project-specific stormwater pollution prevention plan. The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit, and it must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available on DEQ's website at
http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/Co

nstructionGeneralPermit.aspx. [Reference: Virginia Stormwater Management *Act* 62.1-§44.15 *et seq.*] *VSMP Permit Regulations* 9 VAC 25-870-10 *et seq.*].

3. Chesapeake Bay Preservation Areas. According to the document (page 22), the proposed ductbank would result in over 10,000 square feet of land disturbance within a Chesapeake Bay Resource Protection Area. The document states that a VPDES stormwater permit will be obtained in accordance with Chesapeake Bay Preservation Act requirements.

3(a) Agency Jurisdiction. The DEQ Office of Local Government Programs (OLGP) administers the Chesapeake Bay Preservation Act (Virginia Code §62.1-44.15:67 *et seq.*) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (9 VAC 25-830-10 *et seq.*). Each Tidewater locality must adopt a program based on the Bay Act and *Regulations*. The Act and *Regulations* recognize local government responsibility for land use decisions and are designed to establish a framework for compliance without dictating precisely what local programs must look like. Local governments have flexibility to develop water quality preservation programs that reflect unique local characteristics and embody other community goals. Such flexibility also facilitates innovative and creative approaches in achieving program objectives. The regulations address nonpoint source pollution by identifying and protecting certain lands called Chesapeake Bay Preservation Areas. The regulations use a resource-based approach that recognizes differences between various land forms and treats them differently.

3(b) Agency Comments. DEQ-OLGP notes that the areas protected by the Chesapeake Bay Preservation Act, as locally implemented in Fairfax County, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include:

- tidal wetlands;
- certain non-tidal wetlands;
- tidal shores; and
- a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow.

RMAs, which require less stringent performance criteria, include those areas of the county not included in the RPAs.

3(c) Agency Findings. DEQ-OSWM finds that the proposed project will result in land disturbance on lands analogous to locally designated RPA and RMA.

Reference Comment 1.3

3(d) Requirements. In general, development in areas analogous to RPA and RMA is subject to general performance criteria found in 9 VAC 25-830-130 and 140 of the *Regulations*, including requirements to:

- minimize land disturbance (including access and staging areas);
- retain indigenous vegetation; and
- minimize post-development impervious surfaces.

For land disturbance over 2,500 square feet, the project must comply with:

- the requirements of the *Virginia Erosion & Sediment Control Handbook, Third Edition, 1992*; and
- stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations* (9 VAC 25-870-10).

However, the construction, installation, operation and maintenance of electric, natural gas, fiber-optic, and telephone transmission lines and their appurtenant structures within lands analogous to RPA lands are conditionally exempt from the *Regulations* (9 VAC 10-20-150 B), provided they are constructed in accordance with:

1. regulations promulgated pursuant to the *Erosion and Sediment Control Law* and the *Stormwater Management Act*;
2. an erosion and sediment control plan and a stormwater management plan approved by DEQ, or;
3. Fairfax County water quality protection criteria at least as stringent as the above state requirements.

3(e) Conclusion. DEQ-OLGP concludes that, provided adherence to the above requirements, the proposed activity would be consistent with the Bay Act and the *Regulations*.

Reference Comment 1.3

4. Air Pollution Control. According to the SEA (page 12), project-related direct emissions would be limited to construction activities including; the use of non-road equipment (e.g. backhoes and bulldozers); worker vehicles; the use of paints and sealants containing volatile organic compounds; off-gases from paving and excavation operations; and fugitive particles from land clearing and earth moving activities

4(a) Agency Jurisdiction. The DEQ Air Division, on behalf of the State Air Pollution Control Board, is responsible for developing regulations that implement Virginia's Air Pollution Control Law (Virginia Code §10.1-1300 *et seq.*). DEQ is charged with carrying out mandates of the state law and related regulations as well as Virginia's federal obligations under the Clean Air Act as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate DEQ regional office is directly responsible for the issuance of

necessary permits to construct and operate all stationary sources in the region as well as monitoring emissions from these sources for compliance.

The Air Division regulates emissions of air pollutants from industries and facilities and implements programs designed to ensure that Virginia meets national air quality standards. The most common regulations associated with major State projects are:

- Open burning: 9 VAC 5-130 *et seq.*
- Fugitive dust control: 9 VAC 5-50-60 *et seq.*
- Permits for fuel-burning equipment: 9 VAC 5-80-1100 *et seq.*

4(b) Agency Findings. According to the DEQ Air Division, the project site is located in a designated ozone nonattainment area and an emission control area for the control of oxides of nitrogen (NO_x) and volatile organic compounds (VOCs).

Reference Comment 1.4

4(c) Recommendation. The Army should take all reasonable precautions to limit emissions of NO_x and VOCs, principally by controlling or limiting the burning of fossil fuels.

4(d) Requirements.

(i) Fugitive Dust

During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(ii) Asphalt Paving

In accordance with 9 VAC 5-45-780, there are limitations on the use of "cut-back" (liquefied asphalt cement, blended with petroleum solvents) that may apply to paving activities associated with the project. Moreover, there are time-of-year restrictions on its use during the months of April through October in VOC emission control areas.

(iii) Open Burning

If project activities include the open burning of construction material or the use of special incineration devices, this activity must meet the requirements under 9 VAC 5-

130 *et seq.* of the *Regulations* for open burning, and may require a permit. The *Regulations* provide for, but do not require, the local adoption of a model ordinance concerning open burning. The applicant should contact Fairfax County fire officials to determine what local requirements, if any, exist.

(iv) Fuel Burning Equipment

The installation of fuel burning equipment (e.g. boilers and generators), may require permitting from DEQ prior to beginning construction of the facility (9 VAC 5-80, Article 6, Permits for New and Modified Sources). The applicant should contact DEQ-NRO for guidance on whether this provision applies.

5. Solid and Hazardous Wastes and Hazardous Materials. According to the SEA (page 24), the communications line has been routed along the northwest shoulder of Poe Road to avoid encroaching within the 150 buffer zone of two former landfill sites located southeast of the roadway. If any residual solid wastes or suspect material are encountered during excavation, activity site work would be halted the Fort Belvoir restoration manager would be consulted before resuming project work. In addition, the project alignment passes near a known Military Munitions Response Program site. All construction activity in proximity to this site would need to be coordinated with the munitions response program coordinator to ensure construction work area is appropriately screened, planned and executed to avoid impacts to this area.

5(a) Agency Jurisdiction. On behalf of the Virginia Waste Management Board, the DEQ Division of Land Protection and Revitalization (DEQ-DLPR) is responsible for carrying out the mandates of the Virginia Waste Management Act (Virginia Code §10.1-1400 *et seq.*), as well as meeting Virginia's federal obligations under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response Compensation Liability Act (CERCLA), commonly known as Superfund. DEQ-DLPR also administers laws and regulations on behalf of the State Water Control Board governing Petroleum Storage Tanks (Virginia Code §62.1-44.34:8 *et seq.*), including Aboveground Storage Tanks (9 VAC 25-91 *et seq.*) and Underground Storage Tanks (9 VAC 25-580 *et seq.* and 9 VAC 25-580-370 *et seq.*), also known as 'Virginia Tank Regulations', and § 62.1-44.34:14 *et seq.* which covers oil spills.

Virginia:

- Virginia Waste Management Act, Virginia Code § 10.1-1400 *et seq.*
- *Virginia Solid Waste Management Regulations*, 9 VAC 20-81 (9 VAC 20-81-620 applies to asbestos-containing materials)
- *Virginia Hazardous Waste Management Regulations*, 9 VAC 20-60 (9 VAC 20-60-261 applies to lead-based paints)
- *Virginia Regulations for the Transportation of Hazardous Materials*, 9 VAC 20-110.

Federal:

- Resource Conservation and Recovery Act, 42 U.S. Code sections 6901 *et seq.*
- U.S. Department of Transportation *Rules for Transportation of Hazardous Materials*, 49 *Code of Federal Regulations*, Part 107
- Applicable rules contained in Title 40, *Code of Federal Regulations*.

5(b) Agency Findings. DEQ-DLPR conducted a search (1,000-foot radius) of the project corridor of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project corridor. The search identified thirteen waste sites which might impact the project. Additionally, Fort Belvoir is designated as a CERCLA site based on a search of waste sites of possible concern located within the project zip code (22060). See DEQ-DLPR's detailed comments attached for additional information on identified waste sites.

5(c) Recommendations.

(i) Comprehensive Environmental Response Compensation Liability Act

Additional information on the Fort Belvoir CERCLA site can be accessed from Environmental Protection Agency (EPA) websites at:

- https://www3.epa.gov/enviro/,
- https://rcrainfopreprod.epa.gov/rcrainfoweb/action/main-menu/view, and
- https://www.epa.gov/superfund.

(ii) Petroleum Releases

Additional information on identified petroleum releases is maintained in DEQ's Pollution Complaint (PC) case file. The project engineer or manager should contact the DEQ-NRO Tanks Program at (703) 583-3800 to examine the PC cases to establish the exact location, nature and extent of the petroleum releases and the potential to impact the project.

5(d) Requirements. Any soil that is suspected of contamination or wastes that are generated during construction must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations.

Reference Comment 1.5

Questions or requests for further information regarding the above waste comments may be directed to DEQ-DLPR, Katy Dacey at (804) 698-4274.

6. Pesticides and Herbicides. DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used to the extent feasible. Contact the

Reference Comment 1.6

Department of Agriculture and Consumer Services at (804) 786-3501 for more information.

7. Natural Heritage Resources. According to the SEA (page 18), the area along Accotink Creek has been documented as suitable habitat for the state-listed threatened wood turtle and the Eastern lampmussel, based on a review of information maintained by the Virginia Natural Heritage Program (SEA, Appendix B). The document concludes that development and operation of the ductbank is not expected to have any direct or indirect impacts to natural heritage resources.

7(a) Agency Jurisdiction.

(i) The Virginia Department of Conservation and Recreation's (DCR) Division of Natural Heritage (DNH)

DNH's mission is conserving Virginia's biodiversity through inventory, protection and stewardship. The Virginia Natural Area Preserves Act (Virginia Code §10.1-209 through 217), authorizes DCR to maintain a statewide database for conservation planning and project review, protect land for the conservation of biodiversity, and protect and ecologically manage the natural heritage resources of Virginia (the habitats of rare, threatened and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) The Virginia Department of Agriculture and Consumer Services (VDACS)

The Endangered Plant and Insect Species Act of 1979 (Virginia Code Chapter 39 §3.1-1020 through 1030) authorizes VDACS to conserve, protect and manage endangered and threatened species of plants and insects. Under a Memorandum of Agreement established between VDACS and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species.

7(b) Agency Findings.

(i) Accotink Bay-Gunston Cove Stream Conservation Unit

According to the information currently in DCR files, the Accotink Bay-Gunston Cove Stream Conservation Unit (SCU) is located within the project site. The SCU has been given a biodiversity ranking of B5, which represents a site of general significance. The natural heritage resources associated with this site are:

Lampsilis radiate	Eastern lampmussel	G5/S2S3/NL/NL
Glyptemys insculpta	Wood turtle	G3/S2/NL/LT

See DCR-DNH's detailed comments attached for additional information.

(ii) Accotink Wetlands Conservation Site

The Accotink Wetlands Conservation Site is located within the project site. The Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resources of concern at this site are:

Lathyrus palustris	Marsh pea	G5/S1/NL/NL
Bolboschoenus fluviatilis	River bulrush	G5/S2/NL/NL
Ranunculus ambigens	Water-plantain crowfoot	G4/S1/NL/NL
Tidal Freshwater Marsh	Mixed High Marsh Type	G3/S4?/NL/NL

See DCR-DNH's detailed comments attached for additional information.

(iii) State-listed Plant and Insect Species

DCR finds that the current activity will not affect any documented state-listed threatened or endangered plants or insects.

(iv) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

7(c) Recommendations.

(i) Protection of Aquatic Ecosystems

DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control and stormwater management laws and regulations to minimize adverse impacts to aquatic ecosystems.

Reference Comment 1.7

(ii) Natural Heritage Resources

Contact DCR-DNH to secure updated information on natural heritage resources if the scope of the project changes and/or six months has passed before it is utilized. New and updated information is continually added to the Biotics Data System.

8. Wildlife Resources and Protected Species. According to the SEA (page 17), protected animal species in the project area include the bald eagle (federally protected); the wood turtle (state-listed); and the Northern Virginia well amphipod (under consideration for state listing). In addition to these resident fauna, the peregrine falcon (state-listed threatened) is also known to migrate through Fort Belvoir during its seasonal fall migration. The sole endangered plant species currently documented on Fort Belvoir is the small whorled pogonia (federally-listed). The document concludes that, based on management controls, development and operation of the ductbank is not

expected to have any direct or indirect impacts to protected, threatened or endangered animal species, or their habitat, and minor temporary impacts to plant resources.

8(a) Agency Jurisdiction. The Virginia Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state- or federally-listed endangered or threatened species, but excluding listed insects (Virginia Code, Title 29.1). DGIF is a consulting agency under the U.S. Fish and Wildlife Coordination Act (16 U.S. Code §661 *et seq.*) and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce or compensate for those impacts. For more information, see the DGIF website at *www.dgif.virginia.gov*.

8(b) Agency Findings. DGIF does not anticipate the project to result in adverse impacts upon listed species or designated resources under its jurisdiction, based on the scope and location of the proposed work, including the directional bore under Accotink Creek. DGIF finds the project consistent with the fisheries management enforceable policy of the Virginia Coastal Zone Management Program assuming adherence to erosion and sediment controls.

Reference Comment 1.8

8(c) Recommendations.

(i) Aquatic Resource Protection

If the project changes and instream work in Accotink Creek and/or its tributaries becomes a part of the project scope, DGIF recommends the following:

- Adhere to a time-of-year restriction protective of anadromous fishes from February 15 through June 30 of any year.
- Conduct any in-stream activities during low or no-flow conditions.
- Use non-erodible cofferdams or turbidity curtains to isolate the construction area.
- Block no more than 50% of the streamflow at any given time.
- Stockpile excavated material in a manner that prevents reentry into the stream.
- Restore original streambed and streambank contours.
- Revegetate barren areas with native vegetation, and
- Implement strict erosion and sediment control measures.

To minimize harm to the aquatic environment and species resulting from use of the Tremie method to install concrete, the installation of grout bags, and/or the traditional pouring of concrete, DGIF recommends that such activities occur only "in the dry," allowing all concrete to harden and cure prior to contact with open water.

(ii) General Protection of Wildlife Resources

DGIF offers the following recommendations to minimize adverse impacts of linear utility project development on wildlife resources:

- Avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable.
- Maintain undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams.
- Adhere to a time-of-year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year for all tree removal and ground clearing.
- Adhere to erosion and sediment controls during ground disturbance.

DGIF understands that adherence to these general recommendations may be infeasible in some situations. Agency staff is available to work with the Army to develop project-specific measures as necessary to minimize project impacts upon wildlife resources.

9. Historic and Archeological Resources. According to the SEA (page 23), there are over 300 known historic and archaeologic sites located within the Fort Belvoir area. Only one site, the Fort Belvoir Military Railroad, is located within the limits of the proposed action. Fort Belvoir staff have coordinated resource impact analysis along the Poe Road Alternative with the Virginia State Historic Preservation Office (SHPO). The coordination resulted in an agreement that the ductbank must be bored under the historic railroad embankment to preserve this resource.

9(a) Agency Jurisdiction. The Virginia Department of Historic Resources (DHR) conducts reviews of both federal and state projects to determine their effect on historic properties. Under the federal process, DHR is the State Historic Preservation Office, and ensures that federal undertakings-including licenses, permits, or funding-comply with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulation at 36 CFR Part 800. Section 106 requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of Historic Places. For state projects or activities on state lands, DHR is afforded an opportunity to review and comment on (1) the demolition of state property; (2) major state projects requiring an EIR; (3) archaeological investigations on state-controlled land; (4) projects that involve a landmark listed in the Virginia Landmarks Register; (5) the sale or lease of surplus state property; (6) exploration and recovery of underwater historic properties; and (7) excavation or removal of archaeological or historic features from caves. Please see DHR's website for more information about applicable state and federal laws and how to submit an application for review: http://www.dhr.virginia.gov/StateStewardship/Index.htm.

9(b) Agency Findings. DHR confirms that the Army previously coordinated this project with agency staff pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800. In July 2016 DHR concurred with the Army that the proposed undertaking will have No Adverse Effect on historic properties.

Reference Comment 1.9

For additional information, contact DHR, Marc Holma at (804) 482-6090.

10. Transportation Resources. According to the SEA (page 13), the project would have minimal impacts on area transportation resources. Effects would be minor and temporary in nature as they are limited to the construction phase of the project. All construction work has been developed to avoid interruption of traffic flow on area roadways using trenchless techniques for all road crossings.

10(a) Agency Jurisdiction. The Virginia Department of Transportation (VDOT) provides comments pertaining to potential impacts to existing and future transportation systems.

10(b) Agency Findings. The VDOT Northern Virginia District Office staff offers the following comments with respect to transportation impacts under its jurisdiction:

- The Army will be responsible for ensuring compliance with all applicable federal and state environmental laws and regulatory clearances required for construction within any permanent easements (transportation, drainage, maintenance, etc.) granted to VDOT.

Reference Comment 1.10(a)

- Applicable VDOT permits will be required for any work done within the VDOT controlled right-of-way.

Reference Comment 1.10(b)

- According to the SEA (page 1), no additional land acquisitions or off-site improvements are required for the proposed action other than potential acquisition of additional utility corridor easements required to install the communications lines across the U.S. Route 1 right-of-way. The proposed alignment (horizontal and vertical) of the conduits and the location of the access vaults and manholes should be located so as not to interfere with future widening of U.S. Route 1 in the area (i.e. roadway widening, curb and gutter, sidewalks, ramps, guardrails, signalization poles, conduits, control boxes, etc.). The most optimum crossing alignment would be either east or west of the U.S. Route 1 intersection. However, the Army should take into consideration the potential widening of U.S. Route 1 from Mount Vernon Highway to Napper Road, which includes a 58-foot wide median for Bus Rapid Transit (BRT). VDOT does not foresee any conflicts with U.S. Route 1 provided the recommendations above are followed when locating the new communications line. The vertical alignment of the line may need to be adjusted to ensure that future conflicts don't occur.

Reference Comment 1.10(c)

- The current widening of Route 1 from 4 to 6 lanes is substantially complete (completion is scheduled for June 2017). A 32-foot median is being constructed to provide for future transit when Fairfax County's current EMBARK Richmond

Reference Comment 1.10(d)

Highway program changes to BRT. The Army should review and take into consideration the utility relocation plans developed with the ongoing widening project to identify any potential conflicts.

Reference Comment 1.10(d)

In addition, VDOT provided the following non-transportation related comments:

- The SEA does not reference the White House Council on Environmental Quality (CEQ) guidance in consideration of greenhouse gas (GHG) emissions and the effects of climate change in NEPA reviews effective August 5, 2016, which is applicable to all NEPA documents.

Reference Comment 1.10(e)

- The SEA does not reference the U.S. Fish and Wildlife Service (USFWS) proposed listing of the rusty patched bumble bee (RPBB) as an endangered species under the Endangered Species Act on September 22, 2016 and the recommended voluntary conservation measures for RPBB by USFWS.

Reference Comment 1.10(f)

For additional information regarding VDOT comments, contact the Northern Virginia Transportation Planning Section, Regina Moore at (703) 259-1999.

11. Local Comments.

11(a) Agency Jurisdiction. In accordance with CFR 930, Subpart A, § 930.6(b) of the *Federal Consistency Regulations*, DEQ, on behalf of the state, is responsible for securing necessary review and comment from other state agencies, the public, regional government agencies, and local government agencies, in determining the Commonwealth's concurrence or objection to a federal consistency certification.

11(b) Agency Findings. The Fairfax County Department of Planning and Zoning (DPZ), in coordination with the Department of Public Works and Environment Services (DPWES), Fairfax County Department of Transportation (FCDOT) and the Fairfax County Park Authority (FCPA), provided comments on the proposed action. The County notes that Fort Belvoir is proposing to construct the ductbank under Accotink Creek through a trenchless, directional drilling approach. Through this approach, the ductbank would be provided under the stream without necessitating any disturbance to the stream. Trenchless techniques would also be pursued for the crossing of the Fort Belvoir Military Railroad Corridor and significant road crossings. A previously-installed casing pipe would be used for the proposed crossing of Richmond Highway.

The County identified a statement in the document that needs clarification. According to the SEA (page 22), "All existing drainage channels will remain unaltered by the project and will be restored to pre-construction conditions as part of the ductbank installation." However, the County notes that if there would be no alteration of drainage channels (which would appear to be the anticipated outcome of the Army's sensitive siting of the proposed ductbank), there should not be any need for restoration of the channels.

Reference Comment 1.11

11(c) Conclusion. The County concludes that, aside from the clarification noted above, staff has no objections or concerns in regard to this proposal provided all applicable construction requirements (e.g., erosion and sedimentation controls) and restoration actions are pursued as outlined in the document.

Reference Comment 1.11

For additional information and coordination, contact the Fairfax DPZ, Noel Kaplan and (703) 324-1369 or noel.kaplan@fairfaxcounty.gov.

12. Pollution Prevention. DEQ advocates that principles of pollution prevention be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices (BMPs) will help to ensure that environmental impacts are minimized. However, pollution prevention techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

12(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction of this project and in the operation of the development:

Reference Comment 1.12

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the Army is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and it recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program.
- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider contractors' commitment to the environment (such as an EMS) when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for infrastructure construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.
- Integrate pollution prevention techniques into utility maintenance and operation, to include the following: inventory control (record-keeping and centralized storage for hazardous materials), product substitution (use of non-toxic cleaners), and source reduction (fixing leaks, energy-efficient HVAC and equipment). Maintenance facilities should be designed with sufficient and suitable space to allow for effective inventory control and preventative maintenance.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. For more information, contact DEQ's Office of Pollution Prevention, Meghann Quinn at (804) 698-4021.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972 (§ 1456(c)), as amended, and the federal consistency regulations implementing the CZMA (15 CFR Part 930, Subpart C, § 930.30 *et seq.*) federal actions that can have reasonably foreseeable effects on Virginia's coastal uses or resources must be conducted in a manner which is consistent to the maximum extent practicable with the Virginia Coastal Zone Management (CZM) Program. The Virginia CZM Program is comprised of a network of programs administered by several agencies. In order to be consistent with the Virginia CZM Program, the federal agency must obtain all the applicable permits and approvals listed under the enforceable policies of the Program prior to commencing the project.

Federal Consistency Public Participation

In accordance with Title 15, Code of Federal Regulations (CFR), §930.2, the public was invited to participate in the review of the FCC. Public notice of this proposed action was published in OEIR's Program Newsletter and on the DEQ website from January 27, 2017 through February 22, 2017. No public comments were received in response to the notice.

Federal Consistency Concurrence

The EA included a Federal Consistency Determination (FCD) (Appendix E) that includes an analysis of the consistency of the project on the enforceable policies of the CZM Program. Based on our review of the FCD and the comments submitted by agencies administering the enforceable policies of the CZM Program, DEQ concurs that the proposal is consistent with the CZM Program provided all applicable permits and approvals are obtained as previously described.

Reference Comment 1.13

In addition, DEQ recommends that the Army consider the Advisory Policies of the CZM Program (Attachment 2). Other state approvals which may apply to this project are not included in this concurrence. Therefore, the applicant must ensure that this project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations.

Reference Comment 1.13

REGULATORY AND COORDINATION NEEDS

1. Surface Waters and Wetlands. Surface water and wetland impacts associated with this proposal may require a VWP Permit issued by the DEQ-NRO pursuant to Virginia Code §62.1-44.15:20 should the project not qualify under a Corps NWP #12. A Joint Permit Application may be obtained from and submitted to the VMRC which serves as a clearinghouse for the joint permitting process involving the VMRC, DEQ, Corps, and local wetlands boards. For additional information and coordination, contact DEQ-NRO, Trisha Beasley at (703) 583-3940.

Reference Comment 2.1

2. Erosion and Sediment Control and Stormwater Management.

2(a) Erosion and Sediment Control and Stormwater Management. This project must comply with Virginia's *Erosion and Sediment Control Law* (Virginia Code § 62.1-44.15:61) and *Regulations* (9 VAC 25-840-30 *et seq.*) and *Stormwater Management Law* (Virginia Code § 62.1-44.15:31) and *Regulations* (9 VAC 25-870-210 *et seq.*) as administered by DEQ. Activities that disturb 10,000 square feet or more (2,500 square feet or more in CBPAs) would be regulated by *VESCL&R* and *VSWML&R*. Erosion and sediment control, and stormwater management requirements should be coordinated with the DEQ Northern Regional Office, Kelly Vanover at (804) 837-1073.

Reference Comment 2.2

2(b) General Permit for Stormwater Discharges from Construction Activities (VAR10). For land-disturbing activities of equal to or greater than one acre, the applicant is required to apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (9 VAC 25-880-1 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to DEQ, Holly Sepety at (804) 698-4039.

Reference Comment 2.3

3. Chesapeake Bay Preservation Areas. The project must be conducted in a manner which is consistent with the coastal lands management enforceable policy of the CZM program which is governed by the requirements of the *Chesapeake Bay Preservation Act* (Virginia Code §§ 10.1-2100 through 10.1-2114) and *Chesapeake Bay Preservation Area Designation and Management Regulations* (Virginia Code 9 VAC 25-830-10 *et seq.*). The proposed project is subject to the general performance criteria of 9 VAC 25-830-130 for construction in lands analogous to RPA and RMA. In addition, the communications line project must meet the conditions found in 9 VAC 10-20-150 B to qualify for exemption under the *Regulations*. For additional information and coordination, contact DEQ-OLGP, Daniel Moore at (804) 698-4520.

Reference Comment 2.4

4. Air Quality Regulations. This project is subject to air regulations administered by the Department of Environmental Quality. The following sections of the Code of Virginia and Virginia Administrative Code are applicable:

Reference Comment 2.5

- asphalt paving operations (9 VAC 5-45-780 *et seq.*)
- fugitive dust and emissions control (9 VAC 5-50-60 *et seq.*); and
- open burning restrictions (9 VAC 5-130).

The installation of fuel burning equipment (e.g. boilers and generators), may require a permit (9 VAC 5-50-10 *et seq.* and 9 VAC 5-80-10 *et seq.*) prior to construction. Also, contact Fairfax County fire officials for information on any local requirements pertaining to open burning. For more information and coordination contact DEQ-NRO, James LaFratta at (703) 583-3928.

5. Solid and Hazardous Wastes. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. For additional information concerning location and availability of suitable waste management facilities in the project area or if free product, discolored soils, or other evidence of contaminated soils are encountered, contact DEQ-NRO, Richard Doucette at (703) 583-3813.

Reference Comment 2.6

6. Natural Heritage Resources. Contact DCR-DNH, Rene Hypes at (804) 371-2708, to secure updated information on natural heritage resources if the scope of the project changes and/or six months passes before the project is implemented, since new and updated information is continually added to the Biotics Data System.

Reference Comment 2.7

7. Wildlife Resources and Protected Species. Contact DGIF, Amy Ewing at (804) 367-2211 for the development of project-specific measures to minimize project impacts upon wildlife resources.

Reference Comment 2.8

8. Transportation Resources. Contact the Northern Virginia Transportation Planning Section, Regina Moore at (703) 259-1999, for guidance on applicable permits for work performed within the VDOT controlled right-of-way.

Reference Comment 2.9

In addition, contact the Federal Highway Administration (FHWA) Eastern Federal Lands Highway Division (EFLHD), Tom Shifflett, at (703) 404-6323 or thomas.shifflett@dot.gov for additional information and coordination regarding the communications line project and the current Route 1 widening project to identify any potential conflicts.

Thank you for the opportunity to review the Supplemental Environmental Assessment and Federal Consistency Determination for the Communications Line Extension, Davison Army Airfield at Fort Belvoir in Fairfax County. Detailed comments of reviewing agencies are attached for your review. Please contact me at (804) 698-4204 or John Fisher at (804) 698-4339 for clarification of these comments.

Sincerely,

for Bettina Sullivan, Program Manager
Environmental Impact Review and Long-Range Priorities

Enclosures

Ec: Tony Watkinson, VMRC
Amy Ewing, DGIF

Robbie Rhur, DCR
Keith Tignor, VDACS
Greg Evans. DOF
Roger Kirchen, DHR
James Cromwell, VDOT
Denise James, Fairfax County
G. Mark Gibb, Northern Virginia Regional Commission

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

Attachment 2

Advisory Policies for Geographic Areas of Particular Concern

a. Coastal Natural Resource Areas - These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:

a) Wetlands
b) Aquatic Spawning, Nursery, and Feeding Grounds
c) Coastal Primary Sand Dunes
d) Barrier Islands
e) Significant Wildlife Habitat Areas
f) Public Recreation Areas
g) Sand and Gravel Resources
h) Underwater Historic Sites.

b. Coastal Natural Hazard Areas - This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are as follows:

i) Highly Erodible Areas
ii) Coastal High Hazard Areas, including flood plains.

c. Waterfront Development Areas - These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows:

i) Commercial Ports
ii) Commercial Fishing Piers
iii) Community Waterfronts

Although the management of such areas is the responsibility of local government and some regional authorities, designation of these areas as Waterfront Development Areas of Particular Concern (APC) under the VCP is encouraged.

Designation will allow the use of federal CZMA funds to be used to assist planning for such areas and the implementation of such plans. The VCP recognizes two broad classes of priority uses for waterfront development APC:

i) water access dependent activities;
ii) activities significantly enhanced by the waterfront location and complementary to other existing and/or planned activities in a given waterfront area.

Advisory Policies for Shorefront Access Planning and Protection

a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.

b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.

c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.

d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.

e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.

f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the Commonwealth and the VCP to enhance the protection of buildings, structures, and sites of historical, architectural, and archaeological significance from damage or destruction when practicable.

Fisher, John (DEQ)

From: Burstein, Daniel (DEQ)
Sent: Friday, February 17, 2017 10:19 AM
To: Fisher, John (DEQ)
Subject: Re: DOD/Army - Communications Line Extension, Davison Army Airfield, Fort Belvoir, DEQ # 17-010F- Review

NRO comments regarding the Environmental Assessment/ Federal Consistency Determination for the DOD/U.S. Army Reserve Communications Line Extension, Davison Army Airfield, Fort Belvoir, located in Fairfax County, Virginia are as follows:

Land Protection Division – The project manager is reminded that if any solid or hazardous waste is generated/encountered during construction, the project manager would follow applicable federal, state, and county regulations for their disposal.

Air Compliance/Permitting - The project manager is reminded that during the construction phases that occur with this project; the project is subject to the Fugitive Dust/Fugitive Emissions Rule 9 VAC 5-50-60 through 9 VAC 5-50-120. In addition, should the project install fuel burning equipment (Boilers, Generators, Compressors, etc…), or any other air pollution emitting equipment, the project may be subject to 9 VAC 5-80, Article 6, Permits for New and Modified sources and as such the project manager should contact the Air Permit Manager DEQ-NRO prior to installation or construction, and operation, of fuel burning or other air pollution emitting equipment for a permitting determination. Lastly, should any open burning or use of special incineration devices be employed in the disposal of land clearing debris during demolition and construction, the operation would be subject to the Open Burning Regulation 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100.

Virginia Water Protection Permit (VWPP) Program – The project manager is reminded that a VWP permit from DEQ may be required should impacts to surface waters be necessary. DEQ VWP staff recommends that the avoidance and minimization of surface water impacts to the maximum extent practicable as well as coordination with the US Army Corps of Engineers. Upon receipt of a Joint Permit Application for the proposed surface water impacts, DEQ VWP Permit staff will review the proposed project in accordance with the VWP permit program regulations and current VWP permit program guidance.

Erosion and Sediment Control and Storm Water Management: DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

Daniel Burstein
Regional Enforcement Specialist, Senior II

Virginia Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, VA 22193
Phone: (703) 583-3904
daniel.burstein@deq.virginia.gov.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
Fax: 804-698-4019 - TDD (804) 698-4021
www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

MEMORANDUM

TO: John Fisher, DEQ Environmental Program Planner

FROM: Daniel Moore, DEQ Principal Environmental Planner

DATE: January 23, 2017

SUBJECT: DEQ #17-010F: Communications Line Extension, Davidson Army Airfield, Ft. Belvoir

We have reviewed the Consistency Determination application for the proposed Communications Line Extension Project at Fort Belvoir in Fairfax County and offer the following comments regarding consistency with the provisions of the *Chesapeake Bay Preservation Area Designation and Management Regulations* (Regulations):

In Fairfax County, the areas protected by the Chesapeake Bay Preservation Act, as locally implemented, require conformance with performance criteria. These areas include Resource Protection Areas (RPAs) and Resource Management Areas (RMAs) as designated by the local government. RPAs include tidal wetlands, certain non-tidal wetlands and tidal shores. RPAs also include a 100-foot vegetated buffer area located adjacent to and landward of these features and along both sides of any water body with perennial flow. RMAs, which require less stringent performance criteria, include those areas of the County not included in the RPAs.

Under the Federal Consistency Regulations of the *Coastal Zone Management Act of 1972*, federal actions in Virginia must be conducted in a manner "consistent to the maximum extent practicable" with the enforceable policies of the Virginia Coastal Zone Management Program. Those enforceable policies are administered through the Chesapeake Bay Preservation Act and Regulations.

Federal actions on installations located within Tidewater Virginia are required to be consistent with the performance criteria of the Regulations on lands analogous to locally designated RPAs and RMAs, as provided in §9VAC25-830-130 and 140 of the Regulations, including the requirement to minimize land disturbance (including access and staging areas), retain existing

vegetation and minimize impervious cover as well as including compliance with the requirements of the *Virginia Erosion and Sediment Control Handbook,* and stormwater management criteria consistent with water quality protection provisions of the *Virginia Stormwater Management Regulations*." For land disturbance over 2,500 square feet, the project must comply with the requirements of the *Virginia Erosion and Sediment Control Handbook.*

The proposed project will result in land disturbance on lands analogous to both RMA and RPA lands. The project includes construction of an underground communications ductbank to support the Skills Training Facility at Davidson Army Airfield (DAA). The ductbank will originate at Gunston Road and extend to the DAA following existing utility rights-of-ways along Poe Road. Installation of the ductbank will include a crossing of Accotink Creek at the Poe Road Bridge.

Construction, installation, operation and maintenance of electric, natural gas, fiber-optic, and telephone transmission lines and their appurtenant structures within lands analogous to RPA lands are conditionally exempt from the *Chesapeake Bay Preservation Area Designation and Management Regulations,* § 9 VAC 10-20-150 B, provided they are constructed in accordance with:

1. regulations promulgated pursuant to the *Erosion and Sediment Control Law* and the *Stormwater Management Act*;
2. an erosion and sediment control plan and a stormwater management plan approved by the Virginia Department of Environmental Quality, or;
3. Fairfax County water quality protection criteria at least as stringent as the above state requirements.

Provided adherence to the above requirements, the proposed activity would be consistent with the *Chesapeake Bay Preservation Act* and the Regulations.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: John E. Fisher **DEQ - OEIA PROJECT NUMBER: DEQ #17-010F**

PROJECT TYPE: ☐ STATE EA / EIR **X FEDERAL EA / EIS** ☐ SCC

X CONSISTENCY DETERMINATION

PROJECT TITLE: Communications Line Extension, Davison Army Airfield, Fort Belvoir

PROJECT SPONSOR: Department of the Army

PROJECT LOCATION: **X OZONE NONATTAINMENT AND EMISSION CONTROL AREA FOR NOX & VOC**

REGULATORY REQUIREMENTSMAY BE APPLICABLE TO: **X CONSTRUCTION** ☐ OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. ☐ 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E – STAGE I
2. ☐ 9 VAC 5-45-760 et seq. – Asphalt Paving operations
3. **X 9 VAC 5-130 et seq. – Open Burning**
4. **X 9 VAC 5-50-60 et seq. Fugitive Dust Emissions**
5. ☐ 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to_____
6. ☐ 9 VAC 5-60-300 et seq. – Standards of Performance for Toxic Pollutants
7. ☐ 9 VAC 5-50-400 Subpart_____, Standards of Performance for New Stationary Sources, designates standards of performance for the_____
8. ☐ 9 VAC 5-80-1100 et seq. of the regulations – Permits for Stationary Sources
9. ☐ 9 VAC 5-80-1605 et seq. Of the regulations – Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
10. ☐ 9 VAC 5-80-2000 et seq. of the regulations – New and modified sources located in non-attainment areas
11. ☐ 9 VAC 5-80-800 et seq. Of the regulations – State Operating Permits. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:

All precautions are necessary to restrict the emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_X).

K. S. Narasimhan

(Kotur S. Narasimhan)
Office of Air Data Analysis

DATE: January 26, 2017

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

MEMORANDUM

TO: John Fisher, DEQ/EIR Environmental Program Planner

FROM: Katy Dacey, Division of Land Protection & Revitalization Review Coordinator

DATE: January 31, 2017

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Review: EIR Project No 17-010F Communications Line Extensions, Davison Army Airfield, Fort Belvoir, Fairfax County, VA

The Division of Land Protection & Revitalization (DLPR) has completed its review of the December 2016 Supplement Environmental Assessment for the Communications Line Extensions located at Davison Army Airfield at Fort Belvoir in Fort Belvoir, Virginia 22060

Project Scope: construction of undergrounds communications ductbank

Solid and hazardous waste issues were addressed in the submittal. The submittal did not clearly indicate that a search of Federal or State environmental databases was conducted. DLPR staff conducted a search (1000 foot radius) of the project corridor of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity to the project corridor. DLPR search did identify thirteen waste sites which might impact the project area. Additionally, Fort Belvoir itself is a listed CERCLA site which was identified in the search for waste sites of possible concern located within the zip code of the project area, 22060. DLPR staff has reviewed the submittal and offers the following comments:

Hazardous Waste/RCRA Facilities* – *none in close proximity to project corridor.

CERCLA Sites* – *the project area itself

VA5210020082, Fort Belvoir, Belvoir Research & Development Center, Fort Belvoir, VA 22060. Not on NPL. Deferred to RCRA.

The above information related to hazardous wastes/RCRA/CERCLA sites can be accessed from EPA's websites at https://www3.epa.gov/enviro/, https://rcrainfopreprod.epa.gov/rcrainfoweb/action/main-menu/view and https://www.epa.gov/superfund

Formerly Used Defense Sites (FUDS) *– none in close proximity to project corridor*

Solid Waste *– none in close proximity to project corridor*

Virginia Remediation Program (VRP) *– none in close proximity to project corridor*

Petroleum Releases *- thirteen within the project corridor *denotes the same location*

1. *PC#20003092, Fort Belvoir – Building 03161, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 07/20/1999. Status: Closed.*

2. *PC#20023027, Fort Belvoir – Building 03165, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 07/06/2001. Status: Closed.*

3. *PC#20023026, Fort Belvoir – Building 03140, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 07/06/2001. Status: Closed.*

4. *PC#19922217, Fort Belvoir – Building 03161, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 06/26/1999. Status: Closed.*

5. *PC#20143083, Fort Belvoir – MP-1 site, POL Storage Area along Poe Road, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 08/06/2013. Status: Closed.*

6. *PC#20113204, Fort Belvoir – Tulley Gate 02 Facility, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 04/15/2011. Status: Closed.*

7. *PC#20083293, Fort Belvoir – Building 1400, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 06/11/2008. Status: Closed.*

8. *PC#20003026, Fort Belvoir – Building 01462, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 07/20/1999. Status: Closed.*

   **PC#19931508, Fort Belvoir – Building 01462, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 02/05/1993. Status: Closed.*

9. *PC#20103212, Fort Belvoir – Building 1943, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 02/04/2010. Status: Closed.*

10. *PC#20003067, Fort Belvoir – Building 01442, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 07/20/1999. Status: Closed.*

11. *PC#19993349, Fort Belvoir – Building 01460, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 05/07/1999. Status: Closed.*

12. *PC#200003312, Fort Belvoir – Building 01488, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 04/11/2000. Status: Closed.*

13. *PC#20003028, Fort Belvoir – Building 01487, Telegraph and Potomac River Roads, Fort Belvoir, VA 22060. Release Date: 07/20/1999. Status: Closed.*

Please note that the DEQ's Pollution Complaint (PC) cases identified should be further evaluated by the project engineer or manager to establish the exact location, nature and extent of the petroleum release and the potential to impact the proposed project. Also, the project engineer or manager should contact the DEQ's Northern Virginia Regional Office at (703) 583-3800 (Tanks Program) for further information about the PC cases.

PROJECT SPECIFIC COMMENTS

None

GENERAL COMMENTS

Soil, Sediment, Groundwater, and Waste Management

Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Katy Dacey at (804) 698-4274.

Molly Joseph Ward
Secretary of Natural Resources

Clyde E. Cristman
Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Rochelle Altholz
Deputy Director of Administration and Finance

David C. Dowling
Deputy Director of Soil and Water Conservation and Dam Safety

Thomas L. Smith
Deputy Director of Operations

MEMORANDUM

DATE: February 16, 2017

TO: John Fisher, DEQ

FROM: Roberta Rhur, Environmental Impact Review Coordinator

SUBJECT: DEQ 17-010F, Communications Line Extension, Davison Army Airfield

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Accotink Bay – Gunston Cove Stream Conservation Unit is located within the project site. Stream Conservation Units (SCUs) identify stream reaches that contain aquatic natural heritage resources, including 2 miles upstream and 1 mile downstream of documented occurrences, and all tributaries within this reach. SCUs are also given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain. The Accotink Bay – Gunston Cove SCU has been given a biodiversity ranking of B5, which represents a site of general significance. The natural heritage resources associated with this site are:

Lampsilis radiate	Eastern lampmussel	G5/S2S3/NL/NL
Glyptemys insculpta	Wood turtle	G3/S2/NL/LT

The Eastern lampmussel is a freshwater mussel which inhabits river systems in areas with substrates composed of silt, sand, cobble, gravel and exposed bedrock (NatureServe, 2009). This species has a wide range, from eastern Canada west to Ontario and Quebec and south to South Carolina (NatureServe, 2009). In Virginia, there are records from the Chowan and York River drainages.

Considered good indicators of the health of aquatic ecosystems, freshwater mussels are dependent on good water quality, good physical habitat conditions, and an environment that will support populations of host fish species (Williams et al., 1993). Because mussels are sedentary organisms, they are sensitive to water quality degradation related to increased sedimentation and pollution. They are also sensitive to habitat destruction through dam construction, channelization, and dredging, and the invasion of exotic mollusk species.

The Wood turtle ranges from southeastern Canada, south to the Great Lake states and New England. In Virginia, it is known from northern counties within the Potomac River drainage (NatureServe, 2009). The Wood turtle inhabits areas with clear streams with adjacent forested floodplains and nearby fields, wet meadows, and farmlands (Buhlmann et al., 2008; Mitchell, 1994). Since this species overwinters on the bottoms of creeks and streams, a primary habitat requirement is the presence of water (Mitchell, 1994).

Threats to the wood turtle include habitat fragmentation, urbanization, and automobile or farm machinery mortality (Buhlmann et al., 2008). Please note that the Wood turtle is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

In addition, the Accotink Wetlands Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Accotink Wetlands Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resources of concern at this site are:

Lathyrus palustris	Marsh pea	G5/S1/NL/NL
Bolboschoenus fluviatilis	River bulrush	G5/S2/NL/NL
Ranunculus ambigens	Water-plantain crowfoot	G4/S1/NL/NL
Tidal Freshwater Marsh	(Mixed High Marsh Type)	G3/S4?/NL/NL

Marsh pea is a state rare perennial with erect to sprawling stems and leaves with well-developed, branched tendrils and 4 – 10 leaflets. It occupies calcareous fens and marshes in the western part of Virginia and freshwater tidal marshes in the eastern part of the state. It is known from only a few sites in the northern Coastal Plain and Ridge and Valley (Weakley, et al).

River bulrush, a state-rare plant species, inhabits fresh tidal marshes of the coastal plain of Virginia. This species forms predominantly sterile colonies that spread by rhizomes. Water pollution and sedimentation, sea level rise, and invasive species such as *Phragmites* australis pose the greatest threats to populations of this sedge. Nine populations of river bulrush are believed to be extant in Virginia.

Water-plantain crowfoot is a perennial wetland herb in the buttercup family (Ranunculaceae). The global distribution of water-plantain spearwort includes the eastern, midwestern, and southern U.S. and Ontario, Canada. Although apparently globally secure, water-plantain spearwort, also known as water-plantain crowfoot, is regionally rare to historical or extirpated, particularly in some eastern states (Kartesz 1999). In Virginia, it has been documented in scattered locations in the Coastal Plain, Piedmont, and Ridge and Valley. Many Virginia occurrences are historical, but more recent occurrences include those in Fairfax, Charlotte, and Lee counties. The lower stem of this relatively stout herb may recline, producing roots from the nodes, then become ascending to erect and extending sometimes to over 3 feet long. Leaves are lance-shaped, with margins smooth to finely-toothed. Yellow-petaled flowers bloom from April-July and can be solitary or in a branching inflorescence; the round to oval fruiting head is composed of numerous, small, 1-seeded, fruits (Godfrey and Wooten 1981). Habitat in Virginia occurrences includes a variety of wetlands: freshwater marshes, both tidal and non-tidal; a spring seep within a clearcut; wet soil within a floodplain; a muddy stream bottom; ditches; and very wet, mucky ground in a small pastured wetland. Threats include habitat degradation or destruction, and competition from invasive alien plant species.

Tidal Freshwater Marsh (Mixed High Marsh Type) (*Impatiens capensis-Peltandra virginica-Polygonum arifolium-Schoenoplectus fluviatilis-Typha angustifolia* Tidal Herbaceous Vegetation) occupies the higher

Fisher, John (DEQ)

From: Ewing, Amy (DGIF)
Sent: Wednesday, March 08, 2017 11:43 AM
To: Fisher, John (DEQ)
Cc: Greenlee, Bob (DGIF)
Subject: ESSLog# 37717_17-101F_FtBelvoirCommsLine_DGIF_AME20170308

John,
Based on the scope and location of the proposed work, including a directional bore under Accotink Creek, we do not anticipate it to result in adverse impacts upon listed species or designated resources under our jurisdiction. If instream work in Accotink Creek and/or its tributaries becomes within project scope, we recommend that such work adhere to a time of year restriction protective of anadromous fishes from February 15 through June 30 of any year. In addition, We recommend conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams or turbidity curtains to isolate the construction area, blocking no more than 50% of the streamflow at any given time, stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, we recommend that such activities occur only in the dry, allowing all concrete to harden and cure prior to contact with open water.

To minimize the adverse impacts of linear utility project development on wildlife resources, we offer the following general recommendations: avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable; maintain naturally vegetated buffers of at least 100 feet in width around wetlands and on both sides of perennial and intermittent streams, where practicable; conduct significant tree removal and ground clearing activities outside of the primary songbird nesting season of March 15 through August 15; and, implement and maintain appropriate erosion and sediment controls throughout project construction and site restoration. We understand that adherence to these general recommendations may be infeasible in some situations. We are happy to work with the applicant to develop project-specific measures as necessary to minimize project impacts upon the Commonwealth's wildlife resources.

Assuming adherence to erosion and sediment controls, we find this project consistent with the fisheries enforceable policies of the CZMA.

Thanks, Amy

Amy M. Ewing

Environmental Services Biologist/FWIS Program Manager
Chair, Team WILD (Work, Innovate, Lead and Develop)
VA Department of Game and Inland Fisheries
7870 Villa Park Dr., Suite 400, PO Box 90778, Henrico, VA 23228
804-367-2211 www.dgif.virginia.gov

"That land is a community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics" **Aldo Leopold, 1948**

elevation zone of freshwater to slightly oligohaline marshes on the Atlantic Coast from Maine to Virginia. From Delaware to northern Virginia, this is the principal mixed freshwater tidal marsh community and forms extensive patches along many tidal rivers. This community is composed of mixed, dense, and often diverse marsh vegetation with highly variable species composition and patch dominance. The soils are highly variable, varying from silts and silty mucks to peats and sands across the range (NatureServe, 2010). In Virginia, this community occurs most extensively in estuarine reaches of the Potomac River drainage, but has also been documented along the Rappahanock, Pamunkey, Mattoponi, and James Rivers.

Freshwater tidal marshes are naturally dynamic systems that are best developed where there is a major input of freshwater, daily tidal range of at least 0.5 m, and a geomorphology that tends to constrict and magnify tidal influence in the upper reaches of the estuary. These marshes are subject to diurnal flooding by tides and river discharge (NatureServe, 2010). Principal threats include chronic sea-level rise leading to increasing upstream salinity, pollutants, and invasive exotic plants such as marsh dewflower (*Murdannia keissak*) (Fleming et al. 2011).

To minimize adverse impacts to the aquatic ecosystems as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. Due to the legal status of the Wood turtle, DCR also recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit project information and map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Ernie Aschenbach at 804-367-2733 or Ernie.Aschenbach@dgif.virginia.gov. According to the information currently in our files, Dogue Creek and the unnamed tributary of Dogue Creek, which have been designated by the VDGIF as "Threatened and Endangered Species Waters" for the Wood turtle, are within 2 miles of the project area. Therefore, DCR recommends coordination with the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Cc: Amy Ewing, VDGIF

COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
4975 Alliance Drive
Fairfax, VA 22030

CHARLES A. KILPATRICK, P.E.
COMMISSIONER

February 17, 2017

MEMORANDUM

To: John Fisher; Department of Environmental Quality

From: Regina Moore; VDOT NoVA, Transportation Planning Section

Subj: Department of the Army: Communications Line Extension, Davison Army Airfield, Fort Belvoir

The purpose of this memorandum is to provide comments on the Supplemental Environmental Assessment (SEA) for the above-mentioned plan update.

The subject project consists of potential impacts to the physical, biological and human environments associated with the extension of a new underground communications line from the main garrison area of Fort Belvoir to Davison Army Airfield (DAAF). The proposed ductbank is required to provide enhanced voice and data telecommunications connectivity to DAAF from the existing communications network within Fort Belvoir. After evaluating communications network needs at DAAF, Fort Belvoir network personnel identified a single viable alternative, extending the ductbank along the Poe Road corridor (Proposed Action). This Poe Road Alternative was selected based upon the location and availability of existing network infrastructure connection hubs at either end of the alignment and required communication system diversity needs. The No-Action Alternative was evaluated to provide a baseline for evaluating impacts of the Proposed Action.

The VDOT, Northern Virginia District Office staff has reviewed the SEA for the subject project and offer the following comments:

1. The U.S Army will be responsible for ensuring compliance with all applicable federal/state environmental laws and regulatory clearances required for constructing the Proposed Action within any permanent easements (transportation, drainage, maintenance, etc.) granted to VDOT.

2. The SEA does not reference the White House Council on Environmental Quality (CEQ) guidance on the consideration of greenhouse gas (GHG) emissions and the effects of climate change in NEPA reviews effective August 5, 2016, which is applicable to all environmental assessments (EAs) and environmental impact statements (EISs).

3. The SEA does not reference the U.S. Fish and Wildlife Service (FWS) proposed listing of the rusty patched bumble bee (RPBB) as an endangered species under the Endangered Species Act

on September 22, 2016 and the recommended voluntary conservation measures for RPBB by FWS.

4. Appropriate VDOT permits will be required for any work done within the VDOT controlled ROW.

5. Page 1, Section 1.1… It states "No additional land acquisitions or off-site improvements are required for the Proposed Action other than potential acquisition of additional utility corridor easements required to install the communications lines across the U.S. Route 1 right of way". Besides the need for permit coordination, the proposed alignment (horizontal and vertical) of the conduits and the location of the access vaults/manholes (discussed on Page 2) should be located so as not to interfere with future widening of U.S. Route 1 in the area. That is, any future location where roadway widening, curb and gutter, sidewalks/ramps, guardrail, signalization poles/conduits/control boxes, etc. may be located (highlighted in yellow below from Page 7). The most optimum would be to realign this crossing either east or west (clear of) the U.S. Route 1 intersection area.

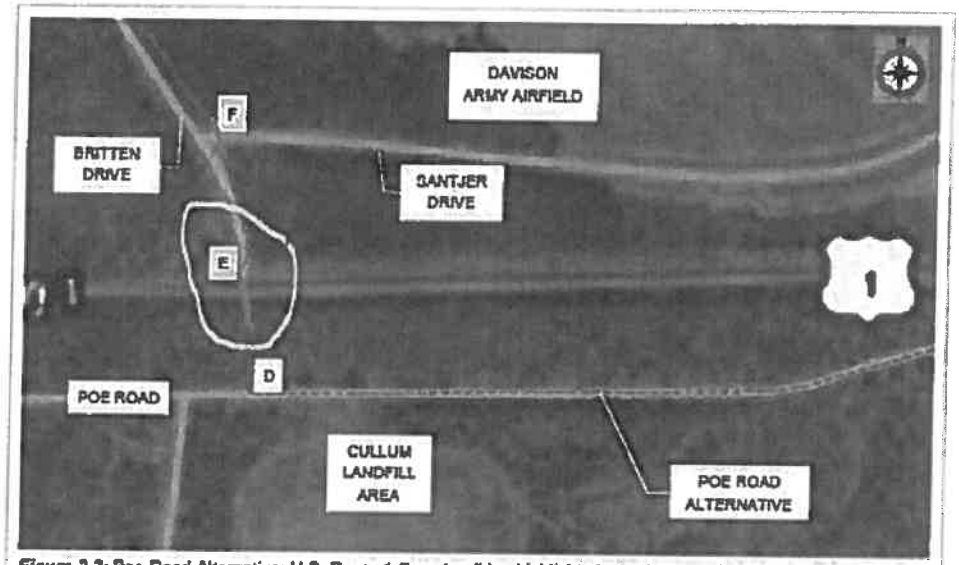


Figure 2-3: Poe Road Alternative: U.S. Route 1 Crossing (blue highlighted area is approximate location of existing casing at Point E and proposed 60 foot bore at Point F). (Base image: 2016 USDA Soil Conservation Service Aerial Imagery)

However, the U.S. Army should take into consideration the potential widening of U.S. Route 1 from Mt. Vernon Highway to Napper Road, which includes a 58 ft. wide median for Bus Rapid Transit (BRT). As long as this is kept in mind when locating the new communications line, VDOT does not foresee any problems in terms of conflicts with U.S. Route 1 arising. From the graphic above, it looks like the vertical alignment of the line is the only thing that might have to be tweaked to ensure that future conflicts don't materialize.

6. The ongoing widening of Route 1 from 4 to 6 lanes in the location indicated is substantially complete (final completion scheduled for June 2017). A 32 ft. median is being constructed with this project to provide for future transit, which, per Fairfax County's current *EMBARK Richmond Highway* program is going to be BRT. The U.S. Army communications line designers should review and take into consideration the utility relocation plans developed with the ongoing widening project to check for potential conflicts, if they haven't already done

Literature Cited

Buhlmann, K, T. Tuberville, and W. Gibbons. 2008. Turtles of the southeast. University of Georgia Press. Athens, GA. 252 pp.

Fleming, G.P., K.D. Patterson, K. Taverna, and P.P. Coulling. 2011. The natural communities of Virginia: classification of ecological community groups. Second approximation. Version 2.4. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA

Godfrey, R.K. and J.W. Wooten. 1981. Aquatic and Wetland Plants of the Southeastern United States. The University of Georgia Press, Athens, GA. 933 pp.

Kartesz, J.T. 1999. A Synonymized Checklist and Atlas with Biological Attributes for the Vascular Flora of the United States, Canada, and Greenland. First Edition. In: Kartesz, J.T. and C.A. Meacham. Synthesis of the North American Flora, Version 1.0. North Carolina Botanical Garden, Chapel Hill, NC.

Ludwig, J. Christopher. 1996. Personal communication. Virginia Department of Conservation and Recreation, Division of Natural Heritage.

Mitchell, J. C. 1994. Reptiles of Virginia. Smithsonian Institution Press, Washington. pp. 88-91.

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: April 8 and 27, 2010).

NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: December 13, 2011).

Weakley, A.S., J.C. Ludwig and J.F. Townsend. 2012. *Flora of Virginia.* Botanical Research Institute of Texas Press, Fort Worth. p. 322.

Williams, J.D., M.L. Warren, Jr., K.S. Cummings, J.L. Harris, and R.J. Neves. 1993.
Conservation status of freshwater mussels of the United States and Canada. Fisheries 18: 6-9.

this. These can be obtained from Tom Shifflett, FHWA-Eastern Federal Lands Highway Division (EFLHD) at Thomas.Shifflett@dot.gov, 703-404-6323.

Cc: Mr. Robert Caparas, VDOT
Mr. Brian Costello, VDOT
Mr. Jim Cromwell, VDOT
Ms. Elizabeth Jordan, VDOT
Mr. Paul Kraucunas, VDOT
Mr. John Muse, VDOT
Mr. Imad Salous, VDOT
Mr. Norman Whitaker, VDOT
Mr. Terry Yates, VDOT

Fisher, John (DEQ)

From: Holma, Marc (DHR)
Sent: Tuesday, January 24, 2017 8:15 AM
To: Fisher, John (DEQ)
Subject: Communications Line Extension, Davison Army Airfield, Fort Belvoir (DHR #2016-0606; DEQ #17-010F)

John,

The Army has previously coordinated the above project with DHR pursuant to Section 106 of the National Historic Preservation Act, as amended, and its implementing regulation 36 CFR Part 800. In July 2016 we concurred with the Army that the proposed undertaking will have No Adverse Effect on historic properties.

Sincerely,
Marc Holma

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

February 16, 2017

Mr. John Fisher
Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, VA 23219

RE: Project DEQ #17-010F

Dear Mr. Fisher:

In collaboration with the Department of Public Works and Environmental Services (DPWES), the Fairfax County Department of Transportation and the Fairfax County Park Authority, the Department of Planning and Zoning has reviewed the Supplemental Environmental Assessment, the Coastal Zone Management Act Consistency Determination and the draft Finding of No Significant Impact for the proposed Davison Army Airfield Communications Line Extension project. While one sentence in the Supplemental Environmental Assessment needs clarification, county staff has no objections or concerns in regard to this proposal as long as all applicable construction requirements (e.g., erosion and sedimentation controls) and restoration actions are pursued as outlined in the documentation.

Fort Belvoir is proposing to extend a new underground communications line from the main garrison area of the post to Davison Army Airfield. The communications line would be provided within an underground ductbank that would extend largely along existing roads (Poe Road and Britten Road) and utility rights-of-way between Gunston Road and the airfield. The documentation provided in support of this proposal establishes that there would be only minor, and temporary, resource impacts associated with the construction activity and that all disturbed areas would be restored to match preconstruction conditions upon completion of the ductbank installation.

The communications line would need to cross Accotink Creek; it is noteworthy that Fort Belvoir is proposing to construct the ductbank under the stream through a trenchless, directional drilling approach. Through this approach, the ductbank would be provided under the stream without necessitating any disturbance to the stream itself. Trenchless techniques would also be pursued for the crossing of the Fort Belvoir Military Railroad Corridor and significant road crossings. A previously-installed casing pipe would be used for the proposed crossing of Richmond Highway.

One clarification that is needed concerns the following statement on page 22 of the Supplemental Environmental Assessment: "All existing drainage channels will remain unaltered by the project

Department of Planning and Zoning
Director's Office
12055 Government Center Parkway, Suite 755
Fairfax, Virginia 22035-5509
Phone 703-324-1380
Fax 703-653-9447
www.fairfaxcounty.gov/dpz/

DEPARTMENT OF PLANNING & ZONING

and will be restored to pre-construction conditions as part of the ductbank installation." If there would be no alteration of drainage channels (which would appear to be the anticipated outcome of the Army's sensitive siting of the proposed ductbank), why would there be any need for restoration of the channels?

Again, aside from this request for clarification, we have no concerns with this proposal and concur with the Finding of No Significant Impact. If you have questions about our review, please contact Noel Kaplan at Noel.Kaplan@fairfaxcounty.gov or at 703-324-1369.

Sincerely,

Fred R. Selden, Director
Department of Planning and Zoning

FRS: NHK

Attachments: As Stated

cc: Board of Supervisors
James W. Patteson, Director, DPWES
Kirk Kincannon, Director, FCPA
Shannon Curtis, Chief, Watershed Planning & Assessment Branch, Stormwater Planning Division
Andrea Dorlester, Manager, Park Planning Branch, FCPA
John M. Stokely, Manager, Natural Resources Branch, FCPA
Danielle A. Wynne, Ecologist, Stormwater Planning Division, DPWES
LeAnne Astin, Ecologist, Stormwater Planning Division, DPWES
Samantha Wangsgard, Ecologist III, Natural Resources Branch, FCPA
Noel H. Kaplan, Senior Environmental Planner, Environment and Development Review Branch, DPZ

-----Original Message-----
From: Delgrosso, Karen [mailto:Delgrosso.Karen@epa.gov]
Sent: Wednesday, February 22, 2017 3:21 PM
To: USARMY Ft Belvoir IMCOM Atlantic Mailbox ENRD <usarmy.belvoir.imcom-atlantic.mbx.enrd@mail.mil>
Cc: Rudnick, Barbara <Rudnick.Barbara@epa.gov>
Subject: [Non-DoD Source] Supplemental EA Communications Line Extension DAA Fort Belvoir, VA

To Whom It May Concern,

EPA Region III reviewed the subject EA and has no comments on the Proposed Action.

Thank you for the opportunity to review this project and for your continued coordination of NEPA projects.

Karen

_____

Karen DelGrosso (3EA30)

U.S. EPA Region III

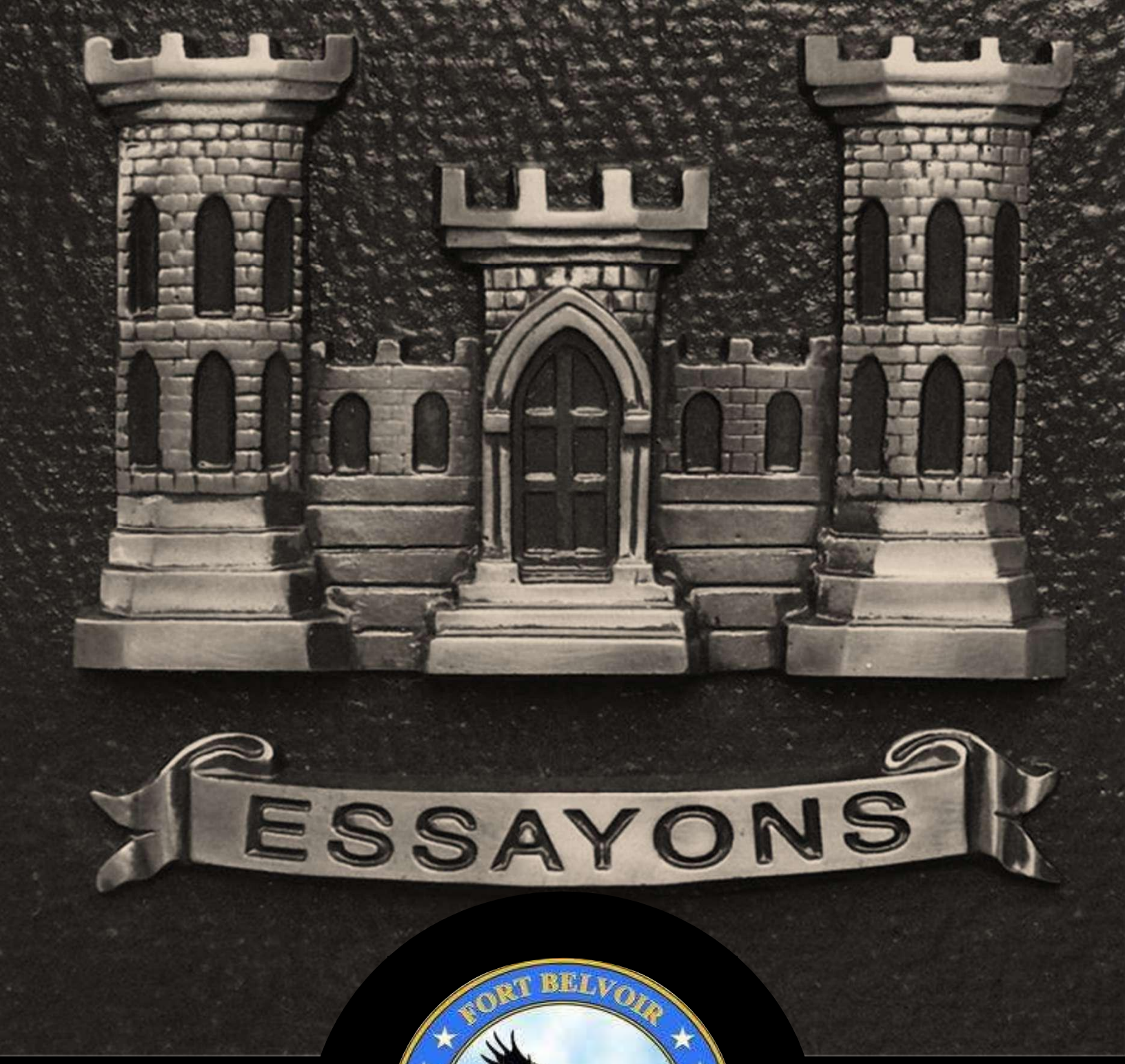
1650 Arch Street

Philadelphia, PA 19103

215-814-2765

delgrosso.karen@epa.gov

THIS PAGE INTENTIONALLY BLANK



FORT BELVOIR

LEADERS IN EXCELLENCE

U.S. ARMY GARRISON FORT BELVOIR