Application, Appendix, DEQ Supplement, Direct Testimony and Exhibits of Virginia Electric and Power Company

Before the State Corporation Commission of Virginia

Line #2183 230kV Evergreen Mills Loop

Application No. 345

Case No. PUR-2024-00225

Filed: December 17, 2024

Volume 2 of 2

BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA

APPLICATION OF
VIRGINIA ELECTRIC AND POWER COMPANY
FOR APPROVAL OF ELECTRIC FACILITIES

Line #2183 230 kV Evergreen Mills Loop

Application No. 345

DEQ Supplement

Case No. PUR-2024-00225

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Based upon consultations with the Virginia Department of Environmental Quality ("DEQ"), Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") has developed this DEQ Supplement to facilitate review and analysis of the proposed Project by DEQ and other relevant agencies.

1. Project Description

In order to maintain reliable service for the overall growth in the area and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes, in Loudoun County, Virginia, to:

i. Construct a new approximately 0.6-mile 230 kV Line #2183 Loop by cutting the 230 kV Brambleton-Poland Road Line #2183 at Evergreen Mills Junction and looping in and out of the Evergreen Mills Switching Station, resulting in: (i) 230 kV Brambleton - Evergreen Mills Line #2210 and (ii) 230 kV Evergreen Mills - Poland Road Line #2183; and

ii. Install two additional strings of breakers (totaling four) in a breaker-and-a-half scheme at Evergreen Mills Switching Station to allow for two additional 230 kV terminations of 230 kV Brambleton - Evergreen Mills Line #2210 and 230kV Evergreen Mills - Poland Road Line #2183. The third and fourth string will consist of two 230 kV breakers with make ready work for a third breaker on each string to be added in the future to allow for the customer's third and fourth 230 kV delivery.

The Line #2183 Loop and breaker installation are collectively referred to as "the Project."

The Company proposed to construct the Project in two parts in Case No. PUR-2019-00191 ("Evergreen Mills Part A"). During Part A, the Company constructed the Evergreen Mills Switching Station and the Line #2172 Loop. During Part B, the Company proposes to construct the Line #2183 Loop and to install the remaining breakers at the Evergreen Mills Switching Station.

The Project is needed to maintain reliable service for the overall load growth in the Project area, and to comply with mandatory NERC Reliability Standards. The Northern Virginia data center market is spread across Loudoun, Fairfax, and Prince William Counties. Loudoun County's "Data Center Alley," which is generally bounded by Gloucester Parkway to the north, Dulles Greenway to the south, Ashburn Village Parkway to the west, and Sully Road (Route 28) to the east, boasts the world's largest concentration of data centers. The combination of competitive colocation / cloud environment, fiber connectivity, strategic geographic location, low risk of business disruptions, affordable and reliable power, and the business climate in Virginia has created the largest market for data center capacity in the United States.

For the Line #2183 Loop, the existing right-of-way ("ROW") to be used is 160 feet in width and will parallel Line # 2172 and Line #2209 to the Evergreen Mills Substation. The Proposed Route will extend for approximately 70 feet over an existing 50-foot-wide sanitary sewer easement located adjacent to Evergreen Mills Road. Due to the opposing angles of the County sewer easement and the Proposed Route alignments, the estimated length of the sanitary easement that would be crossed

by ROW associated with the Proposed Route is 220 feet.

The Company is proposing one proposed route for Commission consideration and notice. Discussion of this proposed route and the route selection process is provided in Section II of the Appendix.

2. Environmental Analysis

The Company has conducted an environmental analysis on the proposed Project. Please see the following subsections of this DEQ Supplement for pertinent details about the proposed Project.

A. Air Quality

For the Project, the Company will control fugitive dust during construction in accordance with DEQ regulations. During construction, if the weather is dry for an extended period of time, there will be airborne particles from the use of vehicles and equipment within the right-of-way. However, minimal earth disturbance will take place, and vehicle speed, which is often a factor in airborne particulate, will be kept to a minimum. Erosion and sediment controls are addressed in Section 2.H, below. Equipment and vehicles that are powered by gasoline or diesel motors will also be used during the construction of the line so there will be exhaust from those motors. Exhaust from those motors will result in minimal air pollution.

As the proposed alignment is within existing, established ROW, no new tree clearing is anticipated to be necessary. Only trimming of limbs to support construction activities is expected. The Company does not expect to burn cleared material; debris that is adjacent to homes will be disposed of by chipping or removal. In other areas, debris may be mulched or chipped as practicable. On the rare occasion that burning is necessary, the Company will coordinate with the applicable locality to ensure all local ordinances are met. The Company's tree-clearing methods are described in Section 2.L.

B. Water Source

No water source is required for transmission lines so this discussion will focus on potential waterbodies to be crossed by the Project.

On behalf of the Company, Dewberry Engineers, Inc. ("Dewberry") identified mapped waterbodies in the vicinity of the route using data obtained from the delineation performed for the Evergreen Mills Part A project.

The Project is located within the Middle Potomac-Catoctin Hydrologic Unit Code (HUC) 02070008. According to the U.S. Geological Survey ("USGS") topographic quadrangle for Arcola, VA (2022), the new transmission line will not cross over any named streams or waterbodies.

The proposed structure heights were selected to span waterbodies identified along the Proposed Route. Avoidance of impacts to waterbodies would be incorporated where practicable. Tree clearing is not anticipated to be required within riparian areas at these crossing locations as the right-of-way was previously cleared. The potential for the Proposed Project to effect surface waters along the proposed route is addressed further below.

Waterways crossed by the Proposed Route would be maintained for proper drainage through the use of culverts or other crossing devices according to Dominion Energy Virginia's standard policies. If additional clearing of trees and/or woody shrubs is required, clearing within 100 feet of a stream would be conducted by hand. Vegetation would be removed at or slightly above ground level, and there would be no grubbing of stumps. To protect waterways from soil erosion and sedimentation during construction, the Company would use sediment barriers along waterways and steep slopes. If a section of line cannot be accessed from existing roads, Dominion Energy Virginia may need to install a temporary culvert, or temporary bridge to cross small streams. In such case, there may be some temporary fill material required that would be placed on erosion control fabric and removed when work is completed, returning the surface to original contours.

According to the U.S. Army Corps of Engineers ("USACE") documentation, no waters considered navigable under Section 10 of the Rivers and Harbors Act would be crossed by the Proposed Route.

The Proposed Route would have two waterbody crossings. Both are intermittent tributaries to Broad Run. Crossing widths are expected to be minimal (approximately 5-10 feet) and are generally not visible on aerial photography. The man-made stormwater basin spanned by the alignment is not considered a Water of the U.S. regulated waterbody for this study.

The Company anticipates coordination with the Virginia Marine Resources Commission ("VMRC") but does not believe a permit will be necessary for the Project. If necessary, a Joint Permit Application will be submitted for review by the VMRC, DEQ, and the U.S. Army Corps of Engineers (the "Corps") to authorize jurisdictional crossings and for any impacts to jurisdictional features.

Waterbodies in the vicinity of the Route are shown on the Wetland and Waterbody Map for the Project and delineation report and documents from the Evergreen Mills Part A project, which are included as Attachment 2.D.1.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Project.

D. Tidal and Non-tidal Wetlands

No tidal wetlands were identified within the Project area. Non-Tidal wetlands are present and have been identified within the Project area during a delineation of the site performed in May of 2020. The results of the wetland delineation and Preliminary Jurisdictional Determination acquired for the Evergreen Mills Part A project have been included as Attachment 2.D.1.

Impacts of the proposed Project on natural resources, including streams, wetlands, and riparian areas would be limited to the existing transmission corridor that has been cleared. The resources that have been identified within the study area is summarized in the following table:

Table D-1

Delineated Wetland and Water Body Crossings within the Proposed Right-of-way

Wetland/ Waterbody Type	Cowardin Code	Linear Feet	Square Feet	Acres
Palustrine Scrub-Shrub Wetland*	PSS	N/A	748	.017
Palustrine Emergent Wetland*	PEM	N/A	18,484	.424
Open Waters	PUB	N/A	61,407	1.410
Perennial Stream	R3	1,300	13,587	0.312
Intermittent Stream	R4	45	186	0.004

*The total area estimated as PSS wetlands includes three features that were delineated as Palustrine Forested (PFO) wetlands but were proposed to have been converted to, and maintained as, PSS wetlands during the construction of the Evergreen Mills Part A project.

The Proposed Route is anticipated to cross six wetland areas, three stream channels and include one waterbody crossing.

All wetlands will require protective matting to be installed to support construction vehicles, equipment, and materials during construction. Most wetlands are anticipated to be spanned with impacts limited to temporary impacts associated with construction. Permanent impacts include any necessary structure placement within wetlands.

Prior to construction, the Company will delineate wetlands and other waters of the United States along the Proposed route using the *Routine Determination Method*, as outlined in the *1987 Corps of Engineers Wetland Delineation Manual*, and methods as described in the *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0). The

Company will obtain all necessary permits for activities that will impact jurisdictional resources.

E. Floodplains

As depicted on the Federal Emergency Management Agency's ("FEMA") online Flood Insurance Rate Maps #51107C0360E (effective date 2/17/2017), the Project area lies within an Area of Minimal Flood Hazard (Zone X), though portions of the alignment cross areas of 1% annual chance of flood with average depth of less than one foot or with drainage area of less than one square mile. The Company will coordinate with the local floodplain coordinators as required.

F. Solid and Hazardous Waste

On behalf of the Company, Dewberry identified environmentally regulated sites that use and/or store hazardous materials or waste-producing facilities operating under regulatory permits in the study area using publicly available GIS databases obtained from the U.S. Environmental Protection Agency ("EPA") and the DEQ. These databases provide information about facilities, sites, or places subject to environmental regulation or of environmental interest, including Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA" or "Superfund") sites; Resource Conservation and Recovery Act ("RCRA") sites; Brownfield sites; petroleum storage and petroleum release sites; Pollution Response Programs ("PReP" sites); and solid waste sites. The identification of a site in the databases does not mean that the site necessarily has contaminated soil or groundwater.

Sites regulated by the EPA under the Clean Air Act ("CAA") Compliance Monitoring Program, Toxic Release Inventory ("TRI"), National Pollutant Discharge Elimination System ("NPDES"), and RCRA, and sites regulated by the DEQ under the Air, Solid Waste, Virginia Pollutant Discharge Elimination System ("VPDES"), Voluntary Response Program ("VRP"), and Registered Petroleum Tank Facilities programs that were not associated with a petroleum leak, site assessment, remediation, corrective action or emergency response case are anticipated to have no effect on, and will not be affected by the Project. These sites are not discussed further.

Sites regulated by the EPA as Superfund, Brownfield, and RCRA Corrective Action or Emergency Response sites within 1.0 mile of the Project, and sites regulated by the DEQ, including Petroleum Release, VRP, and PREP sites that are located within 0.5 miles, 1,000 feet, and 200 feet of the Project, were evaluated for potential impacts, as summarized in Tables F-1, F-2, and F-3. The locations of the sites are depicted in Attachment 2.F.1.

TABLE F-1

Line #2183 230 kV Evergreen Mills Loop Project

Environmental Regulated Facilities and Hazardous Waste / Petroleum Release Sites within 0.5 mile of the Evergreen Mills

Database	Evergreen Mills Part B Alignment
Waste	2
Toxics	0
Land	2
Air	3
Water	87
Solid Waste Facilities	0
Petroleum Facilities	0
Petroleum Releases	3
Total [a]	**97**

a Note that a single facility may be associated with multiple environmental permits; as such, the total number reflects the number of permits and releases within the specified distance from the Project.

Notes

Waste (Active and Inactive RCRA Facilities that handle or generate hazardous wastes)
Toxics (TRI Regulated facilities that handle and release toxic substances to the environment)
Land (Site cleanup under Superfund, RCRA, or Brownfield programs, and/or DEQ VRP or PREP sites)
Air (EPA and DEQ regulated facilities with a release of pollutants to the air)
Water (EPA and DEQ regulated facilities that discharge or process water to surface water)
Solid Waste Facilities (Former and existing landfills)
Petroleum Facilities (Regulated petroleum storage facilities)
Petroleum Releases (Typically associated with storage tank releases)

To evaluate potential impact to the route, Dewberry further assessed sites within 1,000 feet of the Proposed Route (Table F-2).

TABLE F-2

Evergreen Mills Part B Project

Environmental Regulated Facilities and Hazardous Waste / Petroleum Release Sites within 1000 feet of the Evergreen Mills Part B Alignment

Database	Evergreen Mills Part B Alignment
Waste	1
Toxics	0
Land	1
Air	2
Water	33
Solid Waste Facilities	0
Petroleum Facilities	0
Petroleum Releases	1
Total [a]	**38**

a Note that a single facility may be associated with multiple environmental permits; as such, the total number reflects the number of permits and releases within the specified distance from the Project.

Notes

Waste (Active and Inactive RCRA Facilities that handle or generate hazardous wastes)
Toxics (TRI Regulated facilities that handle and release toxic substances to the environment)
Land (Site cleanup under Superfund, RCRA, or Brownfield programs, and/or DEQ VRP or PREP sites)
Air (EPA and DEQ regulated facilities with a release of pollutants to the air)
Water (EPA and DEQ regulated facilities that discharge or process water to surface water)
Solid Waste Facilities (Former and existing landfills)
Petroleum Facilities (Regulated petroleum storage facilities)
Petroleum Releases (Typically associated with storage tank releases)

Dewberry conducted a desktop review of regulated facilities and remediation sites as summarized in Tables F-1 and F-2. Sites regulated by DEQ under the Air, Solid Waste, VPDES, and Registered Petroleum Tank Facilities programs that were not associated with a petroleum leak, site assessment, remediation, corrective action, or emergency response case are anticipated to have no effect on and will not be affected by the Project.

Sites regulated by the EPA under the CAA Compliance Monitoring Program, RCRA, Superfund, Brownfield, TRI, and NPDES within 1.0 mile of the Project were evaluated for potential impacts. Sites regulated by the DEQ as Petroleum Release, VRP, and PREP sites within 200 feet of the Project were also evaluated for potential impacts. Additional information on these sites is summarized below.

EPA Regulated Sites

Based on the desktop review of the most recent available data in the EPA's "EnviroAtlas Interactive Map" database, no Brownfield or Superfund sites are located within 0.5 mile of the Proposed Route. The Proposed Route is located within 0.5 mile of two active RCRA facilities. One of the active RCRA facilities is located within 1000 feet of the Proposed Route.

DEQ Regulated Sites

Dewberry reviewed DEQ Petroleum Release, VRP, and PREP databases to identify sites within 1,000 feet of the Proposed Route. There is one petroleum release sites and one PReP sites located within 1,000 feet of the Proposed Route. Based on available DEQ case files, the petroleum release case is not located within 200 feet of the Proposed Route, but the PReP case is located within the existing ROW to be utilized for this Project.

EPA and DEQ Regulated Sites Within 200 Feet of the Proposed Route

Of the regulated facilities and hazardous waste / petroleum release sites identified within 1,000 feet of the Project, three are located within 200 feet as shown in Table F-3. Two identified sites are regulated Integrated Compliance Information System ("ICIS") - Air facilities. As these facilities do not have the potential to contaminate or impact the Project area, no further details were acquired for these sites. The third site is a PReP site associated with sediment-laden discharges that appears to be associated with the construction of the Evergreen Mills Part A project. This site does not involve hazardous materials and will not impact the proposed project.

TABLE F-3
Evergreen Mills Part B Project

Environmental Regulated Facilities and Hazardous Waste / Petroleum Release Sites within 200 feet of the Evergreen Mills Part B Alignment

Site Name	Site Type	Regulatory Authority	Distance from Route (feet)	Gradient from Project (up/down/side)	Agency Status
Wheeler Data Center	ICIS Air	EPA	180 ft.	N/A	Operating
Amazon Data Services Inc.	ICIS Air	EPA	120 ft.	N/A	Operating
Sediment-Laden Water Discharge	DEQ PReP Site	DEQ	Within ROW	N/A	Closed

Notes
ICIS pertains to Integrated Compliance Information System-Air facilities which represent stationary sources of air

pollution.

Summary

The Petroleum Release case within close proximity to the Project has been closed by the DEQ, which deems a case closed once there is no further risk to the general public, although petroleum residue might remain. The PReP site identified within the ROW, which is associated with a release of sediment-laden waters similarly has been closed by the DEQ. The only sites within close proximity to the Project with open permits, the Wheeler Data Center and Amazon Data Services Inc. facilities, have open CAA permits related to the operation of diesel engine generators.

Although the Project is constructing overhead lines, some subsurface work is required during installation. This disturbance will occur at discrete locations along the route, with temporary spoils contained as they are generated. The Company has a procedure in place to safely identify, manage, and dispose of any suspected hazardous or contaminated media encountered during construction. If contaminated soil or groundwater are identified (e.g., via sheens or odors), the Company will coordinate with the appropriate regulatory agency and dispose of the contaminants in accordance with applicable regulations.

Care will be taken to operate and maintain construction equipment to prevent any fuel or oil spills. Any waste created by the construction crews will be disposed of in a proper manner and recycled where appropriate and will be further detailed in the Company's stormwater pollution prevention plan, a component of the Virginia Stormwater Management Program, which falls under the purview of the DEQ.

G. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, Dewberry conducted online database searches for threatened and endangered species in the vicinity of the Project, including the U.S. Fish and Wildlife Service ("USFWS") Information, Planning, and Conservation system, the Virginia Department of Wildlife Resources ("DWR") Virginia Fish and Wildlife Information Service ("VAFWIS"), Virginia Department of Conservation and Recreation ("DCR"), Natural Heritage Data Explorer ("NHDE"), and the Center for Conservation Biology ("CCB") Bald Eagle Nest Locator. The results are summarized below, and reference maps are included in Attachment 2.G.1.

Database queries of the above referenced sources identified multiple federal- and state-listed threatened and endangered species that have the potential to be present within and adjacent to the study area (Table G-1). The Tricolored bat ("TCB") (*Perimyotis subflavus*), and the Green Floater (*Lasmigona subviridis*), which are both state-listed and proposed to be federally listed, have the potential to occur

within the study area, as do the following two additional state-listed species: Wood turtle (*Glyptemys insculpta*), and Henslow's sparrow (*Ammodramus henslowii*). The federal listing of the TCB and Green Floater have been proposed, but they have not been officially listed. The Monarch butterfly (*Danaus plexippus*) was also identified in the query as a candidate species, but is anticipated to be listed as threatened upon an upcoming issuance of a final rule by the USFWS. According to the VaFWIS query, the state-listed TCB has been confirmed as present within a 2.0-mile radius of the study area boundary. The listed species, are not anticipated to be impacted by construction and operation of the Project. As the project will be constructed within an established right-of-way, no habitat loss for any of the species identified above is anticipated.

T&E Waters classify streams and rivers that contain documented occurrences of federal- or state-listed species and their habitat. These designated waterbodies are not given additional protection; however, DWR recommends coordination with their environmental staff before work is performed instream or in the uplands adjacent to (within 900 feet of) the designated water. There are no designated T&E Waters identified within or adjacent to the project area.

Natural heritage and threatened and endangered species impacts from the Evergreen Mills Part B Project are not anticipated, as DCR did not identify any natural heritage resources within or adjacent to the project area (see Attachment 2.G.1), the Project area is entirely within existing right-of-way and no route alternatives for this segment are being considered. Potential impacts to natural heritage and threatened and endangered species for this project will be re-confirmed during the Project permitting phase.

Table G.1. Threatened and Endangered Species Potentially within the Project Vicinity

Species	Status	Database	Habitat	Results
Tricolored Bat *(Perimyotis subflavus)*	FE, SE	USFWSIPAC, DWR-VaFWIS	Typically roost in trees near forest edges during summer. Hibernate deep in caves or mines in areas with warm, stable temperatures during winter.	DWR lists a confirmed observation within 2 miles of the Project area. No known hibernacula or maternity roost trees in the vicinity of the Project.
Green Floater *(Lasmigona subviridis)*	FT, ST	USFWS-IPAC	Typically found in perennial streams, specifically in sand or small gravel substrates where they establish a foothold and bury themselves.	IPaC lists the Green Floater as being potentially impacted due to the potential presence of Green Floater habitat within the project area. No known habitat occurs within the project area.
Bald Eagle (*Haliaeetus leucocephalus*)	BGEPA	CCB Bald Eagle Nest Locator. USFWS Bald Eagle Concentration Area Mapper	Nests are usually located in tall trees/structures or pinnacles and cliffs near water. Breeding habitats include areas close to large bodies of water that provide primary food sources (fish, waterfowl, seabirds). Wintering areas are commonly near open waters, though may include habitats with little or no open water if upland food resources (e.g. carrion) are abundant.	The nearest nest is greater than 660 feet from the Project area.

Federal/State Status:

FE Federally listed as endangered
SE State listed as endangered
FT Federally listed as threatened
ST State Listed as threatened
FPE Federally Proposed as endangered
FPT Federally proposed as threatened
BGEPA Bald and Golden Eagle Protection Act

On behalf of the Company, Dewberry submitted the Project to the DCR Division of Natural Heritage ("DNH") for review. The DCR completed its automated review on 12/04/24 and discussed in detail below (see Attachment 2.G.1).

DCR indicated that no Conservation Sites or Natural Heritage Resources are present within or immediately adjacent to the Proposed Route.

There are no SCUs located within the Project area.

According to the automated review, DCR-DNH records indicate that the Project will not affect any documented state-listed plants or insects and does not cross

any State Natural Area Preserves under DCR's jurisdiction. See Attachment 2.G.1.

Diabase Glades

DCR-DNH's database does not identify any diabase formations within or adjacent to the Proposed Route.

Ecological Cores

The DCR defines areas of 100 acres or greater of contiguous natural land cover associated with areas of high ecological value as ecological cores, which provide refuge for thousands of species of animals and plants, in addition to a variety of recreational opportunities and open space resources for the public. Because the quality of ecological cores varies across different landscapes, the DCR evaluates ecological cores using an Ecological Integrity Score that ranks the relative contribution of different ecosystem services, from C5 (General) to C1 (Outstanding). A review of DCR-DNH's database did not identify any ecological cores within or adjacent to the Proposed Route. A C4 ecological core was identified approximately 1,000 feet east of the Proposed Route.

Tri-Colored Bat

The Tricolored bat ("TCB") (Perimyotis subflavus) is federally listed as proposed endangered and stated listed as endangered. The USFWS and DWR databases indicated the potential presence of the TCB within the Project area, and a recorded observation in the study area, dated from July 2022. The TCB prefers forested habitats where it can roost in trees or caves. Construction of the Project is not anticipated to require removal of trees, so the Company does not anticipate adverse impacts to the TCB.

Green Floater

The Green Floater (*Lasmigona subviridis)* was identified by DWR as potentially occurring in the Project area. The Project corridor crosses a waterbody; however, it is not believed to be the appropriate habitat. The waterbody seems to be a manmade stormwater pond which is surrounded by a heavily developed area; therefore, it is not anticipated that the Green Floater will be present within the waterbody. Furthermore, instream work is not anticipated to be necessary for the Project, and bridge crossings are expected to be utilized when crossing waterways. This species is not anticipated to be negatively impacted by the proposed Project. The use of erosion and sediment controls around waterways should sufficiently prevent adverse impacts to the species.

Bald Eagle

The location of Bald Eagle nests in the vicinity of the Project corridor were identified from the CCB Bald Eagle Nest Locator and the USFWS Bald Eagle Concentration Areas Mapper, respectively. The closest recorded Bald Eagle nest lies greater than 660' from the Project area. No Bald Eagle concentration areas were identified in the vicinity of the Project.

The Company anticipates comments from the USFWS, DWR, and DCR regarding the proposed Project during the SCC planning stage Project review. As the Company will obtain all necessary permits prior to construction, such as authorization from the VMRC, DEQ, and the Corps, coordination with the DWR, DCR, and USFWS will take place through the respective permit processes to avoid and minimize impacts to listed species and natural heritage resources.

No instream work is anticipated to be required for the transmission structures and construction access is expected to span streams using crane mats or bridges. Additionally, no right-of-way clearing will be required for the proposed transmission line operation, erosion and sediment control measures will be implemented (Section 2.H). The Project will avoid and minimize impacts when possible. Once constructed only maintenance and temporary construction activities will occur in terrestrial habitats.

New and updated information is continually added to the DCR's Biotics database. Following the DCR-DNH SCC planning stage Project review, the Company shall re-submit Project information with a completed information services order form and a map to DCR-DNH or submit the Project on-line through the Natural Heritage Data Explorer. This review shall occur during the final stage of engineering and upon any major modifications of the Project during construction (i.e., deviations, permanent, or temporary, from the original study area and/or the relocation of a tower(s) into sensitive areas) for an update on natural heritage information and coordination of potential Project modifications to avoid and minimize impacts to natural heritage resources.

H. Erosion and Sediment Control

The DEQ approved the Company's *Standards & Specification for Erosion & Sediment* Control *and Stormwater Management for Construction of Linear Electric Transmission Facilities (TE VEP 8000).* These specifications are given to the Company's contractors and require erosion and sediment control measures to be in place before construction of the line begins and specifies the requirements for rehabilitation of the right-of-way. A copy of the current DEQ approval letter dated February 27, 2024, is provided as Attachment 2.H.1. According to the approval letter, coverage is effective from February 27, 2024, through February 26, 2025.

I. Archaeological, Historic, Scenic, Cultural or Architectural Resources

Dewberry conducted a Stage I Pre-Application Analysis ("Stage I Analysis") of potential impacts on cultural resources for the Proposed Routes in accordance with the Virginia Department of Historic Resource's ("VDHR") *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008). A copy of the Stage I Analysis, which was provided to VDHR on December 16, 2024, is included as Attachment 2.I.1 and summarized below.

Archaeological Resources

A total of 81 previously recorded archaeological sites have been located within one mile of the Project alignment (Attachment 2.I.1). One of these sites is located within the Project alignment. This site, identified as DHR #44LD1267, has been determined not eligible for listing on the National Register of Historic Places (NRHP) and has been determined to have been destroyed. No sites are located within 50 feet of the Project alignment. As such, no archaeological sites were considered in the analysis. The remaining 80 sites within one mile of the Project alignment are either unevaluated for inclusion or have been determined not eligible for listing in the NRHP. A review of the National Park Service (NPS) American Battlefield Protection Plan (ABPP) records and maps prepared by the Civil War Sites Advisory Commission (CWSAC) revealed that no portions of ABPP battlefields are located within 1.5 miles of the Project alignment (NPS 2009). As such, no ABPP battlefields were considered in the analysis.

Table I.1 Archaeological resources within the Project Right-of-Way

DHR ID	Site Type	Time Periods	Evaluation Status
44LD1267*	Dwelling, single, Lithic scatter	Prehistoric, Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible

Architectural Resources

A review of the VDHR Virginia Cultural Resource Information System (V-CRIS) inventory records indicated there are no National Historic Landmarks (NHLs) within 1.5 miles of the Project alignment and no battlefields or historic landscapes within one mile. The review identified two resources listed in the National Register within 1 mile of the Project alignment: the Arcola Elementary School (VDHR ID 053-0982) and Arcola Slave Quarters (VDHR ID 053-0984). These resources were considered for further analysis.

Field inspection found that the new transmission lines and structures for the Proposed Route would be partially visible from the Arcola Elementary School and Arcola Slave Quarters. Mature trees, vegetation, and topography block Arcola Elementary School and Arcola Slave Quarters from a direct view of the Project. In addition, the existing Evergreen Mills Part A Lines are located parallel

to the Proposed Route and are already visible from the Arcola Elementary School and Arcola Slave Quarters. As such, it is anticipated that the impacts of the Project on the Arcola Elementary School and Arcola Slave Quarters will be consistent and in character with its current viewshed. Therefore, the Project will have minimal impact on the viewshed of the Arcola Elementary School and the Arcola Slave Quarters. See Attachment 2.I.1 for further details.

Table I.2 NRHP listed and eligible resources within 1.5-miles of the Project

Buffer (miles)	Considered Resources	DHR ID	Description
1.5	National Historic Landmarks	None	None
1.0	National Historic Landmarks	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	National Register-Listed	053-0982	Arcola Elementary School
0.5	National Historic Landmarks	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	National Register-Listed	053-0984	Arcola Slave Quarters
	National Register Eligible	None	None
	VLR-Listed	None	None

J. Chesapeake Bay Preservation Areas

This project does not involve work within a Chesapeake Bay Preservation Area. Loudoun County is not a locality subject to the Chesapeake Bay Preservation Act.

K. Wildlife Resources

Agency databases were reviewed, and agency consultations are anticipated with the USWFS, DWR, and DCR to determine if the proposed Project has the potential to affect any threatened or endangered species. As discussed in Section 2.G, certain federal and state-listed species were identified as potentially occurring in the Project area. The Company will coordinate with the USFWS, DWR, and DCR as appropriate to determine whether surveys are necessary and to minimize impacts on wildlife resources. Since the proposed Project involves the construction of a new transmission line, impacts to wildlife habitat are anticipated, however, the Project will avoid and minimize impacts when possible. Additionally, once constructed only maintenance and temporary construction activities will occur in terrestrial habitats.

In addition, the Company is actively monitoring regulatory changes and requirements associated with the Northern long-eared bat ("NLEB") and how they could potentially impact construction timing associated with time of year restrictions ("TOYRs"). On October 15, 2024, the U.S. Fish and Wildlife Service ("USFWS") issued the NLEB Final Guidance for development projects. The USFWS Interim Guidance for the NLEB expired on November 30, 2024, and the Final Guidance took effect.

The Company is also monitoring regulatory changes associated with the potential up-listing of the Tricolored bat ("TCB"). The Company is anticipating the TCB will be listed; therefore, the Company assumes any regulatory changes associated with the potential listing of the TCB will affect these Projects. On September 14, 2022, the TCB was proposed to be listed as Endangered by the USFWS. USFWS extended its Final Rule issuance target from September 2023 to the end of 2024. At this time, the TCB Final Rule has not been issued.

In October 2024 USFWS issued a final NLEB and TCB Range-wide Determination Key ("Dkey") to allow project proponents to assess project impacts, practicable avoidance and minimization measures, and consultation requirements under the final NLEB guidance and the eventual TCB listing ahead of the final decision. The Company will utilize the DKey to further assess project impacts and determine appropriate avoidance and minimization measures to ensure compliance with state and federal regulations when the Projects enter permitting.

L. Recreation, Agricultural and Forest Resources

The Project is not expected to have permanent impacts on forest resources since the Proposed Route is within existing, established right-of-way. The Project is not expected to have permanent impacts on recreational or agricultural land. The general character of the Project area is predominantly industrial and commercial use, surrounded by suburban residential communities with intermixed parkland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Land that does not meet the criteria for prime farmland can be considered to be "farmland of statewide importance." The criteria for defining and delineating farmland of statewide importance are determined by the Virginia Department of Agriculture and Consumer Services. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Additionally, certain areas are considered prime farmland when the soils are managed through practices such as drainage or irrigation. Other areas that are not identified as having national or statewide importance can be considered to be "farmland of local importance." This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts

of land that have been designated for agriculture by local ordinances. No prime farmland is located within the Project right-of-way. No farmland of statewide importance is located within the Project right-of-way. The Project would not be expected to impact prime farmlands or farmland of statewide importance.

Under the Virginia Open-Space Land Act, any public body can acquire title or rights to real property to provide means of preservation of open-space land. Such conservation easements must be held for no less than five years in duration and can be held in perpetuity. No conservation easements occur within the proposed Project rights-of-way.

The Virginia Scenic Rivers Act seeks to identify, designate, and protect rivers and streams that possess outstanding scenic, recreational, historic, and natural characteristics of statewide significance for future generations. There are no scenic rivers within the proposed Project area, nor within one mile of the proposed Project.

The Project does not overlap with or come into proximity with any scenic byways.

The Project's Proposed Route does not overlap with any local, state or national parks. However, the Arcola Slave Quarters Historic Site, located directly northwest of the project alignment, is a new Loudoun County Historic & Cultural site. In addition, the Brambleton Homeowners Association maintains a stream valley park north of the project area. This Project is not anticipated to result in impacts to these park properties.

Table I.1. Parks within 1.0-mile of the Project

Park Name	Management Agency	Approximate Distance to Centerline (Miles)
Arcola Slave Quarters Historic Site (Historic & Cultural Site)	Loudoun County Parks, Recreation and Community Services	0.09
Brambleton Stream Valley Park and Trails	Brambleton Homeowners Association	0.30

A project review from DCR is anticipated to be received at the time of permitting. The Company also anticipates the need to solicit comments from the Virginia Department of Forestry (VDOF) and their response is anticipated to be received by the time of permitting.

The entire width of the proposed transmission corridor has been previously cleared as part of the Evergreen Mills Part A installation. If any additional clearing is necessary, trees and brush located within 100 feet of streams will be cleared by hand in accordance with the Company-approved Erosion and Sediment Control specifications.

Any tree along the right-of-way that is tall enough to endanger the conductors if it were to break at the stump or uproot and fall directly towards the conductors and exhibit signs or symptoms of disease or structural defect that make it an elevated risk for falling will be designated as a "danger tree" and may be removed. The Company's arborist will contact the property owner if possible before any "danger trees" are cut, except in emergency situations. The Company's Forestry Coordinator will field inspect the right-of-way and designate any "danger trees" present. Qualified contractors working in accordance with the Company's Electric Transmission specifications will perform all "danger trees" cutting. The Project is expected to minimize impacts on forest resources by siting the proposed transmission line within previously developed parcels.

M. Use of Pesticides and Herbicides

Of the techniques available, selective foliar is the preferred method of herbicide application. The Company typically maintains transmission line right-of-way by means of selective, low-volume applications of EPA-approved, non-restricted use herbicides. The goal of this method is to exclude tall-growing brush species from the right-of-way by establishing early successional plant communities of native grasses, forbs, and low-growing woody vegetation. "Selective" application means the Company sprays only the undesirable plant species (as opposed to broadcast applications). "Low volume" application means the Company uses only the volume of herbicide necessary to remove the selected plant species. The mixture of herbicides used varies from one cycle to the next to avoid the development of resistance by the targeted plants. There are four means of dispersal available to the Company, including by-hand application, backpack, fixed nozzle-radiarc, and aerial. However, very little right-of-way maintenance incorporates aerial equipment. The Company uses licensed contractors to perform this work that are either certified applicators or registered technicians in the Commonwealth of Virginia.

DEQ has previously requested that only herbicides approved for aquatic use by the EPA or the USFWS be used in or around any surface water; the Company intends to comply with this request.

Additionally, based on a discussion between Company and DCR-DNH representatives, the Company reviewed its Integrated Vegetation Management Plan ("IVMP") for application to both woody and herbaceous species based on the species list available on the DCR website. The Company continues to coordinate with DNH on an addendum to the IVMP to further explain how the Company's operations and maintenance forestry program addresses invasive species. In November 2023, the Company submitted the addendum draft to DCR for review and continued discussions. DCR provided an initial response to the addendum in January 2024. The Company will continue to meet with DCR to further discuss the documentation provided. Once the addendum is finalized, the

Company will report on the results of its communications with DCR in future transmission certificate of public convenience and necessity filings.[1]

N. Geology and Mineral Resources

The Virginia Energy Geology Mineral Resources mapper was used to identify mineral resources within the Project area. The proposed Project is located in the Arcola, VA area, which falls mostly within the Piedmont geologic province. The Piedmont province is bounded on the west by the fall line of the Blue Ridge province and to the east by the Coastal Plain province. This province is characterized by its gently rolling topography, deeply weathered bedrock, and a relative scarcity of solid outcrops. The Piedmont Lowlands sub-province has an elevation range of 60 to 700 feet. The sub-province's physiography is classified by broad moderately dissected valleys separated by broad low hills.

The Virginia Department of Conservation and Recreation (DCR) website was used to screen for Karst terrain. Karst is a landscape developed in limestone, dolomite, marble, or other soluble rocks and characterized by subsurface drainage, sinking or losing streams, sinkholes, springs, and caves. Karst was not found within or around the project limits.

The Loudoun County WebLogis Online Mapper System was used to identify unique soils and geologic formations specific to the County. The Project area does not overlap with identified Limestone areas.

The Loudoun County WebLogis Online Mapper System and Google Earth were used to identify active mines and quarries within the study area and the surrounding communities. There are no quarries used for mineral resource extraction within or adjacent to the project limits. The closest mineral extraction facility is the Chantilly Crushed Stone Inc. quarry approximately 1.5 miles southeast of the project area. No additional facilities were identified within 5 miles of the Project area, nor are there opportunities for mineral extraction within the study area considering the highly developed nature of the Project area.

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[1] *See, Application of Virginia Electric and Power Company, For approval and certification of electric transmission facilities: 230 kV Line #293 and 115 kV Line #83 Rebuild Project*, Case No. PUR-2021-00272, Final Order at 9-11 (Aug. 31, 2022) *(The Commission agreed with the Chief Hearing Examiner and declined to adopt DCR-DNH's recommendation regarding an invasive species management plan ("ISMP"), but directed the Company to meet with DCR-DNH and to report on the status of the meetings in the Company's next transmission certificate of public convenience and necessity ("CPCN") filing)*; *see also* Report of Alexander F. Skirpan, Jr., Chief Hearing Examiner (Jun. 22, 2022) at 22 *(agreeing with the Company that, with its IVMP, the Company should not be required to undergo the additional cost of DCR-DNH's ISMP; however, recommending that the Company meet with DCR-DNH regarding its IVMP and report the results of the meeting in the next transmission CPCN filing).*

O. Transportation Infrastructure

The only road crossing along the Proposed Route would be over Arcola Mills Road (VA 621), which is a state road. Temporary closures of Arcola Mills Road could be required during construction of the Project. No long-term impacts to roads are anticipated. The Company will maintain proper clearances between the road surface and the conductors and will comply with Virginia Department of Transportation ("VDOT") requirements for access to the rights-of-way from public roads as well as the aerial crossings of the road. At the appropriate time, the Company will obtain the necessary VDOT permits as required.

Two additional significant roadways boarder the Project area. Arcola Boulevard runs east to west and boarders the Project to the north. Route 606 runs north to south and boarders the Project to the south.

The proposed Project does not cross any railways.

The Company anticipates comments from the Virginia Department of Aviation ("DOA") during the SCC review process. The design of the proposed Project must prevent interference with pilots' safe ingress and egress at the airport. Such hazards or impediments include interference with navigation and communication equipment and glare from materials and external lights. Provided the FAA determines the proposed Project will not constitute a hazard to air navigation, DOA will not object to the Project as proposed.

In a letter received for the Evergreen Mills Part A Project, the Virginia Department of Aviation ("DOAv") stated that a Form 7460 will need to be submitted to the FAA to initiate an aeronautical study to ensure that the proposed Project will not constitute a hazard to air navigation. The Company anticipates complying with this requirement for this Project and will design the proposed structures to avoid interference with air navigation. The Company will coordinate with VDOT, DOAv, and the FAA as necessary to obtain all appropriate permits.

Finally, the Company has reviewed the FAA's website (https://oeaaa.faa.gov/oeaaa/external/portal.jsp) to identify airports within 10 miles of the Project. Based on this review, two FAA-restricted airports and one private helipad are located within 10 miles of the Project:

- Dulles International Airport, approximately 1 mile east of the proposed Project area.
- Leesburg Executive Airport, approximately 8.70 miles south of the proposed Project area.
- Stone Springs Hospital helipad, approximately 0.86 miles southwest of the proposed Project area.

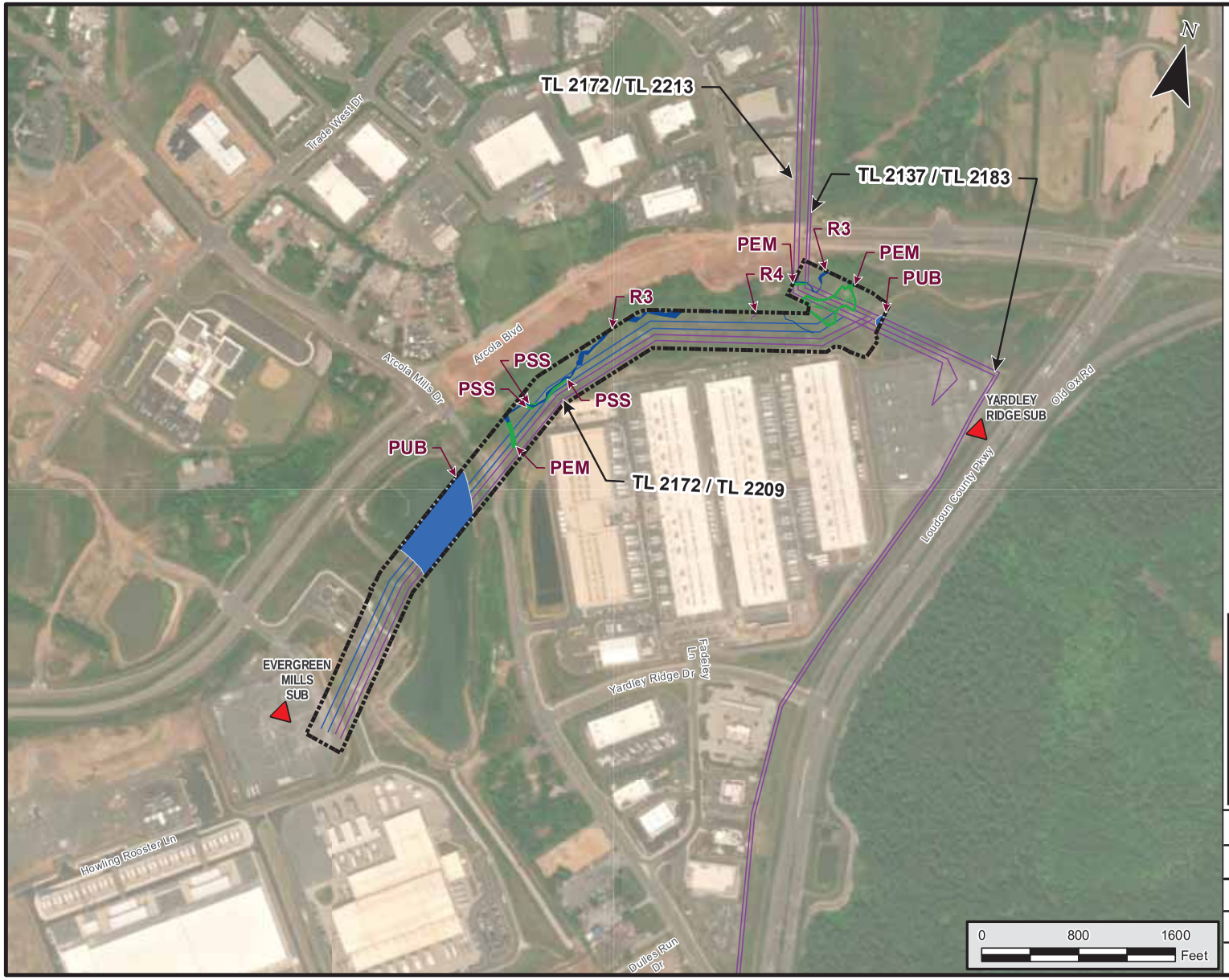
P. Drinking Water Wells

The Company has coordinated with the Department of Health ("VDH"), Office of Drinking Water ("ODW") on the Company's analysis of drinking water sources in proximity to the Company's construction projects. VDH-ODW has requested the Company identify known drinking water wells within the Project area on the Company's Erosion and Sediment Control Plans. As a general matter, water wells within 1,000 feet of the Property may be outside of the transmission line corridor and located on private property. The Company does not have the ability or right to field mark wells on private property. In June 2021, the Company contacted VDH-ODW to propose a method of well protection, including plotting and calling out the wells on the Partial Rebuild Project's Erosion and Sediment Control Plan, to which VDH-ODW indicated that the Company's proposed method is reasonable. A copy of that correspondence is included as Attachment 2.P.1. The Company intends to follow this same approach in this proceeding, as it has in other cases, and will coordinate with VDH-ODW, as needed.

Q. Pollution Prevention

Generally, as to pollution prevention, as part of Dominion Energy Virginia's environmental compliance, the Company has a comprehensive Environmental Management System Manual in place that ensures it is committed to complying with environmental laws and regulations, reducing risk, minimizing adverse environmental impacts, setting environmental goals, and achieving improvements in its environmental performance, consistent with the Company's core values. Accordingly, any recommendation by the DEQ to consider development of an effective environmental management system has already been satisfied.

Attachments



ATTACHMENT 2
2.D.1

TITLE:

WETLAND DELINEATION MAP

PROJECT:

EVERGREEN MILLS 230 KV LINE LOOP PART B

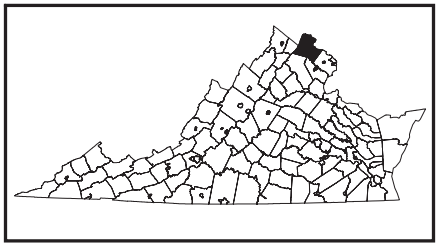
LEGEND

- EXISTING SUBSTATIONS
- PROPOSED 230 KV TRANSMISSION LINE
- EXISTING 230 KV TRANSMISSION LINES
- PROJECT AREA

DELINEATION WETLANDS

- PALUSTRINE EMERGENT WETLANDS (PEM)
- PALUSTRINE SCRUB SHRUB WETLANDS (PSS)
- PALUSTRINE UNCONSOLIDATED BOTTOM (PUB)
- PERENNIAL STREAM (R3)
- INTERMITTENT STREAM (R4)

KEY PLAN



DOMINION PROJECT NUMBER: NW992802	PROJECT NUMBER: 50184751
DATE: 12/9/2024	
SCALE: 1" = 800 FEET	
PROJECT MANAGER: TL	
DRAWN BY: MGH	

Dominion Energy

Dewberry

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION:

A. COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): September 18, 2020

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

Virginia Electric and Power Company
Attn: Mr. Mark Allen
10900 Nuckols Road, 4th Floor
Glen Allen, Virginia 23060

C. DISTRICT OFFICE: Norfolk District (CENAO-WRR) FILE NUMBER: NAO-2020-01244-rhs

FILE NAME: Dominion Evergreen Mills

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

State: VIRGINIA County/parish/borough: Loudoun Town/City: n/a

Center coordinates of site:

Latitude: 38.949603° N Longitude: -77.523717° W

Universal Transverse Mercator: n/a

Name of nearest waterbody: Broad Run

Identify (estimate) amount of waters in the review area:

Non-wetland waters: ± 2,453 linear feet

Cowardin Class: R3, R4

Stream Flow: n/a

Wetlands: ± 3.03 acres

Cowardin Class: PFO, PSS, PEM, POW

Name of any water bodies on the site that have been identified as Section 10 waters: Tidal: n/a

Non-Tidal: n/a

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination Date:
☒ Field Determination Date: August 20, 2020

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other
water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make

an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

3. This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply) - checked items should be included in case file and, where checked and requested, appropriately reference sources below.

☒Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:

☒Data sheets prepared/submitted by or on behalf of the applicant/consultant.

☐Office concurs with data sheets/delineation report.

☐Office does not concur with data sheets/delineation report.

☐Data sheets prepared by the Corps:

☐Corps navigable waters' study:

☐U.S. Geological Survey Hydrologic Atlas:

☐USGS NHD data.

☐USGS 8 and 12 digit HUC maps.

☒U.S. Geological Survey map(s). Cite scale & quad name: Arcola 1:24,000

☒USDA Natural Resources Conservation Service Soil Survey.

Citation: Loudoun County

☒National wetlands inventory map(s). Cite name:

☐State/Local wetland inventory map(s):

☒FEMA/FIRM maps:

☐100-year Floodplain Elevation: (National Geodetic Vertical Datum of 1929)

☒ Photographs: ☒Aerial (Name & Date): in report

Or ☒Other (Name & Date): in report

☐Previous determination(s):

File no. and date of response letter:

☐Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature
Regulatory Project Manager

September 18, 2020
Date

Signature of person requesting
Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

09/24/2020
Date

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
DominionEnergy.com

July 14, 2020

VIA EMAIL: cenao-reg_rod@usace.army.mil

US Army Corps of Engineers
Attention: Silvia Gazzera
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236

RE: Request for Preliminary Jurisdictional Determination
Proposed Evergreen Mills
Loudoun County, Virginia
Start – Latitude: 38.944710 ° Longitude: -77.526377 °
Terminus – Latitude: 38.951332 ° Longitude: -77.520308 °

Dear Ms. Gazzera,

Dominion Energy Virginia (the "Company") is pleased to submit the enclosed Preliminary Jurisdictional Determination (PJD) for the Proposed Evergreen Mills project. This project is located in Loudoun County and includes a proposed 0.6- mile 230 kV transmission line to serve load growth in the area.

Should you have any questions regarding this submittal, please contact Rachel Studebaker with Dominion Energy via email at Rachel.M.Studebaker@dominionenergy.com or by phone at (804) 217-1847.

Sincerely,

Richard B. Gangle
Director, Environmental Services

July 13, 2020

Regulator of the Day
U.S. Army Corps of Engineers
803 Front Street
Norfolk, VA 23510
Via email: cenao-reg_rod@usace.army.mil

Subject: **Request for Preliminary Jurisdictional Determination**
Evergreen Mills
Start: 38.944710° -77.526377°
End: 38.951332° -77.520308°
Loudoun County, VA
C2 Environmental Project No. 0116

Dear Sir or Madam:

C2 Environmental (C2 Env) has been retained by Virginia Electric and Power Company, doing business as Dominion Energy Virginia to conduct a field investigation of wetlands and waters of the U.S. (WOUS) on the project known as Evergreen Mills. Dominion Energy Virginia is conducting an evaluation of the project area for a proposed transmission line. The approximate 21.3-acre study area is located within the Broad Run drainage basin in Loudoun County, Virginia (Appendix A, Sheet 1). The project is located west of Loudoun County Parkway (Route 606), northeast of Lee Jackson Memorial Highway (Route 50), is bisected by Evergreen Mills Road and can be accessed via Evergreen Mills Road. Project graphics are provided in Appendix A, U.S. Army Corps of Engineers (Corps) data sheets are provided in Appendix B, photographs of the site are provided in Appendix C and the completed jurisdictional determination request form and site information summary sheet are provided in Appendix D.

On behalf of Dominion Energy Virginia, C2 Env is submitting this information to the Corps for their review and approval for issuance of a Preliminary Jurisdictional Determination. C2 Env staff would be pleased to meet with the Corps onsite to review the provided information if necessary. Please contact Scott Kupiec for any requests related to this matter. Thank you for your attention to this request.

Regards,

Scott Kupiec, PWD
Senior Environmental Scientist
Email: skupiec@c2environmental.com

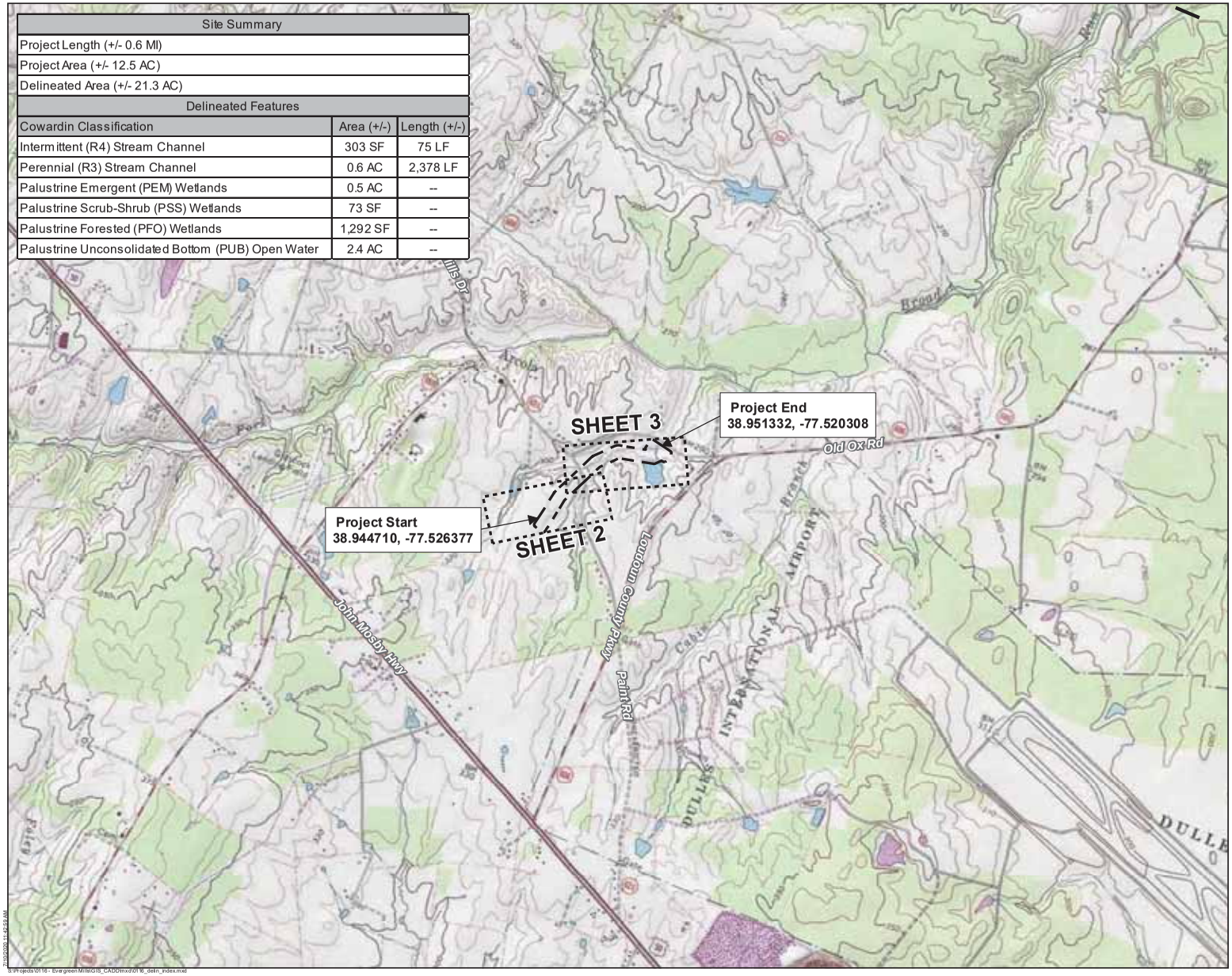
Appendix A: Project Graphics
Appendix B: Data Sheets
Appendix C: Site Photographs
Appendix D: Jurisdictional Determination Request Form, and Site Information Summary Sheet

CC: Mr. Greg Baka – Dominion Energy Virginia

APPENDIX A

Project Graphics

Site Summary		
Project Length (+/- 0.6 MI)		
Project Area (+/- 12.5 AC)		
Delineated Area (+/- 21.3 AC)		
Delineated Features		
Cowardin Classification	Area (+/-)	Length (+/-)
Intermittent (R4) Stream Channel	303 SF	75 LF
Perennial (R3) Stream Channel	0.6 AC	2,378 LF
Palustrine Emergent (PEM) Wetlands	0.5 AC	--
Palustrine Scrub-Shrub (PSS) Wetlands	73 SF	--
Palustrine Forested (PFO) Wetlands	1,292 SF	--
Palustrine Unconsolidated Bottom (PUB) Open Water	2.4 AC	--



WETLAND DELINEATION MAP

Evergreen Mills
Loudoun County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0116	JAG & NCG	07/13/20

0 1,000 2,000 4,000 Feet

Scale is 1 IN = 2,000 FT when printed at original size of 11x17

SITE DATA

- Map Sheet
- Delineated Area

Notes:
1. Basemap from ESRI USA Topographic Quad Map- USGS Arcola, VA, 2016, ESRI World Street Map, and VGIN 2015 Aerial Imagery
2. National Wetlands Inventory features provided by USFWS and Web Soil Survey provided by NRCS
4. Parcels from Loudoun County GIS Department, July 2019
5. Roads from VGIN
6. Contours from USGS 3D Elevation Program, October 2018
7. Wetlands and other Waters of the U.S. were field delineated by C2 Environmental in May 2020 using Trimble R1 GPS

C2 ENVIRONMENTAL

SHEET 1 OF 3

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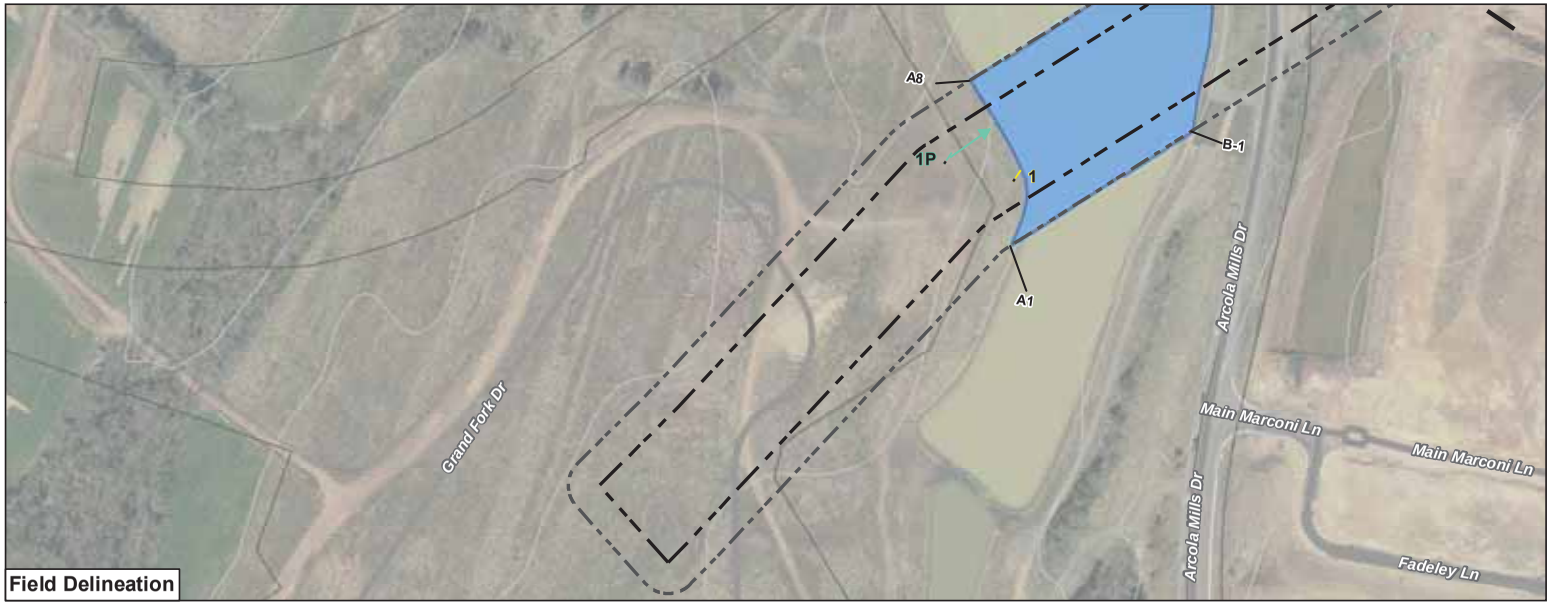
WETLAND DELINEATION MAP

Evergreen Mills
Loudoun County, Virginia

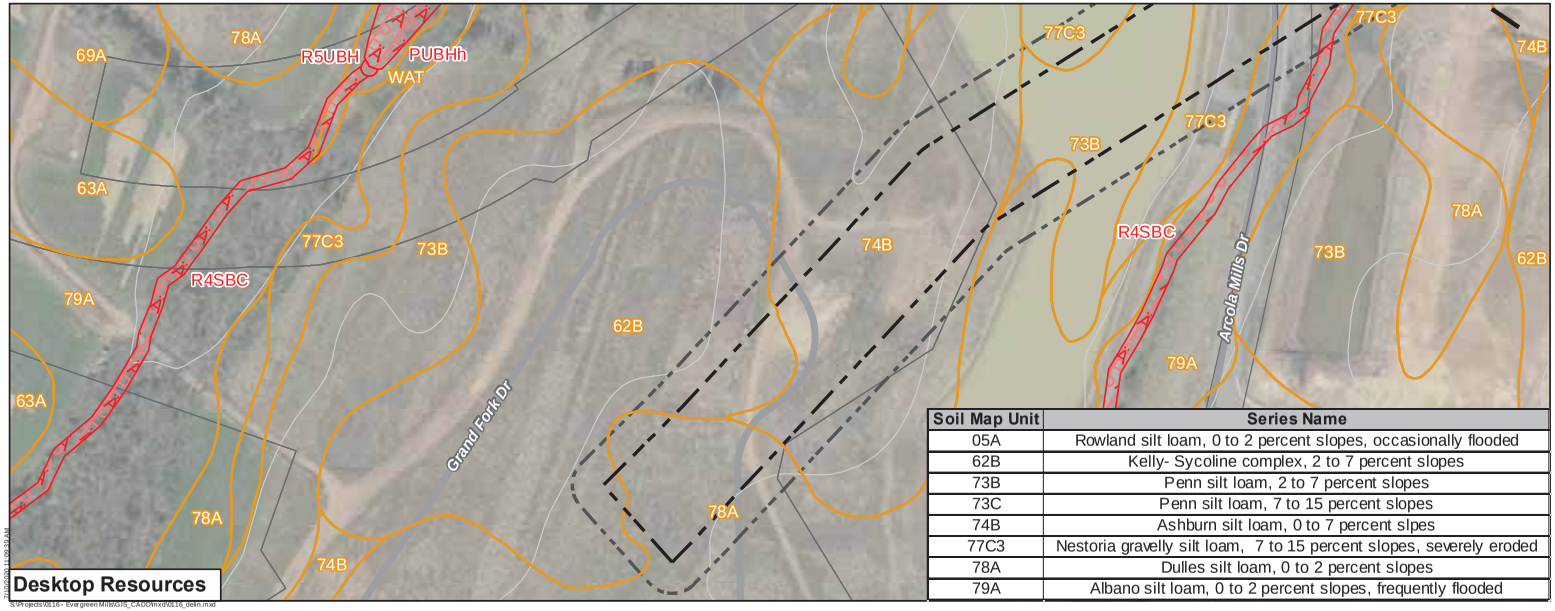
Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0116	JAG & NCG	07/13/20

0 100 200 400 Feet
Scale is 1 IN = 200 FT when printed at original size of 11x17



Field Delineation

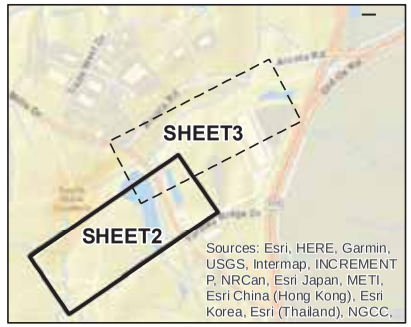


Desktop Resources

Soil Map Unit	Series Name
05A	Rowland silt loam, 0 to 2 percent slopes, occasionally flooded
62B	Kelly- Sycoline complex, 2 to 7 percent slopes
73B	Penn silt loam, 2 to 7 percent slopes
73C	Penn silt loam, 7 to 15 percent slopes
74B	Ashburn silt loam, 0 to 7 percent slpes
77C3	Nestoria gravelly silt loam, 7 to 15 percent slopes, severely eroded
78A	Dulles silt loam, 0 to 2 percent slopes
79A	Albano silt loam, 0 to 2 percent slopes, frequently flooded

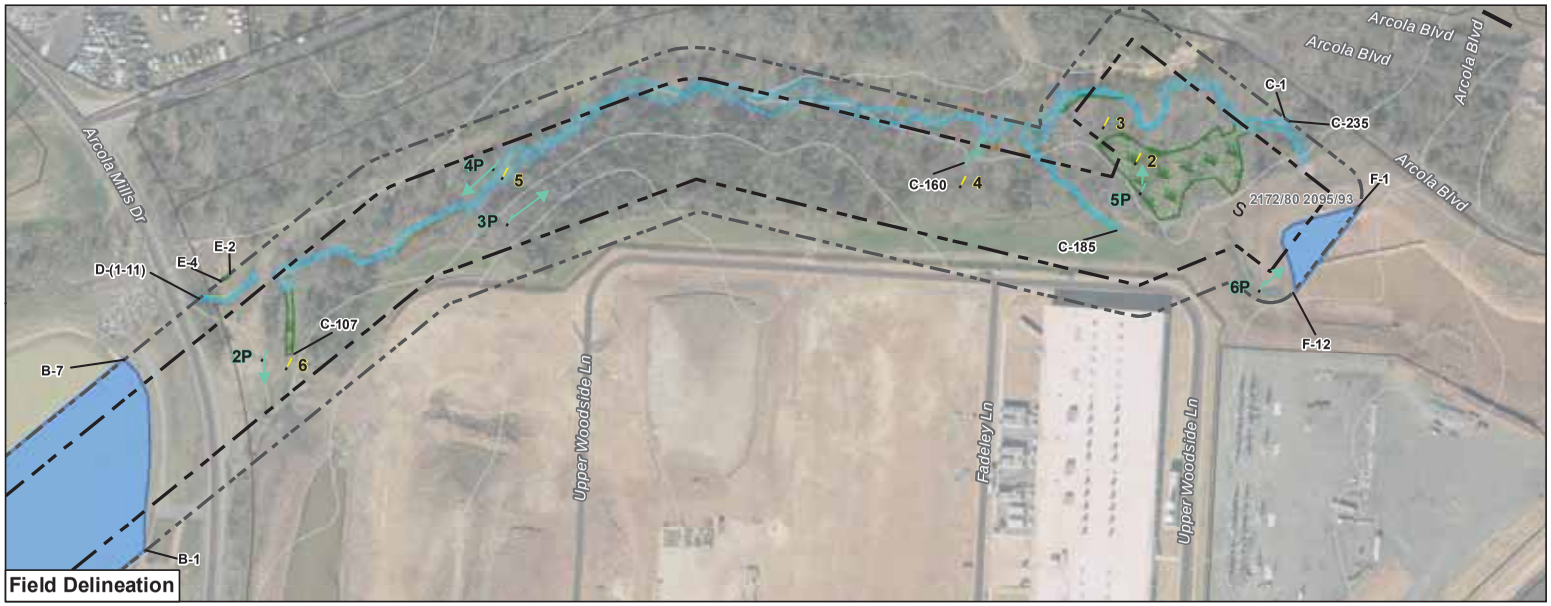
SITE DATA

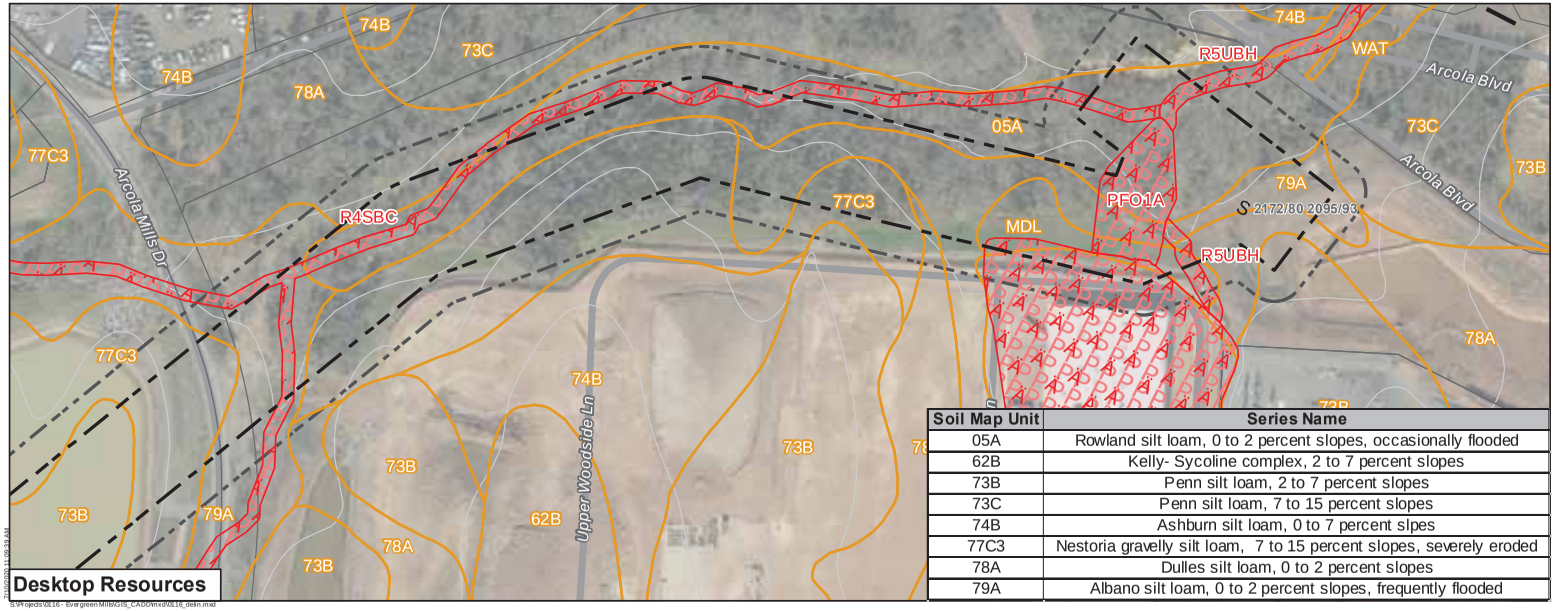
- Project Area
- Delineated Area
- S Existing Structure
- C-7 Wetland Flag Series
- Data Point Location
- Photo Location
- Approximate PEM Wetland Limits
- Approximate PFO Wetland Limits
- Approximate PSS Wetland Limits
- Approximate PUB Open Water Limits
- Approximate R3 Stream Channel Limits
- Approximate R4 Stream Channel Limits
- NWI Wetlands
- NRCS Soil Series
- Existing 10 FT Contour
- Parcel Boundary



ENVIRONMENTAL

SHEET 2 OF 3





Soil Map Unit	Series Name
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77C3	Nestoria gravelly silt loam, 7 to 15 percent slopes, severely eroded
78A	Dulles silt loam, 0 to 2 percent slopes
79A	Albano silt loam, 0 to 2 percent slopes, frequently flooded

WETLAND DELINEATION MAP

Evergreen Mills
Loudoun County, Virginia

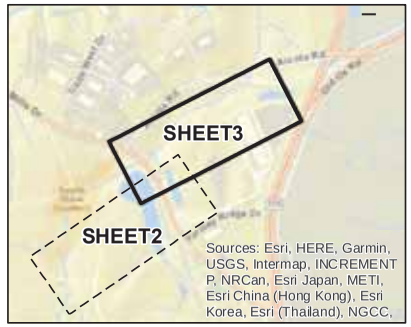
Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0116	JAG & NCG	07/13/20

0 100 200 400 Feet
Scale is 1 IN = 200 FT when printed at original size of 11x17

SITE DATA

- Project Area
- Delineated Area
- S Existing Structure
- C-7 Wetland Flag Series
- Data Point Location
- Photo Location
- Approximate PEM Wetland Limits
- Approximate PFO Wetland Limits
- Approximate PSS Wetland Limits
- Approximate PUB Open Water Limits
- Approximate R3 Stream Channel Limits
- Approximate R4 Stream Channel Limits
- NWI Wetlands
- NRCS Soil Series
- Existing 10 FT Contour
- Parcel Boundary



ENVIRONMENTAL

SHEET 3 OF 3

APPENDIX B

Data Sheets

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Evergreen Mills City/County: Loudoun Sampling Date: 5/18/2020
Applicant/Owner: Dominion Energy Virginia State: VA Sampling Point: 1
Investigator(s): S. Kupiec Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 4-6
Subregion (LRR or MLRA): LRR S, MLRA 148 Lat: 38.946881 Long: -77.525365 Datum:
Soil Map Unit Name: Penn 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 , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology 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 X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks:
Upland at Flag A-4.

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)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on 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)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

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 (Five Strata) – Use scientific names of plants. Sampling Point: 1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Rubus argutus*	45	Yes	FACU
2. *Lespedeza cuneata*	20	Yes	FACU
3. *Ambrosia artemisiifolia*	15	No	FACU
4. *Cardamine hirsuta*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover: 18		
Woody Vine Stratum (Plot size: 30)			
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: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 3/3	95	7.5YR 4/6	5	C	M	Loamy/Clayey	Distinct redox concentrations
8-20	7.5YR 4/3	80	5YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations
		5	7.5YR 5/6	5	C	M		Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- X Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ 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:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Evergreen Mills City/County: Loudoun Sampling Date: 5/19/2020
Applicant/Owner: Dominion Energy Virginia State: VA Sampling Point: 2
Investigator(s): S. Kupiec Section, Township, Range:
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Flat Slope (%): 0-1
Subregion (LRR or MLRA): LRR S, MLRA 148 Lat: 38.950980 Long: -77.520658 Datum:
Soil Map Unit Name: Rowland silt loam NWI classification: PFO1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ 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:
Wetland at Flag C-221.

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)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on 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)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

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** X **No** ____

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

Remarks:

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

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Typha latifolia*	40	Yes	OBL
2. *Mentha spicata*	25	Yes	FACW
3. *Carex lurida*	25	Yes	OBL
4. *Festuca spp.*	20	No	
5. *Impatiens capensis*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	120 =Total Cover		
50% of total cover: 60	20% of total cover: 24		
Woody Vine Stratum (Plot size: 30)			
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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		135 (B)
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					Loamy/Clayey	
1-5	5YR 4/2	85	7.5YR 4/4	10	C	M	Loamy/Clayey	Distinct redox concentrations
			7.5YR 4/6	5	C	PL		Prominent redox concentrations
5-20	5YR 4/2	75	5YR 4/2	25	C	M	Loamy/Clayey	Faint redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- X Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ 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:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Evergreen Mills City/County: Loudoun Sampling Date: 5/18/2020
Applicant/Owner: Dominion Energy Virginia State: VA Sampling Point: 3
Investigator(s): S. Kupiec Section, Township, Range:
Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 2-4
Subregion (LRR or MLRA): LRR S, MLRA 148 Lat: 38.951056 Long: -77.520917 Datum:
Soil Map Unit Name: Rowland 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ 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** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland at Flag C-221.

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)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on 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)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

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 (Five Strata) – Use scientific names of plants. Sampling Point: 3

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1. *latanus occidentalis*	5	Yes	FACW
2. *cer ne undo*	5	Yes	FAC
3.			
4.			
5.			
6.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover:	2	
Herb Stratum (Plot size: 30)			
1. *anicum ir atum*	40	Yes	FAC
2. *Festuca spp.*	30	Yes	
3. *Trifolium repens*	15	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 =Total Cover		
50% of total cover: 43	20% of total cover:	17	
Woody Vine Stratum (Plot size: 30)			
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: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	45	x 3 =	135
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	65 (A)		205 (B)
Prevalence Index = B/A =			3.15

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 2

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Evergreen Mills City/County: Loudoun Sampling Date: 5/18/2020
Applicant/Owner: Dominion Energy Virginia State: VA Sampling Point: 4
Investigator(s): S. Kupiec Section, Township, Range:
Landform (hillside, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 4-6
Subregion (LRR or MLRA): LRR S, MLRA 148 Lat: 38.950549 Long: -77.521486 Datum:
Soil Map Unit Name: Dulles 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ 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 X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Upland above Flag C-160.

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)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on 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)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

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 (Five Strata) – Use scientific names of plants. Sampling Point: 4

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *cer ne undo*	45	Yes	FAC
2. *Morus al a*	20	Yes	UPL
3.			
4.			
5.			
6.			
	65	=Total Cover	
50% of total cover: 33	20% of total cover:	13	
Sapling Stratum (Plot size: 30)			
1. *uniperus ir iniana*	25	Yes	FACU
2. *Fraxinus pennsyl anica*	10	Yes	FACW
3. *cer ne undo*	10	Yes	FAC
4.			
5.			
6.			
	45	=Total Cover	
50% of total cover: 23	20% of total cover:	9	
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Iliaria petiolata*	15	Yes	FACU
2. *u us occidentalis*	15	Yes	UPL
3. *Impatiens capensis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35	=Total Cover	
50% of total cover: 18	20% of total cover:	7	
Woody Vine Stratum (Plot size: 30)			
1. *onicera aponica*	45	Yes	FACU
2. *Campsis radicans*	15	Yes	FAC
3.			
4.			
5.			
	60	=Total Cover	
50% of total cover: 30	20% of total cover:	12	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 44.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	70	x 3 =	210
FACU species	85	x 4 =	340
UPL species	35	x 5 =	175
Column Totals:	205 (A)		755 (B)
Prevalence Index = B/A =			3.68

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	5YR 4/3	85	5YR 4/6	15	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- X Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ 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:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Evergreen Mills City/County: Loudoun Sampling Date: 5/18/2020
Applicant/Owner: Dominion Energy Virginia State: VA Sampling Point: 5
Investigator(s): S. Kupiec Section, Township, Range:
Landform (hillside, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 1-2
Subregion (LRR or MLRA): LRR S, MLRA 148 Lat: 38.949661 Long: -77.523830 Datum:
Soil Map Unit Name: Rowland silt loam NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ 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 X	No ___	

Remarks:
Stream at Flag C-81.

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on 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)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 5
Water Table Present?	Yes X	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:
Channel is 10' wide, banks are 2-4' high, an ordinary high water mark is present.

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 5

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size: 30)			
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: _____ (A)

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation is present in channel.

SOIL

Sampling Point: 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 1

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Evergreen Mills City/County: Loudoun Sampling Date: 5/18/2020
Applicant/Owner: Dominion Energy Virginia State: VA Sampling Point: 6
Investigator(s): S. Kupiec Section, Township, Range:
Landform (hillside, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 2-4
Subregion (LRR or MLRA): LRR S, MLRA 148 Lat: 38.948488 Long: -77.524434 Datum:
Soil Map Unit Name: Albano 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 , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology 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:
Upland above Flag C-106.

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)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on 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)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

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 (Five Strata) – Use scientific names of plants. Sampling Point: 6

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30)			
1. *Festuca spp.*	30	Yes	
2. *ersicaria spp.*	10	Yes	
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 =Total Cover		
50% of total cover: 20	20% of total cover: 8		
Woody Vine Stratum (Plot size: 30)			
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: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	5YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel compaction

Depth (inches): 4

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

Remarks:

APPENDIX C

Site Photographs

EXISTING CONDITION PHOTOGRAPHS

Evergreen Mills

Location:	Loudoun County, Virginia Start: 38.944710° -77.526377° End: 38.951332° -77.520308°
APPLICANT:	Dominion Energy Virginia
DATE TAKEN:	May 18, 2020
C2 ENV JOB:	0116
CREDIT	Scott Kupiec, C2 Environmental Inc.

PHOTO 1P

Orientation: Northeast

Description: A representative view of open water at Line A.

PHOTO 2P

Orientation:
Southeast

Description: A representative view of an upland drainage near Data Point 6.

PHOTO 3P

Orientation:
Northeast

Description: A representative view of forested uplands near Data Point 5.

PHOTO 4P

Orientation:
Southwest

Description: A representative view of a perennial stream channel near Data Point 5.

PHOTO 5P

Orientation:
Northwest

Description: A representative view of an emergent wetland near Data Point 2.

PHOTO 6P

Orientation:
Northeast

Description: A representative view of open water at Line F.

APPENDIX D

Jurisdictional Determination Request Form and Site Information Summary Sheet

NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Office
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: CENAO.REG_ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at:
http://www.nao.usace.army.mil/
Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: 07/13/2020
2. Project Name: Evergreen Mills
3. City or County where property located: Loudoun County
4. Address of property and directions (attach a map of the property location and a copy of the property plat): Please refer to Preliminary JD request cover letter for the project description and directions. Location and vicinity maps are also included in the submittal package.
5. Coordinates of property (if known): Start: 38.944710 -77.526377 End: 38.951332 -77.520308
6. Size of property in acres: 21.3
7. Tax Parcel Number / GPIN (if available):
8. Name of Nearest Waterway: Broad Run

7. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request:
Environmental constraints analysis for proposed transmission line.

8. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? ☐ YES ☐ NO ☒ UNKNOWN

If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available: N/A

Property Owner Contact Information:

Property Owner Name: Various - legal right of entry agreements secured
Mailing Address:
City: State: Zip:
Daytime Telephone:
E-mail Address:

If the person requesting the Jurisdictional Determination is **NOT** the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Mr. Mark Allen - Virginia Electric and Power Company
Mailing Address: 10900 Nuckols Road, 4th Floor
City: State: Zip: Glen Allen, Virginia 23060
Daytime Telephone: (804) 257-4711
E-mail Address: mark.allen@dominionenergy.com

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

Mark S Allen
Requestor's Signature

Jul 13, 2020
Date

Wetland Delineation Report Site Information Summary
Evergreen Mills
(21.3 Acres)
Loudoun County, Virginia

Date
July 13, 2020

Latitude/ Longitude in Decimal Degrees using coordinate plane (NAD 1983)
Start: 38.944710 -77.526377
End: 38.951332 -77.520308

Has a previous delineation or JD been performed? If so please provide USACE Project Number:
Unknown

Hydrologic Unit Code (HUC)
02070008-Middle Potomac-Catoctin; 0207000809-Potomac River-Broad Run; 020700080901-Broad Run-Lenah Run

USGS Topographic Sheet
Arcola, Virginia (2019)

Nearest Waterbody
The project area is within the Broad Run drainage basin.

Delineation Methods
U.S. Army Corps of Engineers 1987 Wetland Delineation Manual in conjunction with the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (version 2.0) was used to complete this delineation. The 2018 National Wetland Plant List was also used to conduct this delineation.

On-Site Investigation Date
Wetland delineation was conducted on May 18 and 19, 2020.

Wetland Delineation Plan
The proposed wetland boundaries and Data Sampling Point locations are depicted on the plans entitled “Wetland Delineation Map” prepared by C2 Env on July 13, 2020.

Wetland Investigation Results

Wetlands: Wetlands identified by C2 Env within the project area includes 0.5 acres of palustrine emergent (PEM) wetlands, 73 square feet of palustrine scrub-shrub (PSS), and 1,292 square feet of palustrine forested (PFO) wetlands. Stream channels identified within the project area include 75 linear feet (303 square feet) of intermittent (R4) stream channel and 2,378 linear feet (0.6

acres) of perennial (R3) stream channel. A total of 2.4 acres of palustrine unconsolidated bottom (PUB) was identified within the project area. A representative wetland data point includes data point 2.

Water bodies onsite identified as Section 10: N/A

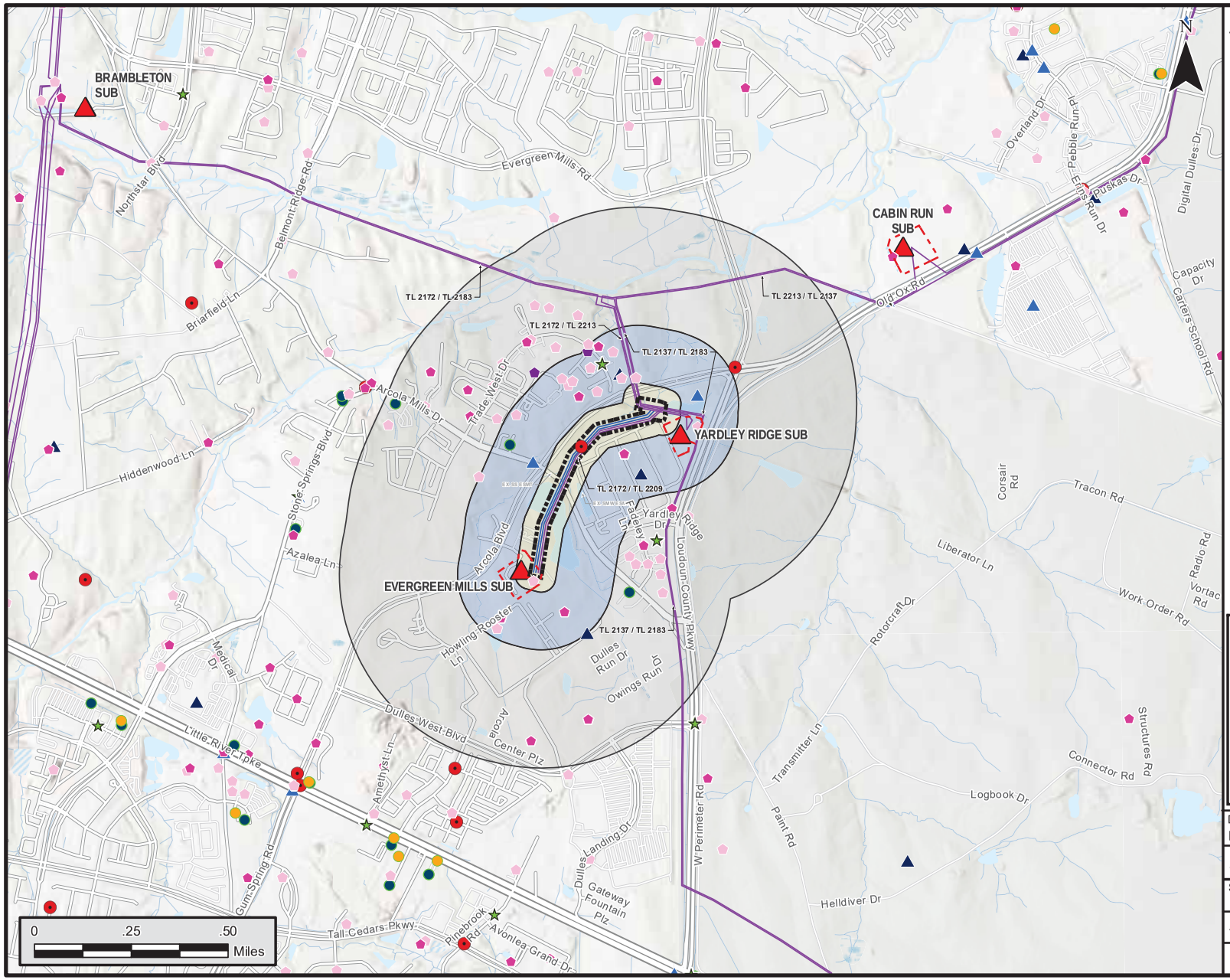
Uplands: A total of approximately 17.8 acres of uplands were identified during this investigation. Uplands consisted of developed land, existing transmission line right of way (ROW), and a forested community. Representative upland data points include data points 1, 3, 4, and 6.

100-Year Floodplains
As depicted on the Federal Emergency Management Agency's (FEMA) on-line Flood Insurance Rate Map #51107C0360E, effective June 17, 2017, the project area falls within Zone X, area of minimal flood hazard.

National Wetlands Inventory
The online NWI wetlands mapper indicates the presence of intermittent stream channels, palustrine forested and scrub-shrub wetlands, and a freshwater pond within the project limits.

USDA Soil Survey
The NRCS Web Soil Survey for the County of Loudoun County, Virginia indicates the site is primarily underlain by Rowland silt loam, Penn silt loam, Ashburn silt loam, Nestoria Channery silt loam, Dulles silt loam, and Albano silt loam. Of these, Albano silt loam is classified as predominantly hydric in Loudoun County, Virginia.

Waters Table:
The ORM Aquatic Resources Spreadsheet can be provided upon request following the onsite confirmation meeting with the Corps.



ATTACHMENT 2

2.F.1

TITLE:

HAZMAT MAP

PROJECT:

EVERGREEN MILLS 230 KV LINE LOOP PART B

LEGEND

- PROJECT AREA
- EXISTING SUBSTATIONS
- EXISTING 230 KV TRANSMISSION LINES
- PROPOSED 230 KV TRANSMISSION LINE
- EXISTING SUBSTATION BOUNDARY
- 200 FT BUFFER
- 1000 FT BUFFER
- .50 MILE BUFFER

WASTE
- EPA RCRA ACTIVE GENERATORS

WATER
- VPDES
- NPDES
- STORMWATER PERMITS

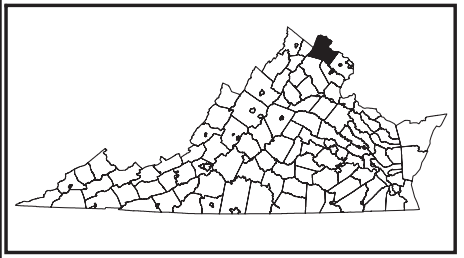
PETROLEUM RELEASE
- PETROLEUM RELEASE SITES

PETROLEUM FACILITIES
- REGISTERED PETROLEUM TANK FACILITIES

LAND
- PREP REPORTS

AIR
- DEQ ACTIVE AIR SITES
- ICIS AIR
- AIR MAJOR

KEY PLAN



DOMINION PROJECT NUMBER: NW992802	PROJECT NUMBER: 50184751
DATE: 12/10/2024	
SCALE: 1" = .25 Miles	
PROJECT MANAGER: TL	
DRAWN BY: MGH	

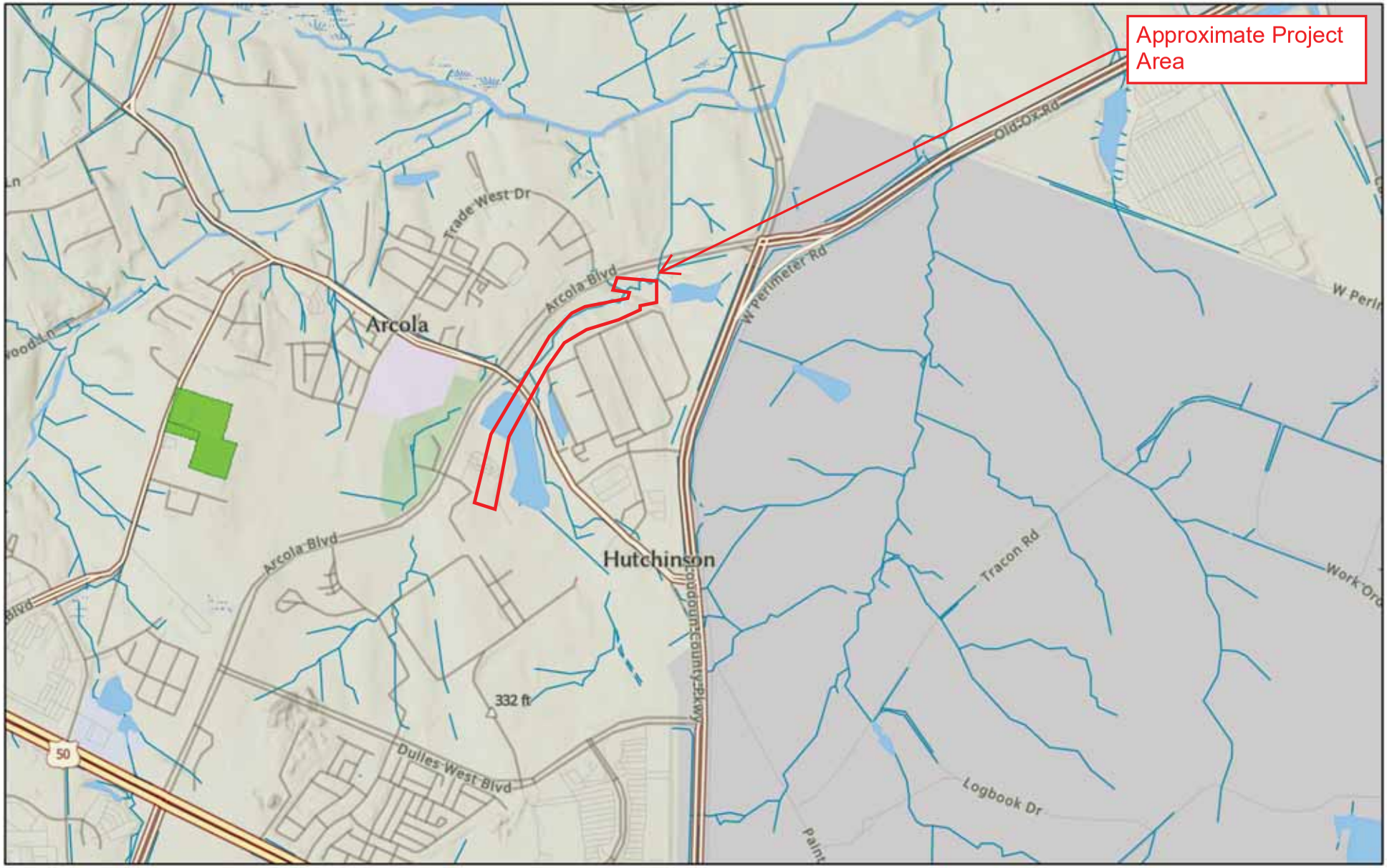
Dominion Energy

Dewberry

Appendix B

Threatened & Endangered Species

DCR Map



November 6, 2024

Adjacent States
Managed Conservation Lands
Designation
Coheld Easement
Conservation Easement
Federal Lands
Local Lands
Non-Profit Lands
State Lands
Tribal Lands
NH Screening Layer
Conservation Site

1:21,818

0 0.13 0.25 0.5 mi
0 0.23 0.45 0.9 km

Esri, NASA, NGA, USGS, FEMA, Sources: Esri, USGS, VA-DCR, Natural Heritage, County of Loudoun, Fairfax County, VA, MNCPPC, VGIN, Esri,

Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Web Project ID: WEB0000024311

Client Project Number: 50184751

PROJECT INFORMATION

TITLE: Evergreen Mills Part B

DESCRIPTION: Construct a new approximately 0.6-mile 230 kV Line from the 230 kV Brambleton-Poland Road Line at Evergreen Mills Junction and looping in and out of the Evergreen Mills Switching Station within existing right-of-way.

EXISTING SITE CONDITIONS: The site is currently cleared and maintained electrical transmission line right-of-way

QUADRANGLES: Arcola

COUNTIES: Loudoun

Latitude/Longitude (DMS): 38° 56' 53.9542" N / 77° 31' 28.8932" W

Acreage: 13 acres

Comments:

Instream Activity: No - Instream Work Not Required

Major Ground Disturbing Activities: N/A

Minor Ground Disturbing Activities: Other: Construction of Electrical Transmission Line Foundations

REQUESTOR INFORMATION

Priority: N

Tier Level: Tier I

Tax ID:

Contact Name: Andrew Dietrich

Company Name: Dewberry Engineers Inc.

Address: 8401 Arlington Blvd.

City: Fairfax

State: VA

Zip: 22031

Phone: 7038490351

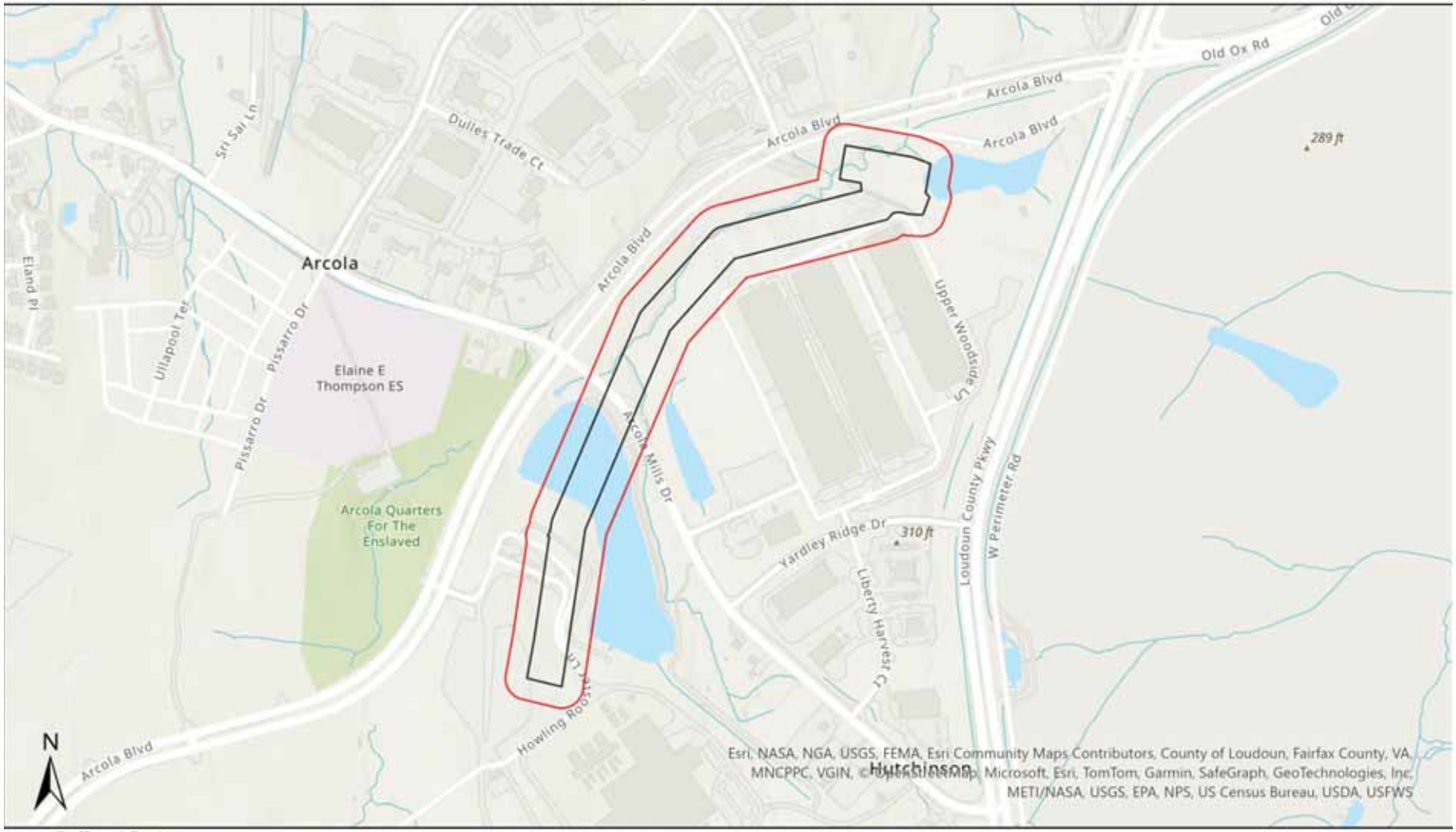
Fax:

Email: adietrich@dewberry.com

Conservation Site	Site Type	Brank	Acreage	Listed Species Presence	Essential Conservation Site?
Natural Heritage Screening Features Intersecting Project Boundary					

Intersecting Predictive Models
Predictive Model Results

Evergreen Mills Part B



Buffered Project Boundary

Project Boundary

0 0.07 0.15 0.3 Miles

Scale: 1:7,355

Quads: Arcola

Counties: Loudoun

Company: Dewberry Engineers Inc.

Lat/Long: 385653 / -773128

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

The project mapped as part of this report has been searched against the Department of Conservation and Recreation's Biotics Data System for occurrences of natural heritage resources in the vicinity of the area indicated for this project. 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 Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100 foot buffer. In addition, the project area does not intersect any of the predictive models identifying potential habitat for natural heritage resources.

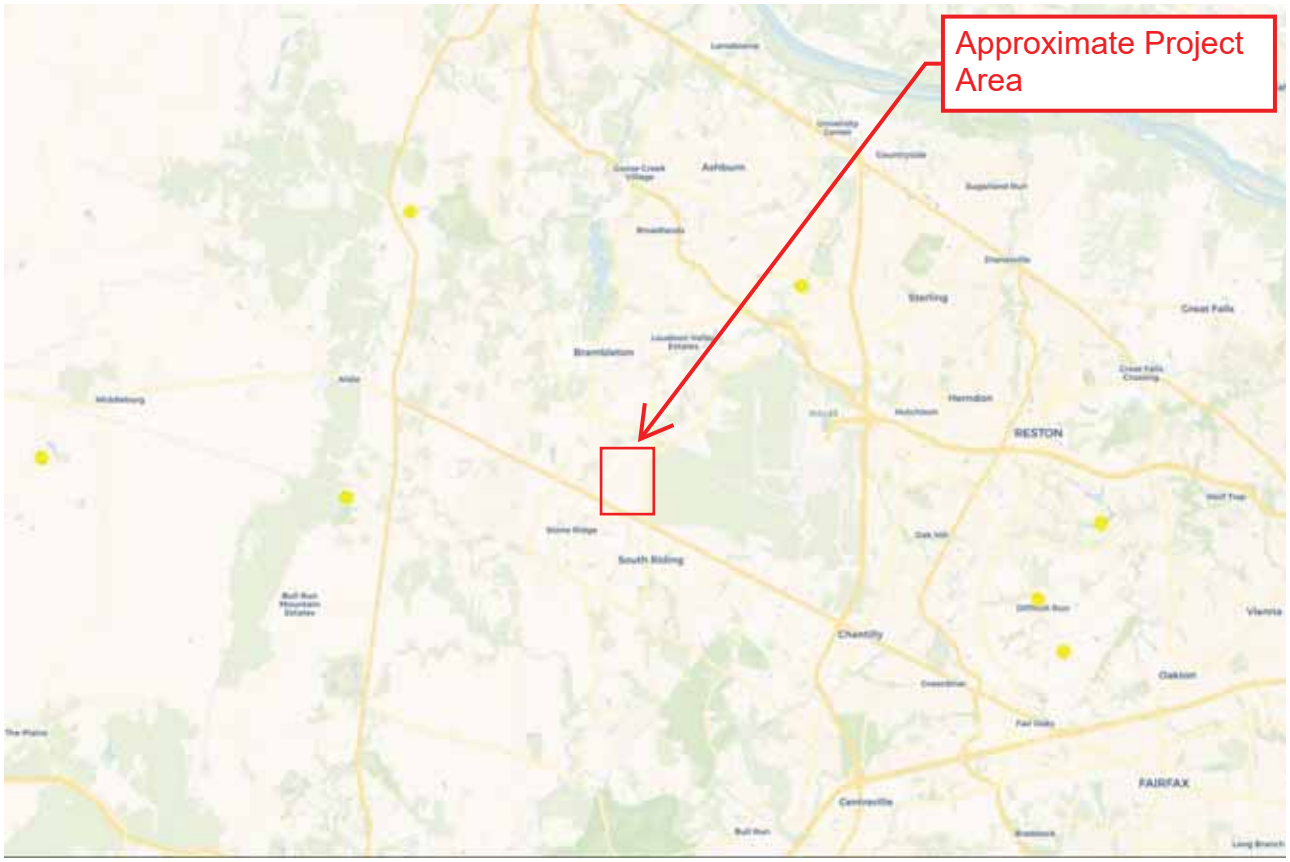
Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect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

Any absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks additional natural heritage resources. New and updated information is continually added to Biotics. Please revisit this website or contact DCR for an update on this natural heritage information if a significant amount of time passes (DCR recommends no more than six months) before it is utilized.

The Virginia Department of Wildlife Resources maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented in the Natural Heritage Data Explorer. Their database may be accessed from https://services.dwr.virginia.gov/fwis/ or contact Amy Martin (804-367-2211 or amy.martin@dwr.virginia.gov).

Thank you for submitting your project to the Virginia Department of Conservation and Recreation's Natural Heritage Data Explorer Web Service. Based on the preliminary screening results for this project, no further correspondence will be sent from this office. Should you have any questions or concerns about this report, the Data Explorer, or other Virginia Natural Heritage Program services, please contact the Natural Heritage Project Review Unit at 804-371-2708.

CCB Mapping Portal



Layers: VA Eagle Nest Locator, VA Eagle Nest Buffers, Eagle Roosts

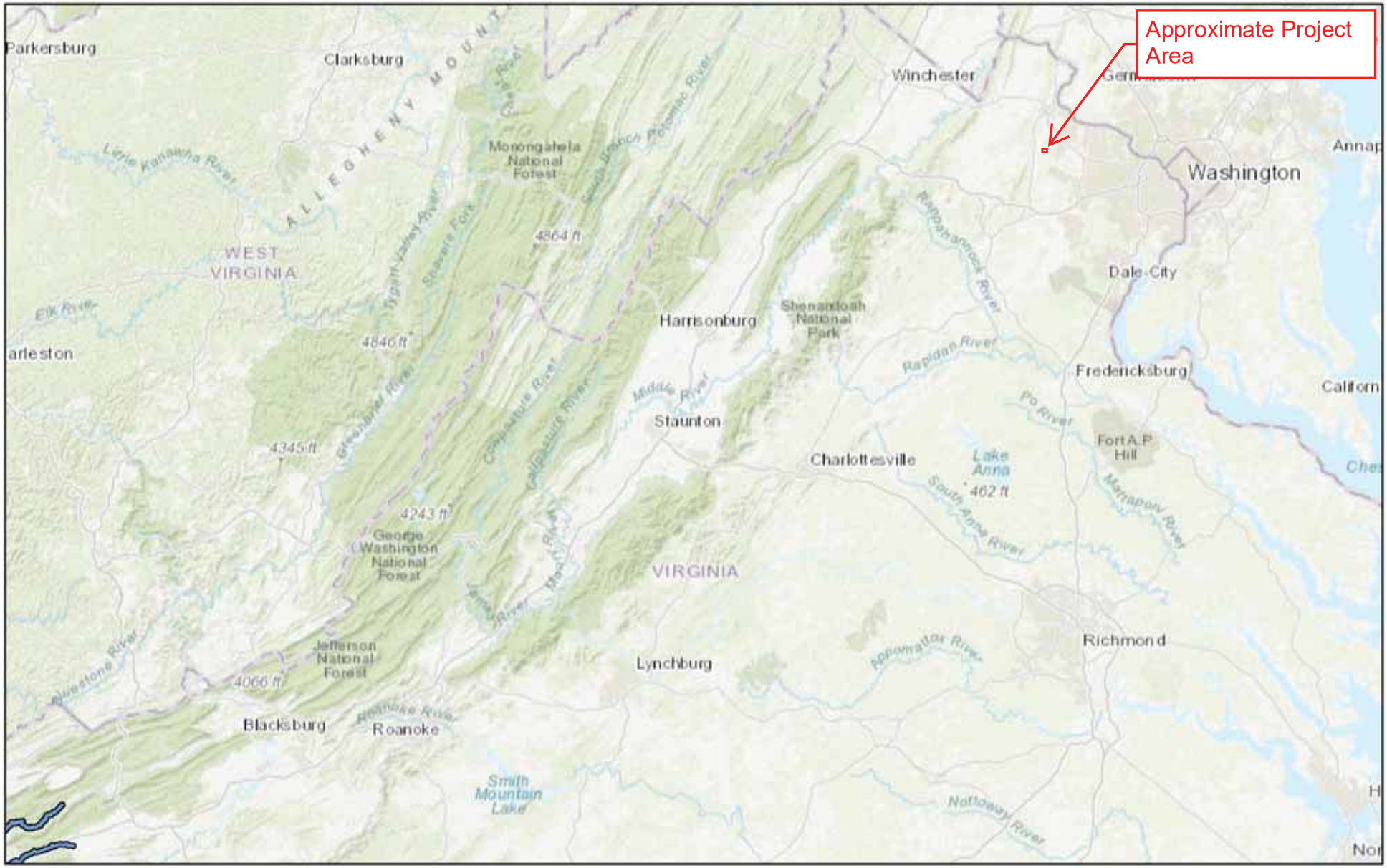
Eagle Nest
Eagle Nest Buffer

Map Center [longitude, latitude]: [-77.52330780029297, 38.94192043445515]

Map Link:
https://www.ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&zoom=12&lat=38.94192043445515&lng=-77.52330780029297&base=Street+Map+%28OSM%2FCarto%29

Report Generated On: 11/06/2024

Critical Habitat Map



November 6, 2024

Virginia Critical Habitat (published)

1:2,311,162

0 15 30 60 mi

0 20 40 80 km

Esri, HERE, Garmin, FAO, USGS, EPA, NPS

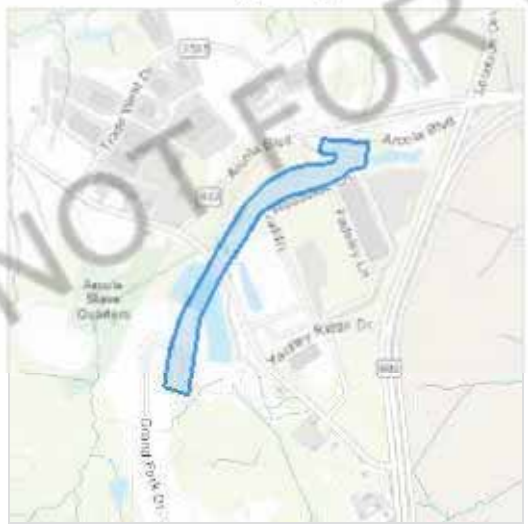
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Loudoun County, Virginia



Local office

Virginia Ecological Services Field Office

(804) 693-6694

6669 Short Lane

Gloucester, VA 23061-4410

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

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 from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

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

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Clams

NAME	STATUS
Green Floater Lasmigona subviridis Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7541	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read

"Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

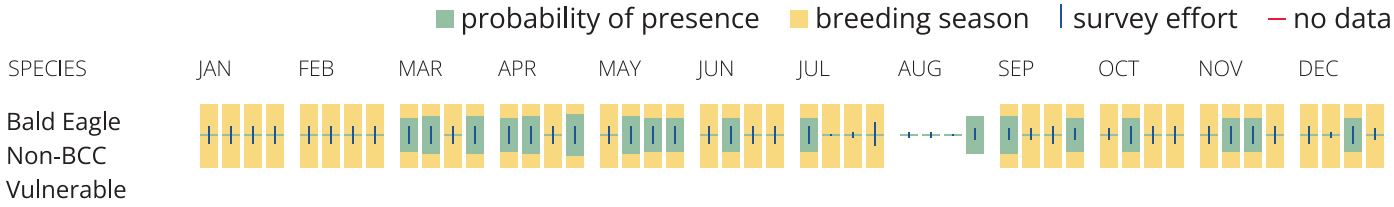
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

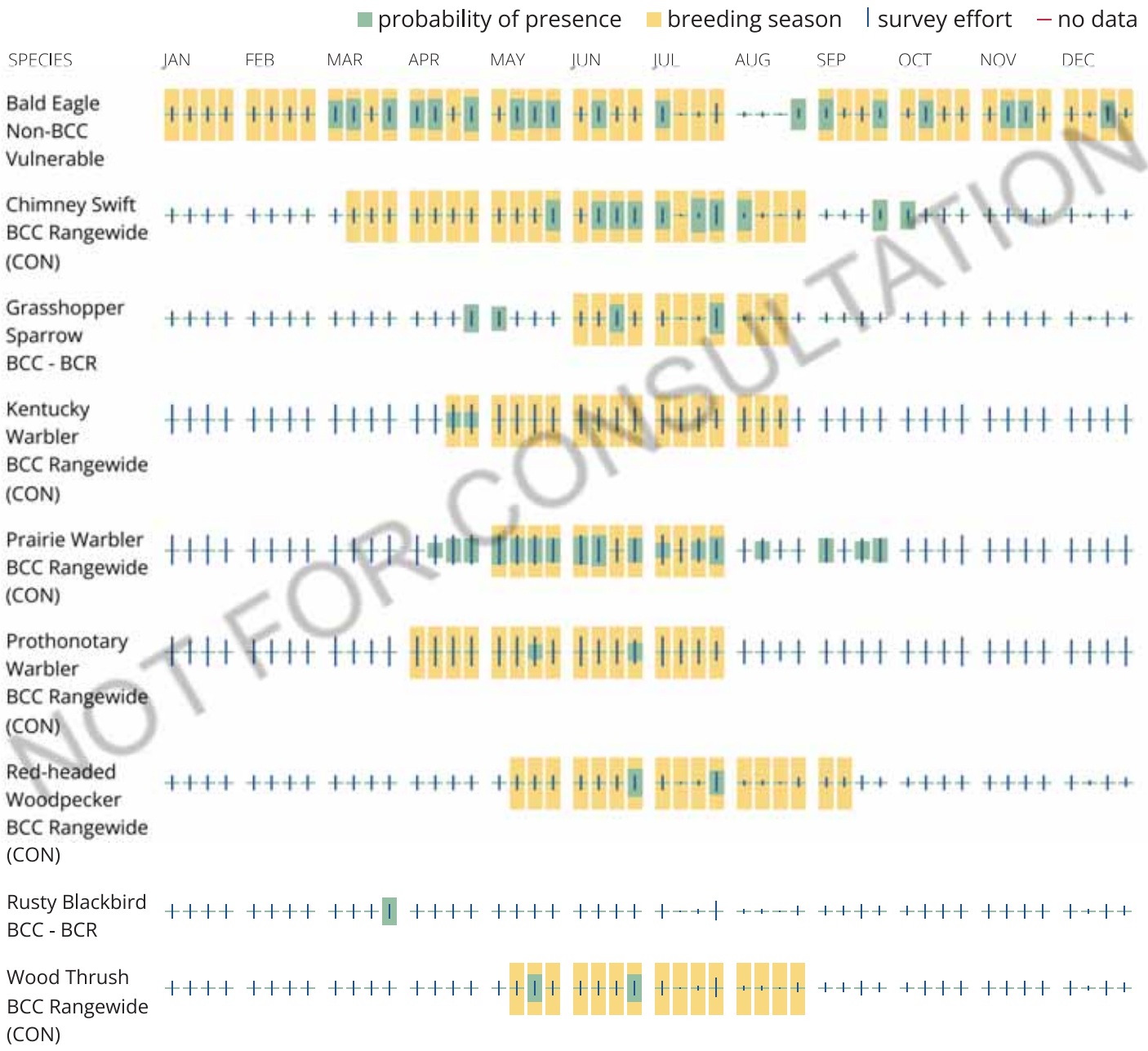
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

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

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND
- PFO1A

FRESHWATER POND
- PUBHh

RIVERINE
- R4SBC
- R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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.

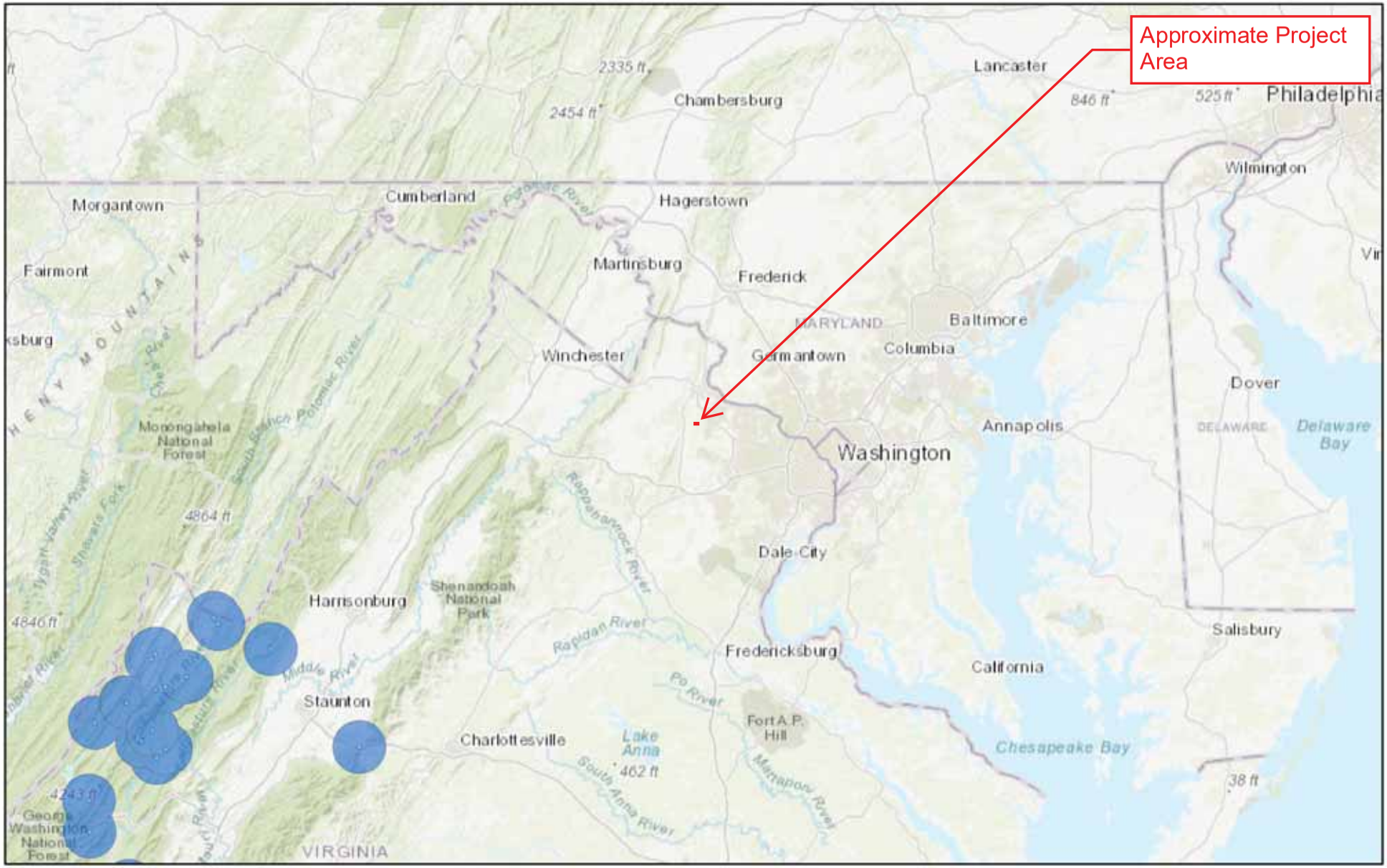
Data exclusions

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.

Little Brown Bat & Tricolored Bat Map



11/6/2024, 3:18:59 PM

Tri-colored and Little Brown Hibernaculum Half Mile Buffer

Tri-colored and Little Brown Hibernaculum 5.5 Mile Buffer

1:2,311,162

0 15 30 60 mi

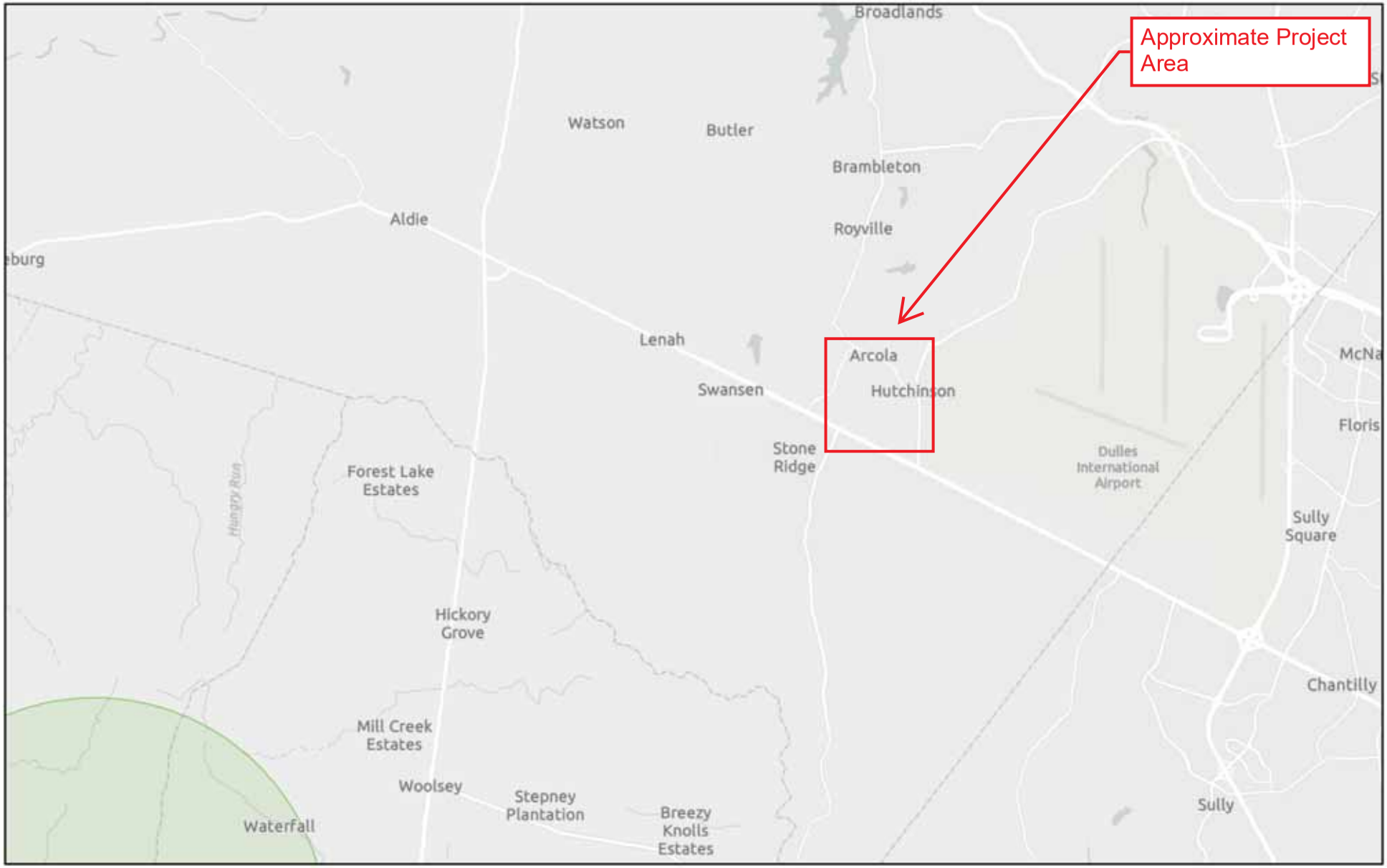
0 20 40 80 km

Esri, HERE, Garmin, FAO, USGS, EPA, NPS

Dept. Game and Inland Fisheries

Esri, HERE, Garmin, FAO, USGS, EPA, NPS |

NLEB Locations and Roost Trees



Overall Site Map

ite Location

38,56,57.6 -77 1,26.4
is **the Search Point**

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

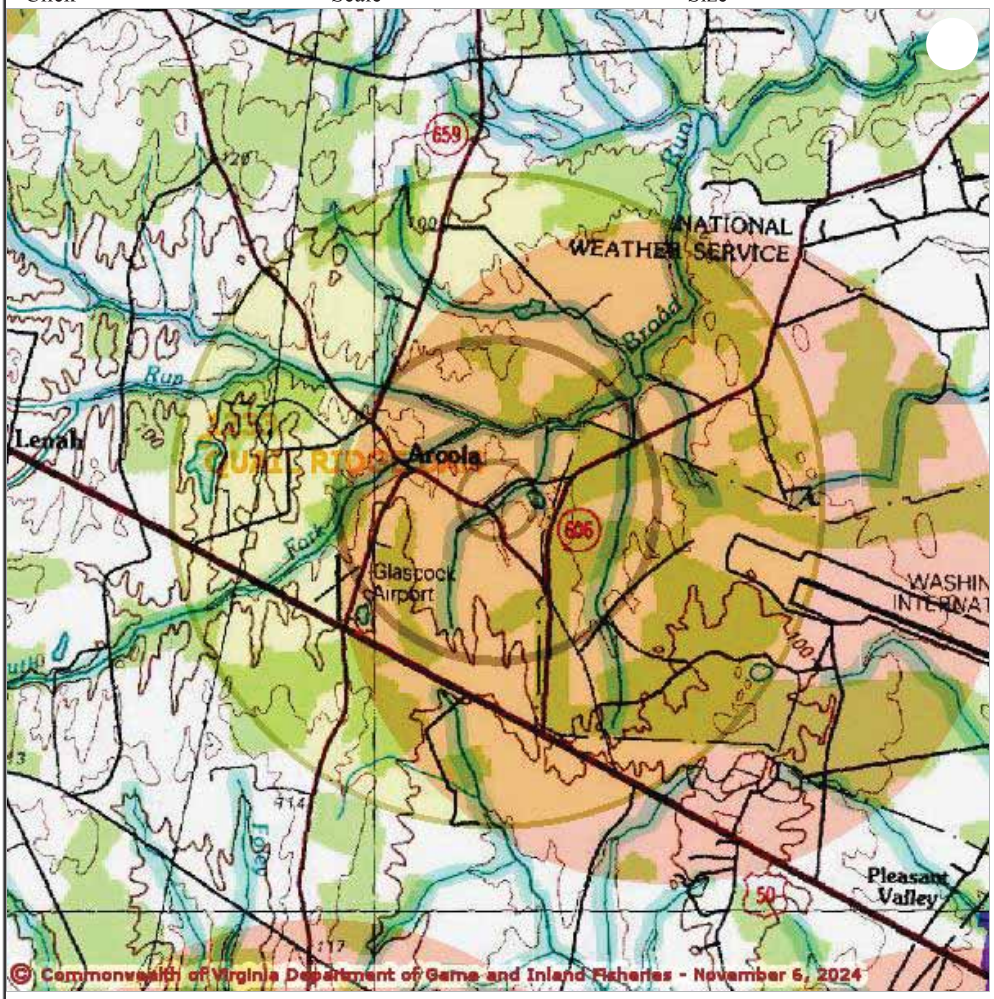
Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

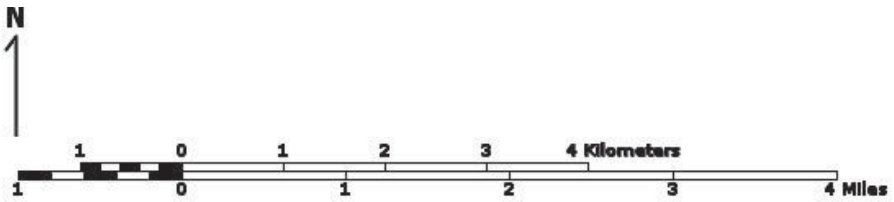
Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, BECAR, BAEANests, TEWaters, TierII, Habitat, Trout, Anadromous

Map Click 38,56,52.9 -77,32,16.0 Pan Id M
Map Scale In Zoom Out
Refresh Browser Page
Screen Size Small Size Big
Help





Point of Search 38,56,57.6 -77,31,26.4
Map Location 38,56,57.6 -77,31,26.4

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 276472 and top 4318986. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5

ap Over ay Legen

T & E Waters

Federal

State

Predicted Habitat WAP Tier I & II

Aquatic

Terrestrial

Trout Waters

Class I - IV

Class V - VI

Anadromous Fish Reach

Confirmed

Potential

23 Impediment

Position Rings 1 mile and 1/4 mile at the Search Point

2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Wildlife Resources.

map assembled 2024-11-06 15:15:32 (qa/qc March 21, 2016 12:20 - tn=2783239.0 dist=3218 I)
$poi=38.9493540 -77.5240254

Official Species List

VaFWIS Search Report Compiled on 11/6/2024, 3:13:57 PM

elp

Known o ike y to occu within a **2 mile radius around point 38.9493540 -77.5240258** in **107 Loudoun County, VA**

View Map of Site Location

505 Known or Likely Species ordered by Status Concern for Conservation (displaying first 32) (32 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
050022	FEST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA,HU6
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus	Yes	BOVA,SppObs
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA,HU6
030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Potential	BOVA,Habitat,HU6
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii	Potential	BOVA,BBA,HU6
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot		HU6
060081	FPST	IIa	Floater, green	Lasmigona subviridis		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
100079	FC	IIIa	Butterfly, monarch	Danaus plexippus		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		HU6
040306		Ia	Warbler, golden-winged	Vermivora chrysoptera		BOVA
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6

040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
060071		IIa	Lampmussel, yellow	Lampsilis cariosa		BOVA
040203		IIb	Cuckoo, black-billed	Coccyzus erythropthalmus		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		HU6
100154		IIc	Butterfly, Persius duskywing	Erynnis persius persius		HU6
100166		IIc	Skipper, Dotted	Hesperia attalus slossonae		BOVA,HU6

To view **All 505 species** View 505

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; 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.

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams

N/A

Impediments to Fish Passage (1 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1233	QUAIL RIDGE DAM	TR-BROAD RUN	Yes

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations

(75 records - displaying first 20 , 1 Observation with Threatened or Endangered species)

View Map of All Query Results Species Observations

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
644076	SppObs	Jul 29 2022	Chanston Osborne	1	FPSE	I	Yes
58701	SppObs	Jul 5 1999	JOHN WHITE	3		III	Yes
637440	SppObs	Aug 9 2022	Shawn McKinley; Jennifer Saville	2		IV	Yes
644004	SppObs	Aug 9 2022	Shawn McKinley; Jennifer Saville	2		IV	Yes
644003	SppObs	Aug 8 2022	Shawn McKinley	2		IV	Yes
637439	SppObs	Aug 8 2022	Shawn McKinley	2		IV	Yes
644001	SppObs	Aug 6 2022	Shawn McKinley; Jennifer Saville	2		IV	Yes
637437	SppObs	Aug 6 2022	Shawn McKinley; Jennifer Saville	2		IV	Yes
637436	SppObs	Aug 5 2022	Shawn McKinley; Jennifer Saville	2		IV	Yes
644000	SppObs	Aug 5 2022	Shawn McKinley; Jennifer Saville	2		IV	Yes
643998	SppObs	Aug 2 2022	Shawn McKinley	2		IV	Yes
637434	SppObs	Aug 2 2022	Shawn McKinley	2		IV	Yes
637432	SppObs	Jul 30 2022	Shawn McKinley	2		IV	Yes
643996	SppObs	Jul 30 2022	Shawn McKinley	2		IV	Yes
637431	SppObs	Jul 29 2022	Shawn McKinley	1		IV	Yes
643995	SppObs	Jul 29 2022	Shawn McKinley	1		IV	Yes

643993	SppObs	Jul 28 2022	Cory Murphy; Jennifer Saville	2		IV	Yes
637429	SppObs	Jul 28 2022	Cory Murphy; Jennifer Saville	2		IV	Yes
643991	SppObs	Jul 27 2022	Cory Murphy; Jennifer Saville	2		IV	Yes
637427	SppObs	Jul 27 2022	Cory Murphy; Jennifer Saville	2		IV	Yes

Displayed 20 Species Observations

Selected 75 Observations View all 75 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species (7 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					
Broad Run (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Cabin Branch (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Elklick Run (20700101)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Lenah Run (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
Stallion Branch (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700081)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700101)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes
tributary (20700101)	ST	030062	ST	Ia	Turtle, wood	Glyptemys insculpta	Yes

Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

Virginia Breeding Bird Atlas Blocks (4 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**	
50204	Arcola, CE	41		III	Yes
50202	Arcola, NE	43		III	Yes
51203	Herndon, CW	29		IV	Yes
51201	Herndon, NW	47	ST	I	Yes

Public Holdings:

N/A

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
107	Loudoun	438	FESE	I

USGS 7.5' Quadrangles:
Arcola
Herndon

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
PL17	Broad Run-Lenah Run	49	ST	I
PL18	Horsepen Run	61	ST	I
PL42	Upper Bull Run	68	FTSE	I
PL45	Cub Run	70	FTST	I

Compiled on 11/6/2024, 3:13:57 PM I2783235.0 report=all searchType= R dist= 3218 poi= 38.9493540 -77.5240258

PixelSize=64; Anadromous=0.019599; BBA=0.032712; BECAR=0.016135; Bats=0.015872; Buffer=0.062062; County=0.048659; HU6=0.0439619999999999; Impediments=0.021797; Init=0.092282; PublicLands=0.020683; Quad=0.024048; SppObs=0.205667; TEWaters=0.019699; TierReaches=0.044851; TierTerrestrial=0.023732; Total=0.857599; Tracking_BOVA=0.184695; Trout=0.016152; huva=0.023852

Tricolored Bat Map

Species Observations where Bat, tri-colored (050027) observed 644076

38,56,57.6 -77,31,26.4 is **the Search Point**

Display	**Item Location** is
at center	not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, Observation

Map Overlay Legend

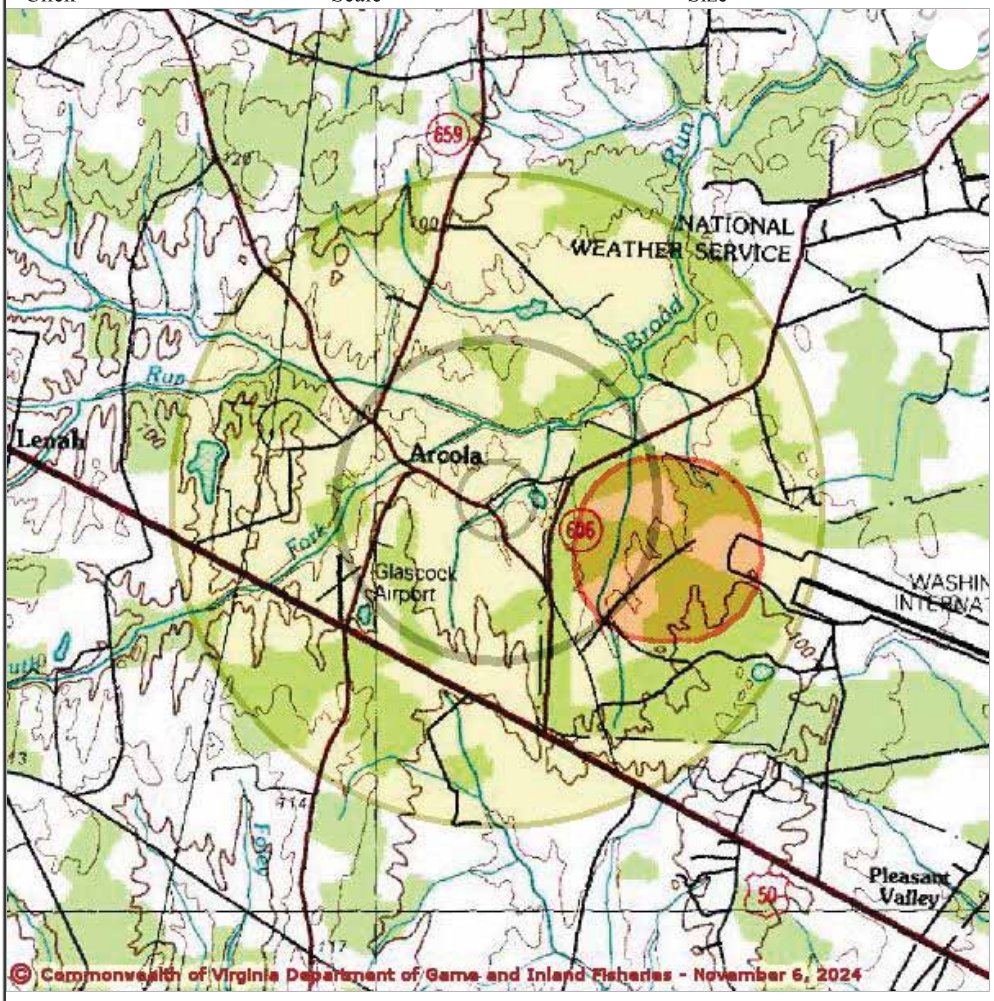
Position Rings 1 mile and 1/4 mile at the Search Point

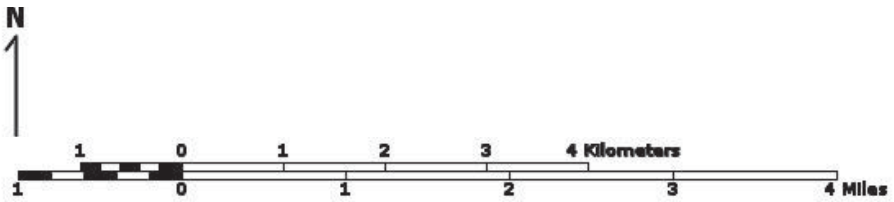
2 mile radius Search Area

Data Observation Site

Refresh Browser Page

Map Click Pan Id M | Map Scale In Zoom Out | Screen Size Small Size Big | Help





Point of Search 38,56,57.6 -77,31,26.4
Map Location 38,56,57.6 -77,31,26.4

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 276471 and top 4318986. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5

square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Wildlife Resources.

map assembled 2024-11-06 15:14:33 (qa/qc March 21, 2016 12:20 - tn=2783235.1 dist=3218 I)
$poi=38.9493540 -77.5240258$query=select xy.x,xy.y, xxvy256.Displace_X, xxvy256.Displace_Y, cc.High_TE, obs.FeatType from vafwis_tables.dbo.vcvSppObs_XY xy join vafwis_tables.dbo.cvSppObs obs on obs.obsID = xy.obsID join vafwis_tables.dbo.cvSppObsSite256 s256 on s256.obsID = xy.obsID join vafwis_tables.dbo.cvSppObsSitexxvy256 xxvy256 on xxvy256.obsSite256 = s256.obsSite256 join vafwis_tables.dbo.cvSppObs_CC cc on cc.obsID = xy.obsID JOIN vafwis_tables.dbo.udf_List2Table('644076',',') list on list.item = obs.obsID

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
P.O. Box 1105, Richmond, Virginia 23218
(800) 592-5482
www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

Michael S. Rolband, PE, PWD, PWS Emeritus
Director
(804) 698-4020

February 27, 2024

Dominion Energy
120 Tredegar Street
Richmond, VA 23219
Attn: Elizabeth L. Hester

Transmitted Via Email: (Elizabeth.l.hester@dominionenergy.com)

Re: Dominion Energy (Electric Transmission) - AS&S - Program Renewal – 2024/2025

Dear Ms. Hester:

The Virginia Department of Environmental Quality (DEQ) hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Construction and Maintenance of Linear Electric Transmission Facilities for Dominion Energy's document dated "February 2024". This coverage is effective from February 27, 2024, to February 26, 2025.

To ensure compliance with approved specifications, the Virginia Erosion and Sediment Control Law and the Virginia Stormwater Management Act, DEQ staff will conduct random site inspections, respond to complaints, and provide on-site technical assistance with specific erosion and sediment control and stormwater management measures and plan implementation.

Please note that your approved Annual Standards and Specifications include the following requirements:

1. Variance, exception, and deviation requests must be submitted to DEQ separately from this Annual Standards and Specifications' submission. DEQ may require project-specific plans associated with such requests to be submitted for review and approval.

2. The following information must be submitted to DEQ for each project at least two weeks in advance of the commencement of regulated land-disturbing activities. Notifications shall be sent by email to: StandardsandSpecs@deq.virginia.gov
    a. Project name or project number;
    b. Project location (including nearest intersection, latitude and longitude, access point);
    c. On-site project manager name and contact info;

d. Responsible Land Disturber (RLD) name and contact info;
e. Project description;
f. Acreage of disturbance for project;
g. Project start and finish date; and
h. Any variances/exceptions/deviations associated with this project.

3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to DEQ once per 6-month period. Project tracking records shall contain the same information as required in the two week e-notifications for each regulated LDA.

4. Erosion & Sediment Control and Stormwater Management plans must be reviewed by DEQ-certified Plan Reviewers. Dominion Energy, as the AS&S holder, retains the authority to approve plans and must do so in writing. Should an AS&S holder contract out to a third-party to fulfill the plan review function, the third-party Plan Reviewer may recommend approval of the plan, but final approval must come from the AS&S holder.

To ensure an efficient information exchange and response to inquiries, DEQ Central Office is your primary point of contact. Central Office staff will coordinate with our Regional Office staff as appropriate

Please contact Abigail Snider at 804-486-0365 or Abigail.Snider@deq.virginia.gov if you have any questions about this letter.

Respectfully,

Kyle Kennedy, Manager
Office of Stormwater Management

Cc: Larry Gavan, DEQ-CO
Antony Angueira, DEQ-CO

REDACTED

PRE-APPLICATION ANALYSIS OF CULTURAL RESOURCES

230 kV Evergreen Mills Part B Lines and Switching Station Project

Loudoun County, VA

DECEMBER 16, 2024

Dewberry

SUBMITTED BY
Dewberry Engineers Inc.
600 Parsippany Road, Suite 301
Parsippany, NJ 07054

SUBMITTED TO
Dominion Energy
c/o Matt Cunningham
5000 Dominion Boulevard
Glen Allen, VA 23060

Pre-Application Analysis of Cultural Resources

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Figures

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Appendices

List of Acronyms

ABPP	American Battlefield Protection Program
CFR	Code of Federal Regulations
CMOS	Complementary Metal Oxide Semiconductor
Code	Code of Virginia
Company	Virginia Electric and Power Company
CWSAC	Civil War Sites Advisory Commission
Dewberry	Dewberry Engineers Inc.
Dominion Energy Virginia	Virginia Electric and Power Company
Dominion	Virginia Electric and Power Company
GIS	Geographic Information System
Guidelines	VDHR's 2008 Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia
kV	Kilovolt
NERC	North American Electric Reliability Corporation
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
Project	Evergreen Mills Part B 230 kV Transmission Line Project
Project Team	Dominion Energy Virginia Project Team, including Dewberry
SCC	State Corporation Commission
SLR	Single-Lens Reflex Camera
TL	Transmission Line
VCRIS	Virginia Cultural Resources Information Service
VDHR	Virginia Department of Historic Resources
VLR	Virginia Landmarks Register

ABSTRACT

This report presents the findings of the Stage 1 Pre-Application Analysis of Cultural Resources (Pre-Application Analysis) for Virginia Electric and Power Company's (Dominion Energy Virginia, Dominion, or the Company) proposed Evergreen Mills Part B 230 kV Transmission Line (TL) Project (Project) located in Loudoun County, Virginia. For this Project, the Company proposes to:

I. Construct a new approximately 0.6-mile 230 kV Line #2183 Loop by cutting the 230 kV Brambleton-Poland Road Line #2183 at Evergreen Mills Junction and looping in and out of the Evergreen Mills Switching Station, resulting in: (i) 230 kV Brambleton-Evergreen Mills Line #2210 and (ii) 230 kV Evergreen Mills-Poland Road Line #2183;

II. Install two additional strings of breakers (totaling four) in a breaker-and-a-half scheme at Evergreen Mills Switching Station to allow for two additional 230kV terminations of 230 kV Brambleton-Evergreen Mills Line #2210, and 230kV Evergreen Mills-Poland Road Line #2183. The third and fourth string will consist of two 230 kV breakers with make ready work for a third breaker on each string to be added in the future to allow for the Customer's third and fourth 230 kV delivery.

The Line #2183 Loop and breaker installation are collectively referred to as "the Project." The Company proposed to construct the Project in two parts in Case No. PUR-2019-00191 ("Evergreen Mills Part A"). During Part A, the Company constructed the Evergreen Mills Switching Station and the Line #2172 Loop. During Part B, the Company proposes to construct the Line #2183 Loop and to install the remaining breakers at the Evergreen Mills Switching Station.

The Project is needed to maintain reliable service for the overall load growth in the Project area, and to comply with mandatory NERC Reliability Standards. The Company is proposing one route for Commission consideration and notice. For the Line #2183 Loop, the existing right-of-way ("ROW") to be used is 160 feet in width and will parallel Line # 2172 and Line #2209 to the Evergreen Mills Substation to minimize the extent of new ROW required. The Proposed Route will extend for approximately 70 feet over an existing 50-foot-wide sanitary sewer easement located adjacent to Evergreen Mills Road. Due to the opposing angles of the County sewer easement and the Proposed Route alignments, the estimated length of the sanitary easement that would be crossed by ROW associated with the Proposed Route is 220 feet.

This report assesses and compares potential impacts on previously recorded historic and archaeological resources in relation to the Proposed Route for the Project. Dewberry Engineers Inc. (Dewberry) conducted the Pre-Application Analysis on behalf of Dominion Energy Virginia to assist in the development of a feasible Project route that minimizes impacts to historic resources. The Pre-Application Analysis is a required study for transmission line projects regulated by the SCC. The analysis was conducted in accordance with the Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) (*Guidelines*) and the SCC's Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (Commonwealth of Virginia 2017).

A total of 81 known archaeological sites were located within one mile of the Proposed Route. One site, 44LD1267, is located within the Project right-of-way. Site 44LD1267 was determined not eligible for listing in the National Register of Historic Places (NRHP) in 2007; according to aerial imagery, the site has been destroyed by construction of a stormwater management basin. As such, the Project has no potential to impact Site 44LD1267. No additional sites are located within 50 feet of the Proposed Route. None of the 81 sites within one mile of the Project have been determined eligible for listing in the NRHP and are unevaluated for inclusion or determined not eligible for listing in the NRHP. No archaeological survey was conducted as part of this effort. The Proposed Route should be assessed for existing conditions and impacts to potentially unknown archaeological sites as design details are advanced.

No National Historic Landmarks (NHLs) are located within 1.5 miles of the Proposed Route. Background research identified two historic properties listed in the NRHP, no battlefields, and no historic landscapes within 1.0 mile of the Proposed Route. No NRHP-eligible properties were identified within 0.5 miles of the Proposed Route. Therefore, two resources meeting criteria specified in *Guidelines* were considered for this analysis, namely, the NRHP-listed Arcola Elementary School (VDHR ID 053-0982) and Arcola Slave Quarters (VDHR ID 053-0984).

Field inspection revealed that the new transmission lines and structures for the Proposed Route would be partially visible from the Arcola Elementary School and Arcola Slave Quarters. Mature trees, vegetation, and topography block Arcola Elementary School and Arcola Slave Quarters from a direct view of the Project. In addition, the existing Evergreen Mills Part A Lines are located parallel to the Proposed Route and are already visible from the Arcola Elementary School and Arcola Slave Quarters. As such, it is anticipated that the impacts of the Project on the Arcola Elementary School and Arcola Slave Quarters will be consistent and in character with their current viewshed. Therefore, the Project will have ***minimal impact*** on the viewshed of the Arcola Elementary School and Arcola Slave Quarters.

Abstract Table. Viewshed Impacts to Architectural Resources

VDHR ID#	Resource Name	NRHP Status	Distance to Project	Viewshed Impact
053-0982	Arcola Elementary School	Listed	0.52 miles	Minimal
053-0984	Arcola Slave Quarters	Listed	0.11 miles	Minimal

1. INTRODUCTION

In November 2024, Dewberry Engineers Inc. (Dewberry), on behalf of Virginia Electric and Power Company (Dominion Energy Virginia, Dominion, or the Company), conducted a Stage 1 Pre-Application Analysis of Cultural Resources (Pre-Application Analysis) for the proposed Evergreen Mills Part B 230 kV Transmission Line (TL) Project in Loudoun County, Virginia. In order to maintain reliable service for the overall growth in the area and to comply with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes in Loudoun County, Virginia, to:

i. Construct a new approximately 0.6-mile 230 kV Line #2183 Loop by cutting the 230 kV Brambleton-Poland Road Line #2183 at Evergreen Mills Junction and looping in and out of the Evergreen Mills Switching Station, resulting in: (i) 230 kV Brambleton-Evergreen Mills Line #2210 and (ii) 230 kV Evergreen Mills-Poland Road Line #2183;

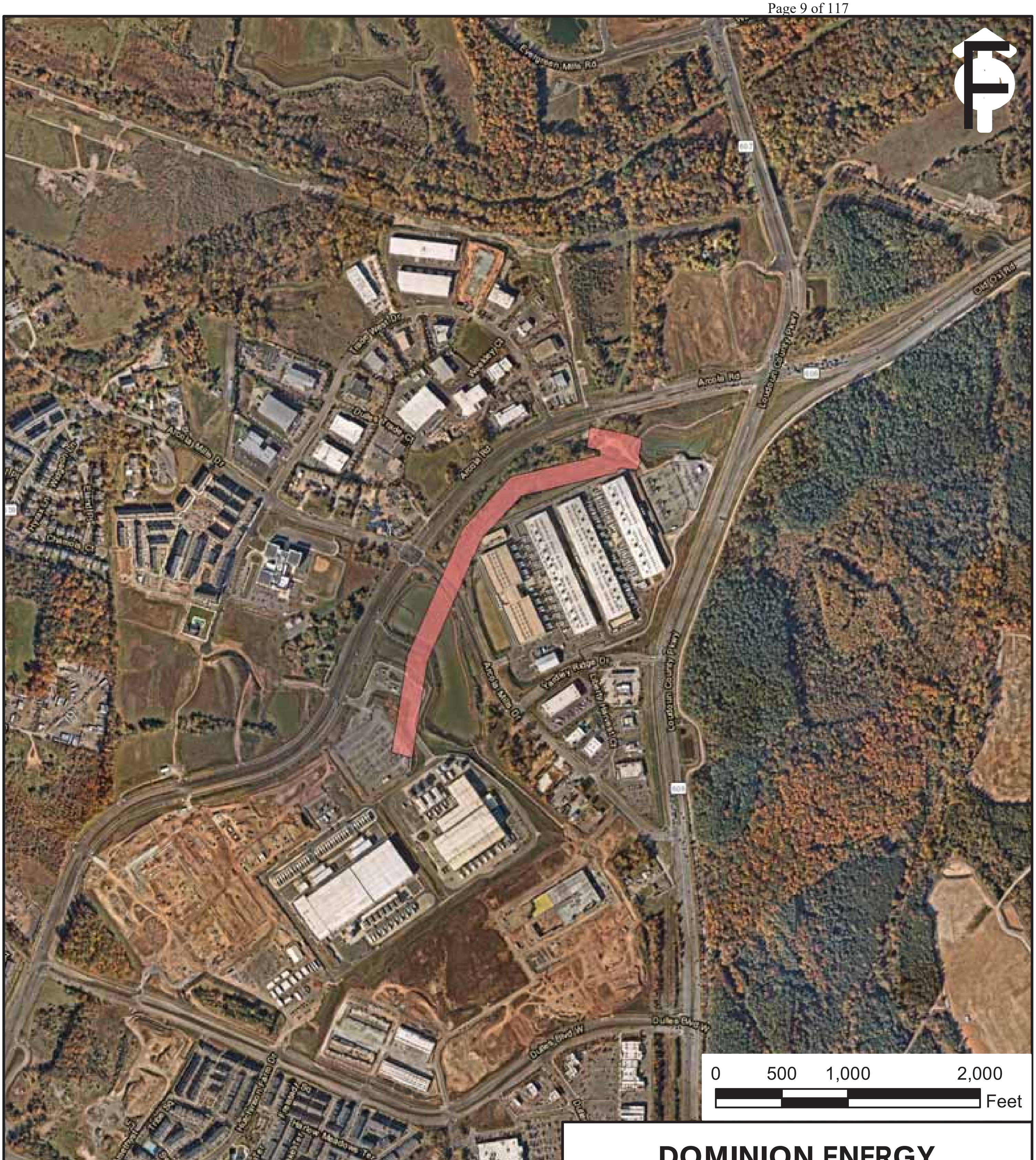
ii. Install two additional strings of breakers (totaling four) in a breaker-and-a-half scheme at Evergreen Mills Switching Station to allow for two additional 230kV terminations of 230 kV Brambleton-Evergreen Mills Line #2210, and 230kV Evergreen Mills-Poland Road Line #2183. The third and fourth string will consist of two 230 kV breakers with make ready work for a third breaker on each string to be added in the future to allow for the Customer's third and fourth 230 kV delivery.

The Line #2183 Loop and breaker installation are collectively referred to as "the Project."

The Company proposed to construct the Project in two parts in Case No. PUR-2019-00191 ("Evergreen Mills Part A"). During Part A, the Company constructed the Evergreen Mills Switching Station and the Line #2172 Loop. During Part B, the Company proposes to construct the Line #2183 Loop and to install the remaining breakers at the Evergreen Mills Switching Station.

The Project is needed to maintain reliable service for the overall load growth in the Project area, and to comply with mandatory NERC Reliability Standards. The Company is proposing one route for Commission consideration and notice. For the Line #2183 Loop, the existing right-of-way ("ROW") to be used is 160 feet in width and will parallel Line # 2172 and Line #2209 to the Evergreen Mills Substation to minimize the extent of new ROW required. The Proposed Route will extend for approximately 70 feet over an existing 50-foot-wide sanitary sewer easement located adjacent to Evergreen Mills Road. Due to the opposing angles of the County sewer easement and the Proposed Route alignments, the estimated length of the sanitary easement that would be crossed by ROW associated with the Proposed Route is 220 feet. The Proposed Route for the Project is shown in **Figure 1**.

The Pre-Application Analysis assesses potential impacts on previously recorded historic and archaeological resources related to the Proposed Route. Dewberry conducted the Pre-Application Analysis on behalf of Dominion Energy Virginia to assist in the development of a feasible Project design that minimizes impacts on historic resources. The study was completed in accordance with the Virginia Department of Historic Resources' (VDHR) guidance titled *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) (*Guidelines*) and the SCC's Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (Commonwealth of Virginia 2017).



DOMINION ENERGY

OVERVIEW OF THE EVERGREEN MILLS PROPOSED ROUTE

Pre-Application Analysis of Cultural Resources
230 kV Evergreen Mills Part B Transmission Line Project
Loudoun County, Virginia

SCALE: 1" = 1000'   DATE: December 2024

Dewberry

FIGURE 1

LEGEND

Proposed Route

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors

Path: Q:\50184751\GIS\Mxd\1_OverviewoftheProposedRoute_EvergreenMillsSCCPreAppAnalysis_LoudounCountyVA.mxd

2. OVERVIEW AND PROJECT DESCRIPTION

For this Project, Dominion Energy Virginia retained the services of Dewberry to help collect information within the study area and document the findings of the Environmental Routing Study that will be attached to the SCC application for the Project. The Company considered the facilities required to construct and operate the new feeds; the amount of existing development in each area; the potential for environmental impacts on communities; and the relative cost of each option. After a review of the route options that could address the power needs of the Customer, the Company identified one electrical option for the Evergreen Mills Part B Lines, which is located entirely in Loudoun County, Virginia. The electrical option requires a new pair of parallel 230 kV double-circuit transmission lines that will originate from existing infrastructure and extend to the Evergreen Milles Switching Station, which is located immediately south of Arcola Mills Drive approximately 0.3 miles west of its intersection with Loudoun County Parkway.

Within the identified Project study area, the Company identified and assessed one route for the proposed new transmission lines required by the Project (the Proposed Route, or Route). See **Figure 1** for an overview of the Proposed Route. The route would utilize the existing 160-foot-wide right-of-way between the Company's existing Evergreen Mills Switching Station located off Arcola Mills Drive and a tap point on the existing Brambleton-Yardley Ridge Line #2172 and Brambleton-Poland Road Line #2183 located approximately 0.1 miles west of the Yardley Ridge Switching Station. See **Figures 2 through 4** for an overview of the structures included in the Proposed Route.

2.1 Proposed Route Description

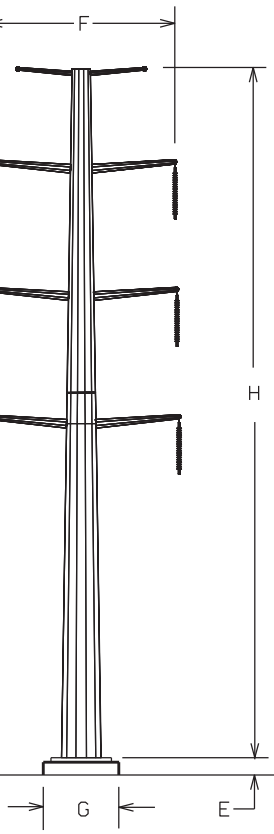
The length of the corridor for the Project route is approximately 0.6 miles (see **Figure 1**). The Proposed Route would originate from the existing Brambleton-Yardley Ridge Line #2172/Brambleton-Poland Road Line #2183 double circuit system at a tap point approximately 0.1 miles west of the Yardley Ridge Switching Station, which is located near Loudoun County Parkway and Arcola Boulevard. From the tap point, the Proposed Route would extend for approximately 0.3 miles southwest to Evergreen Mills Road within a forested stream valley associated with an unnamed intermittent tributary to Broad Run. Angling to the south, the Proposed Route would span Evergreen Mills Road and extend for approximately 0.3 miles to the proposed Evergreen Mills Switching Station. This segment would span two unnamed intermittent tributaries to Broad Run and a stormwater management basin and then extend into the proposed station adjacent to the Customer's data center facility within Arcola Center. The minimum, maximum, and average proposed structure heights are 35 feet, 130 feet, and 100 feet, respectively.

2.2 Management Recommendations

A total of 81 known archaeological sites were located within one mile of the Proposed Route. One site, 44LD1267, is located within the Project right-of-way. Site 44LD1267 was determined not eligible for listing in the NRHP in 2007, and according to aerial imagery, the site has been destroyed by construction of a stormwater management basin. As such, the Project has no potential to impact Site 44LD1267. No additional sites are located within 50 feet of the Proposed Route. None of the 81 sites within one mile of the Project have been determined eligible for listing in the NRHP and are unevaluated for inclusion or determined not eligible for listing in the NRHP. No archaeological survey was conducted as part of this effort. The Proposed Route should be assessed for existing conditions and impacts to potentially unknown archaeological sites as design details are advanced.

No National Historic Landmarks (NHLs) are located within 1.5 miles of the Proposed Route. Background research identified two historic properties listed in the NRHP, no battlefields, and no historic landscapes within 1.0 mile of the Proposed Route. No NRHP-eligible properties were identified within 0.5 miles of the Proposed Route. Therefore, two resources meeting criteria specified in *Guidelines* were considered for this analysis, namely, the NRHP-listed Arcola Elementary School (VDHR ID 053-0982) and Arcola Slave Quarters (VDHR ID 053-0984). Dewberry recommends that the Proposed Route would have a minimal impact on the Arcola Elementary School and a minimal impact on the Arcola Slave Quarters. More information about each resource and the nature of potential impacts from the proposed Project can be found in the chapters that follow.

230KV LINE #2183 EVERGREEN MILLS - POLAND ROAD
230KV LINE #2210 EVERGREEN MILLS - BRAMBLETON



DOUBLE CIRCUIT DEADEND MONOPOLE STRUCTURE

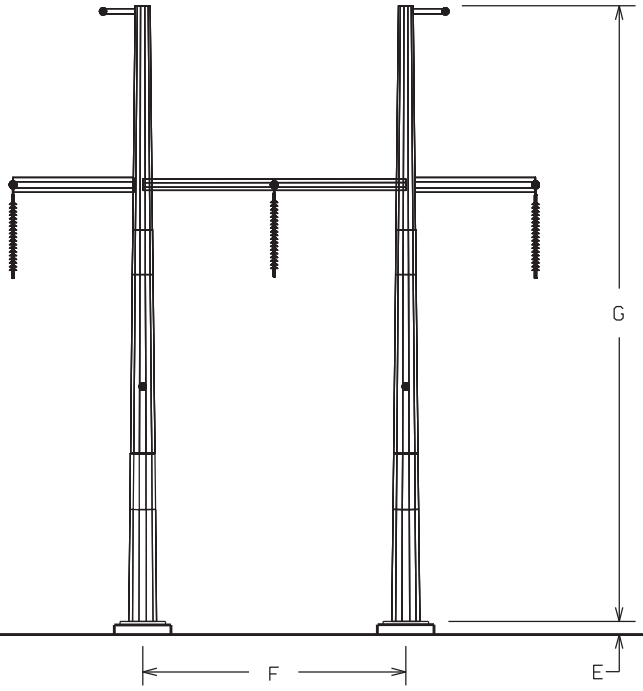
A. MAPPING OF THE ROUTE:	SEE ATTACHMENT II.B.5
B. RATIONALE FOR STRUCTURE TYPE:	ACCOMODATES EFFICIENT USE R/W AND REDUCES BLOWOUT FOOTPRINT
C. LENGTH OF R/W (STRUCTURE QTY):	0.65 MILES (6)
D. STRUCTURE MATERIAL: RATIONAL FOR MATERIAL:	GALVANIZED STEEL GALVANIZED STEEL WAS SELECTED FOR ITS CORROSION RESISTANCE, ENVIRONMENTAL SUSTAINABILITY DUE TO LOW MAINTENANCE, AESTHETIC APPEAL, LOW COST AND LONGEVITY.
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	CONCRETE SEE NOTE 2
F. AVERAGE WIDTH AT CROSS ARM:	28'
G. AVERAGE WIDTH AT BASE:	9' DIAMETER FOUNDATION (SEE NOTE 3)
H. MINIMUM STRUCTURE HEIGHT: MAXIMUM STRUCTURE HEIGHT: AVERAGE STRUCTURE HEIGHT:	100' 130' 115'
I. AVERAGE SPAN LENGTH (RANGE):	573' (392' - 808') (WIND SPAN)
J. MINIMUM CONDUCTOR-TO-GROUND:	25.5' (AT MAXIMUM OPERATING TEMPERATURE)

NOTE:

1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.
2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5'
3. FINAL FOUNDATION DIAMETER SHALL BE BASED UPON FINAL ENGINEERING.
4. STRUCTURE HEIGHTS ARE MEASURED FROM THE STRUCTURE CENTERLINE.

FIGURE 2

230KV LINE #2183 EVERGREEN MILLS - POLAND ROAD
230KV LINE #2210 EVERGREEN MILLS - BRAMBLETON



SINGLE CIRCUIT DEADEND H-FRAME STRUCTURE

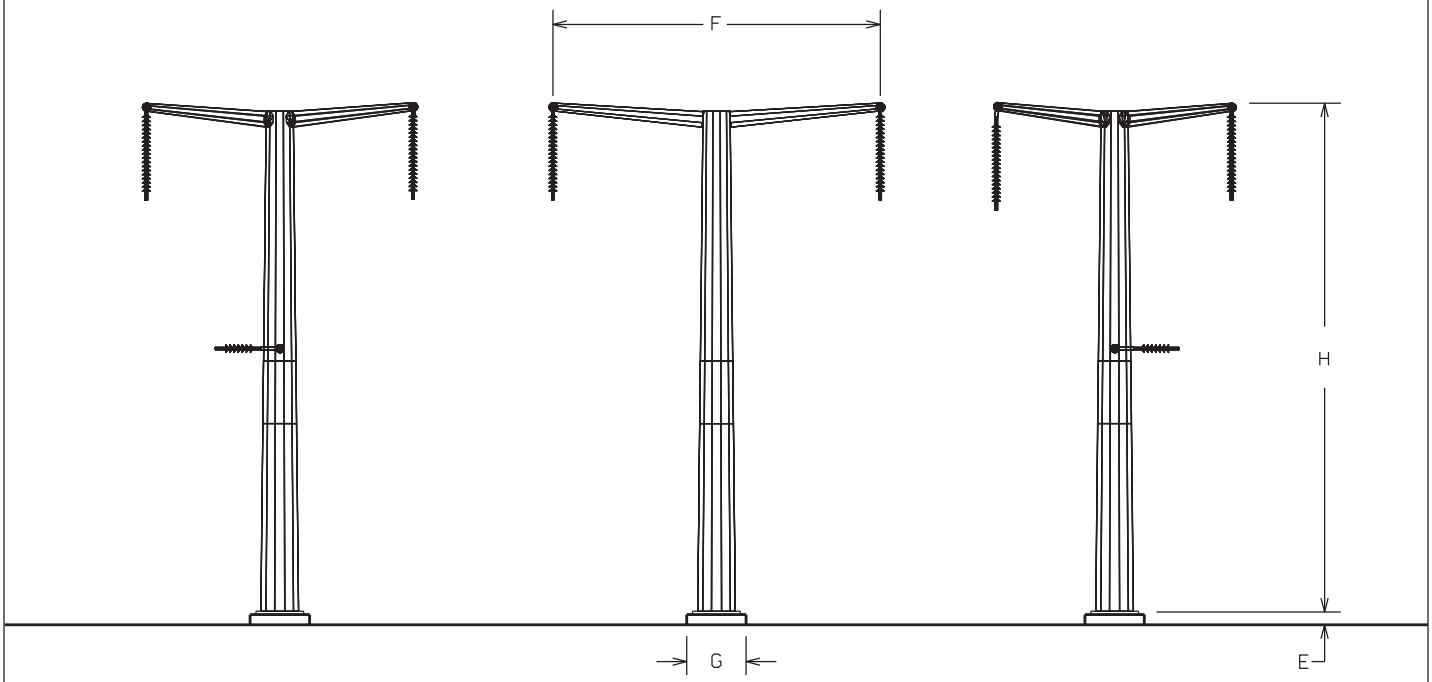
A. MAPPING OF THE ROUTE:	SEE ATTACHMENT II.B.5
B. RATIONALE FOR STRUCTURE TYPE:	MAINTAINS FLAT CONFIGURATION TO ALLOW CROSSING OF EXISTING CIRCUITS.
C. LENGTH OF R/W (STRUCTURE QTY):	0.03 MILES (2)
D. STRUCTURE MATERIAL: RATIONAL FOR MATERIAL:	GALVANIZED STEEL GALVANIZED STEEL WAS SELECTED FOR ITS CORROSION RESISTANCE, ENVIRONMENTAL SUSTAINABILITY DUE TO LOW MAINTENANCE, AESTHETIC APPEAL, LOW COST AND LONGEVITY.
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	CONCRETE SEE NOTE 2
F. AVERAGE WIDTH AT BASE:	23.6', 4.5' DIAMETER FOUNDATION (SEE NOTE 3)
G. MINIMUM STRUCTURE HEIGHT: MAXIMUM STRUCTURE HEIGHT: AVERAGE STRUCTURE HEIGHT:	55' 55' 55'
H. AVERAGE SPAN LENGTH (RANGE):	86' (79' - 92') (WIND SPAN)
I. MINIMUM CONDUCTOR-TO-GROUND:	25.5' (AT MAXIMUM OPERATING TEMPERATURE)

NOTE:

1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.
2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5'
3. FINAL FOUNDATION DIAMETER SHALL BE BASED UPON FINAL ENGINEERING.
4. STRUCTURE HEIGHTS ARE MEASURED FROM THE STRUCTURE CENTERLINE.

FIGURE 3

230KV LINE #2183 EVERGREEN MILLS - POLAND ROAD
230KV LINE #2210 EVERGREEN MILLS - BRAMBLETON



DOUBLE CIRCUIT DEADEND 3-POLE STRUCTURE

A. MAPPING OF THE ROUTE:	SEE ATTACHMENT II.B.5
B. RATIONALE FOR STRUCTURE TYPE:	ACCOMODATES LINE TO BE DEADENDED IN VICINITY OF OVERHEAD CROSSING ALLOWING FOR LINE TO BE ROUTED TO EVERGREEN MILLS SWITCHING STATION.
C. LENGTH OF R/W (STRUCTURE QTY):	0.02 MILES (1)
D. STRUCTURE MATERIAL: RATIONAL FOR MATERIAL:	GALVANIZED STEEL GALVANIZED STEEL WAS SELECTED FOR ITS CORROSION RESISTANCE, ENVIRONMENTAL SUSTAINABILITY DUE TO LOW MAINTENANCE, AESTHETIC APPEAL, LOW COST AND LONGEVITY.
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	CONCRETE SEE NOTE 2
F. AVERAGE WIDTH AT CROSS ARM:	26.2'
G. AVERAGE WIDTH AT BASE:	5.5' DIAMETER FOUNDATION (SEE NOTE 3)
H. MINIMUM STRUCTURE HEIGHT: MAXIMUM STRUCTURE HEIGHT: AVERAGE STRUCTURE HEIGHT:	40' 40' 40'
I. AVERAGE SPAN LENGTH:	95' (WIND SPAN)
J. MINIMUM CONDUCTOR-TO-GROUND:	25.5' (AT MAXIMUM OPERATING TEMPERATURE)

NOTE:

1. INFORMATION CONTAINED ON DRAWING IS PRELIMINARY IN NATURE AND SUBJECT TO CHANGE DURING FINAL DESIGN.
2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5'
3. FINAL FOUNDATION DIAMETER SHALL BE BASED UPON FINAL ENGINEERING.
4. STRUCTURE HEIGHTS ARE MEASURED FROM THE STRUCTURE CENTERLINE.

FIGURE 4

3. RESEARCH DESIGN

This analysis included tabulation of previously surveyed historic properties within the vicinity of the Project and application of the criteria of adverse effect (36 CFR § 800.5) resulting from the Proposed Route. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. VDHR documentation and recent aerial photographs were reviewed and a field reconnaissance was conducted for each previously recorded historic property. The field reconnaissance assessed a property's integrity of feeling, setting, and association and provided photo documentation of the property, including views toward the Proposed Route. This Pre-Application Analysis is not intended as a substitute for a comprehensive historic resources survey. Full archaeological and architectural surveys may be recommended for the approved route, as necessary.

3.1 Background Research

In November 2024, Dewberry conducted background research to identify previously recorded historic properties and historic properties included in historic documents and archives. Background research conducted for this analysis involved review of the VDHR VCRIS GIS database, designed to identify previously recorded NHLs located within 1.5 miles of the Proposed Route, historic properties listed in the NRHP, battlefields, historic landscapes located within 1.0 mile of the Proposed Route, historic properties eligible for listing in the NRHP or listed in the Virginia Landmarks Register (VLR) and located within 0.5 miles of the Proposed Route, and archaeological sites located directly within or adjacent to the Proposed Route. Dewberry also reviewed National Park Service (NPS) resources, American Battlefield Protection Program (ABPP) maps, and related documentation (NPS 2009; VDHR 2024). Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each historic property within the defined tiers, a review of existing documentation and a field reconnaissance were undertaken to confirm each property's significant character-defining features, as well as the character of its current setting. Following confirmation of historic properties, Dewberry assessed the potential for Project impacts to the identified resources. Specific attention was given to determining if construction related to the Project might introduce new visual elements to the resource's viewshed or directly impact the resource through construction, either directly or indirectly altering those qualities or characteristics that qualify the historic resource for listing in the NRHP. All data collection was performed according to the *Guidelines* (VDHR 2008). Dewberry located historic properties within the defined study tiers in a GIS database to facilitate inclusion in this Pre-Application Analysis report.

3.2 Field Reconnaissance

Field reconnaissance included visual inspection of the proposed Project study area with the intention of verifying the historic properties detected with the search parameters specified above. Field inspection included digital photo documentation of an identified resource's existing conditions, including its main elevation, setting, and views toward and from the Proposed Route. Photographs were taken from publicly accessible locations. No reconnaissance-level or subsurface archaeological testing was conducted as part of this effort.

3.3 Assessment of Potential Impacts

Following identification and field reconnaissance of historic resources, each resource was assessed for potential impacts from Project activities. Dewberry's project GIS database provided digital orthophotos of the Project location along with a photo key providing the location of photographed historic properties. The GIS database also included the boundaries of the historic resource and a depiction of the proposed Project limits. In addition, photo-simulations of proposed transmission structures were examined in order to evaluate views of both existing and proposed conditions.

Dewberry examined each identified historic resource for its qualities and characteristics qualifying it for listing in the NRHP and determined whether the Proposed Route may alter or diminish the integrity of the

resource and its associated significance. The photo-simulations provide the viewshed of the proposed Project's potential intrusion into a historic resource's setting and if those visual intrusions would directly or indirectly alter those qualities or characteristics qualifying the historic resource for listing in the NRHP. Identified impacts were characterized as:

- **None** – Project is not visible from the resource.
- **Minimal** – Viewsheds have existing transmission lines, there would be only a minor change in height, and/or other views are partially obscured by topography or vegetation.
- **Moderate** – Viewsheds have more expansive views of the transmission line, more dramatic changes in height are proposed, and/or the overall visibility of the Project would be greater.
- **Severe** – Existing viewshed contains no transmission line, the view to the Project would be relatively unobstructed, the new transmission line would introduce a significant change to the setting of historic properties, and/or a dramatic change in the height of an existing transmission line would take place in close proximity to historic properties.

3.4 Report Preparation

This report synthesizes and summarizes the results of the background research, field reconnaissance, and analysis and provides a discussion of archaeological sites/zones and architectural resources located within the right-of-way of the Proposed Route. In addition, the report includes information on previously conducted cultural resource investigations, NRHP-eligibility determinations, preservation or open space easements, and potential impacts of the Project.

4. PREVIOUS CULTURAL RESOURCE SURVEYS AND KNOWN CULTURAL RESOURCES

This chapter summarizes previously known and recorded cultural resources within the tiered study area buffers as defined in the *Guidelines* (VDHR 2008). This includes previously conducted cultural resource surveys, previously recorded archaeological and architectural resources according to VCRIS, and battlefield areas as defined by the NPS ABPP.

4.1 Previously Surveyed Areas

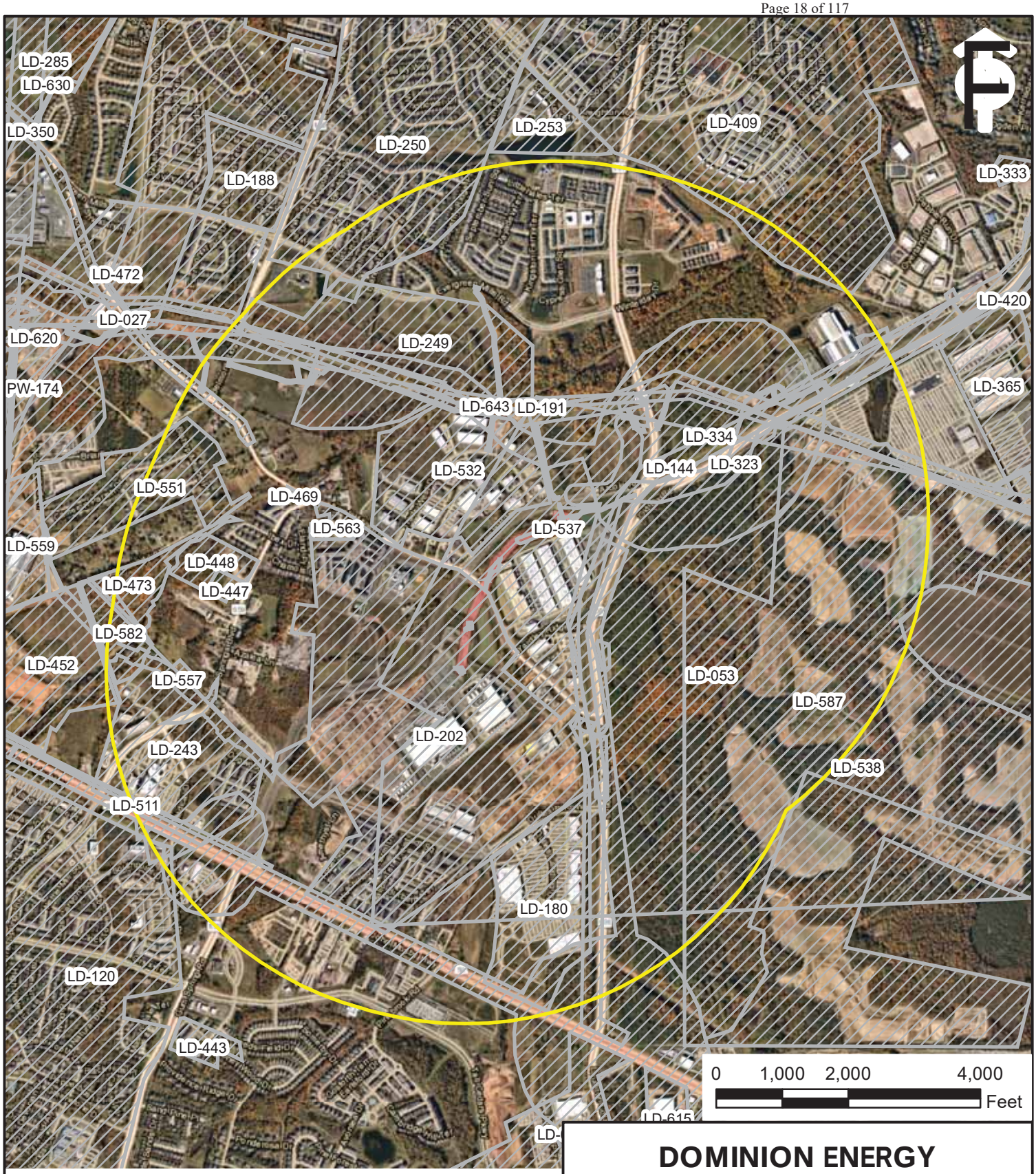
VDHR and VCRIS records indicate 29 prior cultural resource surveys within one mile of the Project; seven surveys overlap with portions of the right-of-way of the Proposed Route (VDHR 2024). These surveys include archaeological investigations, while some also assess for historic architectural resources. The oldest survey was conducted in 1979, and the most recent survey was conducted in 2024. A list of previously conducted surveys within one mile of the proposed Project is included in **Table 1** and illustrated in **Figure 5**.

Table 1: Previously Conducted Cultural Resource Surveys Within One Mile of the Proposed Project

VDHR ID#	Report Title	Year	Author
LD-027	A Phase I Cultural Resources Reconnaissance of the Route 621 Modernization Project, Loudoun County, Virginia	1979	James W. Mueller
LD-053*	Historic and Archaeological Survey Report Washington Dulles International Airport, Loudoun and Fairfax Counties, VA	1989	N/A
LD-120	A Phase I Investigation of Circa 800 Acre Parcel to be Developed as Stone Ridge, Loudoun County, Virginia	2000	William M. Gardner, Gwen Hurst
LD-144*	Phase I Archaeological Survey of the Washington Dulles International Airport Portion of the Proposed W-132, Route 606 Water Main, Route 50 to Dulles Trade Center II	2003	Martin T. Fuess, Bryan T. Butina
LD-180	Phase I Archeological Investigations of a Circa 80 Acre Property Along John Mosby Highway, Loudoun County, Virginia	2004	Christine Jirikowic, Michael Owens, Gwen Hurst
LD-191	Cultural Resource Survey of the Proposed 230 kV Brambleton-Greenway Transmission Line, Loudoun County, Virginia	2006	Todd Butler, Edward Moore, Megan Rupnik
LD-202*	Phase I Archaeological Survey of the Arcola Center Property, Loudoun County, Virginia	2007	Kelly Arford, Heather Crowl, Craig Tuminaro
LD-243	Phase I Archeological Investigations of the 124.5 Acre Glascock Property, Loudoun County, Virginia	2006	Stephanie Sperling, Elizabeth Paynter
LD-249	A Phase I Archeological Study of Circa 119 Acres Proposed for Development as Wetland Mitigation Area, Loudoun County, Virginia	1999	William M. Gardner, Michael Clem, Gwen J. Hurst
LD-250	A Phase I Archeological Study of Circa 1300 Acres Proposed for Development as Part of the Brambleton Planned Community, Loudoun County, Virginia	2001	William Gardner, Kimberly Snyder, Gwen Hurst
LD-323*	Cultural Resources Survey for the Dulles Loop-Route 606 Project, Loudoun County, Virginia	2012	Charles Goode, Sarah Traum
LD-333*	Supplemental Cultural Resources Survey for the Dulles Loop-Route 606 Project, Loudoun County, Virginia	2013	Charles Goode, Sarah Traum
LD-334*	Cultural Resources Survey Environmental Assessment for the Proposed Dulles Air Cargo, Passenger, and Metro Access Highway, Loudoun County, Virginia	2013	J. Eric Deetz, Jeroen van den Hurk, Lindsay Flood, D. Allen Poyner, Amanda Keeny, Susan E. Bamann
LD-409	Phase I Archeological Investigations of the Circa 450 Acre Loudoun County Reserve Property, Loudoun County, Virginia	2001	William M. Gardner, Kimberly A. Snyder, Gwen Hurst

VDHR ID#	Report Title	Year	Author
LD-447	Phase I Archaeological Survey of the Montessori School Tract, Loudoun County, Virginia	2009	Raymond Ezell, Douglas J. Finch
LD-448	Phase I Archaeological Survey of the Rose Tract, Loudoun County, Virginia	2009	Raymond Ezell, Douglas J. Finch
LD-452	Phase I Archeological Investigations of the Circa 95-Acre Shockey Property, Loudoun County, Virginia	2006	Christopher Shephard
LD-469	Cultural Resources Survey for Proposed Evergreen Mills Road Turn Lane Project, Loudoun County, Virginia	2018	Graham A. Callaway, Mary Ruffin Hanbury
LD-473	Phase I Cultural Resources Survey of the 8.42 Hectare (20.8 Acre) Cecca Project Area, Loudoun County, Virginia	2018	Hope Smith, Dara Friedberg
LD-511	Cultural Resource Survey of the Phase II Route 50 Washington Gas Transmission Main Extension, Loudoun County, Virginia	2009	Marco Gonz ├ílez, Brad Hatch, Sean Maroney
LD-532	Phase I Archaeological Survey of the Goupda Property East of Arcola, Loudoun County, Virginia	2006	Michael Clem, Nora Sheehan
LD-537*	Phase I Cultural Resources Survey of the 5.21-Hectare (12.9-Acre) Evergreen 230 kV Transmission Line Loop Project, Loudoun County, Virginia	2020	David H. Dutton, Robert J. Taylor, Jr., Dara Friedberg
LD-538	Phase I Archaeological Survey of Dulles Western Solar Development, Washington Dulles International Airport, Loudoun County, Virginia	2021	Rob Wanner, Joseph Clemens, Henry Ward
LD-551	A Phase I Archeological Investigation of the Circa 70 Acre Briarfield Estates, Loudoun County, Virginia	2004	Christine Jirikowic, Joan Walker, Joseph Gingerich, Gwen Hurst
LD-557	Phase I Cultural Resources Survey of the 8.9 Hectare (22 Acre) Dulles West Project Area, Loudoun County, Virginia	2021	David H. Dutton, Robert J. Taylor, Jr., Dara Friedberg
LD-563	A Phase I Archeological Investigation of the Arcola Methodist Church, Loudoun County, Virginia	2003	Joan M. Walker, Kimberly A. Snyder, Gwen J. Hurst
LD-582	Phase I Cultural Resources Survey of the 5.9 Hectare (14.6 Acre) Van Metre Project Area, Loudoun County, Virginia	2018	Hope Smith, Dara Friedberg
LD-587	Supplemental Phase I Archaeological Survey of Dulles Western Solar Development Washington Dulles International Airport, Loudoun County, Virginia: Management Summary	2022	Rob Wanner, Ben Fischler, Henry Ward
LD-643	Phase I Cultural Resource Survey for the Line# 527 (Mars-Wishing Star) 500kV Transmission Line Project, Loudoun County, Virginia	2024	Robert J. Taylor, Jr., J. Hope Smith, Dara Friedberg

* Denotes a survey overlapping with part of the Proposed Route.



LEGEND

- One Mile Buffer
- Archaeology Phase 1 Survey
- Proposed Route

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors

DOMINION ENERGY

PREVIOUS CULTURAL RESOURCE SURVEYS WITHIN ONE MILE OF THE PROPOSED PROJECT

Pre-Application Analysis of Cultural Resources
230 kV Evergreen Mills Part B Transmission Line Project
Loudoun County, Virginia

SCALE: 1" = 2000' DATE: December 2024

Dewberry

FIGURE 5

Path: C:\Users\mnavarro\Documents\Virginia\Dominion\Evergreen Mills Part B\3_PrevConductedSurveys_EvergreenMillsSCCPreAppAnalysis_LoudounCountyVA.mxd

4.2 Archaeological Sites

Crossings of archaeological sites were considered a constraint in this study due to the potential for an electric transmission line to impact archaeological deposits in these areas (for example, due to transmission structure placement, tree clearing, or heavy equipment traffic within a site). Review of VDHR VCRIS inventory reveals there are 81 previously recorded archaeological sites within one mile of the Proposed Route (VDHR 2024). One of these sites, 44LD1267, is located directly within the right-of-way of the Proposed Route. Site 44LD1267 consists of a prehistoric lithic scatter and historic dwelling site. Site 44LD1267 was determined not eligible for listing in the NRHP in 2007; according to aerial imagery, the site has been destroyed by construction of a stormwater management basin. No additional sites are located within 50 feet of the Proposed Route. The 81 sites within one mile of the Proposed Route are unevaluated for inclusion or determined not eligible for inclusion in the NRHP.

Table 2 lists previously recorded archaeological resources within one mile of the Proposed Route. The locations of the identified archaeological resources in the vicinity of the Project are depicted in **Figure 6**. Site 44LD1267 within the study area is depicted in **Figure 7**.

Table 2: Previously Recorded Archaeological Resources in the Vicinity of the Proposed Project

VDHR ID	Site Type	Time Periods	Evaluation status
44LD0120	Camp, temporary	Late Woodland (1000 - 1606)	Unevaluated
44LD0167	Camp, temporary	Prehistoric	Unevaluated
44LD0168	Camp, temporary	Prehistoric	DHR Staff: Not Eligible
44LD0169	Camp, temporary	Middle Woodland (300 - 999 A.D.), Late Woodland (1000 - 1606)	Unevaluated
44LD0171	Camp, temporary	Early Woodland (1200 B.C. - 299 A.D.), Middle Woodland (300 - 999 A.D.), Late Woodland (1000 - 1606)	DHR Staff: Not Eligible
44LD0172	Camp, temporary, Lithic scatter, Trash scatter	Late Archaic (3000 - 1201 B.C.), 19th Century (1800 - 1899), 20th Century (1900 - 1999)	DHR Staff: Not Eligible
44LD0173	Camp, temporary, Lithic scatter	Prehistoric	DHR Staff: Not Eligible
44LD0174	Camp, temporary	Prehistoric	DHR Staff: Not Eligible
44LD0175	Camp, temporary	Prehistoric	Unevaluated
44LD0183	Camp, temporary	Prehistoric	DHR Staff: Not Eligible
44LD0338	Camp, temporary	Prehistoric	Unevaluated
44LD0609	Camp, base	Early Woodland (1200 B.C. - 299 A.D.)	Unevaluated
44LD0688	Camp	Prehistoric	DHR Staff: Not Eligible
44LD0689	Camp, Trash scatter	Prehistoric, 20th Century (1900 - 1999)	DHR Staff: Not Eligible
44LD0692	Camp	Prehistoric	DHR Staff: Not Eligible
44LD0695	Camp	20th Century: 1st half (1900 - 1949)	DHR Staff: Not Eligible
44LD0696	Military camp	19th Century: 1st half (1800 - 1849)	DHR Staff: Potentially Eligible
44LD0697	Camp	Early Woodland (1200 B.C. - 299 A.D.)	DHR Staff: Not Eligible

VDHR ID	Site Type	Time Periods	Evaluation status
44LD0698	Trash scatter	Unknown	DHR Staff: Not Eligible
44LD0699	Camp, Trash scatter	Early Woodland (1200 B.C. - 299 A.D.), 19th Century (1800 - 1899)	DHR Staff: Not Eligible
44LD0700	Camp, Trash scatter	Middle Archaic (6500 - 3001 B.C.), 20th Century: 1st half (1900 - 1949)	DHR Staff: Not Eligible
44LD0968	Lithic scatter, Trash scatter	Prehistoric, 19th Century (1800 - 1899), 20th Century (1900 - 1999)	DHR Staff: Not Eligible
44LD0969	Lithic scatter	Prehistoric	DHR Staff: Not Eligible
44LD0970	Lithic scatter	Late Archaic (3000 - 1201 B.C.)	Unevaluated
44LD0971	Dwelling, single, Lithic workshop	Prehistoric, 20th Century (1900 - 1999)	Unevaluated
44LD0972	Lithic scatter	Prehistoric	Unevaluated
44LD0973	Lithic scatter, Trash scatter	Early Archaic (8500 - 6501 B.C.), 19th Century (1800 - 1899), 20th Century (1900 - 1999)	Unevaluated
44LD0974	Lithic scatter, Trash scatter	Prehistoric, 19th Century (1800 - 1899), 20th Century (1900 - 1999)	Unevaluated
44LD0975	Lithic scatter, Trash scatter	Middle Archaic (6500 - 3001 B.C.), 18th Century (1700 - 1799), 19th Century (1800 - 1899)	Unevaluated
44LD0976	Lithic scatter, Trash scatter	Archaic (8500 - 1201 B.C.), Middle Woodland (300 - 999 A.D.), 19th Century (1800 - 1899), 20th Century (1900 - 1999)	Unevaluated
44LD0977	Lithic scatter	Middle Archaic (6500 - 3001 B.C.)	Unevaluated
44LD0978	Lithic scatter	Early Woodland (1200 B.C. - 299 A.D.)	Unevaluated
44LD0979	Lithic workshop	Middle Archaic (6500 - 3001 B.C.), Early Woodland (1200 B.C. - 299 A.D.), Middle Woodland (300 - 999 A.D.)	Unevaluated
44LD0980	Lithic scatter	Early Archaic (8500 - 6501 B.C.), Middle Woodland (300 - 999 A.D.)	Unevaluated
44LD0981	Lithic scatter	Prehistoric	Unevaluated
44LD0982	Lithic scatter	Prehistoric	Unevaluated
44LD0983	Lithic scatter	Prehistoric	Unevaluated
44LD0984	Lithic scatter	Early Woodland (1200 B.C. - 299 A.D.)	Unevaluated
44LD0985	Lithic scatter	Prehistoric	Unevaluated
44LD0986	Lithic scatter, Trash scatter	Prehistoric, 19th Century (1800 - 1899)	Unevaluated
44LD0987	Lithic scatter	Prehistoric	Unevaluated
44LD0988	Lithic scatter, Trash scatter	Middle Archaic (6500 - 3001 B.C.), 19th Century (1800 - 1899), 20th Century (1900 - 1999)	Unevaluated
44LD0989	Lithic scatter	Middle Archaic (6500 - 3001 B.C.)	Unevaluated
44LD1047	Lithic scatter, Trash scatter	Early Archaic (8500 - 6501 B.C.), Middle Archaic (6500 - 3001 B.C.), 19th Century: 2nd half (1850 - 1899)	Unevaluated
44LD1048	Trash scatter	18th Century: 4th quarter (1775 - 1799), 19th Century: 1st half (1800 - 1849)	DHR Staff: Not Eligible
44LD1049	Trash scatter	19th Century: 4th quarter (1875 - 1899), 20th Century (1900 - 1999)	Unevaluated
44LD1050	Trash scatter	20th Century (1900 - 1999)	Unevaluated

VDHR ID	Site Type	Time Periods	Evaluation status
44LD1075	Farmstead	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post-Cold War (1992 - Present)	Unevaluated
44LD1157	Lithic scatter	Prehistoric	Unevaluated
44LD1158	Farmstead	18th Century: 4th quarter (1775 - 1799), 19th Century: 1st half (1800 - 1849)	Unevaluated
44LD1159	Trash scatter	19th Century: 1st half (1800 - 1849)	DHR Staff: Not Eligible
44LD1265	Dwelling, single, Lithic scatter	Prehistoric	DHR Staff: Not Eligible
44LD1266	Camp, temporary, Dwelling, single	Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible
44LD1267*	Dwelling, single, Lithic scatter	Prehistoric, Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	DHR Staff: Not Eligible
44LD1268	Camp, temporary, Dwelling, single	Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	DHR Staff: Potentially Eligible
44LD1269	Dwelling, single, Lithic scatter	Prehistoric	DHR Staff: Not Eligible
44LD1270	Dwelling, single	18th Century: 2nd half (1750 - 1799), 19th Century (1800 - 1899), 20th Century (1900 - 1999)	Unevaluated
44LD1342	Dwelling, single	19th Century (1800 - 1899)	DHR Staff: Not Eligible
44LD1433	Unknown	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), 18th Century: 4th quarter (1775 - 1799), 19th Century (1800 - 1899)	Unevaluated
44LD1434	Railroad	19th Century: 2nd/3rd quarter (1825 - 1874)	Unevaluated
44LD1453	Farmstead	20th Century: 2nd quarter (1925 - 1949)	Unevaluated
44LD1464	Trash scatter	19th Century (1800 - 1899)	Unevaluated
44LD1500	Dwelling, single	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	DHR Staff: Not Eligible
44LD1501	Artifact scatter, Dwelling, single	Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Unevaluated
44LD1540	Farmstead	20th Century (1900 - 1999)	Unevaluated
44LD1635	Dwelling, single	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	DHR Staff: Not Eligible
44LD1696	Camp, temporary	Prehistoric	Unevaluated
44LD1710	Cemetery	Reconstruction and Growth (1866 - 1916)	Unevaluated

VDHR ID	Site Type	Time Periods	Evaluation status
44LD1801	Outbuilding	World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	DHR Staff: Not Eligible
44LD1921	Railroad bed	Antebellum Period (1830 - 1860)	Unevaluated
44LD1974	Artifact scatter	Prehistoric, Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Unevaluated
44LD1990	Cemetery	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Unevaluated
44LD2017	Farmstead	Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Unevaluated
44LD2018	Artifact scatter	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Unevaluated
44LD2019	Cemetery	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Unevaluated
44LD2020	Farmstead	Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)	Unevaluated
44LD2036	Artifact scatter, Dwelling, multiple	Early Archaic Period (8500 - 6501 B.C.E), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Unevaluated
44LD2079	Lithic scatter	Prehistoric	Unevaluated
44LD2087	Artifact scatter	Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post-Cold War (1991-Present)	Unevaluated
44LD2091	Lithic scatter	Prehistoric	Unevaluated
44LD2096	Railroad bed	Antebellum Period (1830 - 1860), Civil War (1861 - 1865)	Unevaluated

* Denotes an archaeological site overlapping with the Proposed Route.

FIGURE 6 REDACTED

FIGURE 7 REDACTED

4.3 Architectural Resources

The following discussion summarizes the known historic architectural resources in the vicinity of the proposed Project based on VDHR's tiered study model defined in the *Guidelines*. The locations of the considered historic architectural resources in the vicinity of the proposed Project are shown in **Figure 8**.

The resources located within the right-of-way of the Proposed Route may be subject to both direct impacts from placement of the line across the property and visual impacts from changes to the viewshed introduced by the new transmission line structures and conductors. Resources in the 0.5-mile tier would not be directly impacted but are likely to be visually impacted, unless topography, vegetation, or the built environment obscures the view to the transmission line. At a distance of over 0.5 miles, it becomes less likely that a resource would be within line-of-sight of the proposed transmission line. Beyond 1.0 mile, it becomes less likely that a given resource would be within line-of-sight of a transmission line.

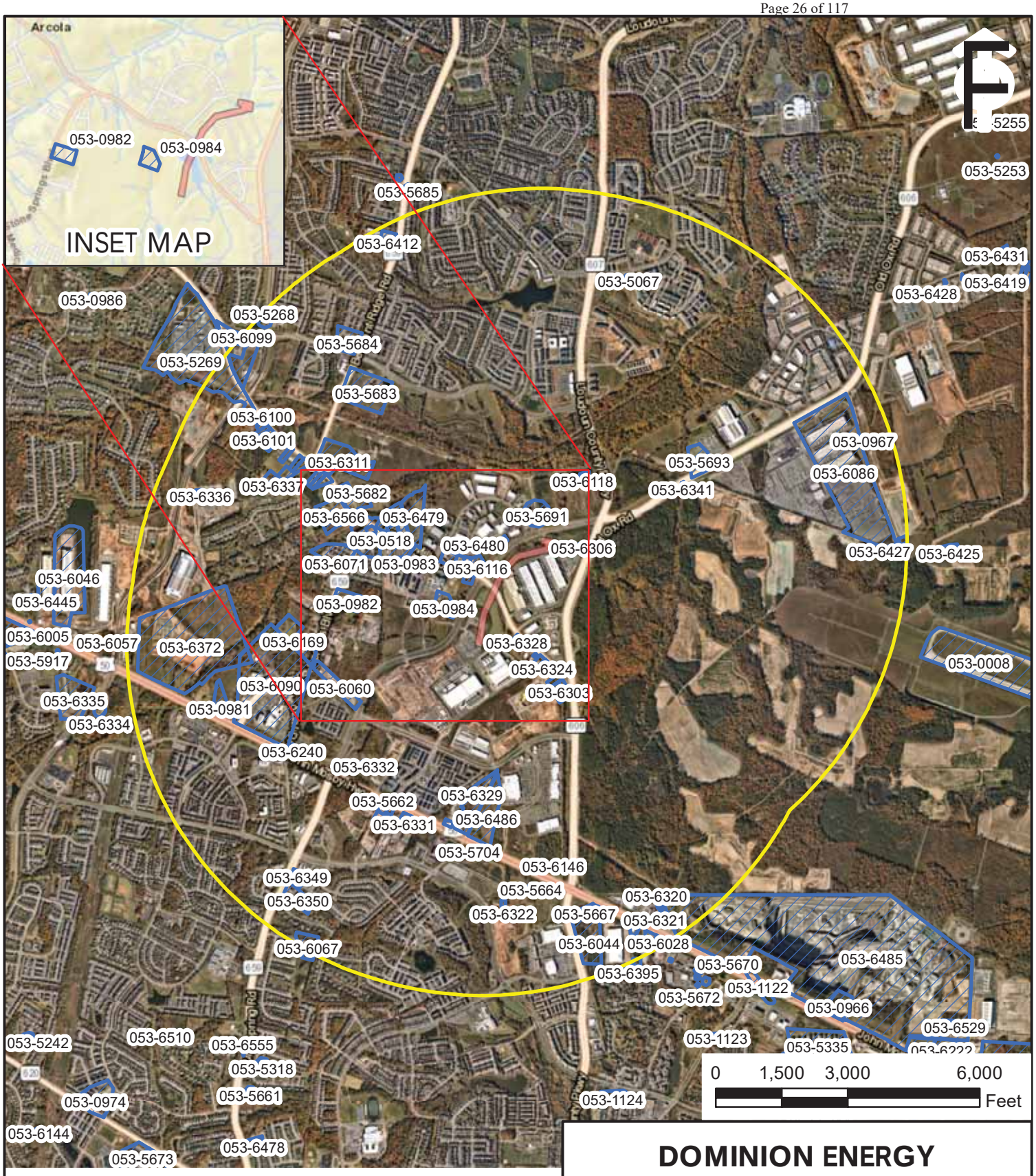
The nature of the impacts to resources, while estimated in this study with the assistance of photo simulations, will depend on the final Project design in which the exact placement and height of transmission structures are determined. Moreover, a complete identification-phase architectural survey will be completed along the route once the Project is approved by the SCC. The survey area for that investigation will be based on the height of the transmission line structures as well as topography, tree cover, and any other factors impacting the line-of-sight from historic resources to the route.

Review of the VDHR VCRIS inventory records revealed no NHLs within 1.5 miles of the Proposed Route. Two NRHP-listed resources, no battlefields, and no historic landscapes were identified within one mile of the Proposed Route. No resources determined eligible for listing in the NRHP are located within 0.5 miles of the Project. Therefore, two resources were considered for this analysis, namely, the NRHP-listed Arcola Elementary School (VDHR ID 053-0982) and Arcola Slave Quarters (VDHR ID 053-0984).

Table 3 lists the NRHP-listed resources within their respective buffered tiers. **Figure 8** shows a map of architectural resources within 1.5 miles of the Project, with an inset showing the two considered resources within 1.5 miles of the Project.

Table 3: Historic Resources in VDHR Tiers for the Proposed Project

Buffer (miles)	Considered Resources	VDHR ID	Description
1.0 - 1.5	National Historic Landmarks	None	None
0.5 - 1.0	National Historic Landmarks	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	NRHP-Listed	053-0982	Arcola Elementary School
0 - 0.5	National Historic Landmarks	None	None
	Battlefields	None	None
	Historic Landscapes	None	None
	NRHP-Listed	053-0984	Arcola Slave Quarters
	NRHP Eligible	None	None
	VLR-Listed	None	None



LEGEND

- 1.5 Mile Buffer
- Architecture Resources
- Proposed Route
- Inset Extent

Inset: Arcola Elementary School (DHR ID 053-0982) and Arcola Slave Quarters (DHR ID 053-0984) near Proposed Project

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors

DOMINION ENERGY

ARCHITECTURAL RESOURCES WITHIN 1.5 MILES

SCC Pre-Application Analysis of Cultural Resources
Evergreen Mills Part B 230 kV Transmission Line Project
Loudoun County, Virginia

SCALE: 1" = 3000'

DATE: December 2024

Dewberry

FIGURE 8

Path: C:\Users\mnavarro\Documents\Virginia\Dominion\Evergreen Mills Part B\6_ArchitecturalSites_EvergreenMillsSCCPreAppAnalysis_LoudounCountyVA.mxd

4.4 American Battlefield Protection Program

A review of the NPS ABPP records and maps prepared by the Civil War Sites Advisory Commission (CWSAC) revealed that no portions of ABPP battlefields are located within 1.5 miles of the Proposed Route (NPS 2009). As such, no ABPP battlefields were considered in the analysis.

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the *Guidelines* (VDHR 2008), previously recorded historic architectural properties designated as an NHL or NRHP-listed or NRHP-eligible properties located within 1.5 miles, one mile, or 0.5 miles of the proposed Project are to be field verified for existing conditions and photo documented. Dewberry inspected and analyzed the setting around the resources and assessed views towards the Proposed Route.

5.1 Methods of Analysis

This analysis meets the purpose and intent of VDHR and the SCC's guidance by providing information on the presence of previously recorded NHL properties located within a 1.5-mile buffer area established around the Proposed Route; properties listed in the NRHP, battlefields, and historic landscapes located within a 1-mile buffer around the Proposed Route; properties previously determined eligible for listing in the NRHP located within a 0.5-mile buffer area around the Proposed Route; and previously identified archaeological resources directly within or adjacent to the Proposed Route. This analysis will not satisfy Section 106 of the NHPA identification and evaluation requirements in the event that federal permits or licenses are needed; however, it can be used as a planning document to assist in making decisions under Section 106 as to whether further cultural resource identification efforts may be warranted.

The Dewberry personnel who directed and conducted this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9). Data from background research, including those for historic properties and archaeological site information, were collected and spatially located in a GIS database by Dewberry Staff Archaeologist Michael Navarro, RPA. Historic contextual research and impact analyses were performed by Mr. Navarro and Dewberry Architectural Historian Tessa Nesta. Field reconnaissance and photography were performed by Mr. Navarro. Dewberry Cultural Resource Discipline Lead Zachary J. Davis, RPA, provided Quality Assurance review of this work.

The fieldwork involved photographing two resources requiring visual assessment according to the *Guidelines* and examining potential line-of-sight views from each resource toward the Project. For resources where property owner approval was granted for historic resource documentation, photographs were taken toward the proposed transmission line from the property at the most prominent view of the landscape. When such permission was not available, photographs were taken from the public right-of-way (typically a road) nearest to the resource, facing toward the route and/or substation.

Photographs were taken from NRHP-listed resources with a commanding view of the project area in order to capture the direction with the clearest, most unobstructed view toward the route. Photo-simulations of the Evergreen Mills Parts A and B 230 kV TL were produced in 2019 as part of the Pre-Application Analysis of the Evergreen Mills Part A TL (Seibel and Thompson 2019). As such, the photographer for the current photo-simulations was located as close as possible to the position of the photographer for the 2019 photo-simulations in order to recreate the approximate angle and view of the 2019 photo-simulations.

The following camera was used:

- Camera body: Nikon D5600 single-lens digital SLR (full frame CMOS sensor)
- Camera lens: Nikkor 18-55mm f3.5-5.6

The following camera settings were used for all photography:

- Camera mode: Manual Priority
- ISO: 200
- Aperture: f10
- Image format: RAW

After the photos were complete, they were uploaded to the Dewberry server to begin the simulation/visualization process. The single-frame photographs were opened in Adobe Photoshop 2024, where they were checked and any camera sensor dust spots were removed before the photographs were

saved as high-resolution JPEG images. If required, discrete color and tonal adjustments were made to each frame before it was saved. Digital models of the transmission line structures were obtained by aligning the single-frame photographs with photo-simulations produced in 2019 of the Evergreen Mills Parts A and B lines and importing the proposed Part B towers and line simulations using Adobe Photoshop 2024. Finally, the final images were cropped to the proportions required for the visual simulation figures, and the visualization figures were prepared in Adobe InDesign 2024 and exported in a PDF format.

5.2 Assessment of Potential Impacts

The assessment of potential Project impacts on individual resources made use of the visual assessment findings and categorized the severity level of impacts according to the following scale devised by VDHR:

- **None** – Project is not visible from the resource.
- **Minimal** – Viewsheds have existing transmission lines, there would be only a minor change in height, and/or other views are partially obscured by topography or vegetation.
- **Moderate** – Viewsheds have more expansive views of the transmission line, more dramatic changes in height are proposed, and/or the overall visibility of the Project would be greater.
- **Severe** – Existing viewshed contains no transmission line, the view to the Project would be relatively unobstructed, the new transmission line would introduce a significant change to the setting of historic properties, and/or a dramatic change in the height of an existing transmission line would take place in close proximity to historic properties.

5.3 Historic Resource Descriptions

Two properties listed in the NRHP were identified within one mile of the proposed Project (see **Table 3**).

5.3.1 Arcola Elementary School (VDHR ID 053-0982)

Arcola Elementary School, also known as the Arcola School and the Arcola Community Center, is located at 24244 Gum Spring Road in Loudoun County. The school is situated on a 10-acre campus including two athletic fields, tennis courts, a playground, and a picnic pavilion. The school building itself began as a single-story, six-room school in 1939. Additional classrooms and a gym/auditorium were built in the 1950s (**Photograph 1**). The Arcola Elementary School was opened in 1939 at the height of the Great Depression. Construction was funded in part by the Federal Emergency Administration of Public Works (PWA). The school served children in the area from 1939 until 1972 and sat vacant until 1977, when it was reopened as the Arcola Community Center. The Arcola Community Center was active until 2006 (NPS 2013; VDHR n.d.).

Prior to the opening of the Arcola Elementary School, the area's rural white children were educated in one-room schoolhouses that combined grade levels. As a result, education was restricted to spelling, reading, and math. Amenities at the schoolhouse, such as water, heat, and lighting, were also very limited. Loudoun County followed the national education effort of the 1920s, which sought to provide higher-quality education by closing and consolidating one-room schoolhouses into single multi-room buildings with modernized amenities. Despite this national sentiment for better education, Loudoun County followed Virginia in maintaining school segregation. The Great Depression halted development of new schools in Loudoun County until President Roosevelt's New Deal PWA spurred construction. The Village of Arcola was selected for a PWA grant due to its rural, agricultural landscape and unemployment level around 25% (NPS 2013; VDHR n.d.).

Photograph 1: Overview of the Arcola Elementary School. View southeast (MN 11/19/2024).

In September 1938, land was secured for construction of the Arcola Elementary School. The school would replace four one- or two-room schoolhouses in the area, and students would be bussed to the new brick school building. Construction of the Arcola Elementary School began in January of 1939 using a PWA grant contribution of $13,950. The remaining 55% of construction expenses were provided by the Virginia State Literary Fund. The project provided much-needed jobs in the community, and this was the only school in Loudoun County to be built with PWA funds. Arcola Elementary School was the fifth PWA construction project for Loudoun County. The school opened in July 1939 and was dedicated in September. Following two expansions in the 1950s, the Arcola Elementary School was abandoned in 1972 when overcrowding forced construction of a larger school on Goshen Road. In 1977, the school board sold the land to the Loudoun County Department of Parks, Recreation, and Community Services (PRCS) for use as a community center; the community center was active until 2006 (NPS 2013; VDHR n.d.).

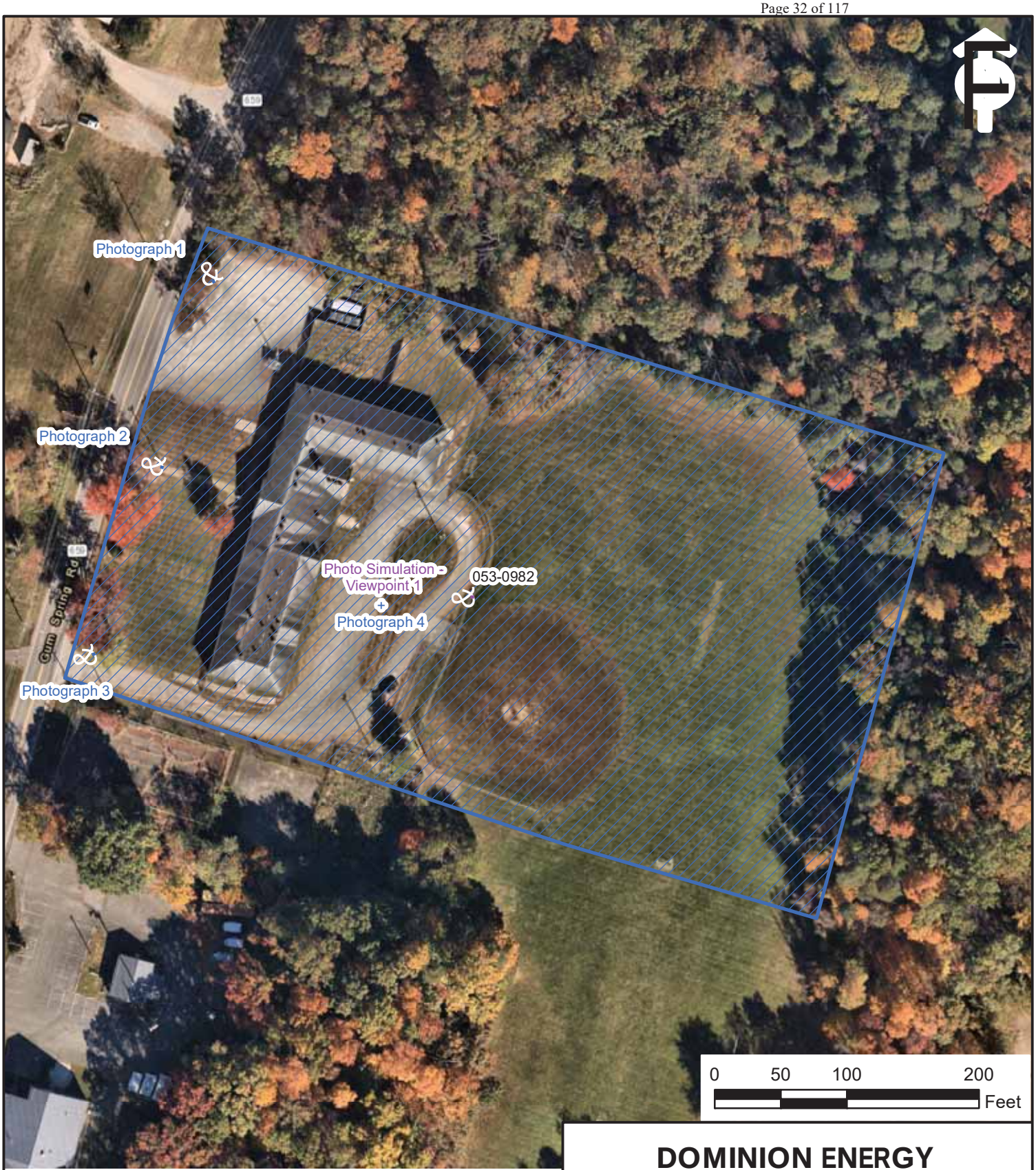
Originally, the Arcola Elementary School consisted of a brick, one-story, six-room school composed of four classrooms, a library, and an office/file room. As Loudoun County transitioned from a primarily agricultural economy to a suburban economy in the late 1940s, rapid population growth crowded the Arcola School. Controversial new property taxes paid for an expansion in 1951 consisting of two more classrooms, a gymnasium, and a kitchen. Population growth continued, and in 1953, parents petitioned the school board for additional classrooms at the Arcola School. A second addition was completed in 1956 and added four new classrooms. Each of the 1950s additions was sympathetic to the original construction. Built in the Colonial Revival style, the school features a projecting central pavilion with a pediment frontispiece and recessed entrance comprising the center bay. The center bay is flanked by classroom wings featuring brick quoins marking the 1939 building corners. The interior remains mostly unaltered, with high ceilings and simple architectural details. The Arcola Elementary School was listed in the VLR and the NRHP in 2013 under Criteria A and C for significance in Education and Architecture (NPS 2013; VDHR n.d.).

In order to assess the potential impact of Project activities, Dewberry's architectural historian visually inspected the setting around the Arcola Elementary School with an emphasis on views towards the right-

of-way of the Proposed Route. The landscape of the area surrounding the school is primarily suburban with some commercial development (see **Figure 1**). To the north and east, the Arcola School is bordered by woodland. To the south, the school is bordered by the Arcola Volunteer Fire Department. Gum Spring Road borders the Arcola School to the west. Across Gum Spring Road, the Arcola School faces several private dwellings dating to the early through mid-twentieth century and located within large, wooded lots. The northern gravel parking lot of the Arcola School property is currently used as the Arcola Recycling Center.

Figure 9 depicts the location of the Arcola Elementary School in relation to the Proposed Route, as well as photographic views towards the Proposed Route. **Photographs 2** through **4** are representative photographs of the school and its setting and photos taken towards the Proposed Route. **Figures 10 and 11** depict photo simulations of the Proposed Route structures from the perspective of the Arcola Elementary School as well as the existing view from the simulation location.

Field inspection revealed that the new transmission lines and structures for the Proposed Route are mostly obscured from the Arcola Elementary School. Mature trees, vegetation, and topography east of the Arcola Elementary School block a direct view of the Project. Additionally, the landscape contains the Evergreen Mills Part A Lines in the distance, though they are not visible from the Arcola Elementary School. Introducing a second transmission line would be consistent with the landscape's extant elements. As such, it is anticipated that the impacts of the Project on Arcola Elementary School will be consistent and in character with its current viewshed. Therefore, the Project will have ***minimal impact*** on the viewshed of the Arcola Elementary School.



DOMINION ENERGY

LOCATIONS OF PHOTOGRAPHS AND PHOTO-SIMULATIONS - 053-0982

SCC Pre-Application Analysis of Cultural Resources
Evergreen Mills Part B 230 kV Transmission Line Project
Loudoun County, Virginia

SCALE: 1" = 100'

DATE: December 2024

LEGEND

DHR ID

053-0982

Photo Location

Photo Simulation Location

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors

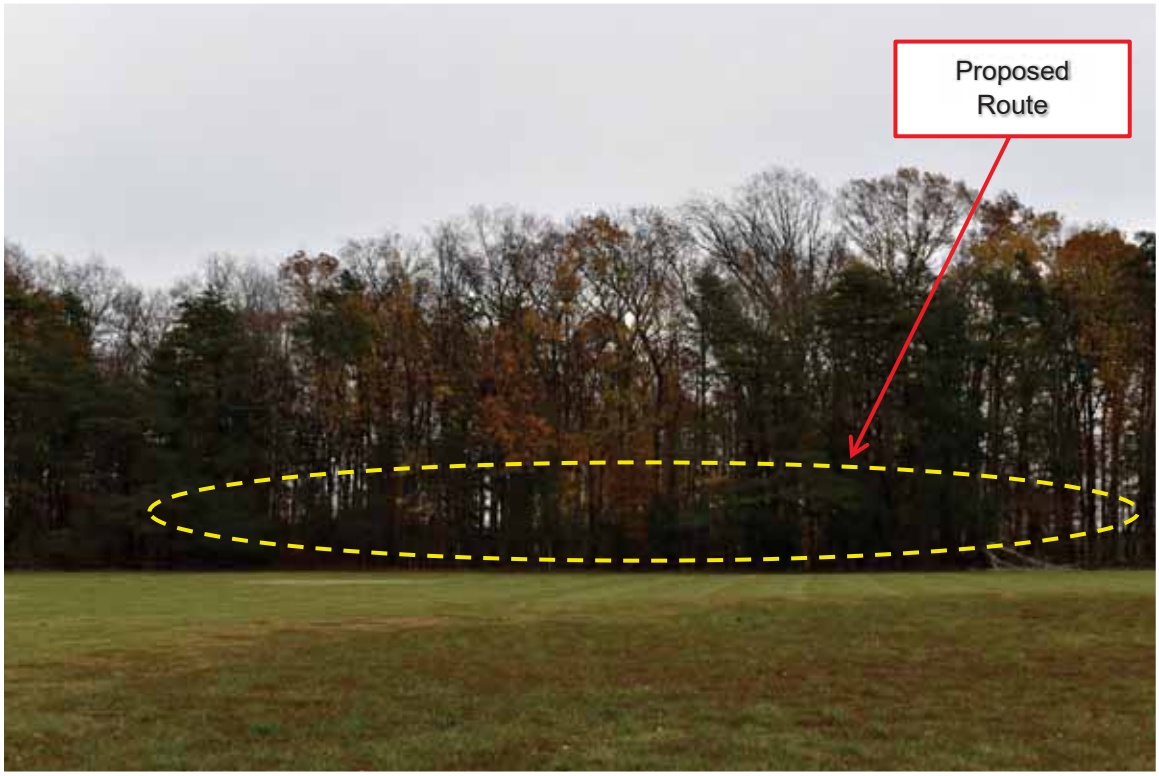
Dewberry

FIGURE 9

Path: Q:\150184751\GIS\Mxd\7_PhotoandSimulationLocations_EvergreenMillsSCCPreAppAnalysis_LoudounCountyVA.mxd

Photograph 2: Detail of the Central Pavilion, Arcola Elementary School. View east (MN 11/18/2024).

Photograph 3: Arcola Elementary School from Gum Spring Road. View northeast (MN 11/18/2024).



Photograph 4: View from the Rear of the Arcola Elementary School towards the Proposed Route. View East (MN 11/19/2024).

EXISTING VIEW

FROM ARCOLA ELEMENTARY SCHOOL LOOKING EAST

DATE: 11/19/2024
TIME: 10:11 AM
DISTANCE FROM LINE: 0.59 MILES

Figure 10 - Viewpoint 1

VIEW OF PROPOSED LINE

FROM ARCOLA ELEMENTARY SCHOOL LOOKING EAST

DATE: 11/19/2024
TIME: 10:11 AM
DISTANCE FROM LINE: 0.59 MILES

Figure 11 - Viewpoint 1

5.3.2 Arcola Slave Quarters (VDHR ID 053-0984)

The 4.4-acre Arcola Slave Quarters is located on the former Lewis Plantation set back on a large, open property (**Photograph 5**). The slave quarters consists of a south-facing, 1.5-story stone building located several yards northwest of and downhill from the historic main house site. A circa-1930 dwelling has been constructed atop the foundation of the original plantation house and is non-contributing to the Arcola Slave Quarters. The quarters dates to the late eighteenth century or early nineteenth century and likely housed enslaved Black workers who worked in the main house of the Lewis Plantation (NPS 2008; VDHR n.d.).

Photograph 5: Overview of the Arcola Slave Quarters. View northwest (MN 11/19/2024).

The Lewis Plantation was established on a 1,750-acre plot of land originally granted to Anthony Russell from Thomas Sixth Lord Fairfax in 1728. Vincent Lewis first purchased 800 acres of the Russell tract in 1744 and 1746 and began farming. The Arcola Slave Quarters was likely constructed in the late eighteenth or early nineteenth century, around the time when the Lewis family was dramatically expanding the number of enslaved workers on their plantation. In 1796, Vincent willed 333 acres to his son Charles, which then passed to Charles' brother James' children in 1843. The Arcola Slave Quarters is within the parcel willed to Charles Lewis. The 1844 will inventory lists 31 enslaved workers, indicating that the extant slave quarters was one of many such structures on the plantation. With over 30 enslaved workers, the Lewis family was in the top 10% of slave-owning families in Loudoun County during the mid-nineteenth century (NPS 2008; VDHR n.d.).

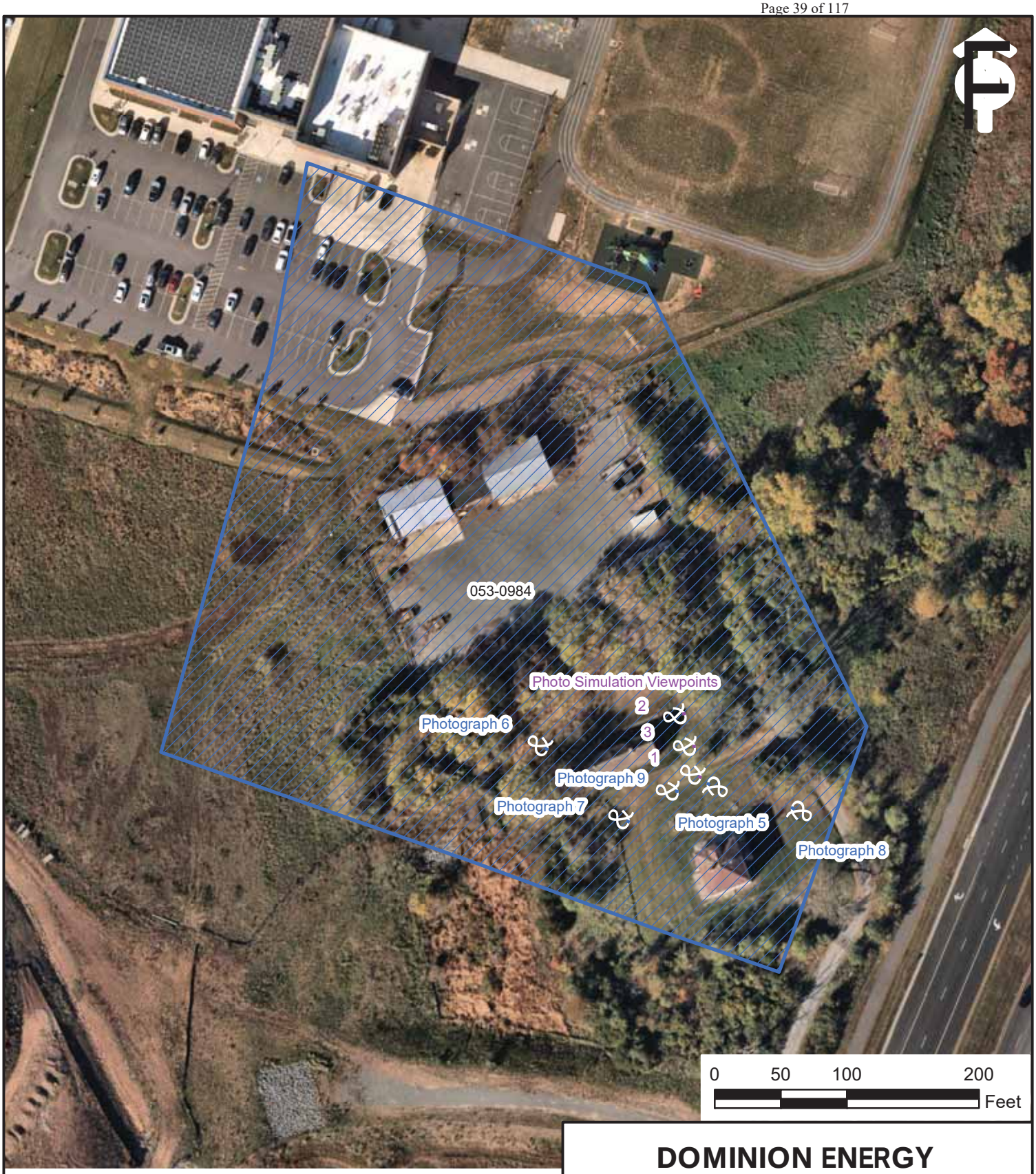
After the Civil War, the Lewis family retained the former plantation land. A family of freed slaves, the Neals, stayed on as tenants and likely resided in the Arcola Slave Quarters. In 1900, the property was acquired by the Ryan/Mankin family, signaling the abandonment of the slave quarters as a dwelling for tenant farmers. The main plantation house burned in 1929, and the current dwelling was rebuilt on the same foundation; during this time, the slave quarters was used for various agricultural and domestic functions. In the 1980s, the land was purchased by developers, and a parcel containing the slave quarters and the circa-1930 farmhouse was proffered to Loudoun County (NPS 2008; VDHR n.d.).

Architecturally, the Arcola Slave Quarters is unique as a stone masonry slave quarters but is common in its form and orientation to the main house. The slave quarters is located just downhill from the main house and received a more durable, aesthetically pleasing construction due to its proximity to the plantation house. Its occupants likely worked within or near the main house and maintained a close relationship with the Lewis family. Stone construction was relatively rare in early Virginia, and stone slave quarters even rarer; the structure is the only known existing slave quarters in eastern Loudoun County, and one of a handful of stone examples in Virginia and the United States. The slave quarters building is a 1.5-story, banked, four-by-one-bay, side-gable, stone structure consisting of two attached, double-pen blocks with two central chimneys. The western block is original to the building and sits atop a cellar, while the eastern block was added later in the nineteenth century. The foundation and exterior walls are composed of rubble fieldstone randomly laid in clay bed-mortar and pointed with lime mortar. Hand-hewn ceiling joists run north and south and are embedded directly into the stone walls. Three windows remain on the north-facing elevation. Each two-room, double-pen block is arranged around back-to-back hearths and flues constructed of random rubble-stone. The floors are composed of simple dirt surfaces apart from the western block, which features wooden floorboards, potentially replaced. Other alterations include expansion of the east doorway, modern roofing material atop original roof planks, circular-sawn boards atop original ceiling joists, and plywood covering original window openings. The relatively well-preserved Arcola Slave Quarters retains much of its original fabric and many of its character-defining elements (NPS 2008; VDHR n.d.).

In order to assess the potential impact of Project activities, Dewberry's architectural historian visually inspected the setting of the Arcola Slave Quarters with an emphasis on views towards the Proposed Route right-of-way. The landscape of the slave quarters is somewhat suburban but rapidly developing (see **Figure 1**). To the north, the Arcola Slave Quarters is bordered by a newly constructed elementary school and housing development. The recently completed Arcola Boulevard borders the Arcola Slave Quarters to the east and carries heavy traffic. Southeast of Arcola Boulevard, the Evergreen Mills Substation and new data centers have recently been constructed. To the south and west, the Arcola Slave Quarters is bordered by open land under development. Despite the increased growth nearby, the parcel containing the Arcola Slave Quarters and non-contributing 1930s dwelling is mostly sheltered by vegetation. The 1930s dwelling has recently been painted and cleared of overgrown vegetation; both the house and Arcola Slave Quarters are surrounded by new chain-link fences for security purposes.

Figure 12 depicts the location of the Arcola Slave Quarters in relation to the Proposed Route, as well as photographic views towards the Proposed Route. **Photographs 6** through **9** are representative photographs of the Arcola Slave Quarters, its setting, and photos taken towards the Proposed Route. **Figures 13** through **18** depict photo simulations of the Proposed Route structures from the perspective of the Arcola Slave Quarters as well as the existing view from the simulation location.

Field inspection confirmed that the Proposed Route would be visible from Arcola Slave Quarters. At present, the existing Evergreen Mills Part A Lines pass north to south on the east side of Arcola Boulevard, east of the Arcola Slave Quarters. The proposed Project would run parallel to the existing lines and be located within the same right-of-way. Mature trees and vegetation growth around the Arcola Slave Quarters block a direct view of the Evergreen Mills Part A Lines and will also partially obscure the view of the Project. As such, it is anticipated that the impacts of the Project on the Arcola Slave Quarters will be consistent and in character with its current viewshed. Therefore, the Project will have ***minimal impact*** on the viewshed of the Arcola Slave Quarters.



LEGEND

DHR ID

053-0984

Photo Location

Photo Simulation Location

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors

DOMINION ENERGY

LOCATIONS OF PHOTOGRAPHS AND PHOTO-SIMULATIONS - 053-0984

SCC Pre-Application Analysis of Cultural Resources
Evergreen Mills Part B 230 kV Transmission Line Project
Loudoun County, Virginia

SCALE: 1" = 100'

DATE: November 2024

Dewberry

FIGURE 12

Path: Q:\150184751\GIS\Mxd\9_PhotoandSimulationLocations_EvergreenMillsSCCPreAppAnalysis_LoudounCountyVA.mxd

Photograph 6: North and West Elevations of the Arcola Slave Quarters. View southeast (MN 11/19/2024).

Photograph 7: Non-contributing 1930s-era Dwelling Located Just South of the Arcola Slave Quarters. Note existing Evergreen Mills Part A 230 kV transmission line beyond. View southeast (MN 11/19/2024).

Photograph 8: Setting Around the Arcola Slave Quarters. View northwest (MN 11/19/2024).

Photograph 9: View from the Arcola Slave Quarters towards the Proposed Route. View southeast (MN 11/19/2024).

EXISTING VIEW

FROM ARCOLA SLAVE QUARTERS SITE LOOKING EAST

DATE: 11/19/2024
TIME: 9:49 AM
DISTANCE FROM LINE: 0.14 MILES

Figure 13 - Viewpoint 1

VIEW OF PROPOSED LINE

FROM ARCOLA SLAVE QUARTERS SITE LOOKING EAST

DATE: 11/19/2024
TIME: 9:49 AM
DISTANCE FROM LINE: 0.14 MILES

Figure 14 - Viewpoint 1

EXISTING VIEW

FROM ARCOLA SLAVE QUARTERS SITE LOOKING NORTHEAST

DATE: 11/19/2024
TIME: 9:42 AM
DISTANCE FROM LINE: 0.14 MILES

Figure 15 - Viewpoint 2

VIEW OF PROPOSED LINE

FROM ARCOLA SLAVE QUARTERS SITE LOOKING NORTHEAST

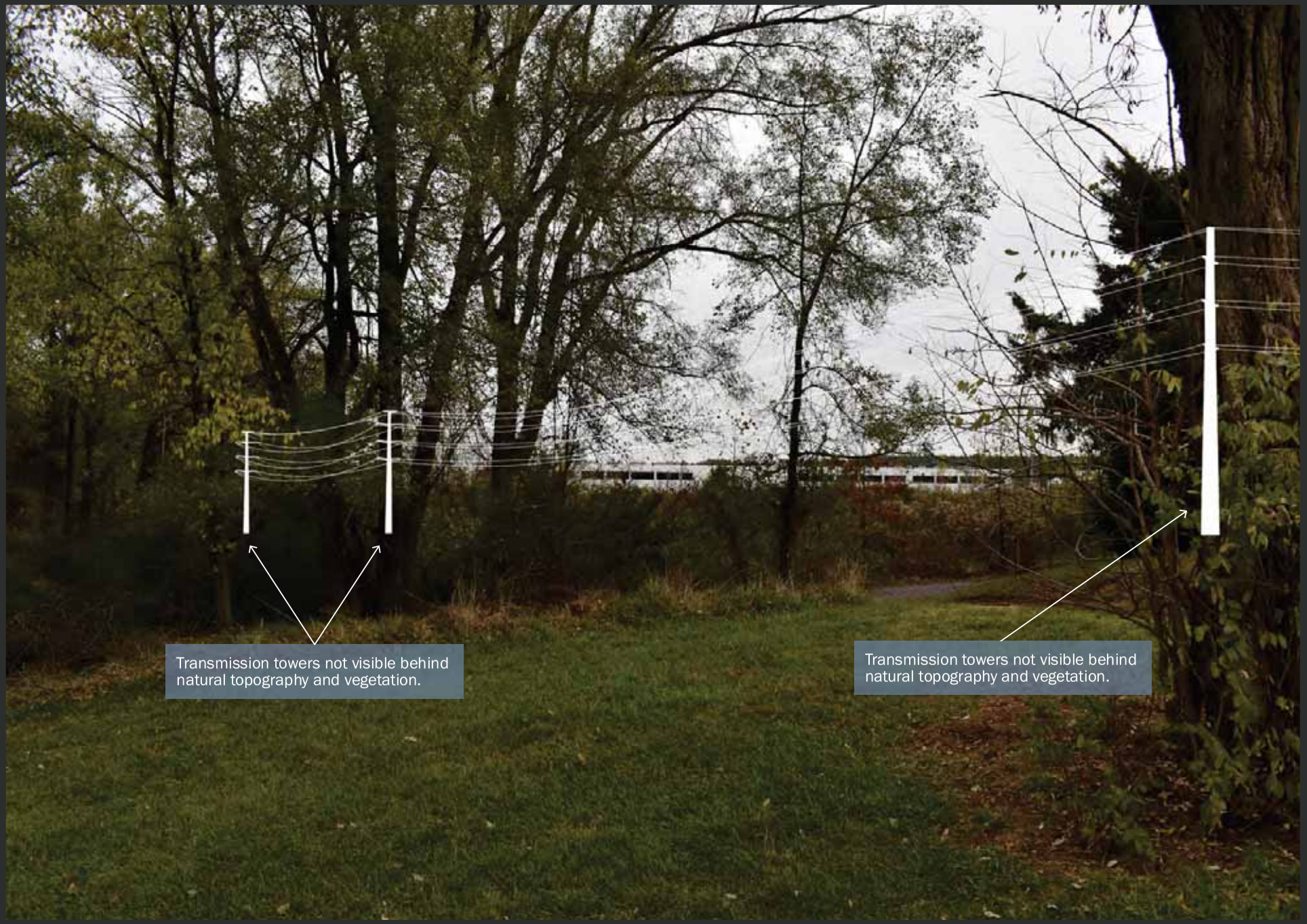
DATE: 11/19/2024
TIME: 9:42 AM
DISTANCE FROM LINE: 0.14 MILES
Figure 16 - Viewpoint 2

EXISTING VIEW

FROM ARCOLA SLAVE QUARTERS SITE LOOKING NORTHEAST

DATE: 11/19/2024
TIME: 9:52 AM
DISTANCE FROM LINE: 0.14 MILES

Figure 17 - Viewpoint 3



VIEW OF PROPOSED LINE

FROM ARCOLA SLAVE QUARTERS SITE LOOKING NORTHEAST

DATE: 11/19/2024
TIME: 9:52 AM
DISTANCE FROM LINE: 0.14 MILES

Figure 18 - Viewpoint 3

6. CONCLUSIONS AND RECOMMENDATIONS

The Pre-Application Analysis gathered information on archaeological and historic architectural resources that qualify for consideration according to VDHR *Guidelines* for transmission line projects. One known archaeological site, 44LD1267, is located in the right-of-way of the Proposed Route. Site 44LD1267 was determined not eligible for listing in the NRHP in 2007. Two NRHP-listed architectural resources, the Arcola Elementary School (VDHR ID 053-0982) and the Arcola Slave Quarters (VDHR ID 053-0984), meet Criteria A established under the *Guidelines* and fall within the VDHR study tiers associated with the proposed Project. A summary of the number of resources impacted and the degree of impact is presented in **Table 4**.

Table 4: Project Impacts on Historic Resources in the Study Area

Number of Considered Resources in Each Impact Category				
NONE	MINIMAL	MODERATE	SEVERE	TOTAL
1	2	0	0	3

As part of this Pre-Application Analysis for the Evergreen Mills Part B 230 kV Transmission Line Project, field inspection confirmed that the new transmission lines would be partially visible from the Arcola Elementary School and Arcola Slave Quarters for the Proposed Route within the VDHR-defined buffered tiers in accordance with the *Guidelines* (VDHR 2008). The extant Evergreen Mills Part A Lines are also partially visible from these two historic resources, confirming the Project's minimal impact to historic resources.

6.1 Proposed Route and Switching Station Improvements

With regards to archaeology, there is one previously recorded site, 44LD1267, within or immediately adjacent to the Project. Site 44LD1267 was determined not eligible for listing in the NRHP in 2007; according to aerial imagery, the site has been destroyed by construction of a stormwater management basin. As such, the Project has no potential to impact Site 44LD1267. No archaeological field work was conducted as part of this effort. The Project should be assessed for existing conditions and impacts to potentially unknown archaeological sites as additional construction details become available.

Field inspection revealed that the new transmission lines and structures for the Proposed Route would be partially visible from the Arcola Elementary School and Arcola Slave Quarters. Mature trees, vegetation, and topography block the Arcola Elementary School and Arcola Slave Quarters from a direct view of the Project. In addition, the existing Evergreen Mills Part A Lines are located parallel to the Proposed Route and are already visible from the Arcola Elementary School and Arcola Slave Quarters. As such, it is anticipated that the impacts of the Project on the Arcola Elementary School and Arcola Slave Quarters will be consistent and in character with its current viewshed. Therefore, the Project will have ***minimal impact*** on the viewshed of the Arcola Elementary School and the Arcola Slave Quarters (**Table 5**).

Table 5: Potential Impacts Summary for Architectural Resources

VDHR ID#	Resource Name	NRHP Status	Distance to Project	Viewshed Impact
053-0982	Arcola Elementary School	Listed	0.52 miles	Minimal
053-0984	Arcola Slave Quarters	Listed	0.11 miles	Minimal

Final assessments of Project impacts will be dependent on the completion of identification-phase archaeological and historic structure surveys to be completed after the Project is certificated by the SCC and subsequent review of survey results by VDHR and other consulting parties. For any resources where the agencies concur on a finding of moderate or severe impact, the Company will propose treatments to avoid, minimize, or mitigate those impacts. Treatment options for archaeological sites could include selective structure placement to avoid direct impacts on sites, minor route adjustments to avoid crossing sites, or archaeological data recovery. Treatment options for aboveground historic resources could

include detailed site documentation, historic research, and historic preservation studies; preparation of digital media or museum-type exhibits on sites for public interpretation; installation of historic markers of signs; installation of vegetative screening; or contributions to historical preservation organizations or specific preservation projects. Additional mitigations could be identified through consultation with VDHR and other consulting parties.

6.2 Future Investigations

The next step in assessing impacts on historic resources will be to conduct an identification-phase field survey to identify and assess resources after the Project is certificated by the SCC. Survey will be conducted in accordance with the *Guidelines* as well as *Guidelines for Conducting Historic Resources Survey in Virginia* (VDHR 2017) and National Register Criteria for Evaluation (36 CFR § 800.5) (NPS 1995a).

The survey teams will be led by individuals meeting the Secretary of the Interior's professional qualifications standards for archaeology and architectural history. Teams will traverse the length of the Project corridor, revisiting previously recorded archaeological and historic architectural resources and documenting as-of-yet unrecorded resources, if present, in the survey area as defined in the *Guidelines* and based on the final Project design. The archaeological survey will adhere to VDHR survey standards (VDHR 2017) and will entail systematic coverage of the approved route. Cultural material, including artifacts and features, that could be 50 years old or older will be recorded. Sites will be delineated within the proposed right-of-way and/or substation site, and investigations will include subsurface testing sufficient to inform recommendations of potential eligibility for the NRHP under Criterion D. Each site will be fully documented with appropriate mapping, digital photography, and artifact collection/analysis. Site forms will be prepared for VCRIS submittal along with full site descriptions provided in a technical report.

Over the course of the historic architectural survey, structures determined to be of the target age will be photographed and marked on the applicable U.S. Geological Survey quadrangle map. While the NPS Bulletin 15 (NPS 1995a) defines a historic property as a resource that is 50 years or older, for the purposes of this Project, the survey will include those 45 years or older to accommodate the length of time needed to complete the permitting phase for the Project. Furthermore, the survey will also record those resources that may have reached significance prior to the 50 (45) year age threshold, in accordance with NPS guidance, if they are integral parts of districts or have sufficient merit to be considered eligible for the NRHP on their own.

Digital photographs will be taken to record the historic resources' overall appearance and details. Sketch maps will be drawn to depict the relationship of dwellings to outbuildings and associated landscape features. Additional information on the structures' appearance and integrity will be recorded to assist in making recommendations of NRHP eligibility. Historic maps, aerial photographs, and tax assessor data will be consulted to assist in dating the resources. Resources identified in the field effort will be reported to the VDHR, VCRIS numbers will be obtained, and shapefiles and database information will be provided. Sufficient information will be collected to make recommendations for each identified historic resource regarding eligibility for listing in the NRHP and to assess Project impacts.

7. REFERENCES

National Historic Preservation Act [NHPA]
1966 36 CFR 800.1-.16d. §, amended 2000.

National Park Service [NPS]
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Seibel, Scott and Patrick Thompson
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Virginia Department of Historic Resources (VDHR)
2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia.* VDHR: Richmond.
2017 *Guidelines for Conducting Historic Resources Survey in Virginia.* Richmond, Virginia. Rev. 2017.
2024 Virginia Cultural Resource Information System (VCRIS) database and GIS server.
n.d. Architectural Survey Forms. Various. On File: Richmond, VDHR.

APPENDIX A: Professional Qualifications

Meets the Secretary of Interior Qualification Standards for Archaeology and History.

- **EDUCATION**

MA • Anthropology • East Carolina University • 2020

BA • Archaeology • The University of North Carolina at Chapel Hill • 2018

- **REGISTRATIONS**

Registered Professional Archaeologist • U.S.

OSHA 30-Hour Construction Safety and Health (2023) • U.S.

ACHP Section 106 Essentials, 8-hour Digital Classroom Course (2024)

- **YEARS OF EXPERIENCE**

Dewberry • 3

Prior • 1

- **AFFILIATIONS**

North Carolina Archaeological Society

Michael Navarro RPA

STAFF ARCHAEOLOGIST

Michael conducts research, investigation, and/or mitigation of historical or cultural resources. Fieldwork prior to joining Dewberry includes excavations and archaeological survey. Michael has conducted surveys, excavations, and laboratory investigations across multiple countries and concerning multiple time periods. His specialization with archaeological human skeletal remains helps clients navigate the sensitive legal and ethical ramifications within those projects.

RELEVANT EXPERIENCE

Phase I Archaeological Survey, 360 Solar Center, Sun Tribe Development, Chesterfield County, VA. Archaeologist for proposed 52 MW solar photovoltaic site covering nearly 1,400 acres in central southern Virginia. Primary author of a cultural resource report prepared to satisfy the Virginia Department of Environmental Quality's Solar Permit by Rule (PBR) process. Principle investigator for archaeological survey which involved the application of archaeological site predictive modeling to avoid surveying areas with little to no archaeological potential and focused survey on hand excavation of nearly 3,000 shovel tests and pedestrian reconnaissance to evaluate approximately 200 acres of archaeological potential. The results of the archaeological survey allowed Sun Tribe to modify their proposed solar array to avoid impacts on two previously unknown archaeological sites (one prehistoric and one historic) and one previously un-surveyed historic family cemetery. An additional five previously unknown historic archaeological sites were identified and recommended not eligible for listing in the NRHP at the Phase I level. DHR concurred with the recommendations, allowing the client to move forward with development.

Phase I Archaeological Survey, Project Freedom Site, Chaney Enterprises, Sussex County, VA. Archaeologist for proposed hard-rock quarry site totaling 176 acres in Sussex County, VA near Stony Creek. Primary author and principle investigator of a cultural resource report conducted in order to establish areas of high, moderate, and low archaeological sensitivity within the proposed quarry. Background research and predictive site modeling identified 57 acres of high sensitivity. Identification of sensitivity areas allowed for reduced proposed shovel test density in low sensitivity areas. Phase IB services excavated 872 shovel tests and walked nearly 40 transects within agricultural fields. This process identified 10 new archaeological sites, including one historic and nine pre-contact sites. Prompt coordination with the client allowed them to revise their construction plans to avoid impact to potentially significant archaeological sites without project delay.

Phase I Archaeological Survey, Virginia State Police Division Six Headquarters, City of Salem, VA. Archaeologist for proposed state police headquarters within two parcels totaling 11.1 acres in western Virginia. Primary author of a cultural resource report conducted on behalf of VSP. Principle investigator for field survey which included background research, pedestrian reconnaissance, archaeological sensitivity modeling, and excavation of 225 shovel tests across the proposed Division Six Headquarters property. Fieldwork resulted in the establishment of one previously unknown prehistoric archaeological site. The survey allowed VSP to modify their proposed headquarters to avoid impacts to the archaeological site and proceed with development. DHR concurred that

the project as designed would have no effect on historic properties with the use of archaeological monitoring.

Phase I Cultural Resources Eligibility/Effects Documentation, Route 73 Church Road (CR 616) to Fellowship Road (CR 673), Mount Laurel and Maple Shade Townships, Burlington County, NJ. Archaeologist and primary author of cultural resources eligibility/effects documentation, which consisted of combined background research and fieldwork results designed to identify cultural resources and define archaeological site boundaries within the project area. Principle investigator overseeing the excavation of 232 shovel tests along RT 73 and Church Road in areas sensitive for historic and prehistoric archaeology. No archaeological sites were identified within the project area; NJDOT was able to proceed with development of major road improvements.

Historic Structures Survey Report, Install Left-turn Lanes on SR 1319 (Jones Franklin Road) at Athens Drive, Raleigh, Wake County, HL-0051. Cultural Resources Specialist supporting a historic structure survey and evaluation of one dwelling, 136 Jones Franklin Road, on behalf of NCDOT. HSSR was completed under Programmatic Agreement between NCDOT and NCHPO. Responsible for photographing the property's exterior elevations and interior conditions. Conducted the site visit and background research, prepared the GIS data package, and provided report writing support. 136 Jones Franklin Road is recommended eligible for listing in the NRHP under Criteria C.

Phase IA Archaeological Documentary Report, Westchester Yard Flood Protection & Drainage Improvements, MTA Construction & Development, Bronx, New York, NY. Archaeologist supporting an archaeological site assessment which consisted of background research, pedestrian reconnaissance, and GIS archaeological sensitivity model to ascertain portions of the project area with sensitivity for archaeology as well as those which could be excluded from future archaeological fieldwork due to low sensitivity. GIS sensitivity model identified the entire project area as not requiring archaeological testing. No further archaeological or historic investigations were recommended.

Phase IA Cultural Resources Site Assessment, Clagett Birkett Project, Accokeek, Prince George's County, MD. Archaeologist and principle investigator for archaeological site assessment which consisted of background research, pedestrian reconnaissance, and GIS archaeological sensitivity model to ascertain portions of the project area with sensitivity for archaeology as well as those which could be excluded from future archaeological fieldwork due to low sensitivity. GIS sensitivity model identified approximately half of the project area as not requiring archaeological testing. Developed and presented a Phase IB testing plan which will allow the client to satisfy local permitting needs.

Expanded Phase IA Cultural Resource Site Assessment, Doves Landing Natural/Cultural Resource Park, Prince William County, VA. Archaeologist and principle investigator for site assessment which re-evaluated two prior cultural resource desktop assessments. Dewberry's Expanded Phase IA employed a GIS Model examining environmental factors in order to establish areas of high, moderate, and low archaeological sensitivity. Modeling efforts helped to reduce the anticipated testing zones and develop a Phase IB testing plan. Pedestrian reconnaissance identified six historic archaeological features within the APE, including a 19th-century mill complex, a 19th-century farmstead, two family

cemeteries, potential Civil War earthworks, and an early 20th-century log cabin foundation.

Expanded Phase IA Cultural Resource Site Assessment, Page Road Farm Tract, Powhatan and Chesterfield Counties, VA. Archaeologist and principle investigator for site assessment which re-evaluated a prior Phase IA which recommended nearly the entire APE sensitive for archaeology. Dewberry's Expanded Phase IA employed a GIS Model examining environmental factors in order to establish areas of high, moderate, and low archaeological sensitivity. Modeling efforts helped to reduce the anticipated testing zones and expedite the Phase IB archaeological survey. Report was provided within an accelerated timeline and Phase IB survey was initiated concurrent with submission.

Phase IB Archaeological Survey, Page Road Farm Tract, Powhatan and Chesterfield Counties, VA. Archaeologist and principle investigator for Phase IB subsurface survey which excavated 558 shovel tests across the 125-acre APE in order to ascertain the presence or absence of cultural resources. Excavated shovel tests followed a Phase IB Testing Plan developed during the Expanded Phase IA which identified areas of high and moderate archaeological sensitivity as well as those areas which could be eliminated from archaeological survey due to reduced sensitivity. Three new archaeological sites were identified as a result of the survey, including one historic burial site. Prompt coordination with the client allowed them to avoid the sensitive burial site and proceed with site development. DHR concurred with Dewberry's findings of no affects to historic properties.

Phase IA Cultural Resources Assessment, Transmission Line 531 & 541 – Pole 84-87 Project, Orange and Rockland Utilities, Inc., Towns of Clarkstown and Ramapo, NY. Archaeologist for proposed improvements to existing transmission lines near Spring Valley, NY. Tasked with conducting background research, including environmental factors, previously conducted cultural resource studies, and known historic properties, in order to establish areas of high, moderate, and low archaeological sensitivity within the project area. Background research and predictive site modeling identified 5.25 acres of high sensitivity. Identification of sensitivity areas allowed for targeted Phase IB testing recommendations in the case that ground disturbing activities are proposed.

Pre-Application Analysis of Cultural Resources, Edsall 230 kV Transmission Line, Dominion Energy, Fairfax County, VA. Archaeologist and primary author of a cultural resources analysis to support the State Corporation Commission submission for a proposed utility improvement project at the existing Van Dorn substation, located in Fairfax County. Analysis included review of known historic properties present within the project corridor or with a direct line of site to the proposed project corridor followed by an assessment of project effects to historic properties. The proposed project corridor is adjacent to one NRHP-eligible resource, the Richmond, Fredericksburg and Potomac Railroad Historic District, which overlaps partially with the proposed project alignment. Existing power lines cross the historic district and several other power distribution lines parallel and are visible from the historic railway. The surrounding industrial landscape includes intrusive elements such as highway maintenance property, electrified transit tracks and industrial warehouses. Given the presence of these existing intrusions, the proposed utility improvements will not alter the character or setting of the historic railway. The project is anticipated to have minimal impact on the historic district's viewshed.

Phase I Archaeological Survey, Indian Health Service, King William County, VA. Archaeologist and primary author responsible for preparing a Phase I Archaeological Survey, which consisted of combined background research and archaeological fieldwork designed to identify cultural resources and define archaeological site boundaries within the project's Area of Potential Effect (APE). Responsibilities included review of available archaeological and historical data; review of past archaeological research within and near the project site; excavation of 10 shovel tests within the Pamunkey Indian Reservation Archaeological District; and primary author of the report documentation. DHR concurred with the recommendations, allowing construction to proceed.

Phase I Archaeological Survey, Birchwood Group Site, FEMA Direct Housing Mission, Clay County, IA. Archaeologist for proposed temporary housing site in the wake of flooding in Spencer, IA. Field director overseeing surface survey and excavation of 173 shovel test pits at the Birchwood Group Site. Primary author of a cultural resources report prepared to satisfy NEPA and NHPA 1966, as amended. Subsurface survey of the Birchwood APE revealed no significant cultural resource; a full report was drafted quickly following fieldwork completion. FEMA was able to advance temporary housing mission within an accelerated timeline.

Phase I Archaeological Survey, Calliope Group Site, FEMA Direct Housing Mission, Sioux County, IA. Archaeologist for proposed temporary housing site in the wake of flooding in Hawarden, IA. Field director overseeing surface survey and excavation of 49 shovel test pits at the Calliope Group Site. Primary author of a cultural resources report prepared to satisfy NEPA and NHPA 1966, as amended. Subsurface survey of the Calliope APE revealed no significant cultural resource; a full report was drafted quickly following fieldwork completion. FEMA was able to advance temporary housing mission within an accelerated timeline.

Phase I Archaeological Survey, North Lot Group Site, FEMA Direct Housing Mission, Clay County, IA. Archaeologist for proposed temporary housing site in the wake of flooding in Spencer, IA. Field director overseeing surface survey and excavation of 90 shovel test pits at the Birchwood Group Site. Primary author of a cultural resources report prepared to satisfy NEPA and NHPA 1966, as amended. Subsurface survey of the North Lot APE revealed no significant cultural resource; a full report was drafted quickly following fieldwork completion. FEMA was able to advance temporary housing mission within an accelerated timeline.

Phase I Archaeological Survey, Glades Group Site, FEMA Direct Housing Mission, Lee County, FL. Archaeologist for proposed temporary housing site in the wake of Hurricane Ian near Fort Myers. Principle investigator overseeing surface survey and excavation of 20 shovel test pits at the Glades Group Site. Primary author of a cultural resources report prepared to satisfy NEPA and NHPA 1966, as amended. Subsurface survey of the Glades Group sites revealed no significant cultural resources within APE; a full report was drafted quickly following fieldwork completion. FEMA was able to advance temporary housing mission within an accelerated timeline.

Phase I Archaeological Survey, Bokeelia Gardens Group Site, FEMA Direct Housing Mission, Lee County, FL. Archaeologist for proposed temporary housing site in the wake of Hurricane Ian on Pine Island. Field crew member assisting surface survey and excavation of over 60 shovel test pits at the Bokeelia Gardens Group Site. Subsurface survey of the Bokeelia Gardens Group Site revealed no significant cultural resources within APE; a full report was drafted

quickly following fieldwork completion. FEMA was able to advance temporary housing mission within an accelerated timeline.

Phase I Archaeological Survey, United Memorial Group Site, FEMA Direct Housing Mission, Monroe County, MS. Archaeologist for proposed temporary housing site in Amory, MS. Field crew member assisting surface survey and excavation of 53 shovel test pits at the United Memorial Group Site. Subsurface survey of the Bokeelia Gardens Group Site revealed one new historic archaeological site recommended Not Eligible for listing in the NRHP; a full report was drafted quickly following fieldwork completion and SHPO coordination. FEMA was able to advance temporary housing mission within an accelerated timeline.

Assessment of Impacts on Historic Resources during Design and Construction of Capital Projects, As-Needed Services, MTA Construction & Development (MTA C&D), New York, NY. Historian/Archaeologist acting as MTA C&D's in-house cultural resources staff. Services include agency coordination, historic documentary review, on-site inspections of historic resources, review of construction documents, completion of consultation documents, suggestions for alternative construction approaches to avoid or minimize effects to historic properties, submission of consultation documents to New York State Historic Preservation Office (SHPO)/New York City Landmarks Preservation Commission (LPC), or other tasks as determined by MTA C&D staff. Capital projects receiving federal funding from the Federal Transit Administration are subject to Section 106 of the National Historic Preservation Act. For capital projects receiving state funding, cultural resources compliance is conducted under Section 14.09 of the New York State Historic Preservation Act, which parallels the Section 106 process. More than 90 capital projects have been reviewed since 2022.

Phase I Cultural Resources Eligibility/Effects Documentation, Chadwick Beach Island Bridge, Ocean County, NJ. Archaeologist and primary author of cultural resources eligibility/effects documentation, which consisted of combined background research and fieldwork results designed to identify cultural resources and define archaeological site boundaries within the project area. Responsibilities included review of available archaeological and historical data; review of past archaeological research within and near the project site; review of environmental and soils classifications within the project site; and archaeological sensitivity modeling to eliminate unnecessary areas for subsurface excavation. The documentation allowed the client to move forward with design and replacement of a critical infrastructure element.

Section 106 Initiation Letter, City of High Point South Main Street Market Improvements, Guilford County, NC. Archaeologist responsible for conducting a site visit of the project area and photographing 20 structures over 50 years in age within or directly adjacent to the APE. Author of a Section 106 Initial Letter which recommended no potential for the project to alter the character or context of historic properties. Section 106 Initiation letter was provided to the City of High Point in order to advance project plans and begin SHPO coordination.

Archaeological Reviews, Prince William County Planning Office, Prince William County, VA. Archaeologist responsible for reviewing archaeological reports prepared for the Prince William County Planning Department. Reviews are performed to evaluate submitted report compliance with the Virginia Department of Historic Resource's *Guidelines for Conducting Historic Resources*

Surveys in Virginia. Reviewed both Phase I and Phase II archaeological reports for the Planning Office.

Environmental Review Report, Cedar Falls Mill Property, Randolph Heritage Conservancy, Inc., Franklinville, NC. Archaeologist responsible for reviewing archaeological and historic data maintained by the NC Office of State Archeology and Historic Preservation Office within the project area as part of an Environmental Review of the property. Review identified four historic structures within the project area; two were either unassessed or listed in the NC Study List. Review allowed client to proceed with site renovation with necessary permits.

Environmental Review Report, Whalehead Club Raw Water Main, Currituck County, Corolla, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within the project area in order to determine what, if any, federal or state permits may be required. Review identified one archaeological site and one NRHP-listed historic structure within the project area. Reported to the client that a general NC Coastal Management Permit would be required from the NCDEQ requiring demonstration of no major or irreversible damage to historic properties.

Natural and Cultural Resources Review, Lilesville-Oakboro 230 kV Black and White Line Rebuild, Duke Energy Corporation, Anson County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within this emergent project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified one archaeological site within the project area, one adjacent to the project area, and one historic site in close proximity to the project area. Review allowed Dule Energy to anticipate potential permit needs.

Natural and Cultural Resources Review, Erwin-Milburnie 230 kV STP 14 Relocation, Duke Energy Corporation, Harnett County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within this emergent project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no archaeological or historic architectural sites and allowed Duke Energy to expediate project design.

Natural and Cultural Resources Review, I-540 Triangle Expressway Conflicts R-2829A & R-2829B, NCDOT, Wake County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified two pre-contact archaeological sites adjacent to one of the project areas and allowed Duke Energy to anticipate potential permit needs.

Natural and Cultural Resources Review, Milford Relocation Project, Duke Energy Progress, Greenville County, SC. Archaeologist for directional drilling project to reroute existing overhead lines and install new overhead towers. Responsible for reviewing archaeological, historic, and environmental data maintained by the SC Institute of Archaeology and Anthropology and the State

Historic Preservation Office within footprint of project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Within the project corridor, review identified one NRHP-listed historic plantation also an NHL, one NRHP-listed church, and six archaeological sites unevaluated for listing or listed in the NRHP. Review allowed Duke Energy to anticipate permitting needs.

Natural and Cultural Resources Review, Black Creek-Wilson 115kV East-Raise Line and Install, Duke Energy Corporation, Wilson County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified two pre-contact archaeological sites and one historic district listed in the NC Study List within project area and allowed Duke Energy to anticipate potential permit needs.

Natural and Cultural Resources Review, Oxford South 230kV Substation Bank #2, Duke Energy Corporation, Granville County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within footprint of substation parcel. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified one NRHP-eligible historic structure within project viewshed and allowed Duke Energy to anticipate potential permit needs.

Natural and Cultural Resources Review, Improvements to National Guard Drive Intersection at Aviation Parkway, RDU Airport, Wake County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within the project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified three archaeological sites unevaluated for inclusion in the NRHP. Recommended consideration of Phase I/II archaeological studies to RDU in case of Federal/state permitting or funding requirements.

Natural and Cultural Resources Review, Cane River-Craggy 115kV-Install Disconnect Switches, Duke Energy Corporation, Buncombe County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within the project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no historic properties within project area, allowing Duke Energy to expedite project design.

Natural and Cultural Resources Review, Shotwell 230kV-Construct New HRS Sub, Duke Energy Corporation, Wake County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within proposed substation project area. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no historic properties within project area, allowing Duke Energy to expedite project design.

Natural and Cultural Resources Review, Research Triangle Park Reconductor, Duke Energy Corporation, Durham County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no historic properties within project area, allowing Duke Energy to expedite project design.

Natural and Cultural Resources Review, Arden 115kV Tap-Construct New Tap to Asheville Oteen, Duke Energy Corporation, Buncombe County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no historic properties within project area, allowing Duke Energy to expedite project design. Additional review of anticipated Danger Tree Clearing zone also found no historic properties.

Natural and Cultural Resources Review, Havelock-Morehead Wildwood 115kV North-Construct Tap to Cherry Point, Duke Energy Corporation, Craven County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no historic properties within project area, allowing Duke Energy to expedite project design.

Natural and Cultural Resources Review, Morrisville 230kV Substation Bank #2, Duke Energy Corporation, Wake County, NC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the NC Office of State Archeology and Historic Preservation Office within footprint of substation parcel. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no historic properties within project area, allowing Duke Energy to expedite project design.

Natural and Cultural Resources Review, Lamar 23kV 3PH Relocation, Duke Energy Progress, Darlington County, SC. Archaeologist responsible for reviewing archaeological, historic, and environmental data maintained by the SC Institute of Archaeology and Anthropology and the State Historic Preservation Office within footprint of project corridor. Principle investigator tasked with making recommendations as to potential further cultural resource needs prior to project design. Review identified no historic properties within project area, allowing Duke Energy to expedite project design.

Garden Run Solar Cultural Resource Risk Assessment, Sun Tribe Development, Hanover County, VA. Archaeologist and primary author of a cultural resource risk assessment for an approximate 182-acre Garden Run Solar project, to be located in Hanover, Virginia. The assessment included a review of the project's environmental setting, including soil conditions and slope, review of previously recorded historic properties on file with the Virginia Department of Historic Resource's Virginia Cultural Resource Information System (V-CRIS), and summary of historic maps of the project area. The assessment concluded that

the project area possesses a high risk to contain historic properties due to the presence of numerous archaeological sites in the project area.

Lightfoot Solar Cultural Resource Risk Assessment, Sun Tribe Development, James City County, VA. Archaeologist and primary author of a cultural resource risk assessment for an approximate 54-acre Lightfoot Solar project, to be located in James City County, Virginia. The assessment included a review of the project's environmental setting, including soil conditions and slope, review of previously recorded historic properties on file with the Virginia Department of Historic Resource's Virginia Cultural Resource Information System (V-CRIS), and summary of historic maps of the project area. The assessment concluded that the project area possesses a medium risk to contain historic properties due to a lack of prior soil disturbance and favorable environmental variables for prehistoric site formation.

Mill Creek Solar Cultural Resource Risk Assessment, Sun Tribe Development, Essex County, VA. Archaeologist and primary author of a cultural resource risk assessment for an approximate 510-acre Mill Creek Solar project, to be located in Essex County, Virginia. The assessment included a review of the project's environmental setting, including soil conditions and slope, review of previously recorded historic properties on file with the Virginia Department of Historic Resource's Virginia Cultural Resource Information System (V-CRIS), and summary of historic maps of the project area. The assessment concluded that the project area possesses a high risk to contain historic properties due to the presence of numerous archaeological sites in the project area.

Caledon Solar Cultural Resource Risk Assessment, Sun Tribe Development, King George County, VA. Archaeologist and primary author of a cultural resource risk assessment for an approximate 400-acre Caledon Solar project, to be located in King George County, Virginia, adjacent to Caledon State Park. The assessment included a review of the project's environmental setting, including soil conditions and slope, review of previously recorded historic properties on file with the Virginia Department of Historic Resource's Virginia Cultural Resource Information System (V-CRIS), and summary of historic maps of the project area. The assessment concluded that the project area possesses a high risk to contain historic properties, highlighted by the presence of multiple archaeological sites within the project area.

PNC Bank Arts Center Interpretive Panels, New Jersey Turnpike Authority, Holmdel, NJ. Archaeologist responsible for compiling research, images, and background information on the history, architecture, and engineering of the PNC Bank Arts Center in Holmdel, NJ along the Garden State Parkway. Drafted three of five informative panels requested by NJHPO to mitigate partial loss of the historic Arts Center landscape. Panels are displayed on the Arts Center grounds. Panels focused on five primary subjects: Architecture, Engineering, Social Context, Architect, and Construction.

Phase I Cultural Resource Assessment, Garden State Parkway (GSP) Interchange 83 Improvements, New Jersey Turnpike Authority, Toms River Township, Ocean County, NJ. Archaeologist for the preparation of Phase I Archaeological Survey and Eligibility and Effects Documentation for Architectural Resources. The project, located within the National Register eligible GSP Historic District, assessed proposed transportation improvements facilitating movements from the GSP to local road at Interchange 83. Supported archaeological survey and architecture inventory within the project's Area of Potential Effect, resulting

in no significant archaeological resources. Application of the Criteria of Adverse Effect determined the introduction of the exit ramp would have an adverse effect to the GSP Historic District. Consultation with NJHPO was recommended to develop applicable designs consistent with the District's historic setting and context to minimize adverse effects.

Route 29 Rockfall Mitigation, New Jersey Department of Transportation (NJDOT), Hunterdon County, NJ. Archaeologist for this federally funded project to improve the safety and mobility of the traveling public by reducing the frequency and severity of rockfall events impacting a section of Route 29. Supported Phase I cultural resource investigations in association with proposed rockfall mitigation project including review of archaeological and historic architectural files at the New Jersey State Museum (NJSM) and at the Pennsylvania Historic and Museum Commission (PHMC). Conducted additional historic research, review of existing geotechnical data, and helped plan limited Phase IB field investigations of project area. Co-authored Phase I cultural resource report for submission to the NJHPO.

Phase I Archaeological Survey, New Jersey Department of Transportation (NJDOT), I-80 Westbound Rockfall Mitigation Project, Hardwick and Knowlton Townships, Warren County, NJ. Archaeologist for the preparation of an archaeological survey of the proposed project to reduce the frequency and severity of rockfall events along Route I-80 Westbound. Conducted an archaeological assessment of the expanded project area by summarizing previously completed cultural resource reports, creating an inventory of known historic properties, and assessed remotely captured (LiDAR) data for signs of cultural features to guide the archaeological survey.

Route 206 Rockfall Mitigation, New Jersey Department of Transportation (NJDOT), Sussex County, NJ. Archaeologist. Completed research to assist NJDOT in the preparation of APE documentation for mitigation aimed at reducing rockfall events along Route 206 Northbound between Andover and Newton, NJ. Later, responsible for background research and site plan analysis for Phase I archaeological survey of the APE and identification of one previously unknown archaeological site.

Phase I Archaeological Monitoring and Cultural Resource Mitigation, Pulaski Skyway Rehabilitation Program, Construction Support, Contract 7, New Jersey Department of Transportation (NJDOT), Newark, Jersey City, Kearny, Essex and Hudson Counties, NJ. Archaeologist reviewed the draft report and assisted with historic research to support the interpretation of recovered archaeological material. This work was conducted as part of a $2-billion rehabilitation of the Pulaski Skyway, a 3.5-mile-long structure connecting Newark to Jersey City.

Replacement of Chapel Drive Bridge (CR 623) over the Delaware & Raritan (D&R) Canal, New Jersey Department of Transportation (NJDOT), Somerset County, NJ. Archaeologist, as a subconsultant, for this bridge classified by the NJDOT Bridge Management Systems (BMS) as structurally deficient due to the poor condition of the substructure (which has a rating of two and three). This project is part of a bridge bundle program of projects that have completed Concept Development. A bundle program requires the selection of one consultant at the same CSC Meeting for all projects listed in the solicitation. The projects require the same disciplines and scope so that a responding consultant may be considered for all of the programmatic and/or regional assignments

listed in the solicitation. One environmental document is required to cover all projects proposed in the bundle.

Roselle Park Station ADA Improvements, Environmental Support Services, NJ TRANSIT, Roselle Park, NJ. Archaeologist supporting NJ TRANSIT's environmental documentation for this Federal Transit Administration funded project to install ADA accessible upgrades to the Roselle Park station, including construction of a new elevator, demolition and reconstruction of the high-level center island platform and expansion of the station house. Supported a combined Phase IA Archaeological Assessment/Historic Architectural Resources Background Survey (HARBS)/Environmental Assessment documenting known and identified potential historic resources within the Area of Potential Effect (APE), helped determine an archaeological sensitivity of the APE and architecture survey of the surrounding area and assessment of effects to identified historic properties.

Historic Survey for Roselle Park Station Improvements, NJ TRANSIT, Roselle Park, NJ. Historian for various 19th and 20th century resource evaluations for the National and State registers for 18 properties located within the Area of Potential Effect (APE). The evaluations were prepared as part of Section 106 compliance for construction of a tunnel and installation of an elevator from the street level to the platform to meet ADA compliance standards. The survey documented and evaluated the properties for listing in the National Register of Historic Places.

Environmental Permitting, Johnsonville Feeder, Duke Energy Corporation, Johnsonville, SC. Archaeologist supporting the federal environmental permitting for above-ground utility line realignments north of Johnsonville, South Carolina. Analyzed the South Carolina ArchSite Online GIS application managed by the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH) in order to locate potential known archaeological resources within the project area. Responsible for drafting a statement included in the permit confirming no known archaeological resources existed within the project area based on remote research via ArcGIS Online.

SR 170 Over Lackawaxen River, Pennsylvania Department of Transportation (PennDOT), District 4-0, Wayne County, PA. Archaeologist for this federally funded project to rehabilitate and replace a bridge over the Lackawaxen River. Analyzed results of the Phase IB field investigation of the project area. Phase IB investigation identified three archaeological sites consisting of surface features and dispersed nineteenth to twentieth century historic artifact scatter. Registered the three historic sites with the Pennsylvania Historic and Museum Commission (PHMC) and uploaded information to Pennsylvania's State Historic and Archaeological Resource Exchange (PA-SHARE); two sites were identified with the potential to contribute to the Aldenville Historic District. Co-authored Phase I cultural resource report for submission to PHMC.

Environmental and Historic Preservation (EHP) Review for Blue Acres Program, New Jersey Department of Community Affairs, Manalapan Township, Monmouth County, NJ. Archaeologist for EHP reviews of seven properties being acquired under the Blue Acres Buyout Program. Reviewed environmental impact areas to support U.S. Department of Housing and Urban Development Community Development Block Grant-Disaster Recovery (CDBG-DR) funding. Completed Section 106 documentation of the three properties

which included desktop analysis of historic development, topographic conditions, and historic property information on file with the New Jersey Historic Preservation Office. Also authored consulting and interested party letters as part of Section 106 process.

Jackie Robinson Parkway Safety Improvements, Brooklyn, NY. Cultural Archaeologist for the field survey for proposed safety improvements, including excavation of an existing slope and construction of a widened shoulder and stone retaining wall along eastbound Jackie Robinson Parkway.

Survey of Old Ayden Cemetery, Town of Ayden, Ayden, NC. Field Assistant responsible for survey of over 200 marked and unmarked burials. This included identifying grave depressions, taking data from unmaintained headstones, and establishing the perimeters of the cemetery. Old Ayden Cemetery is now being considered for local historic significance.

Bio-archaeological Analysis of Gause Family Cemetery, John J. Gause Jr, Sunset Beach, NC. Lab Assistant assisted in the analysis of several adult and subadult individuals excavated from the Gause Family Cemetery at the request of the property owner and descendent. Individuals dated from the late 18th to early 19th century and represented significant plantation landowners of the period. Analysis was carried out by the East Carolina University (ECU) Bioarchaeology Laboratory and established critical data about health and diet during the period.

Excavations at Greenwood Cemetery, City of New Bern, New Bern, NC. Field Assistant assisted in the investigative excavation of a supposed African-American mass burial from the mid-19th century. The project was sponsored by the City of New Bern and carried out by the ECU Bioarchaeology Laboratory. Remains were reinterred, and a plaque was erected establishing their presence.

Archaeological Investigations of an Early American Farmstead, NC Office of State Archaeology, Uwharrie National Forest, NC. Field Assistant responsible for excavating over 50 shovel test pits along multiple transects. Responsible for excavating an additional 1x1 meter test trench on the site. Project was completed as a part of a student's MA thesis as well as in tandem with the NC Office of State Archaeology.

Historical Excavations at Pauli Murray House, Pauli Murray Center for History and Social Justice, Durham, NC. Field Assistant Volunteer assisted with the excavation of a single trench on the house grounds as a part of a graduate-level course in public archaeology. The project included not only the excavation, but the presentation of results to the local community during a "Community Archaeology Day" held on the property. Pauli Murray was an influential figure in the mid-20th century in racial justice, legal representation of women, and early LGBTQ+ representation.

Tessa Nesta

ARCHITECTURAL HISTORIAN

Meets the Secretary of Interior Standards for Architectural History and History.

- **EDUCATION**

MS • Historic Preservation • Pratt Institute • 2018

BA • History of Art • The Ohio State University • 2012

- **YEARS OF EXPERIENCE**

Dewberry • 1

Prior • 11

Tessa Nesta is an architectural historian with a background in historic preservation, providing regulatory compliance, and writing historic preservation reports for submission to the State Historic Preservation Office. She has experience performing pre-schematic, site surveying, probe observations, Local Law 11 inspections, building deficiency inspections, design development, quality control reviews of construction documents, and specification editing. Tessa specializes in working with governmental entities and public institutions including U.S. Army Corps of Engineers (USACE), Federal Emergency Management Agency (FEMA), New York State Office of General Services (OGS), New York City Housing Authority (NYCHA), New York City School Construction Authority (NYCSCA), Dormitory Authority of the State of New York (DASNY), New York City Department of Design and Construction (NYC DDC), New Jersey Department of Community Affairs (NJDCA), New Jersey Department of Transportation (NJDOT).

RELEVANT EXPERIENCE

Chadwick Beach Island Bridge, New Jersey Department of Transportation (NJDOT), Toms River Township, NJ. Architectural Historian
as a subconsultant responsible for architectural research including background research to characterize the project's potential to contain historic properties. Dewberry staff completed an intensive-level survey of the project's Area of Potential Effect (APE) resulting in the identification of at least 18 potential properties appearing to be 50 years in age or greater. The overall purpose and goal of this project is to enhance safety by replacing the wooden and timber pile bridge, while minimizing environmental, quality of life, access, right of way and utility impacts. Work was performed in accordance with NJDOT Capital Project Delivery Process, NJDOT Procedures and Design Manuals, FHWA, NEPA, and Section 106.

Route 73 Church to Fellowship Road, New Jersey Department of Transportation (NJDOT), Mount Laurel Township, NJ. Architectural Historian
as a subconsultant responsible for architectural research including background research to characterize the project's potential to contain historic properties. Dewberry staff also completed a windshield survey of the project's Area of Potential Effect (APE) resulting in the identification of at least 43 potential properties appearing to be 50 years in age or greater. The overall purpose and goal of this project is to enhance safety and reduce congestion, while minimizing environmental, quality of life, access, right of way and utility impacts. Work was performed in accordance with NJDOT Capital Project Delivery Process, NJDOT Procedures and Design Manuals, FHWA, NEPA, and Section 106.

Fort Hunter Liggett Installation Master Development Plan Environmental Assessment, U.S. Army Corps of Engineers (USACE), Huntsville Center, Monterey County, CA. Architect Historian responsible for compliance with Section 106 of the National Historic Preservation Act, as part of the Installation Development Plan efforts at Fort Hunter Liggett, a U.S. Army base. The installation's Hearst Milpitas Hacienda is a significant property on the installation; it was listed on the National Register of Historic Places in 1977. Completed in 1930, the Hacienda was designed by architect Julia Morgan for William Randolph

Hearst, as temporary housing for Hearst's employees and guests. Hearst sold the property to the U.S. Army in 1940 and today the Hacienda is a hotel.

Assessment of Impacts on Historic Resources during Design and Construction of Capital Projects, Metropolitan Transportation Authority (MTA) Construction & Development (C&D), New York, NY. Architectural Historian acting as MTA C&D's in-house cultural resources staff. Services include agency coordination, historic documentary review, on-site inspections of historic resources, review of construction documents, completion of consultation documents, suggestions for alternative construction approaches to avoid or minimize effects to historic properties, submission of consultation documents to New York State Historic Preservation Office/New York City Landmarks Preservation Commission, or other tasks as determined by MTA C&D staff. Capital projects receiving federal funding from the Federal Transit Administration are subject to Section 106 of the National Historic Preservation Act. For capital projects receiving state funding, cultural resources compliance is conducted under Section 14.09 of the New York State Historic Preservation Act, which parallels the Section 106 process.

Environmental Due Diligence Assessment under National Environmental Policy Act (NEPA) for Americans with Disabilities Act (ADA) Package 5 Bundle, MTA Construction & Development (C&D), New York, NY. Architectural Historian for environmental analysis and preparation of National Environmental Policy Act (NEPA) Categorical Exclusion (CE) Worksheets for Federal Transit Administration (FTA) review for accessibility improvements for 13 New York City Transit passenger stations. Responsibilities include review and analysis for compliance with Section 106 of the National Historic Preservation Act (NHPA) including New York State Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (SHPO) consultation.

Sotomayor Houses, Masonry, Parapets and Roof Material Review, New York City Housing Authority, Bronx, NY. Preservationist responsible for review of contractor construction plans, focused on masonry repairs, new windows, roofing, parapets, and terra cotta rain screen cladding at the bulkheads to confirm adherence to design standards and regulatory compliance. Conducted thorough inspections of the construction site to ensure adherence to the design documents and verified work aligned with the project requirements, architectural specifications, and relevant regulations.

Amsterdam Houses Renovation Project, Material Review, New York City Housing Authority, New York, NY. Preservationist responsible for review of contractor construction plans, building inspections, issuing sketches, bulletins and estimates for scope changes, and tracked and monitored permits and approvals. Project focused on masonry repairs, roofing, parapets, and terra cotta rain screen cladding.

Permanent Affordability Commitment Together (PACT) 8 and 9 Accessibility Desktop Analysis, New York City Housing Authority. Preservationist responsible for reviewing NYCHA developments within Pact 8 and 9 to identify buildings and units to be converted into hearing, visual, and accessibility compliant units. Examined architectural plans, infrastructure, and available resources to determine the feasibility of incorporating hearing, visual, and accessibility compliant elements. Analyzed factors such as entrance accessibility, interior layout, communication systems, and visual aids to determine potential conversion options. Conducted a detailed feasibility analysis for each building

and unit, considering factors like structural integrity, cost implications, and potential impact on residents' living conditions.

P.S. 11M Renovation, Masonry, Parapets and Roof Material Review, New York City School Construction Authority. Preservationist for site surveys to assess building condition, prepared report outlining the necessary restoration and preservation work, including structural, architectural, and aesthetic aspects, and prepared SHPO reports that presented field collected data for compliance with historic preservation guidelines.

P.S. 799K Renovation, Masonry, Parapets and Roof Material Review, New York City School Construction Authority. Preservationist for construction administration, coordination, and oversight. The project focused on new windows, roofing, parapet, and a complete reskinning of the facade using architectural precast concrete at the base and fiber cement panels throughout the upper floors and bulkheads.

Smithville Historic District National Register Evaluation, Town of Cornelius, North Carolina, Cornelius, NC. Architectural Historian.

HL-0051 Historic Architecture Survey, North Carolina Department of Transportation, Raleigh, NC. Architectural Historian.

Hurricane Ida Recovery, NJDCA, Statewide, NJ. Architectural Historian.

Construction Administration, Empire State Plaza Egg Walkway, OGS, Albany, NY. Project Manager.

EMPLOYER HISTORY

Nelligan White Architects PLLC, New York City, NY. Project Manager/Studio Administrator responsible for managing a portfolio 32 buildings and more than $100 million of construction value in varying phases of design and construction for the New York City Housing Authority and the New York City School Construction Authority. Oversaw a team of five verifying project design deadlines and construction administration duties were met. Acted as a studio Preservationist lead providing regulatory compliance as well as writing historic preservation reports for submission to the State Historic Preservation Office. Led company-wide recruitment including sourcing and interviewing full-time candidates, college Co-op students, and high school summer interns. Also developed and implemented on-boarding process for new hires. Performed pre-schematic, site surveying, probe observations, Local Law 11 inspections, building deficiency inspections, design development, quality control reviews of construction documents, specification editing, and report writing. Additional duties included: submittal and RFI reviews, client management, billing tracking, project estimating in ProEst, proposal writing, outward facing presentations, RFP sourcing, and website management.

Nelligan White Architects PLLC, New York City, NY. Preservationist responsible for composing detailed State Historic Preservation reports illustrating necessary rehabilitation to historic structures currently in design to arrest continuous building damage. Assisted the Team Project Manager with construction administration site visits, building surveys, meeting minutes, submittal reviews, and RFI responses.

PRESERV Building Restoration Management, Inc., Brooklyn, NY. Marketing Coordinator (Intern) responsible for assisting with construction proposals and

contracts; managing website and social media presence and preparing E-blasts; and attending building site inspection and transcribing meeting minutes.

Historic Preservation Department, Pratt Institute, Brooklyn, NY. Graduate Assistant responsible for assisting the Director with administration requests, event gatherings, field excursions, special lectures, and presenting during workshops. Fielded correspondence and performed outreach to prospective students. Managed the department webpage for needed updates, maintained gallery images, and edited alumni video interviews in Adobe Premiere Pro. Generated outward facing digital collateral for marketing lectures and seminars.

Zachary Davis RPA

ASSOCIATE, CULTURAL RESOURCES DISCIPLINE LEAD

Zachary Davis is a senior archaeologist and project manager responsible for Phase IA Archaeological Assessments, Phase IB Archaeological Surveys, Phase II Archaeological Site Evaluations, and Phase III Archaeological Mitigation and Data Recovery. Zachary leads Dewberry's nationwide cultural resource practice group of terrestrial archaeologists, maritime archaeologists, architectural historians, and historians. He has experience identifying, evaluating, and recording historic properties; conducting historic, archaeological, architectural, geological, and genealogical studies; monitoring construction; and conducting impact assessments. His work supports compliance with Section 106, Section 4(f), Section 6(f), National Environmental Policy Act (NEPA), and local regulations. He has led cultural resources studies and regulatory compliance for hundreds of projects throughout the U.S.

Meets the Secretary of Interior Qualification Standards for Archaeology and History.

EDUCATION

PhD (ABD) • Interdepartmental Doctoral Program in Anthropology • SUNY Stony Brook • 2006

MA • Anthropology • SUNY Stony Brook • 2000

MA • Archaeology • University of London • 1994

BA • Archaeological Studies • Boston University • 1993

REGISTRATIONS

Registered Professional Archaeologist

SHPO/NYSOPRHP: Human Remains Discovery Protocol. ACEC New York Course # 3256 (2020)

An Advanced Workshop for National Register Nomination Preparers, National Park Service and New Jersey Historic Trust (2012)

Cultural Resources Best Practices Workshop, 7-Hour Training Program, New Jersey Historic Preservation Office (2006)

OSHA 40-Hour Hazardous Waste Operations Training: Annual Refreshers • U.S.

Trenching and Excavation Safety – OSHA Construction Industry Standards, Subpart P (29 CFR 2926. 650-652) (2009)

RELEVANT EXPERIENCE

Fort Hunter Liggett Installation Development Plan Environmental Assessment, U.S. Army Corps of Engineers, Huntsville Center, Monterey County, CA. Cultural Resources Lead for Dewberry. Responsible for compliance with Section 106 of the National Historic Preservation Act, as part of the Installation Development Plan efforts at Fort Hunter Liggett, a U.S. Army base. The installation's Hearst Milpitas Hacienda is a significant property on the installation; it was listed on the National Register of Historic Places in 1977. Completed in 1930, the Hacienda was designed by architect Julia Morgan for William Randolph Hearst, as temporary housing for Hearst's employees and guests. Hearst sold the property to the U.S. Army in 1940 and today the Hacienda is a hotel.

Picket Place Bridge, Local Concept Development Study, North Jersey Transportation Planning Authority (NJTPA), Somerset County, NJ. Cultural Resources Lead, as a subconsultant, for the Local Concept Development Study for the Picket Place Bridge in Branchburg and Hillsborough Township. Supported the environmental screening; contributed to the preparation of a Purpose and Need Statement, Alternatives Analysis, selection of the Preliminary Preferred Alternative, and preparation of the Concept Development Report.

Phase IA Archaeological Survey, Project Freedom Site, Sussex County, VA. Cultural Resources Lead, for a proposed quarry development site located adjacent to the Sappony Creek. Reviewed the project's archaeological assessment, composed of historic documentary research, pedestrian reconnaissance and photo-documentation of the project area. Areas of archaeological potential were identified as well as areas lacking archaeological potential based upon GIS analysis of environmental factors and pedestrian inspection of the project area. Developed recommendations for subsurface archaeological testing to evaluate presence or absence of archaeological resources.

Cultural Resources Eligibility/Effects Documentation, Chadwick Beach Island Bridge, Local Concept Development (LCD) Study, NJTPA, and Preliminary Engineering Phase, Ocean County, Toms River, NJ.

Dewberry Cultural Resources Lead, as a subconsultant to GPI, for preparation of cultural resource documentation assessing the proposed bridge replacement's potential to affect historic properties. Documentation included preparation of Area of Potential Effect (APE) documentation, archaeological assessment, historic architectural survey of 10 historic resources and assessment of adverse effects to historic properties. Proposed project was determined to have no effect to historic properties given high degree of prior disturbance to the project area and relatively insignificant historic resources that fail to meet eligibility criteria for inclusion in the National Register of Historic Places.

Phase I Archaeological Survey, Pamunkey Indian Reservation, Indian Health Service (IHS) and General Services Administration (GSA), King William County, VA. Project Manager for archaeological surveys conducted for the Indian Health Service (IHS) in support of proposed utility installations for water and sewer. This work is conducted under a Blanket Purchase Agreement using a General Services Administration (GSA) contract. The typical Phase I archaeological survey consists of combined background research and archaeological fieldwork designed to identify cultural resources and define archaeological site boundaries within a project's Area of Potential Effect (APE).

Pre-Application Analysis of Cultural Resources, Dominion Energy, Edsall 230 kV Transmission Line, Fairfax County, VA. Cultural Resources Lead. Responsible for quality review for a cultural resources analysis to support the State Corporation Commission (SCC) submission for a proposed utility improvement project at the existing Van Dorn substation, located in Fairfax County. Analysis included review of known historic properties present within the project corridor or with a direct line of site to the proposed project corridor followed by an assessment of project effects to historic properties. The proposed project corridor is adjacent to one National Register-eligible resource, the Richmond, Fredericksburg and Potomac Railroad Historic District, which overlaps partially with the proposed project alignment. Existing power lines cross the historic district and several other power distribution lines parallel and are visible from the historic railway. The surrounding industrial landscape includes intrusive elements such as highway maintenance property, electrified transit tracks and industrial warehouses. Given the presence of these existing intrusions, the proposed utility improvements will not alter the character or setting of the historic railway. The project is anticipated to have minimal impact on the historic district's viewshed.

Expanded Phase IA Cultural Resources Site Assessment, Page Road Farm Tract, Powhatan and Chesterfield Counties, VA. Cultural Resources Lead for an expanded archaeological assessment applying a GIS predictive model to identify areas of archaeological potential based upon environmental variables while also assessing areas of prior disturbance based upon field inspection of the project area. Proposed project involves development of a 125-acre parcel for light industrial purposes. Assessment determined that roughly half of the project area had been subjected to prior disturbance by the current landowner. Prepared recommendations for archaeological subsurface survey of the project area to evaluate for the presence or absence of archaeological resources.

Sun Tribe Solar – Mill Creek Solar Cultural Resource Risk Assessment, Essex County, VA. Cultural Resources Lead. Responsible for quality review and management of the completion of a cultural resource risk assessment for an approximate 510-acre Mill Creek Solar project, to be located in Essex County,

Virginia. The assessment included a review of the project's environmental setting, including soil conditions and slope, review of previously recorded historic properties on file with the Virginia Department of Historic Resource's Virginia Cultural Resource Information System (V-CRIS), and summary of historic maps of the project area. The assessment concluded that the project area possesses a high risk to contain historic properties due to the presence of numerous archaeological sites in the project area.

Pre-Application Analysis of Cultural Resources, Dominion Energy, Mint Springs 230 kV Delivery Point and Line Expansion, Manassas, Prince William County, VA. Cultural Resources Lead. Responsible for quality review for a cultural resources analysis to support the State Corporation Commission (SCC) submission for a proposed utility improvement project located in Prince William County. Analysis included review of known historic properties present within the project corridor or with a direct line of site to the proposed project corridor followed by an assessment of project effects to historic properties. The proposed project is located adjacent to the National Register-listed Manassas National Battlefield Park. We reviewed views from the historic battlefield in the direction of the proposed transmission line and concluded that the proposed transmission towers would not be visible from various vantage points in the battlefield park.

Smithville Neighborhood Revitalization, Transportation and Drainage Improvements, Cornelius, Mecklenburg County, NC. Preparation of a Historic Structures Survey Report for proposed community revitalization efforts enacted by the Town of Cornelius using Community Development Block Grant (CDBG) funds. Prepared an evaluation of the Smithville Historic District's eligibility for inclusion in the National Register of Historic Places. The survey identified 59 historic structures contributing to the National Register eligible historic district, representing a collection of residences dating from the late 19th century embodying the characteristics and experiences of Jim Crow segregation and community disenfranchisement through material alteration to their unifying architectural style.

Sun Tribe Solar – Caledon Solar Cultural Resource Risk Assessment, King George County, VA. Cultural Resources Lead. Responsible for quality review and management of the completion of a cultural resource risk assessment for an approximate 400-acre Caledon Solar project, to be located in King George County, Virginia, adjacent to Caledon State Park. The assessment included a review of the project's environmental setting, including soil conditions and slope, review of previously recorded historic properties on file with the Virginia Department of Historic Resource's Virginia Cultural Resource Information System (V-CRIS), and summary of historic maps of the project area. The assessment concluded that the project area possesses a high risk to contain historic properties, highlighted by the presence of multiple archaeological sites within the project area.

Archaeological Reviews, Prince William County Planning Office, Prince William County, VA. Cultural Resources Lead. Responsible for project management of reviews of archaeological reports prepared for the Prince William County Planning Department. Reviews are performed to evaluate submitted report compliance with the Virginia Department of Historic Resource's *Guidelines for Conducting Historic Resources Surveys in Virginia.* Reviewed both Phase I and Phase II archaeological reports for the Planning Office.

Harlem Line Truss Bridges Environmental Review, MTA Construction & Development and Metro-North Railroad, Fleetwood and Scarsdale,

Westchester County, NY. Cultural Resources Lead. Responsible for compliance with Section 106 of the National Historic Preservation Act (NHPA), Section 4(f) of the U.S. Department of Transportation Act, and New York's State Environmental Quality Review Act (SEQRA). The work supports the Design-Build replacement of three truss bridges along Metro-North's Harlem Line. Bridge HA19.35 was constructed in 1895 and carries two tracks over the Bronx River. The two bridges located at HA14.57 were constructed in 1920 and 2001.

Americans with Disabilities Act (ADA) Package 5 Bundle for Stations, Contract Nos. CM-1518, WO#37, and D-81658, WO#04 Manhattan, NY, MTA C&D. Cultural Resources Lead responsible for Section 106 compliance and supporting NEPA environmental analyses, prepared in support of improvements at 13 stations: 36th Street Station, Brooklyn; Classon Avenue Station, Brooklyn; New Lots Avenue Station, Brooklyn; Huguenot Station, Staten Island; Van Cortlandt Park-242nd Street Station, Bronx; 81st Street–Museum of Natural History Station, Manhattan; 86th Street Station, Manhattan; 96th Street Station, Manhattan; Harlem-148th Street Station, Manhattan; Court Square/23rd Street Station Complex, Queens; 33rd Street-Rawson Street Station, Queens; 46th Street-Bliss Street Station, Queens; Broadway Station, Queens. These projects will use Design-Build delivery.

Americans with Disabilities Act (ADA) Package 6 Bundle for Stations, Contract No. CM-1518, WO#36, Brooklyn and Bronx, NY, MTA C&D. Cultural Resources Lead responsible for Section 106 compliance and supporting NEPA environmental analyses, prepared in support of improvements at four stations: Avenue I Station, Brooklyn; Norwood Avenue Station, Brooklyn; Myrtle Avenue Station, Brooklyn; Burnside Avenue Station, Bronx. These projects will use Design-Build delivery.

Assessment of Impacts on Historic Resources during Design and Construction of Capital Projects, As-Needed Services, MTA Construction & Development, Systemwide, NY and CT. Project Manager responsible for leading Dewberry architectural historians, archaeologists, and historians that act as MTA C&D's in-house cultural resources staff. Services include agency coordination, historic documentary review, on-site inspections of historic resources, review of construction documents, or other tasks as determined by MTA C&D staff. Our historic preservation specialists assist MTA C&D with agency coordination, historic documentary review, on-site inspections of historic resources, review of construction documents, completion of consultation documents, suggestions for alternative construction approaches to avoid or minimize effects to historic properties and submission of consultation documents to OPRHP/LPC as needed staff. Capital projects receiving federal funding from the Federal Transit Administration (or the Department of Homeland Security) are subject to Section 106 of the National Historic Preservation Act. Capital projects receiving state funding for regular maintenance or state of good repair projects; cultural resources compliance are subject to Section 14.09 of the New York State Historic Preservation Act, which parallels the Section 106 process. At times, LPC review is required for projects involving City Environmental Quality Review or City permitting for Landmarked buildings present within the project area. Through June 2023, Dewberry has provided assistance to MTA C&D for more than 90 distinct projects, ranging from the installation of facial recognition cameras at 108 stations, new ADA accessible elevator entrances at historic stations, transformer upgrades across multiple subway lines, upgrading communication equipment, installing fare evasion enhancements at historic

station turnstile entrances and assessing impacts to historic properties as a result of the installation of Electric Vehicle charging infrastructure at multiple bus depots.

Environmental Review for Blue Acres Program, New Jersey Department of Community Affairs (NJDCA), Bergen County, NJ. Cultural Resources Lead for Environmental and Historic Preservation (EHP) reviews of three properties being acquired under the Blue Acres Buyout Program. Reviewed environmental impact areas to support HUD CDBG-DR funding. Reviews include desktop analysis, field reconnaissance, cultural resources consultation, preparation of Environmental Review Records, and public notification.

EHP Review for Blue Acres Properties, NJDEP, Southampton Township, NJ. Cultural Resources Lead for EHP reviews of 52 residential properties being acquired under the Blue Acres Buyout Program. Reviewed environmental impact areas to support U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funding. Completed Section 106 documentation of the three properties which included desktop analysis of historic development, topographic conditions, and historic property information on file with the New Jersey Historic Preservation Office (NJHPO). Also authored consulting and interested party letters as part of Section 106 process.

EHP Review for Blue Acres Properties, NJDEP, Pemberton Township, NJ. Cultural Resources Lead for EHP reviews of 10 residential properties being acquired under the Blue Acres Buyout Program. Reviewed environmental impact areas to support HUD CDBG-DR funding. Completed Section 106 documentation of the three properties which included desktop analysis of historic development, topographic conditions, and historic property information on file with the New Jersey Historic Preservation Office (NJHPO). Also authored consulting and interested party letters as part of Section 106 process.

EHP Review for Blue Acres Properties, NJDEP, Manalapan Township, NJ. Cultural Resources Lead for EHP reviews of seven properties being acquired under the Blue Acres Buyout Program. Reviewed environmental impact areas to support U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funding. Reviews include desktop analysis, field reconnaissance, cultural resources consultation, preparation of Environmental Review Records, and public notification.

Environmental and Historic Preservation (EHP) Review for Blue Acres Properties, NJDEP, Vincentown, NJ. Cultural Resources Lead for EHP reviews of 52 residential properties acquired under the Blue Acres Buyout Program. The purchase and demolition of residential properties in Vincentown were determined to have an adverse effect to nine parcels within the Vincentown Historic District, listed in the New Jersey Register of Historic Places and the National Register of Historic Places. These nine parcels within the Vincentown Historic District were subjected to Phase IB archaeological survey to determine if significant archaeological resources would be impacted by the proposed demolition activities. The Phase IB survey revealed extensive disturbance in the parcels resulting from both cultural and alluvial processes. The proposed demolition work was found to have no effect on archaeological resources. The archaeological survey was included with the project's Application for Project Authorization to the New Jersey Historic Sites Council (HSC), due to the

demolition of six historic structures contributing to the Vincentown Historic District. HSC reviewed the Application and authorized the purchase and demolition of the six contributing properties to the Vincentown Historic District with mitigating conditions, allowing the Blue Acres purchase to advance.

Route 73, Church Road (CR616) and Fellowship Road (CR673), New Jersey Department of Transportation (NJDOT), Mount Laurel Township, NJ. Environmental Cultural Resources Team Leader for this project to develop concepts to improve safety and operational conditions within the Route 73 corridor project limits (M.P. 26.15 to 27.60) with a focus on improvements at the intersections of Route 73 and Fellowship Road and Route 73 and Church Road. The overall purpose and goal of this project is to enhance safety and reduce congestion, while minimizing environmental, quality of life, access, right of way and utility impacts. Led Phase IA archaeological assessment and a preliminary architectural survey. Responsible for archaeological research including background research and developed a GIS predictive model to characterize the project's potential to contain archaeological resources. Also completed a windshield survey of the project's APE resulting in the identification of at least 43 potential properties appearing to be 50 years in age or greater. Work was performed in accordance with NJDOT Capital Project Delivery Process, NJDOT Procedures and Design Manuals, FHWA, NEPA, and Section 106.

Section 106 Historic Resource Assessment, 124 Morris Road, North Carolina Department of Transportation, Matthews, Mecklenburg County, North Carolina. Evaluated a ca. 1921-28 Prince Hall Affiliated masonic lodge, the Star of St. Matthews Lodge #566 for eligibility in the National Register of Historic Places. Evaluation included conducting contextual research into the type of construction, interviews with various lodge members, and the preparation of a report that analyzes and documents the building's significant themes and periods.

Route 206 Rockfall Mitigation Project, New Jersey Department of Transportation (NJDOT), Newton Town and Andover Township, Sussex County, NJ. Cultural Resources Specialist for a NEPA Categorical Exclusion Document for a project to stabilize four rock faces along Route 206 in an area with sensitive ecological and cultural resources.

Phase I Cultural Resource Investigation, Route 29 Rockfall Mitigation, New Jersey Department of Transportation (NJDOT), West Amwell and Lambertville, NJ. Cultural Resources Lead for this federally funded project to improve the safety and mobility of the traveling public by reducing the frequency and severity of rockfall events impacting a section of Route 29. Lead a team of archaeologists and architectural historians addressing the proposed project's potential to affect historic properties. Included preparation of a Visual Impact Assessment, Archaeological Survey consisting of hand-excavated shovel tests and an Architecture Survey to identify historic properties potentially eligible for inclusion in the National Register of Historic Places.

Phase I Cultural Resource Investigation, Route 29 Rockfall Mitigation, New Jersey Department of Transportation (NJDOT), Kingwood, NJ. Cultural Resources Lead for this federally funded project to improve the safety and mobility of the traveling public by reducing the frequency and severity of rockfall events impacting a section of Route 29, ranked in the top 5 sites for rockfall in New Jersey. Lead a team of archaeologists and architectural historians addressing the proposed project's potential to affect historic properties. Included preparation of a Visual Impact Assessment, Archaeological Survey consisting of

hand-excavated shovel tests along the east side of Route 29 and an Architecture Survey to identify historic properties potentially eligible for inclusion in the National Register of Historic Places.

Phase I Addendum, Archaeological Deep Test Pits, PIN X731.27, Bruckner-Hutch Mobility Improvement Project, I-95 and NY 908A, Bronx, NY. Cultural Resources Lead for the completion of archaeological trench excavations to satisfy conditions set forth in a Memorandum of Agreement designed to evaluate the presence or absence of archaeological resources in the project area where disturbances would extend greater than four feet in depth. A total of seven mechanically excavated trenches were placed throughout the project area, focused in the southeast quadrant of the intersection of the Bruckner Expressway and the Bronx/Pelham Parkway. Trenching failed to locate archaeological resources, allowing the project to advance to construction.

Phase IA Cultural Resources Assessment, Bridge Replacements over the Delaware and Raritan Canal (D&R), Somerset County, NJ. Cultural Resources Lead. Prepared a Phase IA Cultural Resources Assessment for the replacement of the Chapel Drive Bridge (CR 623) over the D&R Canal in Zarephath and the Griggstown Causeway Bridge (CR 632) over the D&R Canal in Franklin Township. Involved a Phase IA Archaeological Assessment and a windshield/identification-level architectural resource analysis, including preparation of New Jersey Historic Preservation Office survey forms. The projects are located within the D&R Historic District and the Griggstown Historic District, both listed in the National Register of Historic Places.

Cultural Resources Eligibility/Effects Documentation, Route 35, Osborne Avenue to Manasquan River & Old Bridge Road to Rt. 34 & Rt. 70, Bay Head, Point Pleasant Beach, Point Pleasant, Ocean County and, Brielle and Wall, Monmouth County, NJ. Project Manager for proposed road, drainage and ADA improvements requiring completion of archaeological and historic architectural surveys within the discontinuous project corridor. Work was conducted pursuant to Section 106 of the National Historic Preservation Act (NHPA), a mechanism to minimize potential harm and damage that federally funded projects may have to historic properties. The scope of work involved developing the project's Area of Potential Effect (APE) for both above ground (architectural) and below ground (archaeological) resources based upon the proposed design plans and preparing an eligibility/effects document identifying the presence of historic properties within the APE that are listed in or eligible for inclusion in the State/National Register of Historic Places. This effort included conducting an intensive-level historic architectural survey of properties appearing to be more than 50 year of age and evaluating the presence or absence of archaeological resources within the project's APE through both desktop and field studies. Surveys documented extensive disturbance and compromised deposits throughout the Archaeological APE. Improvements were located in proximity to several historic properties including the NRHP-eligible New York and Long Branch Railroad Historic District and Route 35 Bridge over the Manasquan River. New Jersey Historic Preservation Office (NJHPO) concurred that the project would have no adverse effect on historic properties., allowing the project to advance to final design.

Phase I Archaeological Survey and Architecture Survey, 360 Solar Center, Sun Tribe Development, Chesterfield County, VA. Cultural Resources Lead for proposed 52 Mw solar photovoltaic site covering 1,140 acres in central Virginia. Responsible for the cultural resource report prepared to satisfy the

Virginia Department of Environmental Quality's Solar Permit by Rule (PBR) process. Led a team of archaeologists and historians in the completion of cultural resource investigations, including archaeological and historic architecture surveys. The Archaeological survey involved the application of archaeological site predictive modeling to avoid surveying areas with little to no archaeological potential and focused survey on hand excavation of nearly 3,000 shovel tests to evaluate approximately 140 acres of archaeological potential. The results of the archaeological survey allowed Sun Tribe Development to modify their proposed solar array to avoid impacts on a field located historic archaeological site and two small pre-Contact sites. The architecture survey evaluated the eligibility of nine historic resources for potential inclusion in the Virginia Landmarks Register. Virginia Department of Historic Resources concurred with the project having no effect on historic properties, allowing the proposed project to advance to development.

Trenton Transit Center Improvements, NJ TRANSIT, Trenton, NJ. Cultural Resources Lead for a project involving platform, canopy, vertical circulation, and Americans with Disabilities Act (ADA) improvements at the Trenton Transit Center. The scope of work involves preparing a memorandum on ADA path of travel and compliance with ADA requirements, environmental analyses to satisfy the Federal Railroad Administration-compliant Categorical Exclusion Document pursuant to the National Environmental Policy Act (NEPA), and cultural resources services for compliance with Section 106 of the National Historic Preservation Act. The environmental analyses address socioeconomics, environmental justice, land use, zoning, natural resources including identifying applicable permits, noise, vibration, air quality, hazardous materials, and cultural resources. The Section 106 cultural resources services include preparing a Phase IA Archaeological Assessment/Historic Architectural Resources Background Survey (HARBS)/Effects Assessment (EA).

NC 42 Hilltop Rd Improvements, North Carolina Department of Transportation (NCDOT), Division 5, Wake County, NC. Cultural Resources Technical Lead responsible for performing a Quality Assurance review of a Historic Structures Survey Report in connection with this task order. NCDOT's proposed intersection improvements to NC 42 and Hilltop Road in Wake County, NC required review of the project's Area of Potential Effect (APE) to identify standing structures with the potential for inclusion in the National Register of Historic Places (NR). Our team evaluated the NR-eligibility of the mid-twentieth century Willow Springs Primitive Baptist Church and Cemetery, concluding that the church and cemetery meet NR-eligibility for its association with the Primitive Baptist movement in Wake County and as a representative example of mid-twentieth century vernacular Primitive Baptist church design.

Westchester Square-East Tremont Avenue Station, MTA Construction and Development (MTA C&D), Bronx, NY. Task Manager responsible for review of project documents, existing historic property information including the National Register of Historic Places nomination form for the Westchester Square Station, assessing effects to historic properties due to modified design plans to move the elevator enclosure to the exterior of the historic station, and drafted consultation correspondence detailing the changes to the project plans and assessment of the new design on the National Register character defining features of the Westchester Square Station. Provided a summary of project effects to MTA C&D and the Federal Transit Administration and coordinated the submission of the

updated project description and effects assessment to the New York State Office of Parks, Recreation and Historic Preservation.

Cultural Resource Inventory, Duke Energy, Ashwood, Lee County, SC. Cultural Resources Lead responsible for reviewing cultural resources data on file with the South Carolina ArchSite database for this 1.5-mile-long project and reviewing existing conditions summary. Resources encountered on this project included a National Register-eligible property, and Waters of the U.S., and multiple terrestrial protected species. Dewberry coordinated with multiple agencies on this project including the U.S. Army Corps of Engineers, the South Carolina Department of Archives and History, the South Carolina Institute of Archaeology and Anthropology, U.S. Fish and Wildlife Service, and the South Carolina Department of Natural Resources. *50130640*

Cultural Resources Surveys, Duke Energy, Kingstree Central Feeder Upgrade Project, Williamsburg County, SC. Cultural Resources Lead responsible for reviewing cultural resources data on file with the South Carolina ArchSite database for this 5-mile-long project. Prepared summary of existing cultural resources within the project corridor. Resources encountered on this project included a crossing of a Section 10 Navigable Water, the Kingstree Historic District, Waters of the U.S., and multiple terrestrial and aquatic protected species. Dewberry coordinated with multiple agencies on this project including the U.S. Army Corps of Engineers, the South Carolina Department of Archives and History, the South Carolina Institute of Archaeology and Anthropology, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the South Carolina Department of Natural Resources. *50130637*

SR 170 over Lackawaxen River, Pennsylvania Department of Transportation District 4-0, Wayne County, PA. Cultural Resources Lead for this federally funded project to rehabilitate and replace a bridge over the Lackawaxen River. Provided oversight and project management for Phase I cultural resource investigations in association with proposed project. Phase IB investigation identified three archaeological sites consisting of surface features and dispersed nineteenth to twentieth century historic artifact scatter. The three historic sites were registered with the PHMC; two sites were identified with the potential to contribute to the National Register eligible Aldenville Historic District. Participated in consultation with Pennsylvania Department of Transportation archaeologist and with project engineers to develop mitigative techniques that would allow the project to proceed and avoid potential impacts to the archaeological sites.

Somerville Station Transit-Oriented Development, NJ TRANSIT and Somerset Development, Somerville, NJ. Senior Archaeologist for the redevelopment of 31 acres within the Borough's Station and Landfill Redevelopment Area. In support of the project's NJDEP Freshwater Wetlands Permit, managed the completion of a Phase IA Archaeological Assessment to determine the project's potential to affect historic properties, including the National Register listed Somerville Historic District and the Central Railroad of New Jersey Main Line Corridor Historic District. Cultural resource services also included analysis and documentation of extensive disturbance to the project area resulting from the construction of historic rail lines and 20th century irrigation/drainage measures. Coordinated the field documentation of remnant historic rail features for submission to the New Jersey Historic Preservation Office (NJHPO) for review and approval, allowing the proposed development to advance to construction.

Demolition Consultant Term Agreements TC-004, New Jersey Department of the Treasury, Division of Property Management and Construction (DPMC), Statewide, NJ. Archaeologist for Dewberry's contract to provide demolition design and construction administration services in support of the state's program to acquire repetitive flood loss structures and return their properties to open space. Services include developing site assessments, hazardous material surveys, design documents and specifications for the of demolition, site/civil engineering design, utilities coordination, preparing and obtaining New Jersey Department of Community Affairs (NJDCA) building permits, preparing and obtaining Soil Conservation Districts permits, and project closeout in accordance with client, NJDEP, and federal funding requirements. At the former Lands of the Society of Divine Word property in Bordentown, specific involvement included preparing an Archaeological Avoidance Plan (AAP) outlining protective measures that will minimize or eliminate the potential for projects to directly or inadvertently affect areas of archaeological sensitivity.

Phase I Cultural Resource Assessment, Garden State Parkway Interchange 83 Improvements, Local Concept Development Study for North Jersey Transportation Planning Authority (NJTPA), and Preliminary Engineering Phase, Ocean County, Toms River, NJ. Project Manager, responsible for supervising the preparation of Phase I Archaeological Survey and Eligibility and Effects Documentation for Architectural Resources. The Project, located within the National Register eligible GSP Historic District, assessed proposed transportation improvements facilitating movements from the GSP to local road at Interchange 83. Supervised archaeological survey and architecture inventory within the project's Area of Potential Effect, resulting in no significant archaeological resources. Application of the Criteria of Adverse Effect determined the introduction of the exit ramp would have an adverse effect to the GSP Historic District. Recommended consultation with New Jersey Historic Preservation Office (NJHPO) to develop applicable designs consistent with the District's historic setting and context to minimize adverse effects.

Port Authority Bus Terminal Replacement Program NEPA EIS Review, Federal Transit Administration and the Port Authority of New York and New Jersey, Manhattan, NY. Cultural Resources Specialist assigned by the Port Authority to work as an extension of the FTA staff in reviewing the EIS prepared by others for this $10-billion project to replace the midtown Manhattan bus terminal with a new terminal.

Construction Protection Plan (CPP) for Historic Properties, NYCDDC, Brooklyn, NY. Project Manager responsible for implementation of a CPP for utility upgrades in the Gowanus neighborhood of Brooklyn for historic properties present within the National Register of Historic Places listed Gowanus Canal Historic District. Work involved completing pre-construction inspections of historic properties, installing real-time vibration monitoring equipment and crack gauges to measure building movements at seven historic architectural resources within 90 feet of construction, and completing post-construction inspections.

South Jamaica Area Phase 3 Construction Protection Plan, Capital Project No. HWQ121B3/SEQ200562, 158th Street between 110th Avenue and 116th Avenue, Prepared for NYCDDC and NYCDEP, Queens, NY. We prepared a Construction Protection Plan (CPP) for the purposes of avoiding adverse impacts to historic architectural resources located within 90 feet of the proposed construction activities, to include replacing water mains and sanitary sewers to

- **AFFILIATIONS**

  Society for American Archaeology

  Millburn Short Hills Historic Society

  New York Archaeological Council

  Commissioner, Millburn Historic Preservation Commission, 2016-2022.

New York City Department of Environmental Protection (NYCDEP) standards. CPP was prepared to conform to with New York City Department of Buildings (DOB) Technical Policy and Procedure Notice #10/88, regarding procedures for the avoidance of damage to historic structures resulting from adjacent construction, the Guidelines set forth in Chapter 9, Section 522 of the City Environmental Quality Review (CEQR) Technical Manual, including conformance with the LPC guidelines described in Protection Programs for Landmark Buildings and New York City Landmarks Preservation Commission Guidelines for Construction Adjacent to a Historic Landmark, and the National Park Service's Preservation Tech Notes, Temporary Protection Number 3: Protecting a Historic Structure During Adjacent Construction. CPP was prepared to provide construction protection for St. Joseph's Roman Catholic Parish, a c. 1907 historic church complex determined eligible for inclusion in the New York State and National Registers of Historic Places. CPP was submitted to and received approval from LPC for implementation during construction. *50085514*

Long Island Expressway Auxiliary Lane, NYSDOT, Queens, NY. Cultural Resources Specialist for a project conceived to improve traffic flow and reduce congestion on the eastbound Long Island Expressway from Springfield Boulevard to the Clearview Expressway by converting the existing shoulder to an auxiliary lane. Assisted NYSDOT with preparing the cultural resources portion of the Design Report.

Environmental and Historic Preservation Subapplication Evaluations for Managed Aquifer Recharge Program (MARPRO), FEMA Region IX, Central Valley, CA. Cultural Resources Leader for this task under Dewberry's Hazard Mitigation Technical Assistance Program (HMTAP) contract. MARPRO includes six projects developed to address flooding, drought, and subsidence issues in California's Central Valley. We reviewed project documentation, including correspondence with the California State Historic Preservation Office and the California Native American Heritage Commission (NAHC), for compliance with the federal and state requirements including Section 106 of the National Historic Preservation Act and California Environmental Quality Act (CEQA). The findings were summarized in technical memos for FEMA to use to support their formal funding determination under HMGP.

Phase IA Archaeological Assessment and Historic Architectural Survey, New Pump House at Rockwell Place, MTA New York City Transit, Brooklyn, NY. Cultural Resources Lead responsible for preparing a Phase IA Archaeological Assessment and evaluation of the early 20th century Strand Theatre, now functioning as the arts center BRIC for a proposed pump house adjacent to the existing BMT Brighton Subway line (B/Q/R lines) in downtown Brooklyn. Analysis of historic, environmental, and soil boring data revealed extensive disturbance from construction of Rockwell Place and the subway, resulting in the removal of soils with archaeological potential. The project was advanced with no potential to affect historic resources.

Cultural Resource Screening and Alternative Analysis, West Shinnecock Bay Water Quality Improvement Feasibility Study, New York State Office of General Services, Town of Southampton, Suffolk County, NY. Cultural Resources Manager leading the existing conditions review, screening of concepts, and alternatives analysis of three options designed to improve water quality conditions in western Shinnecock Bay and Quantuck Bay with minimal adverse impacts to the existing beneficial uses in the area and adjacent

waterbodies as well as balancing the project's potential effect to environmental factors. Three alternatives were assessed as having a moderate potential to encounter archaeological resources underneath the existing dune system and located offshore based upon modeling prehistoric settlement patterns in relation to lowered sea levels in the early Holocene landscape of Long Island.

Improvements to SR 997 and SR 2015 Intersections, Pennsylvania Department of Transportation, District 8-0, Washington Township, Franklin County, PA. Cultural Resources Task Manager overseeing the completion of an archaeological survey and historic architecture survey of the proposed intersection improvement project. The archaeological survey (background research, pedestrian reconnaissance and subsurface investigation in the form of 36 shovel tests) identified significant portions of the APE as disturbed and lacking archaeological resources. Architectural survey assessed seven historic properties for potential inclusion in the National Register of Historic Places (National Register), including the completion of a HRSF for the Hamilton Farm. PHMC, using the information submitted in the survey form, indicated that the Hamilton Farm is Eligible for listing in the National Register under Criterion A, in the area of Agriculture. The property retains the built agricultural resources and historic significance to convey changes over time within the Great Valley region of the Historic Agricultural Resources of Pennsylvania, c. 1700-1980 context, for the Early 19th Century – c. 1900 "Diversified Grain and Livestock Farming," 1900-1940 "Diversified Crops, Livestock, and Poultry", and the 1940-1960 "Specialization, Petroleum-Based Production, and Off-Farm Labor" periods. The farm retains evidence as an evolutionary dairy farm with some hog and grain production. The period of significance begins ca. 1858, the date of the construction of the dwelling and barn, and end in 1960.

Phase I Cultural Resource Survey, Interstate 80, Route 15 Interchange Project, New Jersey Department of Transportation (NJDOT) Rockaway Township, Wharton Borough, and Dover Town, NJ. Cultural Resources Manager for the preparation of a cultural resource survey for proposed roadway improvements. Survey included assessment of archaeological potential of the numerous historic mines in the area, archaeological survey, and survey of historic architectural resources to identify standing structures meeting National Register of Historic Places eligibility criteria. Archaeological survey failed to identify intact, significant archaeological resources. Architecture survey of 36 resources did not identify any resources as eligible for the National Register and received concurrence from the New Jersey Historic Preservation Office.

Maritime Transportation System Planning and Project Management Services, New Jersey Department of Transportation, Statewide, NJ. Senior Archaeologist for a task order contract to support the NJDOT's Office of Maritime Resources with the State Dredging Program. Review archaeological documentation and agency consultation correspondence generated for 220 state-owned channels and waterways for NJDOT's compliance with Federal Emergency Management Agency (FEMA) Environmental and Historic Preservation (EHP) review program. Also reviewed EHP Compliance Summary Reports for channels eligible to receive FEMA reimbursement.

Restoration of SR 61 from I-78 to the Schuylkill County Line Tilden, Pennsylvania Department of Transportation, District 5-0, Berks County, PA. Cultural Resources Task Manager overseeing completion of a historic architectural survey to evaluate the National Register eligibility of historic

properties within the projects Area of Potential Effect (APE). Completed PHMC historic resource survey forms for a single farmstead with a determination that the property does not meet National Register eligibility. The survey required a comprehensive evaluation of the property that included examining PHMC context documentation, PHMC Agricultural Property Assessment Worksheet, US agricultural census data, deed records, historic maps and newspapers. Evaluated the property through the PHMC Great Valley Region's four agricultural periods from 1750 to 1960 and Pennsylvania agricultural period from 1960 to 1980. In using the PHMC worksheet, analyzed the property's farming systems, agricultural productions, labor, cultural background, buildings, and landscape within each agricultural period to determine the property's National Register eligibility. Property was determined to not meet National Register eligibility criteria and received concurrence from PHMC.

Smith Creek Road Improvements, Wakulla County, Apalachicola National Forest, Sopchoppy, FL. Project Archaeologist to examine the project's Desktop Review for Florida Division of Historical Resources of the proposed 5.5-mile-long improvements to Smith Creek Road from the Apalachicola National Forest to just outside of Sopchoppy, Wakulla County. Project involves increasing travel lane width by two feet on both sides of the road in an area of high environmental and historic sensitivity. Recommended alternative conclusions to the report based upon review of information on prior evidence of disturbance associated with the construction of Smith Creek Road through the Apalachicola National Forest.

SR 0096, Section 04B (MPMS 88119), Tributary of Little Wills Creek Bridge Replacement, Pennsylvania Department of Transportation District 9-0, Harrison Township, Bedford County, PA. Cultural Resources Task Manager overseeing the completion of a Historic Resource Survey Form for the Ling farmstead to evaluate the farmstead's National Register eligibility. Evaluation involved completion of the historic farmstead survey form through review of PHMC context documentation, PHMC Agricultural Property Assessment Worksheet, US agricultural census data, deed records, historic maps and newspapers. Evaluated the property through the PHMC Great Valley Region's four agricultural periods from 1750 to 1960 and Pennsylvania agricultural period from 1960 to 1980. In using the PHMC worksheet, analyzed the property's farming systems, agricultural productions, labor, cultural background, buildings, and landscape within each agricultural period to determine the property's National Register eligibility. Property was recommended not eligible for the National Register. PHMC, using the information submitted in the survey form, indicated that the farm meets the registration requirements for the "High Powered feed Grain and Livestock Economy" period of the Agricultural Resources of Pennsylvania context. The farm in most cases meets or exceeds the township averages for the 1880 census and retains the built environment necessary to convey this significance. The period of significance is 1880 to 1920 to coincide with the significant agricultural period.

California Earthquake Authority (CEA) Brace and Bolt Program for Residential Seismic Retrofit, FEMA Region IX, Oakland CA. Cultural Resources Specialist for reviews of applicants' architectural plans and permits to confirm compliance with the State Historic Preservation Office (SHPO) and FEMA stipulations.

I-84 Widening from Exit 3 to Exit 8, Connecticut Department of Transportation, Danbury, CT. Cultural Resources Lead responsible for historic

architecture and archaeological studies conducted in support of a National Environmental Policy Act (NEPA) environmental document for the widening of I-84 from Exits 3 to 8. The project addresses safety issues with respect to weaving, congestion, and accidents on this strategic interstate connector.

Penn Street Bridge (SR 2011-A07) Replacement, Pennsylvania Department of Transportation District 2-0, Millheim, Centre County, PA. Cultural Resources Task Manager overseeing preparation of a Historic Bridge Eligibility Assessment and a Pennsylvania Historical & Museum Commission (PHMC) Abbreviated Historic Resource Survey Form for the Penn Street Bridge crossing the Millheim Race. Recommended that the bridge no longer meets National Register eligibility due to significant modifications in the past 20 years. Bridge also determined to not contribute to the Millheim Historic District or the Penns Valley & Brush Valley Rural Historic District.

Proposed Single Lane Roundabout, Walnut Street and West Hobart Gap Road, New Jersey Department of Transportation, Livingston, NJ. Task Manager for a Cultural Resources Eligibility/Effects Document to evaluate the proposed project's potential to affect cultural resources for compliance with Section 106 of the National Historic Preservation Act. Architectural survey failed to identify historic properties eligible for inclusion in the National Register of Historic Places. Phase I archaeological survey identified a rock feature and a metal-lined brick cistern/well, representing remnants of the 19th century Isaac Crane Dairy Farm and registered with the New Jersey State Museum site 28-Ex-150. Project was advanced with no adverse effect to historic properties, concluding the Section 106 process.

General Office Building and Hilton Bus Garage Parking Deck, NJ TRANSIT, Maplewood, NJ. Cultural Resources Lead. Supported NJ TRANSIT's preparation of environmental documentation for this Federal Transit Administration-funded project to replace a parking deck. Services included a traffic and parking evaluation focusing on key intersections and access driveways; preparation of Cultural Resources Section 106 initiation, Historic Architectural Review Background Study (HARBS)/Effects Assessment, Environmental Assessment, and Phase IA Archaeological Assessment documents.

Roselle Park ADA Improvements, Environmental Support Services, NJ TRANSIT, Roselle Park, NJ. Cultural Resources Lead supporting NJ TRANSIT's environmental documentation for this Federal Transit Administration funded project to install ADA accessible upgrades to the Roselle Park station, including construction of a new elevator, demolition and reconstruction of the high-level center island platform and expansion of the station house. Responsible for preparation of a combined Phase IA Archaeological Assessment/Historic Architectural Resources Background Survey (HARBS)/Effects Assessment documenting known and identified potential historic resources within the Area of Potential Effect (APE), an archaeological sensitivity of the APE, architecture survey of the surrounding area and assessment of effects to identified historic properties.

Storm Sewer Archaeological Monitoring, New York City Department of Design and Construction, College Point, Queens, NY. Project Manager overseeing monitoring excavation activities for storm sewer construction to identify potential encounters with historic resources and preparing a summary report.

Port Jervis Transmission Line Rebuild Project, Orange & Rockland Utilities, Port Jervis, NY. Project Manager for this project, which involved a Phase IA and Phase IB Cultural Resources Assessment in preparation for proposed improvements to a segment of Transmission Line 111 at the right-of-way corridor between Skyline Drive and Park Avenue.

Gas Regulator Station, Hunts Point Avenue Right-of-Way, Unanticipated Archaeological Discovery Plan, Consolidated Edison (Con Edison), Bronx, NY. Project Manager overseeing the development of an Unanticipated Archaeological Discovery Plan to provide guidance during the construction of a proposed gas regulator station and connections adjacent to Drake Park, a New York City park containing a 19th century cemetery. Plan submitted to NYC LPC for review and approval prior to execution during construction.

Gas Regulator Station, Hunts Point Avenue Right-of-Way, Archaeological Monitoring, Consolidated Edison (Con Edison), Bronx, NY. Project Manager overseeing monitoring of construction to install a new gas regulator connection in Hunts Point Avenue and immediately adjacent to Drake Park, a New York City park containing a 19th century cemetery. Following development of an archaeological monitoring plan, six locations were monitored during construction for potential burials or grave-related features. Monitoring documented extensive fill deposits with no indication of burials in the monitoring area.

Archaeological Discovery Plan and Archaeological Monitoring for 33R07 Extension, Consolidated Edison (Con Edison), Tottenville, NY. Project Manager for this 2.5-mile electrical wire installation project. Responsible for developing, revising, and executing an unanticipated archaeology plan, which included a description of the proposed project, any prior archaeological investigations or context; an analysis of the potential for archaeological resources and potential impacts from the proposed project's excavation; the need for the unanticipated discovery plan; human remains discovery protocol; and reporting, including a summary of unanticipated discoveries as well as the results of excavation monitoring.

Skyline Drive Transformer Project Cultural Resources Services, Orange & Rockland Utilities, Port Jervis, NY. Task Manager for this task, which involves preparing a Phase IA Cultural Resources Assessment focused on the roughly 2,000-square-feet area that will be impacted by impacted by the proposed transformer as well as its associated poles and underground wires. The Cultural Resources included a pedestrian reconnaissance, site photographs, a sensitivity assessment, and a disturbance summary.

Port Jervis Mobile Substation Phase IA Archaeological Assessment, Orange & Rockland Utilities, Port Jervis, NY. Task Manager for this project, responsible for preparing a Phase IA Archaeological Assessment in support of a proposed mobile substation and visual assessment of potential project effect to above ground historic resources. The Phase IA focused on the roughly 7,500-square-foot (0.17 acres) area that will be impacted by the proposed project and included a pedestrian reconnaissance, site photographs, a sensitivity assessment, a disturbance summary and archaeological testing recommendations. Our historic architectural survey identified the c. 1854 Erie Railroad Roundhouse Turntable within the APE and recommended that the proposed project will have no adverse effect to this historic rail resource. The New York State Historic Preservation Office concurred with the report's recommendations, allowing the project to move forward.

Goshen Training Center Improvements, Ecological, Cultural Resources Support, Orange & Rockland Utilities, Goshen, NY. Project Manager for this task, which involved a Phase IA and Phase IB Cultural Resources Study in support of facility improvements to the Goshen Training Center.

Harriman Substation Expansion, Cultural Resources Support, Orange & Rockland Utilities, Woodbury, NY. Project Manager/Cultural Resources Specialist for this task, which involved Phase IA and Phase IB Cultural Resources Study in support of the expansion of the Harriman Substation.

Passaic Bus Terminal Environmental Support Services, NJ TRANSIT, Passaic, NJ. Cultural Resources Lead supported NJ TRANSIT's preparation of environmental documentation for this Federal Transit Administration funded project to construct a new bus terminal in an underused parking median in downtown Passaic. Responsible for preparation of a combined Phase IA Archaeological Assessment/Historic Architectural Resources Background Survey (HARBS)/Environmental Assessment documenting known and identified potential historic resources within the Area of Potential Effect (APE), an archaeological sensitivity of the APE, and anticipated effects to the Erie Railroad Main Line Historic District resulting from the proposed bus terminal.

NEPA Categorical Exclusion Document Support for Bloomfield Avenue Traffic Safety Improvements, Township of Montclair, Essex County, NJ. Project Manager supporting the NJDOT's proposed traffic safety improvements along Bloomfield Avenue (CR 506) in Montclair, Essex County. These improvements involve upgrading all traffic signals along Bloomfield Avenue from Mountain Avenue to Maple Avenue/Pine Street to meet current Manual on Uniform Traffic Control Devices (MUTCD) standards. Our cultural resources support involves preparing documentation for the NJDOT's letter of submission to the New Jersey Historic Preservation Office (NJHPO) to illustrate existing conditions (includes the determination of the Area of Potential Effects [APE], a project description, the Identification of Historic Properties, and photographs of each proposed intersection improvement location) and obtaining NJHPO concurrence of the Section 106 initiation documentation. Our work also includes reviewing project documentation to determine if further analysis is required for noise, natural resources, permitting, and hazardous materials to complete the Categorical Exclusion Document (CED).

Made in NY (MiNY) Campus, New York City Economic Development Corporation, Brooklyn, NY. Cultural Resources Lead for a $136-million project partially located in the Bush Terminal Historic District. The project was found to have an adverse effect to the Bush Terminal Historic District through the demolition of contributing elements of the District and areas of archaeological potential existed within the area of proposed ground disturbance. Managed the preparation of an Architectural Eligibility Assessment and Phase IA Archaeological Study, an alternative analysis for the SHPO pursuant to Section 106, and a Memorandum of Agreement. Coordinated a re-evaluation of the District's period of significance and historic significance, finding that the District's period of significance should be expanded. As a result, additional adverse effects from the proposed project were identified. Dewberry worked with the project architects to recommend alternative development concepts that avoided or minimized the project's adverse effects to historic properties. An alternatives analysis was also prepared for OPRHP and LPC review. Specific mitigation measures included a process to follow to assess project impacts to areas of archaeological potential

and the preparation of photographic documentation of the Bush Terminal Historic District. Also managed archaeological monitoring during waterfront construction, resulting in the recovery of historic fill pre-dating the construction of Bush Terminal in the early 20th century.

Requirements Contract for Environmental Assessment HWEARCO4, NYCDDC, Staten Island and Manhattan, NY. Senior Archeologist for a three-year, $10-million joint venture contract. Task orders have included implementing a Construction Protection Plan (CPP) for utility upgrades in the Gowanus neighborhood of Brooklyn where inspection and vibration monitoring is being conducted at historic architectural resources within 90 feet of construction.

Roosevelt Island Bike Ramp and Bike Lane, Roosevelt Island Operating Corporation, New York City, NY. Cultural Resources Lead for the design of a new elevated bike ramp and a two-way bicycle lane on Roosevelt Island. The scope of work includes preparation of a Federal Environmental Approval Worksheet, a SEQRA Short Environmental Assessment Form, a New York City Waterfront Revitalization Program Consistency Assessment Form, and a summary of existing historic resource conditions for the bridge and the surrounding area.

Archaeological Survey for Hazard Mitigation Grant Program, FEMA, City of Elba, Coffee County, AL. Project Manager for a Phase I Archaeological Survey of 64 residential properties that are planned to be demolished as part of the FEMA Hazard Mitigation Grant Program's property buyout. Activities include archaeological field survey, archival research, artifact processing and analysis of field collected data, and preparation of an archaeological report. Alabama Historic Commission concurred that the project would have no effect on historic properties.

Phase I Archaeological Investigations for Proposed Bridge Replacement Project on SR 3007-015, Pennsylvania Department of Transportation District 3-0, Woodward Township, Lycoming County, PA. Senior Archaeologist responsible for providing oversight to a Phase I Archaeological Investigations for a proposed bridge replacement project on State Road 3007-015 crossing the Pine Run, between Woodward and Piatt Townships. The majority of the project area was designated a sensitive for prehistoric archaeological resources given the close proximity of the project to the West Branch of the Susquehanna River. Geomorphological cores were retrieved prior to archaeological field work to determine the likelihood for deeply buried archaeological resources. Coring found that deeply buried clay soils did not hold potential for archaeological resources but did confirm the potential for archaeological deposits within a shallow silty veneer stratum. Hand excavated shovel tests were located across the project area and identified a small concentration of late-nineteenth to early-twentieth century artifacts within a plow zone context. The recovered material fails to satisfy Pennsylvania Historical and Museum Commission (PHMC) archaeological site criteria. The investigations demonstrated that the project will have no effect to archaeological sites given the lack prehistoric archaeology and the small scatter of historic artifacts. A Phase I Archaeology Negative Survey Form was completed for the PHMC detailing the project's findings.

Phase I Archaeological Investigations for Proposed Bridge Replacement Project on SR 0044-064, Pennsylvania Department of Transportation District 3-0, Borough of Jersey Shore, Lycoming County, PA. Senior Archaeologist responsible for performing Phase I Archaeological Investigations for a proposed

bridge replacement project on State Road 0044, which crosses the Lawshe Run, a tributary to the Susquehanna River. The work required completing hand excavation of test units as well as hand retrieved auger cores to assess the site's potential to contain deeply buried archaeological sites. Assisted by a geomorphologist, the test units and cores confirmed that the proposed project area had been subjected to extensive disturbance and received substantial fill deposits to create a parking lot for the adjacent motel. The investigations demonstrated that the project will have no effect to archaeological sites given the degree of disturbance to the project area. A Phase I Archaeology Negative Survey Form was completed for the Pennsylvania Historical and Museum Commission (PHMC) detailing the project's absence of archaeological resources.

Phase I Archaeological Investigations for Proposed Bridge Replacement Project on SR 0154-066, Pennsylvania Department of Transportation District 3-0, Elkland Township, Sullivan County, PA. Senior Archaeologist responsible for providing oversight to a Phase I Archaeological Investigation for a proposed bridge replacement project on State Road 0154 crossing the Kings Creek in Estella, Elkland Township. Archaeological trenching was conducted in the northeastern portion of the project area with a demonstrated potential to contain historic archaeological deposits. Trenching occurred where a temporary construction easement will be used during construction to divert the stream. A total of three trenches were excavated to evaluate the project's archaeological potential, extending to up to 6 feet in depth. Trench profiles revealed relatively deposits within an alluvial context suggesting these strata may have washed in during a relatively recent flooding episodes. The investigations demonstrated that the project will have no effect to archaeological sites given the relatively young age of the deposits. A Phase I Archaeology Negative Survey Form was completed for the PHMC detailing the project's absence of archaeological resources.

Mount Ephraim Avenue (CR 605) Roadway Safety Improvement Study, Delaware Valley Regional Planning Commission (DVRPC), Camden, NJ. Cultural Resources Lead for conceptual study for roadway/signal/pedestrian improvements to a 1.5-mile stretch of roadway to improve safety for all modes of travel within the project's study area, with special attention given to pedestrians and bicyclists. The project includes public outreach to gauge community input and meeting with local stakeholders for information. Also involves developing Purpose and Need Statement, data collection, and development of conceptual alternatives to support completion of a Categorical Exclusion Document during preliminary design.

Section 106 Compliance Review Master Price Agreement, Nationwide, ExteNet, Senior Archaeologist responsible for supporting ExteNet's compliance with the Federal Communications Commission's (FCC) NEPA documentation at approximately 1,200 sites nationwide. Provided assistance to ExteNet for compliance with the FCC's Tower Construction Notification System (TCNS) used to consult with Native American Nations with an expressed interest in the project's historic territory, completion of Section 106 compliance documents including FCC Form 620 (New Tower Submission Packet) and FCC Form 621 (Tower Collocation Submission Packet) and completion of compliance documents in accordance with the Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission, the Nationwide Programmatic Agreement for the Collocation of

Wireless Antennas, and the First Amendment to the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas issued in August 2016.

Section 106 Compliance Review for ExteNet Wireless Telecommunications Greenville, SC. Project Manager responsible for completing Collocation Exemption Letters for a total of 20 wireless outdoor distributed antennae systems (oDAS) nodes. Reviewed existing historic property information on file with the North Carolina State Historic Preservation Office's Division of Historical Resources' HPOWEB database. Completed documentation for compliance with the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, allowing for the construction of oDAS nodes for the expansion of wireless carrier bandwidth capacity in downtown Greenville.

Section 106 Compliance Review for ExteNet Wireless Telecommunications, Mauldin, SC. Project Manager responsible for completing Collocation Exemption Letters for a total of 8 wireless outdoor distributed antennae systems (oDAS) nodes. Reviewed existing historic property information on file with the North Carolina State Historic Preservation Office's Division of Historical Resources' HPOWEB database. Completed documentation for compliance with the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, allowing for the construction of oDAS nodes for the expansion of wireless carrier bandwidth capacity in the city of Mauldin.

Section 106 Compliance Review for ExteNet Wireless Telecommunications, Asheville, NC. Project Manager responsible for completing Collocation Exemption Letters for a total of 6 wireless outdoor distributed antennae systems (oDAS) nodes. Reviewed existing historic property information on file with the North Carolina State Historic Preservation Office's Division of Historical Resources' HPOWEB database. Completed documentation for compliance with the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, allowing for the construction of oDAS nodes for the expansion of wireless carrier bandwidth capacity in the historic downtown of Asheville.

Section 106 Compliance Review for ExteNet Wireless Telecommunications, Fayetteville, NC. Project Manager responsible for completing Collocation Exemption Letters for a total of 8 wireless outdoor distributed antennae systems (oDAS) nodes. Reviewed existing historic property information on file with the North Carolina State Historic Preservation Office's Division of Historical Resources' HPOWEB database. Completed documentation for compliance with the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, allowing for the construction of oDAS nodes for the expansion of wireless carrier bandwidth capacity in the area surrounding the Cape Fear Valley Medical Center in western Fayetteville.

Reconstruction of Bridge Q-48 and Approach of Kuhl Road over Branch of Neshanic River, Raritan Township, Hunterdon County, NJ. Project Manager and Senior Archaeologist, as a subconsultant, for bridge reconstruction design services. Conducted a Phase IA Cultural Resource Assessment and completed a New Jersey Historic Preservation Office (NJHPO) survey of the Kuhl Road Bridge, involving background research to identify areas of archaeological potential within the project area as well as areas with no potential to contain archaeological resources. NJHPO concurred that the project will have no effect on potential archaeological resources. As the c. 1936 truss bridge is eligible for inclusion in the National Register, the proposed project will create an adverse effect to historic

properties. Dewberry will prepare the HABS Level III documentation of the bridge to mitigate the project's adverse effect.

Environmental Planning Task Order Contract, NJDOT, Statewide, NJ. Senior Archaeologist for this three-year, $5-million contract. Tasks can include inventories and surveys, fieldwork and photo documentation, archival research, preservation plans, Memoranda of Agreement, use determination, alternatives evaluation, impact assessment, and mitigation plans, as well as monitoring and mitigating construction projects for adverse effects to historic properties.

Cultural Resources Eligibility/Effects Documentation, Route 66 from Jumping Brook to Wayside Road, NJDOT, Ocean and Neptune Townships, Monmouth County, NJ. Task Manager for proposed roadway improvements covering a 1.6-mile-long corridor. Supervised the preparation of a Phase I Archaeological Survey and an Intensive-Level Historic Architectural Study to assess for the project's potential to affect historic properties in the Area of Potential Effect (APE). GIS modeling of archaeological site potential indicated portions of the APE possessed moderate to high potential for archaeological resources. Shovel tests excavated throughout the project corridor revealed an abundance of prior disturbance along the Route 66 roadway corridor. A single early 20th century archaeological site was identified, though determined not to meet criteria for inclusion in the National Register of Historic Places (NR). Historic architectural survey of the project corridor failed to identify any standing structures meeting NR-eligibility criteria. The project was determined to have no effect to historic properties and the New Jersey Historic Preservation Office concurred with the project' findings, allowing the project to advance to construction.

Route 47 Nummytown Mill Pond Dam Slope Reinforcement and Safety Improvement Project, NJDOT, Middle Township, Cape May County, NJ. Task Manager for a Phase IA Archaeological Study and Intensive Level Architectural Survey, in compliance with Section 106.

SR 44-064, Lawshe Run, Pennsylvania Department of Transportation District 3-0, Jersey Shore, Lycoming County, PA. Task Manager responsible for identifying and evaluating archaeological resources within the area of potential effects (APE) for a bridge replacement project State Road 0044, which crosses the Lawshe Run, a tributary to the Susquehanna River, using geomorphological inspection of multiple Phase I test unit excavations. The work required completing hand excavation of test units to assess the site's potential to contain deeply buried archaeological sites. Assisted by a geomorphologist, confirmed that the proposed project would have no effect to archaeological sites given the degree of disturbance to the project area. A Phase I Archaeology Negative Survey Form was completed detailing the project's absence of archaeological resources.

On-Call Transportation Engineering Services Task Order Program, Rhode Island Department of Transportation, U.S. Routes 6/10 Interchange NEPA Re-evaluation, Providence, RI. Cultural Resources Lead responsible for Section 106 compliance based on the revised design. This included a Phase IA Archaeological Assessment and Native American consultation to develop and implement a geoarchaeological field testing program that addressed the concerns of the Narragansett Indian Tribe while advancing the project through the Section 106 process. Oversaw a historic architectural survey re-evaluating 37 historic properties within the APE. Application of the Criteria of Adverse Effects

resulted in a determination of No Adverse Effects to historic properties. The RIHPHC concurred with the project's no adverse effect on historic properties.

Phase I Archaeological Monitoring and Cultural Resource Mitigation, Pulaski Skyway Rehabilitation Program, Construction Support, Contract 7, New Jersey Department of Transportation (NJDOT), Newark, Jersey City, Kearny, Essex and Hudson Counties, NJ. Cultural Resources Lead responsible for coordinating the development and implementation of an archaeological monitoring plan for ground disturbing activities in proximity to the historic location of the Morris Canal, listed in the National Register of Historic Places. Coordinated consultation between NJDOT and New Jersey Historic Preservation Office (NJHPO) to advance the project's discovery of archaeological materials during construction in accordance with the project's monitoring plan. Oversaw the conservation and replication tasks to reproduce three historic Pulaski Skyway signs for the project. This work was conducted as part of a $2-billion rehabilitation of the Pulaski Skyway, a 3.5-mile-long structure connecting Newark to Jersey City.

Replacement of Bridge No. 670.4 Carrying Iron Bridge Road over Crosswicks Creek, Township of Hamilton, County of Mercer, and Township of Chesterfield, Burlington County, NJ. Principal Investigator responsible for completing a Phase IA Historical and Archaeological Survey for proposed replacement of the 1905 Warren Pony Truss style bridge spanning Crosswicks Creek between Mercer and Burlington Counties. The study determined that the project area possesses minimal to no archaeological potential while replacing the bridge will result in an adverse effect to the bridge, determined to be eligible for inclusion in the National Register of Historic Places.

West Summit Interlocking, NJ TRANSIT, Summit, NJ. Cultural Resources Lead responsible for the project's compliance with Section 106 of the Historic Preservation Act (NHPA). Involved completion of a Phase IA Archaeological Assessment and Historic Architectural survey of the proposed reconfiguration of the outdated interlocking and relocation of the new interlocking as well as alterations to the Morristown Line and Gladstone Branch rail corridors. The project was determined to have no adverse effect on multiple historic properties present in the project area.

Non-Disaster Grants Environmental and Historic Preservation (EHP) Technical Support, FEMA, Nationwide, U.S. Cultural Resources Lead for environmental planning and historic preservation support to perform compliance reviews for grant program projects. Projects include renovation, retrofitting, or modification of facilities funded by a series of non-disaster grant programs. This work supports FEMA's Office of Environmental Planning and Historic Preservation (OEHP) and is a task order under Dewberry's Hazard Mitigation Technical Assistance Program contract.

Environmental Services Task Order Contract, NJ TRANSIT, Statewide, NJ. Senior Cultural Resources Specialist for tasks under a $4-million contract. Responsible for assessing the effects of projects on cultural resources, preparing cultural resources studies, and coordinating with the New Jersey Historic Preservation Office.

NEPA EIS for Hunts Point Interstate Access Improvements Project, NYSDOT, Bronx, NY. Cultural Resources Lead responsible overseeing the Cultural

Resources Screening, Architectural Survey, and Cultural Resources Findings Document in support of the NEPA Environmental Impact Statement for this $1.7-billion project for infrastructure and access improvements between the Bruckner and Sheridan Expressways (I-278 and I-895) and the Hunts Point Peninsula/Hunts Point Food Distribution Center. The screening study identified multiple historic properties present within the surrounding area; it also demonstrated the presence of extensive disturbances resulting from prior roadway construction projects since the mid-20th century. The historic architecture survey inventoried more than 200 historic architectural resources throughout the project area and clarified the history of multiple bridges within and along the Bruckner and Sheridan Expressways. Reviewed previously identified historic properties eligible or listed in the National Register of Historic Places (National Register) within the Study Area. While the Interstate Highway system is exempt from Section 106 review, the bridge carrying the Bruckner Expressway over the Bronx River (the Eastern Boulevard Bridge) is identified as meeting National Register eligibility criteria. Assessment of the Project Area's potential to contain archaeological resources found that the Study Area had undergone extensive prior disturbance associated with historic development and multiple transportation improvement projects, including construction of the Bruckner Expressway in the late 1950s. The Study Area was determined to lack archaeological potential. Construction of the project would be consistent with the character of the existing built environment and would not diminish the integrity of materials and design or alter contributing features that qualify the Eastern Boulevard Bridge or other historic properties for the National Register.

Phase I Archaeological Investigation, West Apartments Building J, SUNY Stony Brook/DASNY, Town of Brookhaven, Suffolk County, NY. Cultural Resources Specialist, as a subconsultant. Responsible for archival research and archaeological field investigation. While evidence of intense prehistoric activity in the region exists, shovel tests did not yield prehistoric artifacts or features and no further archaeological investigations were recommended.

Morris & Essex Lines Historic Coal Trestle Study, NJ TRANSIT, Essex, Hudson, Morris, Somerset, and Union Counties, NJ. Senior Archaeologist assisting with the preparation of a public information booklet prepared as partial mitigation for the demolition of the Horre Coal Trestle in Jersey City.

Lake Dam Road Bridge Replacement, Lake Dam Road, City of Raleigh, Wake County, NC, Cultural Resources Lead for completion of a North Carolina State Historic Preservation Office project review checklist for a proposed bridge replacement project. The checklist provided a project description, known historic property information and assessment of the proposed project's potential to affect historic properties. NCSHPO concurred that the project will have no effect on historic properties, thereby allowing the City of Raleigh to advance the replacement project.

Rebuild By Design Meadowlands, New Jersey Department of Environmental Protection (NJDEP), Bergen County, NJ. Senior Archaeologist, as a subconsultant, for the NEPA Environmental Impact Statement (EIS) for this project that conceptually consists of a large natural reserve along the Hackensack River, which would connect and expand marshland. The design aims to use a system of green and gray infrastructure, to protect against ocean surges and rain event flooding.

Phase III Archaeological Data Recovery, Winding Brook Townhouse Project, Evesham Township, Burlington County, NJ. Cultural Resources Lead for documentation of archaeological data recovery at William Jones #2 archaeological site's (28-BU-69). Monitored heavy machine removal of the plow zone distributed across the archaeological site to reveal potential archaeological features present in the substrate. Monitoring of the removal of the plow zone failed to identify intact culturally derived subsurface features. At the completion of the Phase III work, the New Jersey Historic Preservation Office (NJHPO) concurred with the recommendation that no further archaeological investigations were recommended for the proposed development project.

Phase II Archaeological Investigations, Winding Brook Townhouse Project, Evesham Township, Burlington County, NJ. Cultural Resources Lead for archaeological site investigations and determination of the William Jones #2 archaeological site's (28-BU-69) eligibility for inclusion in the National Register of Historic Places. Directed archaeological investigations, including delineation of archaeological site boundaries and large-scale excavations to ascertain the site's contextual setting of the archaeological site representing multiple periods of occupation ranging from the Late Archaic (3,000-1,000 BC) through Late Woodland (900-1600 AD). Also directed the lab analysis and interpretation of the recovered archaeological material. The site was recommended as meeting eligibility criteria for inclusion in the National Register of Historic Places.

Myrtle Avenue Line Viaduct (Bushwick Cut) Rehabilitation Project, MTA New York City Transit, Brooklyn, NY. Senior Archaeologist responsible for the preparation of a screening review of known historic property information for a viaduct demolition and replacement project in Bushwick section of Brooklyn, NY. Reviewed historic property information on file with the Landmarks Preservation Commission as well as the New York State Office of Parks, Recreation and Historic Preservation.

Phase IA Literature Search and Sensitivity Assessment, Forsyth and Delancey Street Emergency Ventilation Plant Project, MTA New York City Transit, New York, NY. Cultural Resources Lead responsible for preparing Due Diligence Assessment Report for the construction of a new subway ventilation plant near the intersection of Forsyth and Delancey Street in lower Manhattan. Analysis of past cultural resource surveys, historical map and atlas background research, and a pedestrian reconnaissance of the proposed APE indicates that portions of this APE are characterized as having a low potential to encounter pre-contact archaeological resources.

Environmental Assessment Field Contractor for Superstorm Sandy Community Development Block Grant-Disaster Recovery (CDBG-DR), New Jersey Department of Environmental Protection, NJ. Cultural Resources Lead for NEPA Environmental Assessments and compliance with Section 106 of the National Historic Preservation Act (NHPA), in support of CDBG-DR projects funded by US Housing and Urban Development (HUD). Dewberry completed more than 375 Environmental Assessments including more than 100 SHPO consultations. Work involves desktop assessments (review of aerials, historic maps, and NJDEP GIS files), field reconnaissance, and environmental documentation, as well as extensive coordination with local, state, and federal agencies.

Route 35 Steel Sheet Pile Dune Restoration Project, Maritime Archaeology, New Jersey Department of Environmental Protection, Mantoloking Sea Wall,

Brick Township, NJ. Senior Archaeologist responsible for Dewberry's services to conduct maritime archaeological recordation and damage assessment for wood timbers located during the installation of steel sheet piles. The timbers were determined to represent the remains of a shipwrecked century vessel, constructed between 1828 and 1870 based upon diagnostic maritime features identified on the recovered wood timbers. 3-D laser scanning of three-quarters of the recovered material allowed for partial reconstruction of the ship and determination of the archaeological site's eligibility for inclusion in the National Register of Historic Places under Criteria C and D.

Titusville/Assisted Living, NJDEP, Hopewell Township, NJ. Cultural Resources Supervisor for archaeological survey and historic architectural resource evaluation of the Edward M. and Helen F. Boehm House and grounds prior to NJDEP Freshwater Wetland permit approval for potential redevelopment using HUD CDGB-DR Hurricane Sandy recovery funds. An extensive archaeological survey was undertaken of the designed landscape gardens as well as water features, walls and paths, landscape furnishings, and remains of former aviaries. The historic architecture survey resulted in a recommendation of the subject property as eligible for inclusion in the National Register of Historic Places. The archaeological survey failed to identify significant archaeological resources within the proposed development area.

Individual Section 4(f) Evaluation and HABS Mitigation for Route 49 and Buckshutem Road, New Jersey Department of Transportation, Bridgeton, NJ. Senior Archaeologist providing Section 106 documentation and summary of project effects as related to Section 4(f) impacts for the project's adverse effect to the Bridgeton Historic District and the East Commerce Street Historic Districts. Required coordination with the New Jersey Historic Sites Council as well as the development of a Memorandum of Agreement to mitigate the project's adverse effect on historic properties. Coordinated the preparation of HABS recordation of three historic properties for mitigation of adverse effects to the East Commerce Street Historic District.

Phase II Archaeological Study and Historic Architecture Survey, Shamong Roundabout at the intersection of Stokes Road and Willow Grove Road, New Jersey Department of Transportation, Burlington County, NJ. Senior Archaeologist. Led investigation for a Phase II Archaeological Study and Historic Architecture Survey (NJDOT Activity 3305 and 3310 of NJDOT Environmental Procedures), as required by New Jersey Historic Preservation Office (NJHPO), to address archaeological site 28-Bu-833/Pinelands Site #1600, consisting of a low-density charcoal scatter possibly associated with the late 18th century Brotherton Indian Reservation, identified at this location. Archaeological research and assessment are in progress.

Red Hook Integrated Flood Protection System Feasibility Study, New York City Economic Development Corporation (NYCEDC), Brooklyn, NY. Senior Cultural Resources Specialist responsible for conducting a screening of historic resources that could be impacted by a comprehensive flood management system to reduce flood risks from coastal storm surge in the Red Hook community. The integrated flood protection systems consisted of a combination of permanent and long-term components (e.g., multipurpose berms, deployable flood walls, street elevations, landscape and drainage improvements). The feasibility study included design/engineering, technical/ physical, environmental, urban design,

stakeholder engagement, infrastructure, regulatory, operation and maintenance, and benefit/cost considerations.

Rebuild By Design Hudson River: Resist-Delay-Store-Discharge, NJ TRANSIT and New Jersey Department of Environmental Protection (NJDEP), Hudson County, NJ. Cultural Resources Lead for the Feasibility Study and National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) for a $230-million comprehensive urban water strategy conceived to protect the Hoboken waterfront, as well as parts of Weehawken and Jersey City. Responsible for assessing the effects of project alternatives on cultural resources as well as preparing the Cultural Resources Technical Environmental Study, the Cultural Resources section of the EIS, and the Programmatic Agreement (PA). Coordinated with the Advisory Council on Historic Preservation, New Jersey Department of Environmental Protection, New Jersey Department of Community Affairs, U.S. Department of Housing and Urban Development (HUD), and New Jersey Historic Preservation Office (NJHPO). Participated in public outreach and responsible for the completion of 72 NJHPO Historic Architectural survey forms for determination of NRHP eligibility for 144 structures. Assessed the integrity of six previously identified historic districts, resulting in the simplification as one historic district covering the City of Hoboken. Archaeological survey involved the completion of an archaeological assessment to determine potential effects of flood risk reduction barriers on areas of archaeological sensitivity including historic waterfront development, historic transportation elements, and potential underwater archaeological resources. For mitigation of project's adverse effects to historic properties, we drafted the PA in coordination with the Advisory Council on Historic Preservation, New Jersey Historic Preservation Office (NJHPO), NJDEP, and NJ Department of Community Affairs. The PA outlined archeological survey methods to be employed in advance of, and during, construction, which included a series of geotechnical soil borings to identify areas of intact archaeological sensitivity. Work was performed in accordance with NEPA and Section 106 for HUD's compliance with federal regulations.

Phase IA Archaeological Assessment, New Jersey Department of Transportation, I-80 Westbound Rockfall Mitigation Project, Hardwick and Knowlton Townships, Warren County, NJ. Cultural Resources Manager for the preparation of an archaeological assessment of the proposed project to reduce the frequency and severity of rockfall events along Route I-80 Westbound. Conducted an archaeological assessment of the project area by summarizing previously completed cultural resource reports, creating an inventory of know historic properties and completing a site investigation, it was concluded that the APE possesses no sensitivity for the presence of archaeological resources. The National Environmental Policy Act (NEPA) and stakeholder involvement process engages the National Park Service, Pennsylvania State Historic Preservation Office, Appalachian Trail Conservancy, Western Pennsylvania Conservancy, tribal nations, and community members, among others.

Phase IA Cultural Resources Assessment, Dormitory Authority of the State of New York (DASNY), Hashamomuck Marine Waterways Access Site, Town of Southold, Suffolk County, NY. Cultural Resources Manager for compliance with Section 106 of the National Historic Preservation Act. Assessment involved completion of a Phase IA archaeological survey and a reconnaissance-level architectural survey. The assessment concluded that the project site possesses a low pre-Contact archaeological potential, but the proposed project will create

minimal disturbances in the area of archaeological potential. Additionally, no historic architectural resources were identified within the project area.

Build It Back Program, New York City Economic Development Corporation and Mayor's Office of Housing Recovery Operations, New York, NY. Historic Preservation Lead (beginning in 2015) for the cultural resources review of residential properties damaged as a result of Hurricane Sandy. Involved reviewing properties for historic preservation issues, both architectural (above ground) and archaeological (below ground), under the May 2013 Programmatic Agreement executed between FEMA, OPRHP and LPC for compliance with NEPA and US Department of Housing and Urban Development (HUD) regulations. Other tasks include consultation with New York State and City review agencies and developing mitigation treatment plans for historic properties adversely affected by the recovery project. Reviewed each specific application for potential effects to historic properties, if the subject property appeared to meet the criteria for inclusion in the National Register of Historic Places. We also assessed the individual property's potential for inclusion as a New York City Landmark. As part of this project, we completed historic resource reviews for nearly 16,000 residential properties in the five Boroughs.

Marshes Mitigation Banking Pilot, New York City Economic Development Corporation, Staten Island, Richmond County, NY. Cultural Resources Manager responsible for coordinating the Phase IA Cultural Resources assessment for the creation of a wetland mitigation bank on Staten Island's West Shore and prepared consultation documents for New York State Office of Parks, Recreation and Historic Preservation and New York City Landmarks Preservation Commission. (9/2013-5/2014).

Freedom Pier Utility Project, City of Gloucester City, Camden County, NJ. Project Archaeologist who prepared Cultural Resource Management Protocol to be implemented during the installation of various utilities crossing through the extent of the multicomponent Coast Guard Archaeological Site (28-Ca-94). (10/2014-2/2015).

Lloyd Avenue Surface Anode Bed, Section 106 Consultation, Columbia Pipeline Group, Caln Township, Chester County, PA. TITLE responsible for preparing Pennsylvania Historical and Museum Commission project review form for the initiation of Section 106 consultation for an upgrade to an existing gas pipeline in eastern Pennsylvania. Prepared consultation letter on behalf of client and recommended that the proposed project will have no effect on historic properties; PHMC concurred with recommendations. (11/2014).

Priority Repair of Seawall, NYCDPR and New York City Department of Transportation, Henry Hudson Parkway, Southbound, West 89th to West 86th Street, Manhattan, NY. Project Archaeologist for a seawall stabilization project requiring a U.S. Army Corps of Engineers permit and involving preparation of historic resource documentation for review by LPC and OPRHP. Provided historic mapping of the project area from before the construction of the Parkway through the mid-20th century and prepared consultation document for submittal to historic preservation review agencies. The project was advanced with a no adverse effect to historic properties determination and concurrence from OPRHP and LPC.

Flood Mitigation and Resiliency, New York City Transit (NYCT), 207th Street Yard, 8th Avenue Line, Borough of Manhattan, New York County, NY.

Project Archaeologist responsible for preparing historic resource consultation correspondence for the proposed construction of flood mitigation measures at the 207th Street rail yard. Provided client with known historic property information relevant to the proposed project area and drafted correspondence for review by New York State Office of Parks, Recreation and Historic Preservation (OPRHP). Prepared additional research related to the historic cemetery present at 207th Street and secured OPRHP concurrence of no historic properties affected by the proposed project. (7/2014-11/2014).

Flood Mitigation and Resiliency, New York City Transit, 148th Street Yard, Lenox Avenue Line, Borough of Manhattan, NY. Project Archaeologist responsible for preparing historic resource consultation correspondence for the proposed construction of flood mitigation measures at the 148th Street rail yard. Provided client with known historic property information relevant to the proposed project area, drafted correspondence for review by New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and secured OPRHP concurrence of no historic properties affected by the proposed project. (7/2014-9/2014).

Phase I Archaeological Investigation, Access Control Alteration and Rehabilitation, New York Office of General Services and New York Army National Guard, Camp Smith Training Site, Cortlandt Manor, Westchester County, NY. Senior Archaeologist responsible for supervising the preparation of the archaeological investigation for the proposed entrance improvements at Camp Smith. Field investigations revealed significant disturbance in the project area resulting from past utility installation and prior modifications to the alignment of the entrance to the Camp. Recommended that the project will have no effect on historic properties. (10/2014 – 1/2015).

Phase IA Documentary Study, Proposed Development 181 Avenue A, LLC/Steiner NYC, 181 Avenue A, Manhattan, NY. Project Manager responsible for the preparation of an archaeological documentary study in advance of proposed housing development in Manhattan's Lower East Side. The study focused on the potential for the project area to contain unanticipated human remains associated with the Old St. Patrick's Cathedral cemetery at the site of the c. 1915 Mary Help of Christians Church. Use of historic maps georeferenced to the modern street grid demonstrated that all burials were located west of the proposed development. (7/2013-9/2013).

Phase IA Cultural Resource Survey, Sterling Forest Resort, Town of Tuxedo, Orange County, NY. Principal Investigator responsible for the assessment of the potential of a proposed resort to be located within Sterling Forest to affect cultural resources. The preponderance of prehistoric sites located in close proximity to the proposed development and the project's setting in proximity to water sources suggested that undisturbed areas would require an archaeological survey to determine the presence or absence of archaeological resources. (4/2014-5/2014).

Phase IA Cultural Resource Survey, New York State Thruway Interchange 15B, Town of Tuxedo, Orange County, NY. Principal Investigator responsible for the assessment of the potential of a proposed Thruway interchange to affect cultural resources at the western edge of Harriman State Park. Numerous prehistoric sites are known in close proximity to the Thruway and the proposed interchange's location on well-drained soils suggested that undisturbed areas

would require an archaeological survey to determine the presence or absence of archaeological resources. (4/2014-5/2014).

Phase I Archaeological Reconnaissance Survey, Safety Improvements on the Jackie Robinson Parkway Eastbound, Town of Kew Gardens/Richmond Hill, Queens County, NY. Excavator responsible for supporting the field survey for proposed safety improvements, including excavation of an existing slope and construction of a widened shoulder and stone retaining wall along eastbound Jackie Robinson Parkway.

Jackie Robinson Parkway Safety Improvements, New York State Department of Transportation, Brooklyn, NY. Cultural Resources Lead prepared a Section 106 Screening Document for the proposed improvements at the junction of Jackie Robinson Parkway and Jamaica Avenue. Managed the preparation of a Cultural Resources Screening Study Area, designed to document known and potential historic properties.

Abri Castanet, Sergeac (Perigord), France. Excavator responsible for supporting the long-term excavations of an early Upper Palaeolithic (Aurignacian) rock shelter in the southwest of France, containing evidence of osseous projectile points, personal adornments and cave wall engravings dating to 32,000 years ago. (6/1996-8/1996, 6/1997-8/1997, 6/1998-7/1998).

African Meeting House, Nantucket, Nantucket County, MA. Excavator responsible for supporting the excavation and interpretation of archaeological deposits surrounding this c. 1820 post and beam structure, the second constructed African Meeting House in America. Supervisor: Mary Beaudry, Boston University. (9/1993).

Standing Committee on the Environment, NCHRP Project 25-25/Task 61 American Association of State Highway and Transportation Officials (AASHTO). Best Practices for Establishing and Maintaining and Statewide Cultural Resource GIS Databases for use by State DOTs. Principal investigator responsible for conducting a nationwide survey of 50 state DOTs to inventory the range of statewide cultural resource GIS databases already established by state DOTs for the purpose of identifying best practices for those state DOTs intending to develop their own statewide cultural resource GIS. The study developed questions for 24 state DOTs with a cultural resource GIS in place to determine similarities and identify best practices for future development of similar GIS databases. The study also prepared a sample GIS database structure based on the similarities exhibited amongst the GIS databases developed by the 24 state DOTs. (7/2009-9/2010)

Phase I Archaeological Assessment, Alcan Aluminum Sheet and Plate Company Site, Town of Scriba, Oswego County, NY. Project Manager for a Phase IA archaeological assessment and Phase IB archaeological field survey under SEQRA for the Alcan Facility, located south of Lake Ontario, prior to mitigation of contaminated soils. (6/2006-8/2007).

Phase IA Archaeological Assessment, Blasland, Bouck and Lee, Inc., Niagara Mohawk, Hudson (Water Street) Site, City of Hudson, Columbia County, NY. Principal Investigator responsible for the archaeological assessment of late nineteenth-/early twentieth-century coal-to-gas generating facility located on the banks of the Hudson River. Involved research and analysis of past disturbances and potential for historic archaeological resources associated with the industrial use of the project area. (3/2003-5/2003).

Phase IA Archaeological Assessment, Remedial Options Pilot Study, Blasland, Bouck and Lee, Inc., Grasse River Study Area, Alcoa-Massena, Massena, St, Lawrence County, NY. Principal Investigator for an archaeological assessment of early twentieth-century Alcoa fabricating, ingot, and extrusion and smelting plant under U.S. EPA jurisdiction as a Superfund Site. Research and analysis of past disturbances and assessment of the potential for historic archaeological resources associated with the industrial use of the project area. (3/2005-5/2005).

Boston University Archaeological Field School, Spencer-Peirce-Little Farm, Newbury, Essex County, MA. Excavator for Boston University archaeological field school at a late seventeenth-century farmstead. Supervisor: Mary Beaudry, Boston University. (7/1992-8/1992).

Archaeological Monitoring, Bryant Park Corporation, Bryant Park Terrace, Manhattan, NY. Project Manager responsible for coordinating the placement of deep-trench excavation for the identification of the foundation of the nineteenth-century Croton Reservoir distributing tank formerly located on the present location of the New York Public Library. Archaeological monitoring of the heavy machine excavation on the eastern end of Bryant Park failed to locate intact evidence of the reservoir foundation wall but identified potential locations for future exploratory excavations. (2/2010-4/2010).

Buckeye Perth Amboy Terminal Phase 2 Project, Buckeye Perth Amboy Terminal LLC, City of Perth Amboy, Middlesex County, NJ. Project Manager responsible for coordinating the review of existing cultural resource information and survey of two historic properties located at the Perth Amboy Terminal facility. (5/2013-7/2013).

Calverton Naval Weapons Industrial Reserve, Calverton, Suffolk County, NY. Field supervisor for the creation of a cultural resource survey of the 6,000-acre parcel with several early to mid-twentieth-century buildings and several Late Archaic and Late Woodland prehistoric sites. (7/1995-9/1995).

Calverton Naval Weapons Industrial Reserve, Calverton, Suffolk County, NY. GIS Analyst who integrated GIS analysis with lithic analysis to interpret prehistoric activity patterns across the former naval facility. (9/1996-3/1997).

Phase IA Archaeological Assessment, Montclair State University, Dormitory Construction Project, Capstone Development Corporation, Little Falls, Passaic County, NJ. Project Manager responsible for preparing archaeological assessment for a proposed dormitory construction project located in the northern section of Montclair State University campus. Review of historical documents, aerial photographs, and maps indicated that the entire project area, now a parking lot for the university, was historically used as a quarry. The project area was heavily impacted by past activities and retained no potential for archaeological resources. (2/2010-5/2010).

Archaeological Monitoring, Demolition of the Gloucester City Water Works Reservoir, City of Gloucester, Camden County, NJ. Project Manager responsible for coordinating the archaeological monitoring of the demolition of the circa 1873 NRHP-listed Gloucester City Water Works Reservoir, preparation of a Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) recordation of the waterworks, and the photo documentation of its components during demolition. (5/2009-1/2013).

Phase IA Cultural Resource Assessment, Replacement of the Central Avenue Bridge over Blind Brook, City of Rye, Westchester County, NY. Project Manager responsible for completing a cultural resource assessment, including background research, on-site evaluation, limited field testing, and historic architectural survey and evaluation of early twentieth-century bridge and surrounding area. (7/2007-5/2009).

Phase I Archaeological Survey, Mount Vernon Avenue Bridge, County of Morris, Department of Public Works, and the County of Union, Department of Public Works, Chatham, Morris County, and Summit, Union County, NJ. Principal Investigator responsible for coordinating a Phase I Archaeological Assessment of the proposed bridge replacement. Included archaeological fieldwork and assessment of project's potential to affect archaeological resources. (8/2003-5/2004).

Cultural Resources Eligibility/Effects Documentation, Two Bridges Road Bridge, County of Passaic and the North Jersey Transportation Planning Authority, Lincoln Park, Wayne and Fairfield, Morris, Passaic and Essex Counties, NJ. Principal Investigator responsible for supporting a cultural resource screening, archaeological survey, and historic architectural resource survey for proposed bridge construction. The survey identified the historical bridge crossing the Pompton River, constructed in 1887 and eligible for the NRHP, identified extensive prehistoric occupation to the project area, and evaluated the surrounding area for additional historic properties. One archaeological site was identified in the project area. (5/2003-5/2005, 3/2008-2/2009).

OR

for replacement of a structurally deficient and functionally obsolete historic Warren pony truss bridge, constructed in 1887 and crossing the Pompton River. In addition to construction of a new bridge, the project links the West Belt Highway in Passaic County with Two Bridge Road in Morris County with the new bridge. Led Phase I archaeological and historic architectural resources surveys as well as Phase II archaeological survey of an identified archaeological site for potential eligibility for listing on the NRHP. Archaeological research identified extensive prehistoric occupation to the project area. Historical architectural survey included the subject bridge as well as properties within the Area of Potential Effect. Oversaw preparation of historic architectural survey forms for National Register determination eligibility and contributed to the project's Memorandum of Agreement that outlined the mitigation efforts for the project's adverse effect to historic properties. Provided input to environmental documents: NEPA Categorical Exclusion (CE) Document and Section 106 Documentation. Work was performed in accordance with NJDOT Capital Project Delivery Process, NJDOT Procedures and Design Manuals, FHWA, NEPA, and Section 106.

Phase IA Cultural Resource Assessment, Intersection Improvements for Church Street, County of Somerset, Department of Public Works, Bernards Township, Somerset County, NJ. Project Manager responsible for coordinating the preparation of a cultural resource assessment for proposed improvements to three signalized interchanges along Church Street in Bernards Township. Historic documentary research and environmental factors indicate that portions of the project area are sensitive for prehistoric and/or historic archaeological deposits. Additionally, the project area includes one known historic property, the National

Register-listed Liberty Corner Historic District. Further cultural resource investigations were recommended to determine the presence or absence of archaeological resources and to evaluate the potential of the project to affect the historic character and setting of the Liberty Corner Historic District. (6/2009-10/2010).

Phase IA Cultural Resource Assessment, Harlem Hospital Center Modernization, DASNY and the New York City Health and Hospitals Corporation, Manhattan, NY. Project Manager responsible for a cultural resource assessment of proposed modernization project. This cultural resource assessment included an archaeological assessment of the area of potential effect; historic architectural evaluation of the surrounding area; and the preservation, removal, storage, and adaptive reuse of five Works Progress Administration-commissioned murals in buildings slated for demolition. Required Level-II HABS documentation of the Old Nurses Residence (circa 1915), the New Nurses Residence (circa 1932), and the Women's Pavilion Building (circa 1932) prior to demolition. (5/2004-10/2006).

Phase IA/IB Cultural Resource Assessment, Beacon Institute for Rivers and Estuaries, DASNY and the New York State OPRHP on behalf of the Beacon Institute for Rivers and Estuaries, Beacon, Dutchess County, NY. Project Manager for a Phase IA archaeological assessment and limited Phase IB archaeological field survey of the proposed location for the Center for Advanced Environmental Research, positioned on the remnants of nineteenth- and twentieth-century historic brickwork at Denning's Point. Historical document and cartographic research, georeferencing historical maps to modern maps to ascertain past disturbances and/or prior settlement and land use, and assessment of the property's potential to contain historic and/or prehistoric archaeological resources. Identified several locations on Denning's Point with high archaeological potential. (10/2006-5/2009).

Phase IA Cultural Resource Assessment, DASNY on behalf of Fordham University, Fordham University New Residence Halls, Fordham University Rose Hill Campus, Bronx, NY. Project Manager responsible for coordinating cultural resource assessment of new residence halls on the southwest portion of campus. Required the georeferencing of historical maps to the modern campus to determine the archaeological potential of the proposed building locations. (1/2008-5/2008).

Historic Architectural Assessment, DASNY, Louis Armstrong House Museum (LAHM) Visitors Center. Corona, Queens County, NY. Project Manager responsible for the preparation of a historic architectural assessment for the area surrounding the proposed location of a new visitor's center for the Louis Armstrong House Museum, a National Historic Landmark and New York City Landmark. The historic architectural survey assessed 43 historic properties within view of the proposed visitor's center, including the LAHM, and determined that none of the other 42 historic properties met NRHP eligibility criteria and that the LAHM would not be visually affected by the construction of the proposed visitor's center. (8/2008-5/2010).

Historic Resource Inventory Form Preparation, Baruch College Field Building Renovation, DASNY, 17 Lexington Avenue, Manhattan, NY. Project Manager responsible for coordinating the preparation of New York State OPRHP historic resource survey inventory forms for three historic buildings that would be physically and/or visually affected by the renovation of the 1929 Field Building.

The three buildings, the Lawrence and Eris Field Building, the Administrative Building for Baruch College (the former Domestic Relations Court Building at 135 East 22nd Street), and Baruch College's Newman Hall (the former Children's Court Building at 137 East 22nd Street) were all found to be eligible for listing in the NRHP. (5/2010-7/2010).

Historic Resource Inventory Form Preparation, Brooklyn College (CUNY) Performing Arts Center (PAC) Addition, DASNY, Brooklyn, NY. Project Manager responsible for coordinating the preparation of New York State OPRHP historic resource survey inventory forms for Brooklyn College's Gershwin Hall and associated Hillel Gate entrance, which would be replaced with a state-of-the-art performing arts facility. Gershwin Hall and the Hillel Gate were found to lack sufficient integrity to meet NRHP eligibility criteria. (4/2009-6/2009).

Phase IA Cultural Resource Assessment, City College of New York/Advanced Science and Research Science Facility Project, DASNY, City College of New York Campus, Manhattan, NY. Project Manager and Principal Investigator for an archaeological assessment and historic architectural survey of proposed location for the Advanced Science Research Center Facility Project, located over the foundation remains of the nineteenth-century Convent of the Sacred Heart, the precursor to Manhattanville College. Conducted historical and cartographic research, identified and analyzed past disturbances and/or prior settlement and land use, used GIS technology to locate the proposed construction on historical maps, and assessed the project's potential effect on historic properties. Identified the potential location of a nineteenth-century burial vault in the proposed project area, which was then monitored for potential burials during excavation for the foundation to the science facility. (4/2006-5/2009).

Phase IA Cultural Resource Assessment, Lehman College New Science Facility Project, DASNY, Lehman College, Bronx, NY. Project Manager for a cultural resource assessment for proposed science facility to be attached to Gillet Hall, one of the original buildings at Hunter College's Bronx branch, constructed in 1931. Traced the history of the campus location, which included the nineteenth-century Jerome Park Racetrack followed by the Jerome Park Reservoir at the end of the nineteenth century. No archaeological areas of concern were identified; historic architectural survey identified the Hunter College Campus (Gillet Hall, the Music Building, the Gymnasium, Davis Hall, and the fences, piers, and underground passages) as eligible for listing in the State and National Registers for their historic and architectural significance for the campus's role as the site of the first United Nations, and as a Depression-era Collegiate Gothic-style campus. (11/2007-2/2009).

Phase IB Archaeological Survey, DASNY, SUNY College at Purchase, New Residence Hall, Purchase, NY. Principal Investigator for an archaeological field survey of a two-acre parcel slated for development of new residence halls. Field survey identified extensive mechanized impacts to the project area, and no archaeological resources were identified. (8/2004-10/2004).

Phase I Cultural Resource Assessment, Trenton-Morrisville Toll Bridge Rehabilitation and One Auxiliary Northbound Lane, Delaware River Joint Toll Bridge Commission. Morrisville, Buck County, PA and Trenton, Mercer County, NJ. Project Manager for a cultural resource assessment of improvements to interchanges and the Trenton-Morrisville Toll Bridge spanning the Delaware River. Archaeological assessment of proposed ground disturbance and historic architectural assessment of proposed interchange improvements to

local structures, including the National Historic Landmark Delaware Division of the Pennsylvania Canal. (5/2004-11/2006).

Cultural Resource Eligibility/Effects, Improvements to County Route 571, Delaware Valley Regional Planning Commission, Princeton/Hightstown Road, Princeton Junction, Mercer County, NJ. Project Manager responsible for coordinating the preparation of eligibility/effects documentation for proposed road improvements. Included determination of the project's archaeological resource potential, evaluation of the presence/absence of archaeological resources, and survey of the historic architectural resources in view of project's area of potential effect. (5/2008-4/2009).

Historic Resource Inventory Form Preparation, Dormitory Authority of the State of New York (DASNY), New York State Office of Court Administration (OCA) Training Academy, Kings County, NY. Project Manager responsible for coordinating the preparation of New York State Office of Parks, Recreation and Historic Preservation (OPRHP) historic resource survey inventory forms for three historic buildings that would be physically and visually affected by the development of a training academy complex for OCA court officers in Brooklyn. The three buildings, St. Theresa's Convent, St. Theresa's Auditorium, and St. Teresa of Avila Parochial School, were found to lack sufficient integrity to meet NRHP eligibility criteria. (11/2009-2/2010).

Englishtown-Wyckoff Street 115kv Transmission Line, Phase I Cultural Resource Survey, First Energy, Manalapan, Millstone, Monroe and East Windsor Townships, Hightstown Borough, Monmouth, Middlesex and Mercer Counties, NJ. Project Manager responsible for coordinating the cultural resource survey for the construction of a new eight-mile-long transmission line in central NJ. (5/2013-1/2014).

Fouilles Prehistoriques a Cagny, Cagny (Nord), France. Excavator for the excavation of two open-air Lower Palaeolithic sites located in northern France. Archaeological deposits included a variety of fauna (red deer, horse and prehistoric cattlre/aurochs) and lithic implements in river-edge sediments dating to roughly 320,000 years ago. (7/1994-8/1994).

Phase IA Cultural Resource Assessment, Freeholders of Burlington County, Burlington Sod Farm, Springfield Township, Burlington County, NJ. Project Manager for a Phase IA cultural resource assessment of 640-acre agricultural property slated to become new county fairgrounds. Involved historical and cartographic research, identifying and analyzing past disturbances and/or prior settlement and land use, and determining property's potential to contain archaeological resources. (3/2006-7/2007).

Preparation of Section 106 Property Disposal Checklist, General Services Administration (GSA), Dover Main Post Office, Dover, Morris County, NJ. Project Manager for the potential sale of early twentieth-century post office. Project involved completing background research to identify previously documented historic properties and project's effect on historic properties. Determined that the post office is located over the historical location of the Morris Canal, listed in the National Register of Historic Places (NRHP). (6/2010).

Hudson Energy Project, Genpower Hudson Energy, Hudson River Bulkhead at Pier 92, Manhattan, NY. Principal Investigator for an archaeological and architectural site file review at New York City Landmarks Preservation Commission (LPC), background research, field inspection of the study area from

the bulkhead at Pier 92 to the ConEd substation at West 94th Street in Manhattan, and preparation of existing conditions report for cultural resources. (9/2001-10/2001).

La Tourette Park, Staten Island, Richmond County, NY. Principal Investigator for a historic architectural resource assessment of proposed Omnipoint cell tower installation. (10/2001).

Phase I Archaeological Assessment, General Services Administration (GSA), GSA Leased Office Space, City of Oswego, Oswego County, NY. Project Manager for an archaeological investigation of planned Social Security Administration building. Project included background and archival research, using GIS to georeference historical maps to the APE, pedestrian reconnaissance and archaeological survey of the APE. (5/2009-8/2009).

Preparation of Section 106 Property Disposal Checklist, GSA, USPS Facility, 185 West John Street, Hicksville, Nassau County, NY. Project Manager for this project, which involved completing background research to identify previously documented historic properties and project's effect on historic properties. Research revealed a lack of archaeological and historic architectural potential at the location of the postal facility. (10/2010).

Preparation of Section 106 Property Disposal Checklist, GSA, West Jersey Processing and Distribution Center, 54 Jefferson Road South, Whippany, Morris County, NJ. Project Manager for this project, which involved completing background research to identify previously documented historic properties and the potential of the project to affect historic properties. Research revealed a lack of archaeological and historic architectural potential at the location of the postal facility. (10/2010).

Historic Properties Management Plan, Clyde River Hydroelectric Project, Orleans County, VT. GIS Technician responsible for preparing project's GIS database for historic property information for multiple hydroelectric power plants around multiple lakes in Orleans County. Prepared graphics depicting the location of previously identified historic properties and areas of archaeological sensitivity within the FERC licensed boundaries. (5/2004-10/2004).

Hudson Valley Rod & Gun Club, Pawling, Dutchess County, NY. Excavator for mitigation of a Middle and Late Archaic prehistoric site. (7/1994)

New Jersey Cellular Telecommunications, Innovative Engineering, Inc., Verizon Wireless Communications. Principal Investigator for this project, which included over 50 Section 106 compliance reports completed for proposed communications facilities throughout New Jersey. Surveys typically included cultural resource assessments, archaeological surveys of areas directly impacted by the proposed construction, evaluations of the proposed project's potential to adversely affect historic properties, and archaeological mitigation of identified archaeological sites. (2001-2005).

New Jersey Cellular Telecommunications-Sprint/Nextel Communications, IVI Environmental, Inc. Principal Investigator responsible for numerous Phase IA archaeological assessments and historic architectural resource assessments for proposed communications facilities throughout New Jersey. Surveys typically included cultural resource assessments, archaeological surveys of areas directly impacted by the proposed construction, evaluations of the proposed project's

potential to adversely affect historic properties, and archaeological mitigation of identified archaeological sites. (2001-2005).

Phase I Archaeological Investigation, Sweet Brook Drainage Area, JRC Construction Corporation for NYC DEP, Carlton Boulevard, Annadale, Staten Island, Richmond County, NY. Principal Investigator responsible for an archaeological survey for sewage installation project along the Sweet Brook. (3/2003-5/2003).

Arbutus Avenue Sewer Project, JRC Construction Corporation, Staten Island, Richmond County, NY. Principal Investigator responsible for a Phase I archaeological survey for sewage installation project along the Arbutus Creek. (5/2001-6/2001).

Phase I Archaeological Investigation, JRC Construction Corporation, Stream Restoration and Related Work in the Sweet Brook Bluebelt, Annadale, Staten Island, Richmond County, NY. Project Manager for archaeological investigations in advance of restoration and alteration of two sites along the Sweet Brook Bluebelt and its associated wetlands for construction of stormwater drainage facilities. (4/2007-6/2007).

Le col de Jiboui, Haut-Diois (Drome), France. Excavator responsible for supporting salvage excavations of an open-air Middle Palaeolithic site in the Vercors, located at an elevation of 5300 feet along the passageway between the northern and southern French Alps. (5/1998).

Long Island College Hospital, Brooklyn, Kings County, NY. Excavator responsible for monitoring heavy machine excavation of eighteenth-, nineteenth-, and twentieth-century historical archaeological deposits for the construction of a parking garage along Atlantic Avenue and the Brooklyn-Queens Expressway. (10/1995).

Cultural Resource Screening, Chatham Square/Park Row Improvement Project, Lower Manhattan Development Corporation (LMDC), Manhattan, NY. Project Manager responsible for coordinating a screening of existing cultural resource information for proposed roadway reconfiguration and pedestrian/open space improvements to the area surrounding One Police Plaza and the Chinatown neighborhood. The proposed project's APE was found to contain several previously recorded historic properties, thereby requiring coordination with the New York State OPRHP and New York City Landmarks Preservation Commission in advance of cultural resource assessment for compliance under SEQRA. (3/2009-10/2009).

Cultural Resource Constraints, Louise Nevelson Plaza Redesign, Lower Manhattan Development Corporation, William Street, Maiden Lane and Gold Street, Manhattan, NY. Principal Investigator responsible for the preparation of cultural resource screening report to identify previously documented historic resources close to the proposed project and assessment of archaeological potential in the area of potential effect. Coordinated review of historical documentation with New York State OPRHP. (4/2005-8/2005).

Archaeological Monitoring, Fortescue Creek Dredging Project, Mobile Dredging & Pumping Co., Downe Township, Cumberland County, NJ. Project Manager responsible for conducting archaeological monitoring for the dredging of sediments deposited in the Fortescue Creek as a result of the storm surge from Superstorm Sandy. Archaeologists monitored the deposition of the dredge

material onto the Fortescue beach throughout the duration of the dredging project. As the dredge material was deposited on the beach, the sediment was spread across the beach bulldozer. Throughout the dredging project and re-deposition project, no sign of archaeological resources were observed either in the dredge material or when the bulldozer shifted the dredge material around the beach. (11/2013-2/2014).

Phase I Archaeological Investigation, National Park Service (NPS), Denver Service Center, Fire Island National Seashore, Sailor's Haven Boardwalk and Helipad, Fire Island, Suffolk County, NY. Project Manager for a Phase I archeological investigation for the rebuild of the Sailor's Haven boardwalk and helipad in the Fire Island National Seashore (FIIS) destroyed by Superstorm Sandy's storm surge in October 2012. A total of 18 shovel tests were excavated in the project area and failed to identify any archeological artifacts or features. (6/2013-9/2013).

Archeological Overview and Assessment for the Edison National Historic Site (EDIS), NPS, Northeast Region, West Orange, Essex County, NJ. GIS Technician responsible for georeferencing historical maps covering the areas of Edison's Laboratory Unit, Edison's residence (Glenmont), and the facility's maintenance area to develop recommendations for areas of potential archaeological resources. Updated and extensively added to the NPS (Archaeological Sites Management Information System (ASMIS) data for the three units within the National Park. (6/2007-11/2007, 3/2010-5/2012).

Archeological Overview and Assessment for the Manhattan Sites, National Park Service, Northeast Region, Manhattan, NY. Project Manager for an Archeological Overview and Assessment for six NPS sites in New York, including Castle Clinton National Monument, Federal Hall National Memorial, Theodore Roosevelt Birthplace National Historic Site, General Grant National Memorial, Hamilton Grange National Memorial and Saint Paul's Church National Historic Site. Supervised research project, coordinated GIS data file creation, prepared ASMIS data and drafted portions of the AOA. (7/2012-7/2013).

Cultural Resource Eligibility/Effects Documentation for Final Scope Development of Routes 1 and 9 at North Avenue, New Jersey Department of Transportation, City of Elizabeth, Union County, NJ. Principal Investigator responsible for identifying and evaluating archaeological resources (Phase I/II) and historic architectural properties (eligibility/effect) in proposed project area for roadway improvements. Also conducted all background research and prepared archaeological report. (8/2002-7/2003).

Cultural Resource Eligibility/Effects Investigations for the Proposed Tuckahoe Road (C.R. 557) Bridge over Cape May Branch Rail Line Replacement, NJDOT, Atlantic County, NJ. Principal Investigator for Section 106 compliance activities for proposed replacement of the Tuckahoe Road Bridge. Involved subsurface archaeological investigation and historic architectural survey. Tuckahoe Road Bridge had previously been determined not eligible for inclusion in the NRHP, but Cape May Rail Line was determined potentially eligible as a historic district; investigation determined that the proposed bridge replacement would not have an adverse effect on the rail line. (2/2004-8/2006).

Interchange 142 (Garden State Parkway and I-78), New Jersey Highway Authority/New Jersey Turnpike Authority, Hillside, Irvington, and Union, Essex and Union Counties, NJ. Principal Investigator responsible for

contributing to the Historic Architectural Evaluation with background research on and evaluation of the Elizabeth River Park, a NRHP-eligible park. Supervised Phase IB archaeological survey of proposed roadway improvements, monitored backhoe excavations and excavated shovel tests as needed in the project's APE. (2/2001-5/2002).

Cultural Resource Screening, Proposed Middle School Replacement, New Jersey School Construction Corporation, City of Irvington, Essex County, NJ. Principal Investigator responsible for a cultural resource assessment as part of the EA process for proposed elementary school to be constructed in existing residential neighborhood. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (3/2004-8/2004).

Phase I Cultural Resource Investigation, Trenton Daylight/Twilight High School Demonstration Project, New Jersey School Construction Corporation, Trenton, Mercer County, NJ. Principal Investigator responsible for a cultural resource assessment as part of the E.O. 215 process for proposed high school in the Academy-Hanover Historic District. Conducted research, including historical map and document review, used GIS software to georeference historical maps to the proposed school's footprint, evaluated historic architectural resources of the surrounding area, assessed the proposed project's potential to affect the historic district or adjacent historic properties, and conducted field investigations. (8/2005-11/2006).

Phase IA Cultural Resource Assessment, East Orange Demonstration Project, New Jersey School Construction Corporation, Pre-K to 12th Grade School for the Performing Arts, City of East Orange, Essex County, NJ. Principal Investigator responsible for a cultural resource assessment of proposed school to be constructed at the location of the circa 1910 East Orange High School. Determined the project's potential to affect potential archaeological resources and used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. Coordinated the determination of the East Orange High School's NRHP eligibility and the recordation of the school prior to demolition. As additional mitigation prepared school lesson focused on the history of East Orange and particularly East Orange High School. (2/2004-10/2006).

Phase IA Cultural Resource Assessment, Proposed Burnet-Warren Elementary School Replacement, New Jersey School Construction Corporation, City of Newark, Essex County, NJ. Principal Investigator responsible for performing a cultural resource assessment as part of the E.O. 215 process for proposed elementary school to be constructed within the limits of the National Register-listed James Street Commons Historic District. Used GIS technology to georeference historical maps to project area; identified areas of archaeological potential for future investigations. (3/2004-11/2004).

Phase IA Cultural Resource Assessment, Proposed Grove Street Elementary School Replacement, New Jersey School Construction Corporation, City of Irvington, Essex County, NJ. Principal Investigator responsible for performing a cultural resource assessment as part of the E.O. 215 process for elementary school to be constructed in existing residential neighborhood. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (2/2005-5/2005).

Phase IA Cultural Resource Assessment, Proposed Oakwood Avenue Elementary School Addition, New Jersey School Construction Corporation, City of Orange, Essex County, NJ. Principal Investigator responsible for performing a cultural resource assessment as part of the E.O. 215 process of an addition to the existing circa 1888 school. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (10/2004-4/2005).

Phase IA Cultural Resource Assessment, Proposed Peshine Avenue School, Elementary School Replacement, New Jersey School Construction Corporation, City of Newark, Essex County, NJ. Principal Investigator responsible for performing a cultural resource assessment of proposed school to be constructed at the location of the circa 1911 Peshine Avenue Elementary School. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (9/2004-5/2005).

Cultural Resource Constraints Technical Memo, Dinky Right-of-Way Route 1 BRT Project, New Jersey Transit, Princeton Township, Princeton Borough, and West Windsor Township, Mercer County, NJ. Project Manager responsible for the identification of potential cultural resource constraints within the Dinky right-of-way project area of the proposed Route 1 Bus Rapid Transit Project, between Princeton University and Princeton Junction. (8/2006-6/2007).

Cultural Resources Eligibility/Effects, Garden State Parkway, Interchange 10 Improvements, New Jersey Turnpike Authority, Cape May Court House, Cape May County, NJ. Project Manager responsible for performing cultural resource services associated with environmental compliance on three new interchanges on the National Register-eligible Garden State Parkway Historic District in Cape May County. The project is designed to improve safety by eliminating three traffic signals and creating three grade-separated interchanges. Led Phase I archaeological and historic architectural resources surveys, Phase II archaeological site evaluations to determine the potential inclusion of five identified archaeological sites eligibility for listing in the National Register of Historic Places (NRHP), and Phase III archaeological mitigation of four prehistoric sites within the project's construction zone. Drafted archaeological mitigation plans for the identified archaeological sites and Memorandum of Agreement (MOA) stipulating the steps needed to complete the project's environmental documentation, which included a National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS), Section 4(f) Evaluation, and HABS/HAER documentation/mitigation of the NRHP-eligible Garden State Parkway Historic District adversely affected by the grade-separated interchanges. Responsible for archaeological research including background research, archaeological fieldwork, and identification of five previously unidentified archaeological sites (all eligible for inclusion in the NRHP). Work was performed in accordance with NJDOT Capital Project Delivery Process, NJDOT Procedures and Design Manuals, FHWA, NEPA, and Section 106.Achieved NJ Historic Preservation Office (HPO) concurrence of Project Effects per NJDOT 3340 (NJDOT Environmental Procedures). (8/2004-5/2014).

Background research, archaeological fieldwork, identification of five previously unidentified archaeological sites (all eligible for listing in the NRHP), and survey of historic architectural resources within the view of the proposed project. Drafted archaeological mitigation plans for the identified archaeological sites and Memorandum of Agreement stipulating the steps needed to complete the

project's environmental documentation. Assisted with the completion of the Section 4(f) document for cultural resources. Directed Phase III archaeological mitigation of four prehistoric sites within the project's construction zone.

Phase I Cultural Resource Assessment, Garden State Parkway Interchange 125 Improvements, New Jersey Turnpike Authority, Sayreville Borough and City of South Amboy, Middlesex County, NJ. Cultural Resource Lead for this project involving the creation of four new ramps to and from the Garden State Parkway and the construction of a new ramp toll plaza at Chevalier Avenue at Milepost 125. Responsible for the preparation of Phase I archaeological survey and historic architecture survey for the proposed interchange improvements. The project area contains two historic properties and has an adverse impact to the National Register-eligible Garden State Parkway Historic District. Responsible for mitigation in the form of Historic American Engineering Record (HAER) documentation of the existing Garden State Parkway Historic District at Interchange 125 to alleviate the project's adverse impact to historic properties. Work was performed in accordance with NJDOT Capital Project Delivery Process, NJDOT Procedures and Design Manuals and Executive Order 215.

Phase I Cultural Resource Assessment, Garden State Parkway Widening, MP 35-38 and Interchange Improvements, New Jersey Turnpike Authority, Egg Harbor Township, Atlantic County, NJ. Project Manager responsible for supervising the preparation of Phase I cultural resource assessment for the widening and improvements to the Garden State Parkway from Mileposts 35 to 38. Cultural resource documentation completed for compliance with Executive Order 215. Archaeological testing of proposed ramp improvements did not identify any intact, significant archaeological resources. Historic architectural survey of the project area identified only the Garden State Parkway Historic District as National Register-eligible resources. Proposed project created an adverse effect to the GSP historic district, but the project's Programmatic Agreement for the entire widening project outlined the necessary mitigation. (5/2012-4/2014).

Phase IA Archaeological Assessment, Hudson Yards/Number 7 Subway Line Extension, New York City Department of City Planning and New York City Transit, Manhattan, NY. Principal Investigator responsible for supporting the analysis of archaeological resource potential for 39 lots on Manhattan's West Side and determined the potential effect of alternatives on cultural resources. Completed the alternatives analysis for cultural resources and prepared a construction protection plan for historic properties. (5/2003-7/2005).

Phase IA Cultural Resource Assessment, Dutch Kills Rezoning, New York City Department of City Planning, Queens, NY. Project Manager for proposed rezoning of 40-block area adjacent to the Sunnyside Yards and north of Queens Plaza and Long Island City. Coordinated the research for ownership and occupation history of five redevelopment parcels and georeferenced historical lot was determined to possess potential for intact archaeological deposits. Of the historic structures identified and evaluated, 10 individual properties and one historic district were recommended as eligible for listing in the State and National Registers. Three properties were also recommended as New York City Landmark-eligible. (4/2007-5/2008).

Phase IA Cultural Resource Assessment, Gowanus Canal Corridor Rezoning, New York City Department of City Planning, Brooklyn, Kings County, NY. Project Manager for proposed rezoning of 24-block area along the Gowanus

Canal. Georeferenced historical maps to overlay with modern maps for determining areas of archaeological potential. Coordinated the research for ownership and occupation history of 16 lots, with all lots determined to have potential to contain intact archaeological deposits associated with the residential occupation and/or the historic construction of the Gowanus Canal bulkhead, part of the NRHP-eligible Gowanus Canal Historic District. Of the properties identified and evaluated, 12 were recommended as eligible for listing in the State and National Registers. (7/2008-5/2009).

Phase IA Cultural Resource Assessment, Proposed Oak Point Detention Facility, New York City Department of Corrections, Block 2604, Lot 174, The Bronx, Bronx County, NY. Project Manager for a Phase IA archaeological assessment of late nineteenth- to early twentieth-century rail yard, reviewed under CEQR. Research required investigating historical and cartographic sources, identification and analysis of past disturbances and/or prior settlement and land use, and assessment of the property's potential to contain historic and/or prehistoric archaeological resources. (3/2006-10/2007).

Phase IA Cultural Resource Assessment, Broadway Triangle Redevelopment Project, New York City Department of Housing Preservation and Development, Williamsburg, Brooklyn, Kings County, NY. Project Manager for proposed rezoning of nine-block area. Coordinated research for ownership and occupation history of the area; georeferenced historical maps to identify areas of archaeological potential. Of the properties identified and evaluated, five were recommended as eligible for listing in the State and National Registers. (5/2008-2/2009).

Phase IA Cultural Resource Assessment, New Stapleton Waterfront Plan, New York City Economic Development Corporation, Staten Island, Richmond County, NY. Project Manager and Principal Investigator responsible for a cultural resource assessment of mixed-use development and 12-acre park on the site of the former Navy Homeport. Georeferenced proposed project to extensive historical mapping of the shoreline. Coordinated historical deed research on 11 development parcels and analyzed historical shoreline evolution, revealing five locations with potential to contain historic archaeological resources. Historic architectural survey identified one historic architectural resource that meets eligibility criteria. (4/2004-6/2007).

Phase IA Archaeological Assessment, Cross Harbor Freight Improvement Project, New York City Economic Development Corporation, Greenville Yards, Jersey City, Hudson County, NJ. Co-Principal Investigator for a Phase IA archaeological assessment of the early twentieth-century Greenville Yards for proposed improvements, including construction of new track and support structures, rehabilitation of railcar float bridges, cut and cover tunnel construction, and mined tunnel construction. Research and analysis of past disturbances and potential for prehistoric and historic period resources. (8/2001-12/2001).

P.S. 234-Q, New York City School Construction Authority, Long Island City, Queens County, NY. Principal Investigator for a Phase IB archaeological investigation for proposed school location with the potential to contain nineteenth-century backyard deposits associated with documented individuals prior to the installation of municipal services. Monitored heavy machine excavation of two trenches within the location of two nineteenth-century residential backyards. (7/2001-10/2001).

Phase IA Archaeological Assessment, New York City School Construction Authority, Hebrew Academy of Brooklyn/Yeshiva R'tzahd, 965 East 107th Street, Block 8215, Lots 12 and 21, Brooklyn, Kings County, NY. Principal Investigator for an archaeological resource assessment of proposed school location. Used GIS technology to georeference historical maps to trace project area's potential for historic archaeological resources; project is located close to prehistoric archaeological site identified in the early 1900s. (3/2004-2/2006).

Phase IA Archaeological Assessment, Jamaica Avenue School, New York City School Construction Authority, Block 4102, Lots 19, 27, 33, 35 and 36, Cypress Hills, Brooklyn, Kings County, NY. Principal Investigator for an archaeological resource assessment of proposed school location. Used GIS technology to georeference historical maps to identify potential for historic backyard archaeological deposits in portions of the project area. (2/2005-6/2005).

Phase IA Cultural Resource Assessment, Proposed Eagle Academy for Young Men, New York City School Construction Authority, East 176th Street, Block 2923, Lots 17, 23, and 26, Bronx, NY. Project Manager for a Phase IA archaeological assessment for proposed school building. Project involved historical and cartographic research, identifying and analyzing past disturbances and/or prior settlement and land use, and determining that the project has the potential to affect previously unknown archaeological resources from the late nineteenth through twentieth centuries. (5/2006-10/2006).

Phase IA Cultural Resource Assessment, Proposed New Primary/Intermediate School at PS/IS 48, New York City School Construction Authority, William Wordsworth School, Queens County, NY. Project Manager responsible for coordinating a cultural resource assessment of new primary/intermediary school adjacent to historic school building. Areas of archaeological potential were identified by comparing historic mapping of the project area with known areas of prior disturbance from previous construction. (5/2007-3/2008).

Phase IB Archaeological Survey, Eagle Academy for Young Men, New York City School Construction Authority, Block 2923, Lots 17, 23, and 26, The Bronx, Bronx County, NY. Project Manager for archaeological field testing at proposed school location. Excavations identified, evaluated, and mitigated a buried late nineteenth- to early twentieth-century trash scatter and bottle dump feature. (10/2006-3/2007).

Phase IB Archaeological Survey, Jamaica Avenue School, New York City School Construction Authority, Block 4102, Lots 19, 27, 33, 35 and 36, Cypress Hills, Brooklyn, Kings County, NY. Project Manager for archaeological trenching at proposed school location. Excavations identified, evaluated, and mitigated extensive backyard deposits dating to the late nineteenth through early twentieth centuries, resulting in the designation of the Jamaica Avenue School Site. (4/2006-11/2006).

PS 56R Site, New York City School Construction Authority, Staten Island, Richmond County, NY. Archaeological Lab Director responsible for analysis, curation, and data entry for cultural material derived from the Phase III mitigation of a primarily Late Archaic prehistoric site covering over 150 square meters. (11/1995-7/1996).

Cultural Resource Assessment, E. 68th St./Hunter College Subway Station Improvement Project, New York City Transit, Manhattan, NY. Archaeologist

responsible for completing a cultural resource assessment for the proposed ADA improvements to the Lexington Avenue subway line. Assessment included compiling an inventory of known historic properties within the project area and vicinity, performing field investigation of current conditions of known historic properties, conducting historic architectural survey of historic properties 50 years in age or greater and assessing the project's potential to adversely affect historic properties. Project identified the Imperial House Apartments as National Register-eligible. (4/2012-12/2012).

Second Avenue Subway, Phase 1, Cultural Resource Services, MTA Capital Construction, New York, NY. Project Manager responsible for providing oversight and coordination of cultural resource compliance for final design and construction of Phase 1 of the subway, from East 63rd to East 99th streets. Responsible for drafting the archaeological field testing plans, archaeological monitoring, and implementing archaeological fieldwork before and during construction. Coordinated historic architectural resource evaluations of properties adjacent to the proposed ancillary structures associated with the new station. Reviewed design plans for potential adverse effects on historic properties. Provided comments to structural remediation plans for historic properties. Coordinated review of project documents with New York State Office of Parks, Recreation and Historic Preservation and New York City Landmarks Preservation Commission. (12/2006-5/2014).

Phase IA Archaeological Assessment, New York City Transit, East 126th Street Bus Garage, Manhattan, NY. Principal Investigator responsible for the archaeological and architectural site file review at New York City Landmarks Commission, background research, and archaeological assessment for half-block project area. (10/2002-3/2003).

Phase IA Archaeological Assessment, New York City Transit, New South Ferry Terminal, Manhattan, NY. Project Manager responsible for the archaeological resource assessment of proposed subway terminal project in Battery Park. Extensive cartographic research on historical evolution of the Lower Manhattan shoreline, used GIS technology to georeference numerous historical maps to trace potential historic archaeological resources in the project area, drafted portions of the Memorandum of Agreement and all of the Archaeological Resource Management Plan to be enacted during construction, coordinated review with New York City Landmarks Commission and New York State OPRHP. (2/2002-8/2005).

Phase IA Archaeological Assessment, Proposed Fan Plant Rehabilitation, New York City Transit, 52nd Street and Sixth Avenue, Manhattan, NY. Principal Investigator for an archaeological resource assessment of proposed fan plant rehabilitation. Employed GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (5/2003-8/2003).

Phase IA Archaeological Assessment, Proposed Fan Plant Rehabilitation, New York City Transit, Lafayette and Flatbush Avenues, Brooklyn, Kings County, NY. Principal Investigator for an archaeological resource assessment of a proposed fan plant rehabilitation in Fort Green. Employed GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (5/2003-9/2003).

Phase IA Archaeological Assessment, Proposed Fulton Street Transit Center, New York City Transit, Fulton Street and Broadway, Manhattan, NY. Principal Investigator responsible for the supervision and conduction of an archaeological resource assessment for a proposed transit facility. Reviewed historical maps and documents and summarized past disturbances to the project area to calculate the project area's potential for archaeological resources. Drafted portions of the project's Programmatic Agreement. (1/2003-9/2004).

Phase IA Archaeological Assessment, Proposed Vent Plant Installation, New York City Transit, Chrystie and Stanton Streets, Manhattan, NY. Principal Investigator for an archaeological resource assessment of proposed vent plant on Manhattan's Lower East Side in an area surrounded by several historic cemeteries. Employed GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (2/2003-5/2003).

Phase IA Archaeological Assessment, Proposed Vent Plant Installation, New York City Transit, West 21st Street and Sixth Avenue, Manhattan, NY. Principal Investigator for an archaeological resource assessment of proposed vent plant installation in Chelsea adjacent to the Third Shearith Israel cemetery on 21st Street. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. (3/2004-7/2004).

Phase IA Archaeological Assessment, Proposed Vent Plants, New York City Transit, West 53rd and 55th Streets and Eighth Avenue, Manhattan, NY. Project Manager for an archaeological resource assessment of two proposed vent plant installations in midtown Manhattan. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area and used historical elevation survey data to determine extent of disturbance from construction of Eighth Avenue in the early nineteenth century. (3/2008-6/2008).

Phase IA Archaeological Assessment, Proposed Ventilation Fan Plant Rehabilitation, New York City Transit, West 30th Street and Sixth Avenue, Manhattan, NY. Project Manager for an archaeological resource assessment of proposed vent plant rehabilitation project servicing four NYCT subway lines. Evaluated proposed project's potential to adversely affect previously undisturbed archaeological deposits, including investigation with GIS technology using historical and present-day maps of the subway line and utilities to trace potential historic archaeological resources in the project area. (9/2004-2/2005).

Phase IA Archaeological Assessment, New York City Transit, Rockaway Boulevard Site, Rockaway Boulevard and Nassau Expressway, Block 14260, Lot 1, Jamaica, Queens County, NY. Principal Investigator responsible for coordinating an archaeological resource assessment of proposed bus parking facility adjacent to JFK International Airport. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area; determined that the project area had potential to contain previously undocumented prehistoric archaeological resources. (7/2005-9/2005).

Phase IB Archaeological Survey, Proposed Vent Plant Installation, New York City Transit, Chrystie and Stanton Streets, Manhattan, NY. Principal Investigator responsible for the supervision of an archaeological survey (backhoe trench) to assess the presence or absence of late nineteenth- and early twentieth-century front yard archaeological resources. (6/2003-10/2003).

Phase IB Archaeological Survey, New York City Transit, Rockaway Boulevard Site, Rockaway Boulevard and Nassau Expressway, Block 14260, Lot 1, Jamaica, Queens County, NY. Principal Investigator responsible for coordinating an archaeological survey of proposed bus parking facility adjacent to JFK International Airport. (3/2006-5/2006).

Replacement/ Rehabilitation of the Kosciuszko Bridge, New York State Department of Transportation (NYSDOT), Brooklyn-Queens Expressway (I-278), Queens and Kings Counties, NY. Project Manager responsible for providing archaeological consultation services, including the review of previously completed cultural resource documentation, assisted with the preparation of the scope of work for the Phase IB archaeological field testing, and reviewed the archaeological work plan. Conducted as part of an environmental impact statement, enabling the client to meet its requirements under Section 106 of the National Historic Preservation Act and Section 4(f) of the National Transportation Act. (5/2006-9/2006).

Contextual Study, NYSDOT, 153rd Street Pedestrian Bridge Access at Fort Washington Park, Manhattan, NY. Principal Investigator responsible for completing an archaeological resource assessment in addition to supporting the completion of the required environmental documentation for new pedestrian bridge providing access from Riverside Drive and 151st Street to Fort Washington Park, crossing rail lines and the Henry Hudson Parkway (Route 9A). Completed contextual study of the project area, including an inventory of all historic properties listed in and eligible for listing in the state and national registers. (5/2003-8/2006, 3/2014-5/2014).

Cultural Resource Screening Report, NYSDOT, FDR Southbound Improvements between 125th Street and 116th Streets, Manhattan, NY. Principal Investigator responsible for preparing a cultural resource screening study for the proposed project area, which involved reviewing known historic properties on file with the New York State Office of Parks, Recreation and Historic Preservation and the New York City Landmarks Preservation Commission. Proposed project entailed roadway widening and improvements to the FDR between 125th and 116th streets in Manhattan. The project also includes the reconstruction of the existing pedestrian bridge at 121st Street with a new bridge crossing. (8/2005-2/2006).

Cultural Resource Constraints Assessment, North Jersey Transportation Planning Authority, Route 17, Bergen County, NJ. Principal Investigator responsible for conducting background research on archaeological and historic architectural resources in the project corridor; prepared GIS files for cultural resources and summary cultural resource assessment of the corridor. (6/2003-7/2003).

Cultural Resource Constraints Assessment, North Jersey Transportation Planning Authority, Route 22, Essex and Union Counties, NJ. Principal Investigator responsible for conducting background research on archaeological and historic architectural resources in the project corridor; prepared GIS files for cultural resources and a summary cultural resource assessment of the corridor. (6/2003-7/2003).

Cultural Resource Constraints Assessment, North Jersey Transportation Planning Authority, Route 57, Warren County, NJ. Principal Investigator responsible for conducting background research on archaeological and historic

architectural resources in the project corridor; prepared GIS files for cultural resources and a summary cultural resource assessment of the corridor. (8/2003-11/2003).

Phase IA/IB Archaeological Investigation, Southern Water Pollution Control Facility Expansion Project, Ocean County Utilities Authority, Stafford Township, Ocean County, NJ. Project Manager for an archaeological assessment and subsurface survey conducted for compliance with the environmental approvals required for loan application submitted to the New Jersey Department of Environmental Protection Environmental Infrastructure Trust. Historical and contextual background research, archaeological site file and historic property searches at the New Jersey State Museum and the New Jersey Historic Preservation Office, pedestrian reconnaissance, and a subsurface survey. (5/2007-6/2007).

Archaeological Documentation, Port Authority of New York and New Jersey (PANYNJ), Hudson River Bulkhead, World Trade Center PATH Terminal, Manhattan, NY. Project Manager responsible for the documentation of c.1893 Hudson River Bulkhead located underneath the West Side Highway and within the footprint of the proposed underground pedestrian connector between the new WTC PATH station and the World Financial Center. Monitored construction activities and documented the extent, nature, and design of the Hudson River Bulkhead in the project area. (5/2007-1/2013).

Cultural Resource Screening, PANYNJ, PATH to Newark Airport, Preliminary Design, Newark, NJ. Principal Investigator responsible for completing the cultural resource screening document to identify previously documented historic properties in the corridor between Newark Penn Station and Newark Liberty International Airport. (2/2003-8/2003).

Phase IA Cultural Resource Assessment, PANYNJ, Newark Liberty International Airport Redevelopment and Modernization of Terminal A, Elizabeth, Union County and Newark, Essex County, NJ. Project Manager, for a cultural resource assessment of proposed improvements to Terminal A at Newark Liberty International Airport, including determination of archaeological resource potential and historic architectural resources within view of the project's area of potential effect. (5/2008-8/2008).

Phase IB Archaeological Survey, PANYNJ, World Trade Center PATH Terminal, Manhattan, NY. Project Manager responsible for the coordination and supervision of archaeological investigations in advance of construction of the new WTC PATH Terminal, including drafting the archaeological field plans. Supervised the excavation of 170-foot-long trench to 15 feet below the surface, following OSHA safety regulations. Identified intact backyard archaeological deposits associated with historical residences on Vesey Street; site was determined eligible for the NRHP, and the late eighteenth- to early nineteenth-century archaeological deposits were mitigated. (4/2005-12/2006).

Phase IA Cultural Resources Survey for the Proposed Southport Development Project, Pennsylvania Department of General Services and Weston Solutions, Inc., City of Philadelphia, Philadelphia County, PA. Project Manager responsible for coordinating the preparation of a cultural resource survey in advance of the development of an approximately 116 acre marine container terminal located to the east of the former U.S. Naval Station on League

Island and south of the Walt Whitman Bridge. The proposed project was found to have no potential to affect historic properties in the project area. (3/2010-8/2010).

Phase IA Cultural Resources Survey for the Proposed Wetland Mitigation Associated with the Proposed Southport Development Project, Pennsylvania Department of General Services and Weston Solutions, Inc., Bucks County, PA. Project Manager responsible for coordinating the preparation of a cultural resource survey in advance of the creation of new wetlands in four discontinuous parcels Bensalem and Bristol townships, associated with the Southport Development Project in Philadelphia. One parcel was considered to have a high potential to contain prehistoric archaeological deposits and was recommended for subsurface archaeological survey. (8/2010-11/2010).

Phase I Archaeological Survey, Pennsylvania Department of Transportation Engineering District 4-0, Luzerne County Road No. 9, Jackson, Lehman, and Dallas Townships, Luzerne County, PA. Principal Investigator responsible for documenting the results of previously conducted roadway survey, designed to assess the project's potential impact on late historic period archaeological deposits. (8/2001-7/2002).

Emmaus Tap 69 kv Transmission Line Rebuild, PPL Electric, Upper Milford and Emmaus Townships, Lehigh County, PA. Historic Property Research responsible for conducting a review of previously documented archaeological and historic architectural resources on file with the Pennsylvania Historical and Museum Commission for inclusion in initial screening level study of existing environmental conditions present within the proposed transmission line corridor project area. (5/2013).

Clayton Cell Tower, Rescom Environmental Corporation, Clayton, Gloucester County, NJ. Principal Investigator for a Phase IB archaeological assessment of proposed AT&T cell tower installation in Gloucester County. (10/2001).

Peach County Cell Tower, Rescom Environmental Corporation, Mantua, Gloucester County, NJ. Principal Investigator for a Phase IB archaeological assessment of proposed AT&T cell tower installation in Gloucester County. (10/2001).

U.P.N. Pallet Co. Cell Tower, Rescom Environmental Corporation, Penns Grove, Salem County, NJ. Principal Investigator for a Phase IB archaeological assessment of proposed AT&T cell tower installation in Salem County. (10/2001).

Robin's Island, Southold, Suffolk County, NY. Field Supervisor and Lithic Analyst for a survey of a 450-acre island located in the Peconic Bay, revealing several prehistoric and historic sites. (10/1994-3/1995).

Russian Mission, The Bronx, Bronx County, New York. Lithic Analyst for a cultural resource survey of a Late Archaic/Woodland quartz quarry site situated on the grounds of the Russian Mission. Quartz raw materials were quarried directly from exposed veins running through outcropped Fordham Gneiss formations. (5/1995).

Archaeological Monitoring, Silk Mills Ventures, LLC and the City of Paterson Historic Preservation Commission, Condominiums at Cooke Mill, Market and Jersey Streets, Block H0850, Lot 21, City of Paterson, Passaic County, NJ. Principal Investigator responsible for archaeological monitoring at the former location of the Cooke Locomotive and Machine Works, which manufactured

locomotives from 1852 until 1926. Identified previously unknown raceways running underneath the historical location of the mill. (5/2005-9/2005).

Phase I Cultural Resource Investigation, Atlantic City Airport/Federal Aviation Administration Technical Center Intersection Improvements. South Jersey Transportation Authority and Federal Aviation Administration, Egg Harbor Township, Atlantic County, NJ. Project Manager responsible for supervising the preparation of a cultural resource investigation for the proposed improvements to the intersection leading to the Atlantic City International Airport from the main access road and directing public traffic away from the Federal Aviation Administration Technical Center. Field investigations identified no significant historic architectural resources and no archaeological deposits in the proposed project area. (10/2010-5/2011).

South Jersey Transportation Authority and Federal Aviation Administration, Phase I Cultural Resource Investigation, Atlantic City Expressway Direct Connector Road, Egg Harbor Township, Atlantic County, NJ. Project Manager responsible for supervising the preparation of a cultural resource investigation for the proposed direct connection between the Atlantic City Expressway and the Atlantic City International Airport access road. Field investigations identified no significant historic architectural resources and no archaeological deposits in the proposed project area. (10/2010-5/2011).

Cultural Resource Constraints Assessment, South Jersey Transportation Planning Organization, Route 9 and Garden State Parkway, Cape May County, NJ. Principal Investigator responsible for conducting background research on archaeological and historic architectural resources in the project corridor. Prepared GIS files for cultural resources and summary cultural resource assessment of the project corridor. (6/2003-7/2003).

Homer City - Handsome Lake 345 kv Loop Transmission Line Project, TrAILCo, a FirstEnergy Company, Washington Township, Armstrong County, PA. Principal Investigator responsible for conducting the archaeological field survey for a proposed 1.6-mile long transmission line in western Pennsylvania. Field work identified two non-significant archaeological sites within the footprint of the proposed line. (10/2013-2/2014).

Triborough Bridge Rehabilitation Project, Triborough Bridge and Tunnel Authority/Metropolitan Transportation Authority, Randall's and Ward's Islands, Manhattan, NY. Principal Investigator responsible for coordinating the review of historical documents for proposed off-ramp from the Triborough Bridge to Randall's Island in an area with a strong possibility for human burials from the Manhattan Psychiatric Center. Conducted archaeological monitoring of geotechnical borings in the area of concern for the historical cemetery, including observation of soil stratigraphy, inspection for human remains, and recordation of archaeological materials. No human remains were identified during the testing; however, specifications related to archaeological issues and the potential for human remains were drafted and incorporated into the bid documents for the construction contracts. (8/2003-9/2004).

Archaeological Monitoring of Sign-Post Installation, Trinity Wall Street, Trinity Church and St. Paul's Chapel Cemeteries, Manhattan, NY. Project Manager responsible for directing the archaeological monitoring and evaluation of identified archaeological deposits recovered during the installation of six sign-posts within the limits of the early eighteenth-century cemeteries at Trinity

Church and St. Paul's Chapel in lower Manhattan. No evidence of human remains were encountered during the monitoring project, but two locations of intact archaeological deposits were identified that predated the cemeteries, including a late seventeenth-century deposit at the corner of Rector Street and Broadway that predates 1698 construction of the first Trinity Church. (10/2009-12/2009).

Phase IA Cultural Resource Assessment, U.S. Army Directorate of Public Works, Fort Dix Buildings, Fort Dix Army Base, Manchester Township, Ocean County, NJ. Project Manager responsible for coordinating the assessment of the proposed project's potential to encounter archaeological resources in the 1.4-acre parcel for new military housing facilities. (6/2008-7/2008).

Update of Integrated Cultural Resource Management Plan (ICRMP) for Fort Dix Army Base, U.S. Army Directorate of Public Works, Manchester Township, Ocean County, NJ. Project Manager responsible for updating the base ICRMP. Entailed manually converting over 500 pages of text from a scanned image to an editable document format, including verifying text conversion for entire document. Updated the content of the ICRMP to include historic resource information identified in the five prior years, including recently documented archaeological sites and recently completed cultural resource surveys. (7/2008-11/2009).

Phase I/II Cultural Resource Assessment, Armed Forces Reserve Center and Implementation of Base Realignment and Closure (BRAC) 05 Realignment Actions, U.S. Army, 99th Regional Support Command, Preferred Site, Alternative 2 Site and Lakeland #2 Site. Gloucester and Winslow Townships, Camden County, NJ. Project Manager for a cultural resource investigations associated with new construction of military housing. Project involved completing background and archival research, architectural survey, pedestrian reconnaissance, and systematic subsurface archaeological survey in the proposed areas of potential effect, yielding three previously unidentified archaeological sites, with two sites determined eligible for listing in the NRHP. Responsible for the preparation of cultural resource sections of the environmental assessment. (9/2008-7/2009).

Cultural Resource Services, Goethals Bridge Replacement Project, U.S. Coast Guard and the Port Authority of New York and New Jersey (PANYNJ), Elizabeth, Union County, NJ, and Staten Island, Richmond County, NY. Project Manager for Section 106 and NEPA compliance involving archaeological survey and evaluation of National Register eligibility of and potential impacts for historic architectural resources adjacent to bridge. (5/2004-9/2006).

Umm el Tlel, Syria. Excavator for the long-term excavations of an open-air site containing archaeological deposits from the terminal Lower Palaeolithic, through the Middle, Upper, and Epi-Palaeolithic, to the Neolithic. Excavations focused on lacustrine deposits containing abundant faunal remains associated with an approximately 70,000 year old Mousterian lithic assemblage. (8/1998-9/1998).

United States Department of State, Overseas Buildings Operations, New Embassy Compound, Baghdad, Iraq. Research Assistant for a cultural resource investigations associated with construction of new embassy compound. Securing historical maps of Baghdad, georeferencing historical maps to modern mapping, and drafting portions of the report's historic background section. (8/2005-4/2005)

Phase I Cultural Resource Survey, Bronx River Reservation Pathway from Crane Road Bridge to Greenacres Avenue, Westchester County Department of Public Works, Scarsdale, Westchester County, NY. Project Manager responsible for the preparation of a cultural resource assessment for proposed 1.5 mile-long pedestrian walkway paralleling the Bronx River Parkway and within the National Register listed Bronx River Reservation. Preparation of the report included completing a contextual background report focused on the historic landscape of the Bronx River Reservation, archaeological field survey of the proposed pedestrian pathway and a historic architectural survey of the project area. Archaeological fieldwork identified a small prehistoric archaeological site while no historic architectural resources were identified in addition to the Bronx River Reservation. (10/2010-5/2014).

Phase IA Cultural Resources Survey for the Proposed Reading 42-Inch Force Main Replacement, Weston Solutions, Inc. and Hill International, City of Reading, Berks County, PA. Project Manager responsible for coordinating the preparation of a cultural resource survey to assess the potential for previously undocumented archaeological resources to exist within the Project Area extending from the Canal Street Pump Station to the wastewater treatment plant on Fritz Island and to record the presence of historic architectural resources listed in or eligible for listing in the NRHP and/or the Pennsylvania Register of Historic Places (PARHP). The project was determined to have no effect on historic properties. (5/2010-9/2010).

Phase I Cultural Resource Survey for Proposed Sentinel Williams/TRANSCO Pipeline Expansion Project: Mountain View and Turnpike Loops, Williams/Transco, Houston, TX, Somerset and Union Counties, NJ. GIS Technician responsible for the compilation of GIS data from client for use during archaeological field surveys, drafted report graphics, and prepared GIS data files with locations of historic properties in the project's APE. (8/2006-2/2008).

PC/Institute for Advanced Study, Faculty Housing Project, Wolff and Samson, Princeton, Mercer County, NJ. GIS Analyst responsible for georeferencing historic maps of the Battle of Princeton and the surrounding area to overlay the proposed housing development area upon inferred locations of troop movements during the 1777 Revolutionary War skirmish. Additionally, using 3-dimensional GIS software, performed viewshed analysis to determine areas viewable from the top of Cochran's Hill where the British soldiers could have detected American troop movements on the battlefield. (8/2006-4/2012).

DECEMBER 16, 2024

Dewberry

SUBMITTED BY
Dewberry Engineers Inc.
600 Parsippany Road, Suite 301
Parsippany, NJ 07054

From: Warren, Arlene <arlene.warren@vdh.virginia.gov>
Sent: Tuesday, June 22, 2021 7:53 AM
To: Rachel.M.Studebaker@dominionenergy.com
Subject: [EXTERNAL] Re: FW: SCC Case No. PUR-2021-00010/DEQ21-013S

This is an EXTERNAL email that was NOT sent from Dominion Energy. Are you expecting this message? Are you expecting a link or attachment? DO NOT click links or open attachments until you verify them

The proposal from Dominion is reasonable and we consider it acceptable.

Best Regards,

Arlene Fields Warren

GIS Program Support Technician

Office of Drinking Water

Virginia Department of Health

109 Governor Street

Richmond, VA 23219

(804) 864-7781

On Thu, Jun 17, 2021 at 4:33 PM Rachel.M.Studebaker@dominionenergy.com <Rachel.M.Studebaker@dominionenergy.com> wrote:

Hello Ms. Warren,

I am reaching out in regard to the DEQ Report for SCC Case No. PUR-2021-00010/DEQ21-013S (230 kV lines #2113 and #2154 Transmission Line Rebuilds and Related Projects). As part of the VDH ODW review, it was recommended that all wells within a 1,000-foot radius of the project site be field marked and protected from accidental damage. It is our custom construction process to not conduct any work outside of the existing right-of-way (ROW), with the exception of entry using existing access roads, and use DEQ approved erosion and sediment controls. These well are located outside of the project area ROW on private land and Dominion Energy does not have permission to enter private property to field mark the wells.

Therefore, we are proposing to plot and call out the wells on the Erosion and Sediment control plans as a way of flagging them for the construction team for protection from accidental damage. Is this a sufficient approach to comply with the ODW recommendation?

Thank you,

Rachel Studebaker

Environmental Specialist II

Dominion Energy Services

120 Tredegar Street, Richmond, VA 23219

Office: (804) 273-4086

Cell: (804) 217-1847

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