

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

Before the State Corporation Commission of Virginia

Chesterfield-Hopewell Lines #211 and #228 Partial Rebuild Project

Application No. 324

Case No. PUR-2023-00054

Filed: April 6, 2023

Volume 2 of 2

BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA

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

Chesterfield-Hopewell Lines
#211 and #228 Partial Rebuild Project

Application No. 324

DEQ Supplement

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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 Chesterfield – Hopewell Lines #211 and #228 Partial Rebuild Project (the "Rebuild Project") by DEQ and other relevant agencies.

1. Project Description

In order to resolve potential criteria violations of mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards and consistent with sound engineering judgment, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes the following rebuild project located within existing right-of-way or on Company-owned property in Chesterfield County, Virginia, the following:

i. Rebuild, entirely within existing right-of-way or on Company-owned property, approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation.

ii. Reconductor approximately 0.09 miles of Line #228 outside of Hopewell Substation.[1]

iii. Complete work at Chesterfield and Hopewell Substations to support the new line rating.

(collectively, the "Rebuild Project").

In summary, the proposed Rebuild Project is necessary to comply with mandatory NERC Reliability Standards and to maintain reliable service to accommodate overall growth in the area. The Rebuild Project is needed to resolve overloading issues on 230 kV Lines #211 and #228 identified during PJM's 2026 Summer Generator Deliverability Analysis. The current line rating is limited by 2.9 miles of 1109 ACAR conductor, which has a summer emergency rating of 478 MVA. The Rebuild Project will rebuild Lines #211 and #228 to a minimum summer emergency rating of 1573 MVA.

The total length of the existing right-of-way and Company-owned property to be used for the Rebuild Project is approximately 2.9 miles. Because the existing right-of-way

[1] While required by the proposed Rebuild Project and included in the total costs of the Rebuild Project, the Company considers the work associated with Line #228 outside of Hopewell Substation, which includes the reconductoring of approximately 0.09 miles of conductor, to qualify as "ordinary extensions or improvements in the usual course of business" pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity ("CPCN") from the State Corporation Commission of Virginia ("Commission"). Because the Company considers this work to be ordinary course, detailed supporting documentation has not been provided in the Appendix. Should the Commission determine that a CPCN is required for the work associated with Line #228 outside of Hopewell Substation as described herein, the Company requests that the Commission grant such CPCN as part of its final order in this proceeding. This reconductoring work, and the work to support the new line rating at the Hopewell Substation, will be performed in the City of Hopewell.

and Company-owned property are adequate to construct the proposed Rebuild Project, no new rights-of-way are necessary. Given the availability of existing rights-of-way, the statutory preference to use existing rights-of-way, and the additional costs and environmental impacts that would be associated with the acquisition and construction of new rights-of-way, the Company did not consider any alternate routes requiring new rights-of-way for the Rebuild Project.

The total estimated conceptual cost of the Rebuild Project is approximately $14.3 million (in 2022 dollars), which includes $9.2 million for transmission-related work, and $5.1 million for substation-related work (2022 dollars).

The desired in-service date for the Rebuild Project is June 1, 2025. The Company estimates it will take approximately 16 months for detailed engineering, materials, procurement, permitting, and construction after a final order from the Commission. Accordingly, to support this estimated pre-construction activity timeline and construction plan, the Company respectfully requests a final order by February 1, 2024. Should the Commission issue a final order by February 1, 2024, the Company estimates that construction should begin on November 1, 2024 and be completed by June 1, 2025. This construction timeline will enable the Company to meet the targeted in-service date for the Rebuild Project. This schedule is contingent upon obtaining the necessary permits and outages. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process, as well as the ability to schedule outages or unpredictable delays due to labor shortages and/or materials/supply issues based on other extensive project work ongoing in the vicinity of the Rebuild Project.

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the proposed Rebuild Project by letter dated March 6, 2023. Copies of these letters are included as Attachment 2. The DEQ responded to the Company's request for the proposed Rebuild Project in an email dated March 7, 2023 (see Attachment 2.1), attaching the agency's Scoping Response Letter dated March 7, 2023 (see Attachment 2.2).

As part of Dominion Energy Virginia's environmental compliance program, 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.

A. Air Quality

For the Rebuild 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 control is 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.

The existing transmission right-of-way corridor currently is maintained for transmission line operations. The Rebuild Project may require some trimming of tree limbs along the right-of-way edges to support construction activities or danger tree removal. The Company does not expect to burn cleared material, but if necessary, the Company will coordinate with the responsible locality to ensure all local ordinances and DEQ requirements 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 proposed transmission line rebuild.)

The proposed Rebuild Project is located within the Lower James watershed, Hydrologic Unit Code 02080206. According to the U.S. Geological Survey ("USGS") topographic quadrangles (Drewrys Bluff [2022] and Chester [2022], Virginia) and the Virginia Department of Conservation and Recreation's ("DCR") National Hydrography Dataset found on the Natural Heritage Data Explorer, the existing transmission line corridor crosses unnamed tributaries to the James River – Old Channel.

The transmission line structures are located to span these waterbodies with no foundations being located below ordinary high water. Any clearing, if required, in the vicinity of streams will be performed by hand within 100 feet of both sides, and vegetation less than three inches in diameter will be left undisturbed.

The Company solicited comments from the Virginia Marine Resources Commission ("VMRC") regarding the proposed Rebuild Project in March 2023. See Attachment 2. Comments, if received prior to filing, will be included in Attachment 2.B.1. The VMRC's comments typically note that a subaqueous encroachment permit would be required for any stream crossings with a drainage area of five square miles or greater at the crossing location. Based on the Company's review of the Rebuild Project, there are no features under the jurisdiction of VMRC within the Rebuild Project area.

Based on the Company's review, waters regulated by the U.S. Army Corps of Engineers ("Corps") and DEQ are present within the Rebuild Project area. If aerial crossings or impacts to waters are proposed, a Joint Permit Application ("JPA") will be submitted for review by the VMRC, DEQ, and Corps for authorization under Sections 404/401 of the Clean Water Act, if necessary. Discussion of this coordination is included in the non-tidal wetlands section (Section D) below.

On March 16, 2023, DEQ's Office of Water responded by email requesting that the Company provide information concerning potential water use or water sources for the Rebuild Project. See Attachment 2.B.2. As noted above, the Rebuild Project will not require water sources.

C. Discharge of Cooling Waters

No discharge of cooling waters is associated with the Rebuild Project.

D. Tidal and Non-tidal Wetlands

A wetland delineation was previously completed for this existing transmission line right-of-way by Stantec Consulting Services, Inc. in accordance with the methods outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0)*. A Preliminary Jurisdictional Determination was issued by the U.S. Army Corps of Engineers on April 16, 2019 (NAO-2018-01978). Total jurisdictional resources within the proposed Project area are provided in Table 1 and detailed in Attachment 2.D.1.

Table 1. Jurisdictional Resources within the Project Area

Resource	Area/Length (±)
Upper Perennial (R3) Stream Channel	0.1 AC, 1,443 LF
Intermittent (R4) Stream Channel	<0.1 AC, 331 LF
Jurisdictional Ditch	0.2 AC, 55 LF
Palustrine Emergent (PEM) Wetland Palustrine Scrub Shrub (PSS) Wetland	0.5 AC 1.1 AC

It is anticipated that the Preliminary Jurisdictional Determination will no longer be valid at the time of construction. As such, it is expected that a new wetland delineation will need to be conducted and submitted to the Corps for confirmation. The Company will also obtain any necessary permits to impact jurisdictional resources.

The Company solicited comments from the DEQ Office of Wetlands and Stream Protection and the Corps in March 2023. Comments were received on March 22, 2023, and are included as Attachment 2.D.2. The Company has sited structures to avoid wetlands and streams to the extent practicable. Temporary impacts will be restored to pre-existing conditions, and permanent impacts will be compensated for in accordance with all applicable state regulations and laws. A Joint Permit Application will be submitted as needed for further evaluation and final permit determination by DEQ. The Company will obtain any necessary permits to impact jurisdictional resources.

E. Floodplains

As depicted on the Federal Emergency Management Agency's ("FEMA") online Flood Insurance Rate Maps #51041C0169D and #51041C0335D (effective date

12/18/2012**),** the Rebuild Project area lies within Zone X, areas of minimal flood hazard, and Zone A, base flood elevation and 100-year floodplain. The Company will coordinate with the local floodplain coordinators as required.

F. Solid and Hazardous Waste

On behalf of the Company, C2 Environmental, Inc. ("C2") conducted database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the Rebuild Project. Publicly available data was obtained from the Environmental Protection Agency ("EPA") Facility Registry System, which provides information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this data set includes all sites subject to environmental regulation by the EPA or other state authority, such as sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs. These sites include Comprehensive Environmental Response, Compensation and Liability Act/Superfund; Resource Conservation and Recovery Act ("RCRA"); and brownfield sites. Per this database, there are 22 registered RCRA sites, and no Superfund or Brownfield sites present within a 0.5-mile radius of the Rebuild Project. None of these sites are crossed by the proposed Rebuild Project.

DEQ records also were searched for the presence of solid waste permits, Voluntary Remediation Program ("VRP") sites, petroleum releases, and registered tank facilities. A total of two solid waste permits, one VRP site, 20 petroleum release sites, and 34 registered tank facilities are present within 0.5-mile of the Rebuild Project. None of the petroleum release sites or registered tank facilities fall within the Rebuild Project right-of-way. The Company has a procedure in place to handle petroleum contaminated soil, if encountered. Tables listing these sites are included in Attachment 2.F.

G. Natural Heritage, Threatened and Endangered Species

On behalf of the Company, C2 conducted online database searches for threatened and endangered species in the vicinity of the Rebuild Project, including the United States Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation ("IPaC") system, the USFWS Critical Habitat for Threatened and Endangered Species Mapper, the USFWS Bald Eagle Concentration Area Map, the Virginia Department of Wildlife Resources ("DWR") Virginia Fish and Wildlife Information Service ("VAFWIS"), the DWR Northern Long-eared Bat Winter Habitat and Roost Trees Map, the DCR Natural Heritage Data Explorer, and the Center for Conservation Biology ("CCB") Bald Eagle Nest Locator. The results are detailed in a report, included as Attachment 2.G.1, and are summarized in Table 2 below.

Table 2. Threatened and endangered species within the Rebuild Project vicinity

Species (*Scientific Name*)	Status	Results
Northern long-eared bat *(Myotis septentrionalis)* Source: USFWS	FE	Identified as potentially occurring in the Rebuild Project vicinity. No known hibernacula or maternity roosts were identified in the vicinity of the Rebuild Project. No clearing of new right-of-way is proposed. The Company will coordinate with the appropriate agencies, as necessary, should danger tree removal or other limited tree clearing for construction access be required that has the potential to impact this species.
Monarch Butterfly (*Danaus plexippus*) Source: USFWS	FC	Identified as potentially occurring in the Rebuild Project vicinity. Suitable habitat may be present in the right-of-way depending on field conditions at the time of construction. No new clearing of right-of-way is proposed, but vegetation may be temporarily disturbed due to construction access. However, no long term or adverse effects are expected.
Tri-Colored Bat (*Perimyotis subflavus*) Source: VAFWIS	FP, SE	Identified as occurring in the project vicinity. No known hibernacula or summer roosts were identified in the vicinity of the Rebuild Project. No clearing of new right-of-way is proposed. The Company will coordinate with the appropriate agencies, as necessary, should danger tree removal or other limited tree clearing for construction access be required that has the potential to impact this species.
Atlantic Sturgeon *(Acipenser oxyrinchus)* Source: VAFWIS, DCR	FE, SE	Identified as occurring in the Rebuild Project vicinity. The James River, which is adjacent to the Rebuild Project, is Confirmed Anadromous Fish Use Area and Critical Habitat for this species. No in-stream work is proposed and erosion and sediment controls will be used as appropriate throughout construction; therefore, no adverse effects are expected.

Species (*Scientific Name*)	Status	Results
Sensitive Joint-vetch (*Aeschynomene virginica*) Source: DCR	FT, ST	Identified as potentially occurring in the Rebuild Project vicinity. No suitable habitat for this species is expected to be present within the Rebuild Project right-of-way given existing site elevations. Therefore, no adverse effects are expected.
Swamp-pink (*Helonias bullata*) Source: DCR	FT, SE	Identified as potentially occurring in the Rebuild Project vicinity. Suitable habitat may be present in or adjacent to the Rebuild Project right-of-way depending on field conditions at the time of construction. No new clearing of right-of-way is proposed. The Company will coordinate with appropriate agencies, as necessary, should danger tree removal or other limited tree clearing for construction access be required within potential habitat for this species.
Bald eagle *(Haliaeetus leucocephalus)* Source: CCB, USFWS	BGEPA	No known bald eagle nests are located within 660 feet of the Rebuild Project vicinity, nor are any bald eagle concentration areas present within the Rebuild Project vicinity. Therefore, no adverse effects are expected.

Note: F: federal, S: state; E: endangered, T: threatened; P: proposed, C: candidate; BGEPA: Bald and Golden Eagle Protection Act.

The Company notes that on November 30, 2022, the USFWS "uplisted" the Northern Long Eared Bat ("NLEB") from threatened to endangered status. The uplisting became effective on March 31, 2023. The 4(d) rule associated with the NLEB's threatened status which previously exempted certain activities from the prohibition on take (*e.g.*, tree clearing) is no longer applicable. If tree clearing becomes necessary after March 31, 2023, the Company will follow all applicable requirements of the uplisting rule, as well as any requirements that may be applicable with respect to the Tri-Colored Bat, which was proposed to be listed as endangered by the USFWS on September 14, 2022.

Additionally, the Company requested comments from the USFWS, DWR and DCR regarding the proposed Rebuild Project in March 2023 and a Project Review request was submitted to DCR on March 9, 2023. See Attachment 2. By letter dated March 24, 2023, DCR noted that the Rebuild Project is not in the vicinity of any known

natural heritage resources and will not affect any documented state-listed plants or insects. See Attachment 2.G.2.

New and updated information is continually added to DCR's Biotics database. The Company shall re-submit Rebuild Project information and a map for an update on this natural heritage information if the scope of the Rebuild Project changes and/or six months have passed before this information is utilized.[2]

H. Erosion and Sediment Control

The DEQ approved the Company's *Standards & Specification for Erosion & Sediment Control and Stormwater Management for Construction and Maintenance 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 August 13, 2019, is provided as Attachment 2.H.1. According to the approval letter, coverage was effective through August 12, 2020. The Company submitted the renewal application on August 3, 2020 and is awaiting approval.

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

The Company solicited comments from the Virginia Department of Historic Resources ("VDHR)" in March 2023. See Attachment 2. Comments, if received prior to filing, will be included as Attachment 2.I.1. Dutton & Associates ("Dutton") was retained by the Company to conduct a Stage I Pre-Application Analysis ("Stage I Analysis") for the proposed Rebuild Project. Data collection and analysis followed the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia*, as per VDHR protocol set in January 2008. This analysis was completed in March 2023 and submitted to VDHR. The Stage I Analysis is included as Attachment 2.I.2. As detailed by VDHR guidance, consideration was given to: National Historic Landmark ("NHL") properties located within a 1.5-mile radius of the Rebuild Project centerline; National Register of Historic Places ("NRHP") listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the Rebuild Project centerline; NRHP-eligible sites located within a 0.5-mile radius of the Rebuild Project centerline; and archaeological sites located within the Rebuild Project right-of-way. Those previously recorded archaeological and architectural resources considered by the

[2] The Company updated this commitment consistent with discussions held between Company and DCR representatives on August 23, 2022.

Stage I Analysis are summarized in Tables 3 and 4 below.

Table 3. Previously Recorded Archaeological Resources Considered in the Stage 1 Analysis

VDHR#	Site Name/Summary	NRHP Status
44CF0102	Prehistoric/historic - Dwelling, multiple, Railroad bed, Village/Town, Wharf	DHR Staff: Eligible
44CF0124	Prehistoric/historic - Camp, temporary, Midden	DHR Staff: Potentially Eligible
44CF0127	Historic - Bridge, Road	Not Evaluated
44CF0128	Prehistoric/historic - Camp, temporary	DHR Staff: Not Eligible
44CF0129	Prehistoric - Camp, temporary, Quarry	Not Evaluated
44CF0130	Prehistoric/historic - Camp, temporary, Dwelling, single, Hospital, Lithic workshop	DHR Staff: Potentially Eligible
44CF0578	Historic - Earthworks, Fort	DHR Staff: Potentially Eligible
44CF0873	Historic - Artifact scatter	DHR Staff: Potentially Eligible
44CF0874	Prehistoric/historic - Artifact scatter	DHR Staff: Not Eligible
44CF0875	Prehistoric - Artifact scatter	DHR Staff: Not Eligible
44CF0876	Prehistoric/historic - Artifact scatter	DHR Staff: Potentially Eligible
44CF0877	Prehistoric/historic - Artifact scatter	DHR Staff: Not Eligible

With regards to architectural sites, a total of 12 historic properties were identified within the defined study tiers. This includes no National Historic Landmarks ("NHLs") located within 1.5 miles of the proposed Rebuild Project, one property listed in the National Register of Historic Places ("NRHP") located within 1.0 mile of the Rebuild Project, seven battlefields located within 1.0 mile of the Rebuild Project, and three properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 miles of the Rebuild Project. One additional property is considered contributing to the NRHP-listed resource and is also held under a historic preservation easement by the VDHR. Of these, one (1) property listed in the NRHP and four (4) battlefields or associated components are located directly within or are crossed by the Rebuild Project right-of-way.

It is anticipated that visibility of the project and associated structures will remain nearly identical to current views given the overall minimal structure height increase.

The alignment is also within a shared right-of-way flanked by other transmission lines of similar height on both sides. Accordingly, the proposed Rebuild Project is not anticipated to introduce a substantial cumulative change in setting or viewshed from any of the properties, many of which already include modern development and views of other transmission lines. Therefore, the Stage 1 Analysis finds that the proposed Rebuild Project will pose no more than minimal impact on any architectural resources evaluated under the VDHR Guidelines.

Table 4. Previously Recorded Architectural Resources Considered in the Stage 1 Analysis

VDHR #	Resource Name	NRHP-Status	Distance from Project
020-0015	Clay House, 2341 Old Bermuda Hundred Road	NRHP-Eligible	~0.36 Miles
020-0121	Osborne's Naval Battle	NRHP-Eligible	~0.30 Miles
020-0232	Howlett Line, Parker's Battery, Parker's Battery Earthworks	NRHP-Eligible	Directly Crossed
020-5316	Chester Station Battlefield	Not Eligible	Directly Crossed
020-5317	Port Walthall Junction Battlefield, Indian Hills Road	NRHP-Eligible	~0.81 Miles
020-5318	Arrowfield Church, Fort Clifton, Swift Creek Battlefield	Potentially NRHP-Eligible	~0.77 Miles
020-5319	Ware Bottom Church Battlefield	Potentially NRHP-Eligible	Directly Crossed
020-5319	Battery Dantzler	VDHR Easement	Immediately Adjacent
020-5320	Drewry's Bluff (2nd) Battlefield, Fort Darling, Fort Drewry, Proctor's Creek Battlefield	Potentially NRHP-Eligible	Directly Crossed
043-0033	Richmond National Battlefield Park	NRHP-Listed	Directly Crossed
043-0307	Battle of Chaffin's Farm, New Market Road, New Market Heights Battlefield	Potentially NRHP-Eligible	~0.72 Miles
123-5025	Assault on Petersburg, Petersburg Battlefield II	Potentially NRHP-Eligible	~0.66 Miles

A total of 12 previously recorded archaeological sites were identified within the right-of-way based on a review of VDHR records. Of these, six have been recommended potentially eligible or determined eligible for listing in the NRHP, four have been determined not eligible, and two have not been formally evaluated. No archaeological

fieldwork was conducted as part of the Stage 1 Analysis. The Company will continue to coordinate with VDHR regarding the findings of the Stage 1 Analysis and applicable next steps.

J. Chesapeake Bay Preservation Areas

The proposed Rebuild Project is located in Chesterfield County and is subject to the Chesapeake Bay Preservation Act. However, construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Preservation Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. See Attachment 2.J.1 for a DEQ memorandum dated March 8, 2023, indicating that, provided the Company adheres to certain requirements, the proposed Rebuild Project activity would be consistent with the Chesapeake Bay Preservation Act. The Company will meet those requirements and conditions as applicable and in accordance with the Dominion Energy Virginia *Standards & Specifications for Erosion & Sediment Control and Stormwater Management for Construction and Maintenance of Linear Electric Transmission Facilities* as approved by DEQ.

K. Wildlife Resources

Relevant agency databases were reviewed and requests for comments from the USFWS, DWR, and DCR were submitted to determine if the proposed Rebuild Project has the potential to affect any threatened or endangered species, as described in Section 2.G and included as Attachment 2.G.1. As discussed in Section 2.G, certain federal and state listed species were identified as confirmed and potentially occurring in the Rebuild 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 Rebuild Project is a rebuild of a transmission line within existing right-of-way and minimal tree removal, if any, is needed to support construction activities, no loss of wildlife habitat is anticipated.

Consistent with existing regulations, Dominion Energy Virginia would further minimize potential effects by avoiding (1) trees favorable for bat maternity roosting locations and (2) avoiding cutting trees and vegetation during the time-of-year restriction from March 15-August 15, to avoid nesting birds and bat maternity roosting locations, to the extent practicable.

The Company will follow all applicable requirements associated with the uplisting rule for the NLEB, which became effective on March 31, 2023.

L. Recreation, Agricultural and Forest Resources

The Rebuild Project is expected to have minimal incremental impacts on recreational, agricultural, and forest resources because no additional right-of-way is required. The general character of the Rebuild Project area is characterized as predominantly urban

and residential development. There are parks and recreation facilities operated by Chesterfield County within 1.0 mile of the Rebuild Project, however, none are crossed by the existing right-of-way or are otherwise expected to be impacted by the Rebuild Project.

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 designated scenic rivers crossed by the Rebuild Project.

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. There are approximately 33.3 acres of prime farmland within the Rebuild Project right-of-way.

Land that does not meet the criteria for prime farmland can be considered "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. 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 ordinance. No areas of farmland of statewide importance are within the Rebuild Project right-of-way.

Chesterfield County does not contain Agricultural and Forestal Districts within its jurisdiction under Va. Code § 3.2-205 B. According to the Chesterfield County Comprehensive Plan, the existing transmission line corridor is located within areas designated as urban areas.

No agricultural use areas are apparent within the Rebuild Project right-of-way, however, if agricultural uses are present, these activities have been occurring within the Rebuild Project right-of-way while the existing transmission lines have been in operation. The Rebuild Project may result in temporary impacts to farmland during construction but would otherwise not be expected to impact farmlands and would not alter the agricultural use.

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. The Rebuild Project intersects two easements, a VDHR easement (Battery Dantzler Tract, 020-53190002) and a Capital Region Land Conservancy Easement. The Rebuild Project does not cross any Virginia Outdoors

Foundation ("VOF") easements, and none are located within the vicinity of the Rebuild Project.

The width of the existing transmission line right-of-way is 235 feet. The proposed Rebuild Project is the partial rebuild of existing transmission lines, and no additional right-of-way is required. The Rebuild Project proposes to retain the existing right-of-way as currently utilized but may require additional trimming of tree limbs along the right-of-way edges and/or trimming for access roads along the corridor to support construction activities. 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 exhibits 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 tree cutting. The Rebuild Project is expected to have minimal, if any, impact on forest resources because the proposed Rebuild Project involves rebuilding portions of existing transmission lines, the corridor of which is already cleared and maintained for existing transmission line operation and no additional right-of-way is required.

In March 2023, the Company solicited VOF and the Virginia Department of Forestry ("VDOF") for comments on the proposed Rebuild Project. See Attachment 2. By email dated March 7, 2023, VOF requested shapefiles to support its review. See Attachment 2.L.1. Comments, if received prior to filing, will be included as Attachment 2.L.2.

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. 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 in August 2022 and again in February 2023, the Company is continuing to review 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 work toward a resolution with DCR on this issue. The Company will submit the results of the resolution in a future certificate of public convenience and necessity case.[3]

N. Geology and Mineral Resources

The Rebuild Project is located in both the Piedmont and Coastal Plain physiographic provinces of Virginia, whose geology consists of a series of igneous and metamorphic rocks, sedimentary rocks, respectively. According to the Virginia Division of Geology and Mineral Resources Interactive Geologic Map, the Rebuild Project consists primarily of sand and gravel, clays and mud.

According to the USGS topographic maps and aerial imagery, there are no active mines or stone quarries within the limits of the Project. A search of the Virginia Department of Mines, Minerals and Energy online map confirms there are no active or abandoned mines within the Rebuild Project right-of-way or within a 1.0-mile radius of the Rebuild Project right-of-way. The Company does not anticipate that the Rebuild Project will result in negative impacts on the geology or mineral resources in the proposed Rebuild Project area.

O. Transportation Infrastructure

The existing transmission line corridor extends approximately 2.9 miles from the Company's existing Structure #211/19 (#228/19) to the Chesterfield Substation in

[3] *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) (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 (June 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).

Chesterfield County, Virginia and crosses state-maintained roads, including Hundred Road/Route 10 and Ware Bottom Spring Road; private roads/driveways; and CSX Transportation railroad.

In March 2023, the Company solicited comments from the Virginia Department of Transportation ("VDOT") on the proposed Rebuild Project. See Attachment 2. Comments were received on March 10, 2023 and are included as Attachment 2.O.1. The Company will submit applications for land use permits and traffic control plans to VDOT for the aerial crossings of VDOT-maintained roads and construction entrances from the VDOT right-of-way as needed. These permits will be obtained prior to construction.

The Company has reviewed the FAA's website (https://oeaaa.faa.gov/oeaaa/external/portal.jsp) to identify airports within 10 nautical miles of the proposed Rebuild Project. The following airports were identified:

- Defense Supply Center Richmond, 5.4 nautical miles northwest of the Project start
- Fort Lee AHP 3 (Qrtmst Cen), 6.31 nautical miles southeast of the Project start
- Fort Lee NR 1/HQS, 6.67 nautical miles southeast of the Project start
- Richmond Exec/Chesterfield County Airport, 7.2 nautical miles northwest of the Project start
- Richmond International Airport, 8.09 nautical miles northeast of the Chesterfield Substation

The Company solicited comments from the Virginia Department of Aviation ("DOAv"). In an email dated March 6, 2023, DOAv stated that it appears that the Rebuild Project is greater than 20,000 linear feet from any public use airport, and no additional coordination with DOAv is necessary as long as no structure exceeds 200 feet above ground level. See Attachment 2.O.2. If any structures exceed 200 feet above ground level, Form 7460 will need to be submitted to the FAA to initiate an aeronautical study to ensure that the proposed Rebuild Project will not constitute a hazard to air navigation.

The Company will coordinate with VDOT, DOAv, and the FAA as necessary to obtain all appropriate approvals.

P. Drinking Water Wells

In response to its request for comments, the Company received an e-mail from the Virginia Department of Health ("VDH"), Office of Drinking Water ("ODW") dated March 27, 2023, regarding potential impacts to public drinking water sources from the Project. A copy of this email is included as Attachment 2.P.1. No public drinking water sources were identified within the immediate vicinity of the Rebuild Project,

therefore, VDH-ODW concluded that there would be no apparent impacts to public drinking water sources due to the Rebuild Project.

Attachments

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

BY EMAIL

March 6, 2023

To Whom It May Concern:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The proposed Project will increase the summer emergency line ratings to improve reliability throughout this transmission corridor, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the Virginia State Corporation Commission ("SCC"). In advance of filing the CPCN application, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter. Once filed, the application will be available for review on the Company's website at https://www.dominionenergy.com/chesterfieldhopewell.

Enclosed is a Project Location Map depicting the alignment of the rebuild activity. If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Heather Kennedy at 804-317-9930 or Heather.E.Kennedy@dominionenergy.com. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

Elizabeth L. Hester
Authorized Representative
Manager, Environmental Services
Dominion Energy Virginia

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Roger Kirchen
Director, Review and Compliance Division
Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

BY EMAIL

March 6, 2023

Dear Roger Kirchen:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The proposed Project will increase the summer emergency line ratings to improve reliability throughout this transmission corridor, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

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Regards,

Blair Parks

Blair Parks
Siting and Permitting Specialist
Dominion Energy Virginia

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Martha Little
Virginia Outdoors Foundation
P.O. Box 85073, PMB 38979
Richmond, Virginia 23285-5073

BY EMAIL

March 6, 2023

Dear Martha Little:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The proposed Project will increase the summer emergency line ratings to improve reliability throughout this transmission corridor, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

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Regards,

Blair Parks

Blair Parks
Siting and Permitting Specialist
Dominion Energy Virginia

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Scott Denny
Airport Services Division
Virginia Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250

BY EMAIL

March 6, 2023

Dear Scott Denny:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The proposed Project will increase the summer emergency line ratings to improve reliability throughout this transmission corridor, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

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Regards,

Blair Parks

Blair Parks
Siting and Permitting Specialist
Dominion Energy Virginia

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Mike Helvey
Obstruction Evaluation Group Manager
Federal Aviation Administration
FAA Eastern Regional Office
800 Independence Ave, SW
Room 400 East
Washington, D.C. 20591

BY EMAIL

March 6, 2023

Dear Mike Helvey:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The proposed Project will increase the summer emergency line ratings to improve reliability throughout this transmission corridor, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

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Regards,

Blair Parks

Blair Parks
Siting and Permitting Specialist

Dominion Energy Services, Inc.
5000 Dominion Boulevard, 3rd Floor
Glen Allen, VA 23060
DominionEnergy.com

Dale R. Totten, P.E
Richmond District Engineer
Virginia Department of Transportation
2430 Pine Forest Drive
South Chesterfield, Virginia 23834

BY EMAIL

March 6, 2023

Dear Dale Totten:

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The proposed Project will increase the summer emergency line ratings to improve reliability throughout this transmission corridor, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

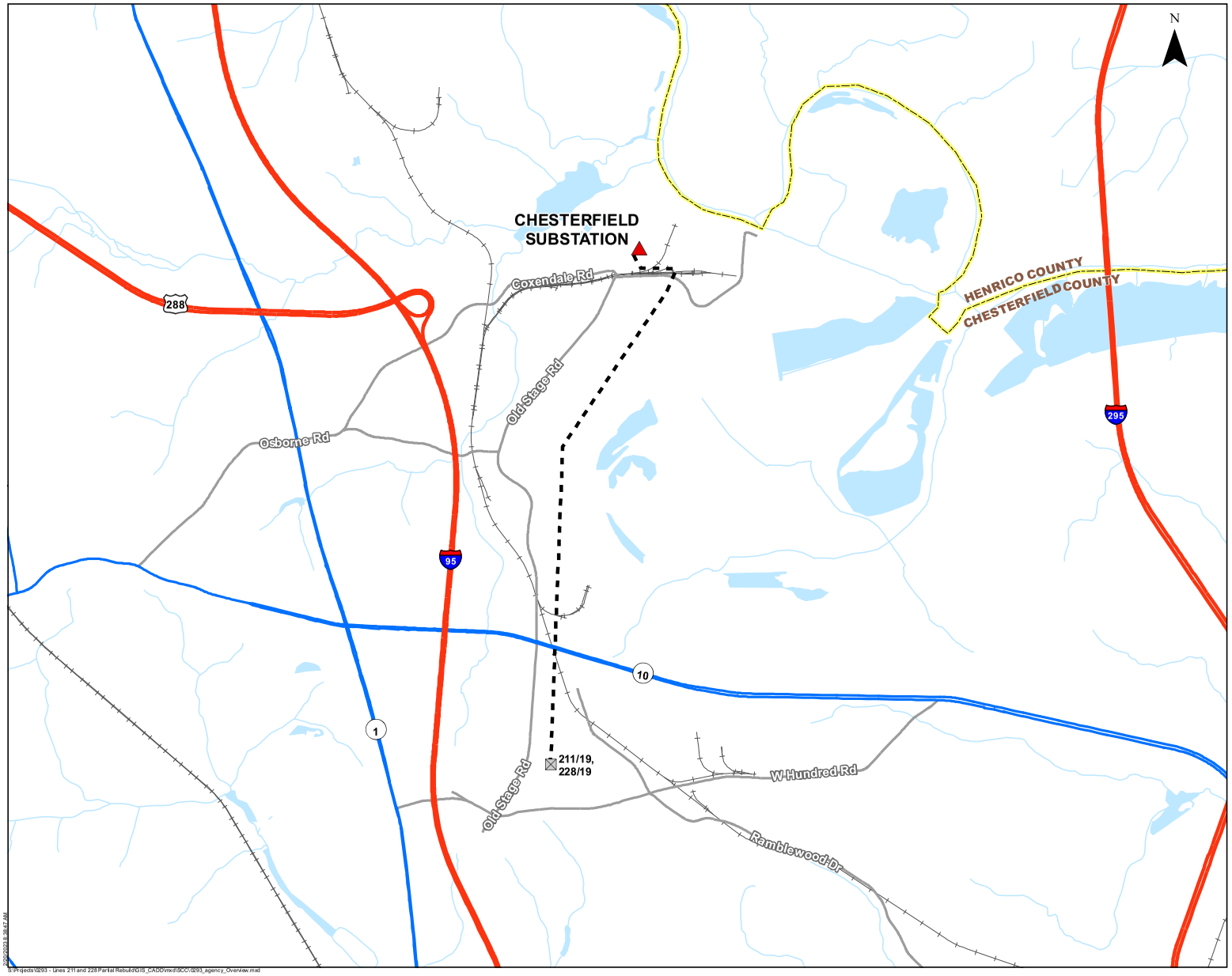
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Regards,

Blair Parks

Blair Parks
Siting and Permitting Specialist
Dominion Energy Virginia



PROJECT LOCATION MAP

Chesterfield - Hopewell 230 kV Lines #211 and #228 Partial Rebuild Project

Chesterfield County, Virginia

Owner/ Applicant:

Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0293	TMP	02/20/23

0 0.25 0.5 1 Miles

Scale is 1 IN = 0.5 MI when printed at original size of 11x17

LEGEND

- Existing Lines #211 and #228 Project Centerline
- Existing Structure
- Existing Substation
- Limited Access Highway
- US or VA Primary Highway
- Local or Main Road
- Railroad
- County Boundary
- NHD Stream/River
- NHD Waterbody

Notes:
1. Basemap from ESRI Topographic Map
2. Project centerline provided by Dominion Energy
3. Roads and railroads from VGIN
4. Streams, rivers and waterbodies from USGS National Hydrography Data



ENVIRONMENTAL

Dominion Energy

SHEET 1 OF 1

Alyssa Johnson

Subject: FW: NEW SCOPING Chesterfield-Hopewell 230 kV Lines 211 and 228 Partial Rebuilds
Attachments: Chesterfield-Hopewell 230kV Lines 211-228 - Scoping Response.pdf; Line 211_228 Rebuild - SCC Agency Letters_ signed.pdf

From: Fulcher, Valerie (DEQ) <Valerie.Fulcher@deq.virginia.gov>
Sent: Tuesday, March 7, 2023 11:40 AM
To: dgif-ESS Projects (DWR) <ESSProjects@dwr.virginia.gov>; Tignor, Keith (VDACS) <Keith.Tignor@vdacs.virginia.gov>; DCR-PRR Environmental Review (DCR) <envreview@dcr.virginia.gov>; odwreview (VDH) <odwreview@vdh.virginia.gov>; Martinez, Carlos (DEQ) <Carlos.Martinez@deq.virginia.gov>; Ballou, Thomas (DEQ) <Thomas.Ballou@deq.virginia.gov>; Gavan, Larry (DEQ) <Larry.Gavan@deq.virginia.gov>; Henicheck, Michelle (DEQ) <Michelle.Henicheck@deq.virginia.gov>; Kudlas, Scott (DEQ) <Scott.Kudlas@deq.virginia.gov>; Moore, Daniel (DEQ) <Daniel.Moore@deq.virginia.gov>; West, Kelley (DEQ) <Kelley.West@deq.virginia.gov>; Kirchen, Roger (DHR) <Roger.Kirchen@dhr.virginia.gov>; ImpactReview (impactreview@vof.org) <impactreview@vof.org>; Didier, Karl (Virginia) <Karl.Didier@dof.virginia.gov>; Lasher, Terrance J. (DOF) <Terry.Lasher@dof.virginia.gov>; Folks, Clint (DOF) <Clint.Folks@dof.virginia.gov>; EIR Coordination (VDOT) <EIR.Coordination@vdot.virginia.gov>; sstewart@planrva.org (sstewart@planrva.org) <sstewart@planrva.org>; CliborneC@chesterfield.gov; maltman@hopewellva.gov (maltman@hopewellva.gov) <maltman@hopewellva.gov>; Spears, David (Energy) <David.Spears@energy.virginia.gov>
Cc: Heather E Kennedy (Services - 6) <heather.e.kennedy@dominionenergy.com>
Subject: [EXTERNAL] NEW SCOPING Chesterfield-Hopewell 230 kV Lines 211 and 228 Partial Rebuilds

CAUTION! This message was NOT SENT from DOMINION ENERGY
Are you expecting this message to your DE email? Suspicious? Use PhishAlarm to report the message. Open a browser and type in the name of the trusted website instead of clicking on links. DO NOT click links or open attachments until you verify with the sender using a known-good phone number. Never provide your DE password.

Good morning—attached is a request for scoping comments on the following:

Dominion Energy Virginia's Proposed Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

If you choose to make comments, please send them directly to the project sponsor (Heather.E.Kennedy@Dominionenergy.com) and copy the DEQ Office of Environmental Impact Review: eir@deq.virginia.gov. We will coordinate a review when the environmental document is completed.

DEQ-OEIR's scoping response is also attached.

If you have any questions regarding this request, please email our office at eir@deq.virginia.gov.

Valerie

Valerie A. Fulcher, CAP, OM, Admin/Data Coordinator Senior

Department of Environmental Quality

Environmental Enhancement - Office of Environmental Impact Review

1111 East Main Street

Richmond, VA 23219

NEW PHONE NUMBER: 804-659-1550

Email: Valerie.Fulcher@deq.virginia.gov

https://www.deq.virginia.gov/permits-regulations/environmental-impact-review

For program updates and public notices please subscribe to Constant Contact: https://lp.constantcontact.com/su/MVcCump/EIR

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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 FAX (804) 698-4178
www.deq.virginia.gov

Travis A. Voyles
Secretary of Natural and Historic Resources

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

March 7, 2023

Heather Kennedy
Dominion Energy
Via email: Heather.E.Kennedy@Dominionenergy.com

RE: Dominion Energy Virginia's Proposed Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project, Chesterfield County, Virginia

Dear Ms. Kennedy:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of environmental impacts for electric power generating projects and power line projects in conjunction with the licensing process of the State Corporation Commission.

DOCUMENT SUBMISSIONS

In order to ensure an effective coordinated review of the environmental impact analysis may be sent directly to OEIR. We request that you submit one electronic to eir@deq.virginia.gov (25 MB maximum) or make the documents available for download at a website, file transfer protocol (ftp) site or the VITA LFT file share system (Requires an "invitation" for access. An invitation request should be sent to eir@deq.virginia.gov.). The required "Wetlands Impact Consultation" can be sent directly to Michelle Henicheck at michelle.henicheck @deq.virginia.gov or at the address above.

ENVIRONMENTAL REVIEW UNDER VIRGINIA CODE 56-46.1

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the environmental impact analysis document. Accordingly, we have coordinated your request with the following state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:

- DEQ Regional Office
- Air Division

- Office of Wetlands and Stream Protection
- Office of Local Government Programs
- Division of Land Protection and Revitalization
- Office of Stormwater Management

Department of Conservation and Recreation
Department of Health
Department of Agriculture and Consumer Services
Department of Wildlife Resources
Virginia Marine Resources Commission
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry
Department of Transportation

DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

  Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:
  - www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

  Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:
  - http://128.172.160.131/gems2/

- MARCO Mid-Atlantic Ocean Data Portal

  The Mid-Atlantic Ocean Data Portal is a publicly available online toolkit and resource center that consolidates available data and enables users to visualize and analyze ocean resources and human use information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others.

  http://portal.midatlanticocean.org/visualize/#x=-73.24&y=38.93&z=7&logo=true&controls=true&basemap=Ocean&tab=data&legends=false&layers=true

- DHR Data Sharing System.

  Survey records in the DHR inventory:

  - www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

  Produces lists of resources that occur in specific counties, watersheds or physiographic regions:
  - www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- Wetland Condition Assessment Tool (WetCAT)
  - https://www.deq.virginia.gov/water/wetlands-streams/wetcat

- DWR Fish and Wildlife Information Service

  Information about Virginia's Wildlife resources:
  - http://vafwis.org/fwis/

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- Virginia Outdoors Foundation: Identify VOF-protected land
  - http://vof.maps.arcgis.com/home/index.html

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

  Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:
  - www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

  Information on hazardous waste facilities:
  - www.epa.gov/enviro/facts/rcrainfo/search.html

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- EPA Envirofacts Database

  EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:
  - www.epa.gov/enviro/index.html

- EPA NEPAssist Database

  Facilitates the environmental review process and project planning:
  http://nepaassisttool.epa.gov/nepaassist/entry.aspx

If you have questions about the environmental review process, please feel free to contact me (telephone (804) 659-1915 or e-mail bettina.rayfield@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,



Bettina Rayfield, Program Manager
Environmental Impact Review and
Long-Range Priorities

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

BY EMAIL

March 6, 2023

To Whom It May Concern:

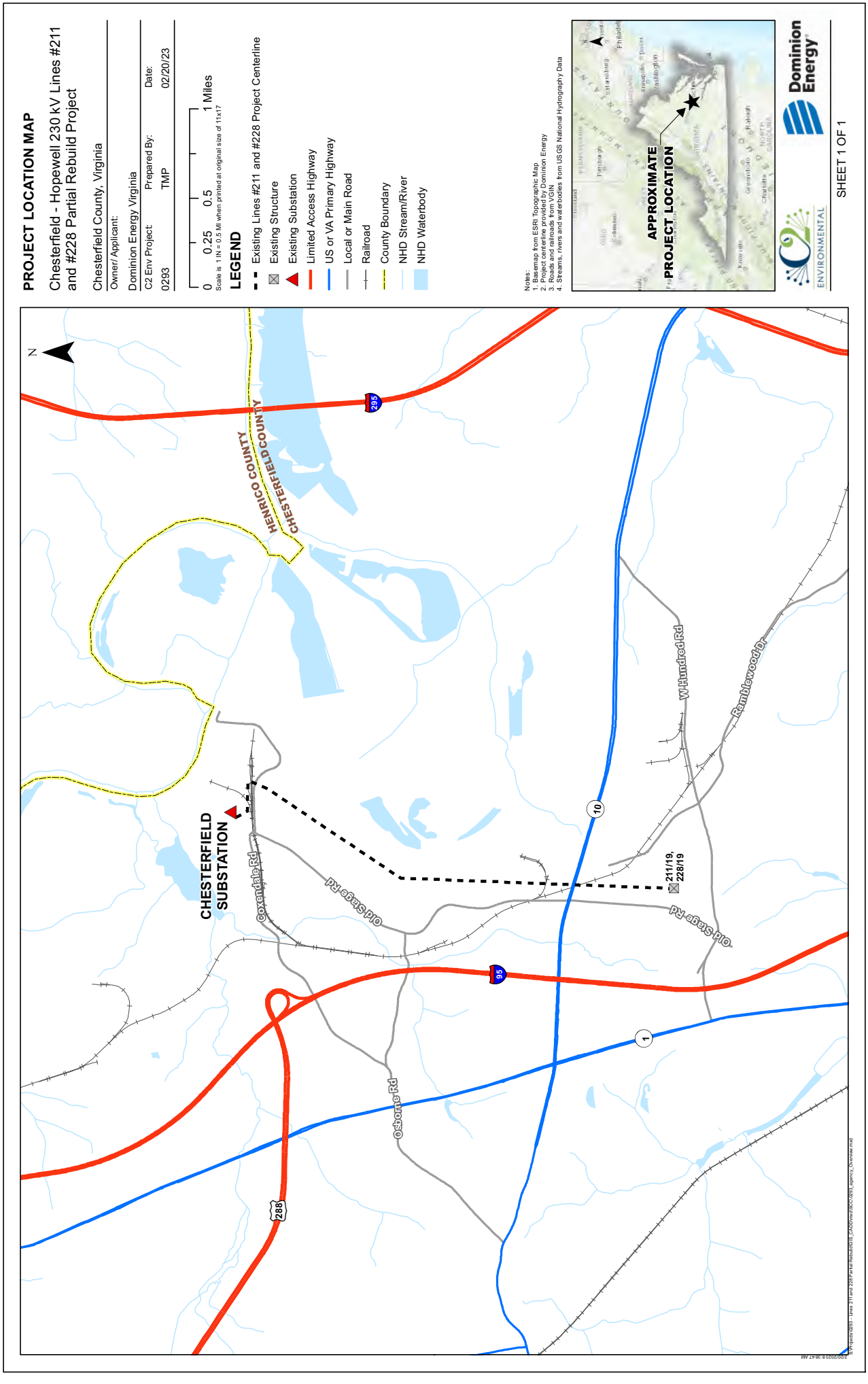
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Regards,

Elizabeth L. Hester
Authorized Representative
Manager, Environmental Services
Dominion Energy Virginia


PROJECT LOCATION MAP
Chesterfield - Hopewell 230 kV Lines #211 and #228 Partial Rebuild Project
Chesterfield County, Virginia
Owner/ Applicant:
Dominion Energy Virginia
C2 Env Project: 0293
Prepared By: TMP
Date: 02/20/23
0 0.25 0.5 1 Miles
Scale is 1 IN = 0.5 MI when printed at original size of 11x17
LEGEND
Existing Lines #211 and #228 Project Centerline
Existing Structure
Existing Substation
Limited Access Highway
US or VA Primary Highway
Local or Main Road
Railroad
County Boundary
NHD Stream/River
NHD Waterbody
Notes:
1. Basemap from ESRI Topographic Map
2. Project centerline provided by Dominion Energy
3. Roads and railroads from VGIN
4. Streams, rivers and waterbodies from USGS National Hydrography Data
APPROXIMATE PROJECT LOCATION
N
HENRICO COUNTY
CHESTERFIELD COUNTY
CHESTERFIELD SUBSTATION
211/19, 228/19
Coxendale Rd
Old Stage Rd
Osborne Rd
W Hundred Rd
Ramblewood Dr
295
95
10
1
288
Dominion Energy
ENVIRONMENTAL
SHEET 1 OF 1

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

1111 E. Main Street, Suite 1400, Richmond, Virginia 23219
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Travis A. Voyles
Secretary of Natural and Historic Resources

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

March 7, 2023

Heather Kennedy
Dominion Energy
Via email: Heather.E.Kennedy@Dominionenergy.com

RE: Dominion Energy Virginia's Proposed Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project, Chesterfield County, Virginia

Dear Ms. Kennedy:

This letter is in response to the scoping request for the above-referenced project.

As you may know, the Department of Environmental Quality, through its Office of Environmental Impact Review (DEQ-OEIR), is responsible for coordinating Virginia's review of environmental impacts for electric power generating projects and power line projects in conjunction with the licensing process of the State Corporation Commission.

DOCUMENT SUBMISSIONS

In order to ensure an effective coordinated review of the environmental impact analysis may be sent directly to OEIR. We request that you submit one electronic to eir@deq.virginia.gov (25 MB maximum) or make the documents available for download at a website, file transfer protocol (ftp) site or the VITA LFT file share system (Requires an "invitation" for access. An invitation request should be sent to eir@deq.virginia.gov.). The required "Wetlands Impact Consultation" can be sent directly to Michelle Henicheck at michelle.henicheck @deq.virginia.gov or at the address above.

ENVIRONMENTAL REVIEW UNDER VIRGINIA CODE 56-46.1

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the environmental impact analysis document. Accordingly, we have coordinated your request with the following state agencies and those localities and Planning District Commissions, including but not limited to:

Department of Environmental Quality:

- DEQ Regional Office
- Air Division

- Office of Wetlands and Stream Protection
- Office of Local Government Programs
- Division of Land Protection and Revitalization
- Office of Stormwater Management

Department of Conservation and Recreation
Department of Health
Department of Agriculture and Consumer Services
Department of Wildlife Resources
Virginia Marine Resources Commission
Department of Historic Resources
Department of Mines, Minerals, and Energy
Department of Forestry
Department of Transportation

DATA BASE ASSISTANCE

Below is a list of databases that may assist you in the preparation of a NEPA document:

- DEQ Online Database: Virginia Environmental Geographic Information Systems

  Information on Permitted Solid Waste Management Facilities, Impaired Waters, Petroleum Releases, Registered Petroleum Facilities, Permitted Discharge (Virginia Pollution Discharge Elimination System Permits) Facilities, Resource Conservation and Recovery Act (RCRA) Sites, Water Monitoring Stations, National Wetlands Inventory:
  - www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx

- DEQ Virginia Coastal Geospatial and Educational Mapping System (GEMS)

  Virginia's coastal resource data and maps; coastal laws and policies; facts on coastal resource values; and direct links to collaborating agencies responsible for current data:
  - http://128.172.160.131/gems2/

- MARCO Mid-Atlantic Ocean Data Portal

  The Mid-Atlantic Ocean Data Portal is a publicly available online toolkit and resource center that consolidates available data and enables users to visualize and analyze ocean resources and human use information such as fishing grounds, recreational areas, shipping lanes, habitat areas, and energy sites, among others.

  http://portal.midatlanticocean.org/visualize/#x=-73.24&y=38.93&z=7&logo=true&controls=true&basemap=Ocean&tab=data&legends=false&layers=true

- DHR Data Sharing System.

  Survey records in the DHR inventory:

  - www.dhr.virginia.gov/archives/data_sharing_sys.htm

- DCR Natural Heritage Search

  Produces lists of resources that occur in specific counties, watersheds or physiographic regions:
  - www.dcr.virginia.gov/natural_heritage/dbsearchtool.shtml

- Wetland Condition Assessment Tool (WetCAT)
  - https://www.deq.virginia.gov/water/wetlands-streams/wetcat

- DWR Fish and Wildlife Information Service

  Information about Virginia's Wildlife resources:
  - http://vafwis.org/fwis/

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- Virginia Outdoors Foundation: Identify VOF-protected land
  - http://vof.maps.arcgis.com/home/index.html

- Environmental Protection Agency (EPA) Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Database: Superfund Information Systems

  Information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation, including sites that are on the National Priorities List (NPL) or being considered for the NPL:
  - www.epa.gov/superfund/sites/cursites/index.htm

- EPA RCRAInfo Search

  Information on hazardous waste facilities:
  - www.epa.gov/enviro/facts/rcrainfo/search.html

- Total Maximum Daily Loads Approved Reports
  - https://www.deq.virginia.gov/programs/water/waterqualityinformationtmdls/tmdl/tmdldevelopment/approvedtmdlreports.aspx

- EPA Envirofacts Database

  EPA Environmental Information, including EPA-Regulated Facilities and Toxics Release Inventory Reports:
  - www.epa.gov/enviro/index.html

- EPA NEPAssist Database

  Facilitates the environmental review process and project planning:
  http://nepaassisttool.epa.gov/nepaassist/entry.aspx

If you have questions about the environmental review process, please feel free to contact me (telephone (804) 659-1915 or e-mail bettina.rayfield@deq.virginia.gov).

I hope this information is helpful to you.

Sincerely,



Bettina Rayfield, Program Manager
Environmental Impact Review and
Long-Range Priorities

Alyssa Johnson

Subject: FW: Dominion Energy Virginia's Proposed Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

From: Lawson, Trevor (DEQ) <Trevor.Lawson@deq.virginia.gov>
Sent: Thursday, March 16, 2023 11:42 AM
To: Heather E Kennedy (Services - 6) <Heather.E.Kennedy@Dominionenergy.com>
Cc: Environmental Impact Review (DEQ) <eir@deq.virginia.gov>
Subject: [EXTERNAL] Dominion Energy Virginia's Proposed Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

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Good morning,
I am providing a comment for the project for the DEQ Office of Water below. Please let me know when additional project information is available for review.

Comment:

> The Dominion Energy Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project information does not provide information on potential water use or sources for the project, if any are required. The Office of Water seeks information on required water needs including an estimated cumulative volume for the project and source(s) of water supply. Water withdrawals in the Commonwealth must comply with Annual Water Withdrawal Reporting Regulations (9VAC25-780) and Virginia Water Protection Permit Regulations (9VAC25-200) if requirements are met.

Thanks,
Trevor Lawson

CONFIDENTIALITY NOTICE: This electronic message contains information which may be legally confidential and or privileged and does not in any case represent a firm ENERGY COMMODITY bid or offer relating thereto which binds the sender without an additional express written confirmation to that effect. The information is intended solely for the individual or entity named above and access by anyone else is unauthorized. If you are not the intended recipient, any disclosure, copying, distribution, or use of the contents of this information is prohibited and may be unlawful. If you have received this electronic transmission in error, please reply immediately to the sender that you have received the message in error, and delete it. Thank you.

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

Ms. Michelle Henicheck
Office of Wetlands and Streams
Department of Environmental Quality
1111 East Main Street, Suite 1400
Richmond, Virginia 23219

March 6, 2023

Dear Ms. Henicheck,

Dominion Energy Virginia (the "Company") is proposing to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The proposed Project will increase the summer emergency line ratings to improve reliability throughout this transmission corridor, thereby continuing to enable the Company to maintain safe and reliable electric transmission service to its customers. The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") with the Virginia State Corporation Commission ("SCC"). Pursuant to the July 2003 Memorandum of Agreement between the SCC and the Department of Environmental Quality ("DEQ") regarding Wetlands Impact Consultation, Dominion Energy Virginia is sending this letter to initiate consultation with the DEQ prior to filing an application for a CPCN from the SCC.

A wetland delineation was previously completed for this existing transmission line right-of-way by Stantec Consulting Services, Inc., in accordance with the methods outlined in the 1987 Corps of Engineers Wetland Delineation Manual and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0)*. A Preliminary Jurisdictional Determination ("PJD") was issued by the U.S. Army Corps of Engineers on April 16, 2019 (NAO-2018-01978). Features from this delineation located within the proposed Project are illustrated on the enclosed Wetland Delineation Map and summarized in the table below.

Table 1: Summary of wetland and other waters of the U.S. along the proposed project

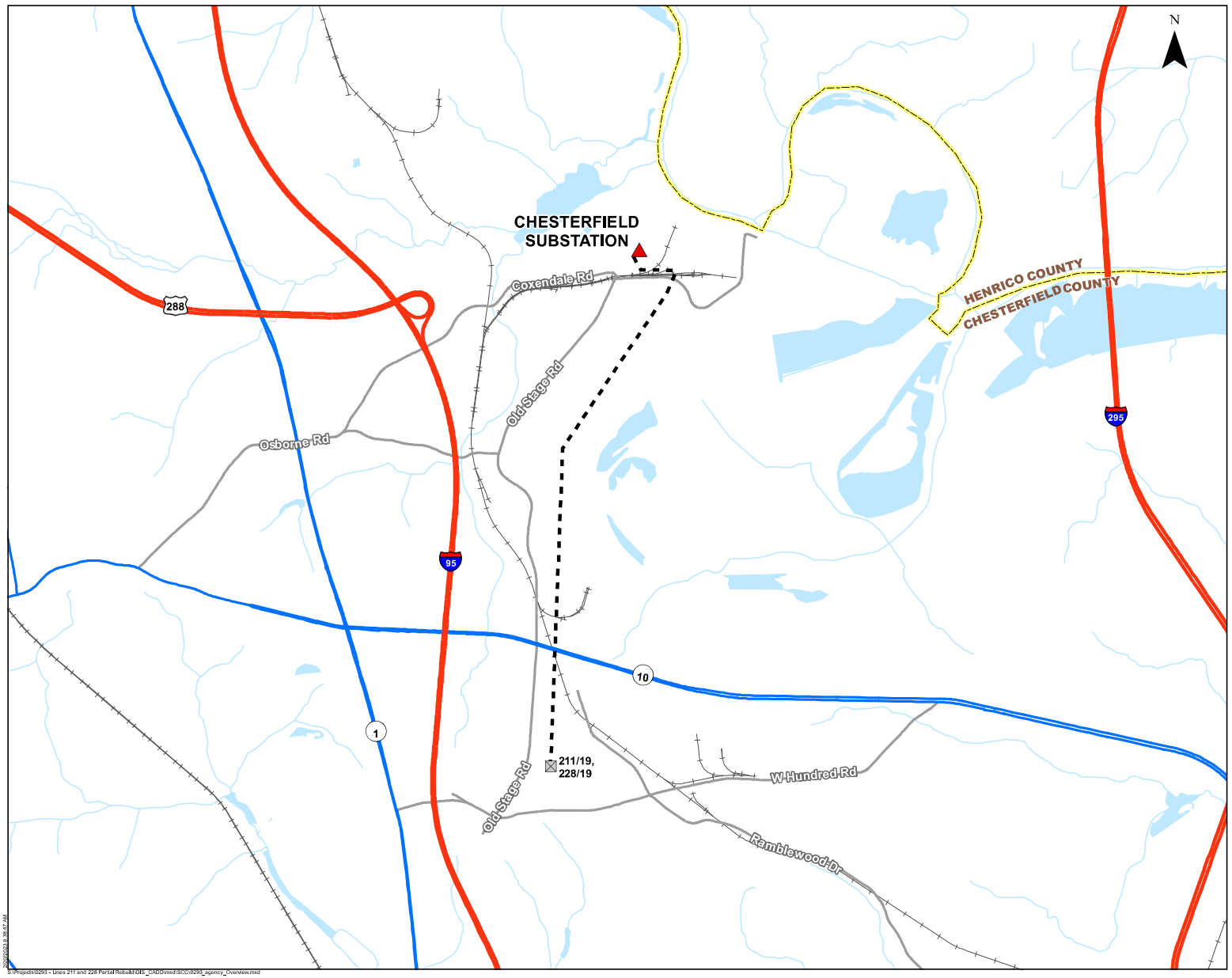
Jurisdictional Feature Type				
Upper Perennial (R3) Stream Channel	**Intermittent (R4) Stream Channel**	**Jurisdictional Ditch (JD)**	**Palustrine Emergent (PEM) Wetland**	**Palustrine Scrub Shrub (PSS) Wetland**
0.1 AC, 1,443 LF	<0.1 AC, 331 LF	0.2 AC, 55 LF	0.5 AC	1.1 AC

It is anticipated that the PJD will no longer be valid at the time of permitting for the proposed Project. As such, it is expected that a new wetland delineation will need to be conducted and submitted to the U.S. Army Corps of Engineers for confirmation. In advance of filing the CPCN application with the SCC, the Company respectfully requests that you submit any comments or additional information you feel would have bearing on the Project within 30 days of the date of this letter.

If you would like to receive a GIS shapefile of the rebuild route to assist in your project review or if you have any questions, please do not hesitate to contact Heather Kennedy at (804) 317-9930 or heather.e.kennedy@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Regards,
Dominion Energy Virginia

Elizabeth L. Hester
Authorized Representative
Manager, Environmental Services
Dominion Energy Virginia



PROJECT LOCATION MAP

Chesterfield - Hopewell 230 kV Lines #211 and #228 Partial Rebuild Project

Chesterfield County, Virginia

Owner/ Applicant:

Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0293	TMP	02/20/23

0 0.25 0.5 1 Miles

Scale is 1 IN = 0.5 MI when printed at original size of 11x17

LEGEND

- Existing Lines #211 and #228 Project Centerline
- Existing Structure
- Existing Substation
- Limited Access Highway
- US or VA Primary Highway
- Local or Main Road
- Railroad
- County Boundary
- NHD Stream/River
- NHD Waterbody

Notes:
1. Basemap from ESRI Topographic Map
2. Project centerline provided by Dominion Energy
3. Roads and railroads from VGIN
4. Streams, rivers and waterbodies from USGS National Hydrography Data

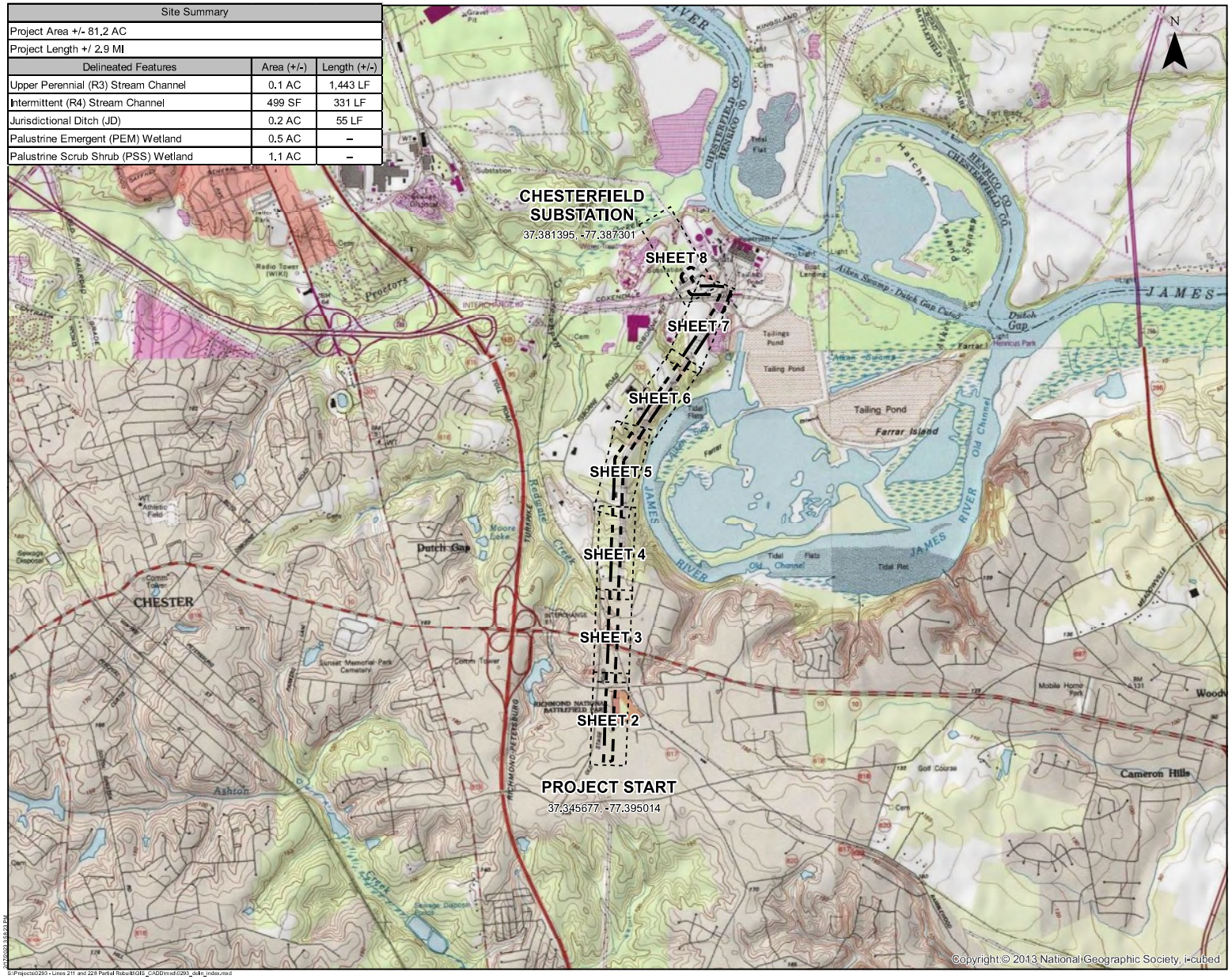


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Dominion Energy

SHEET 1 OF 1

Site Summary		
Project Area +/- 81.2 AC		
Project Length +/ 2.9 MI		
Delineated Features	Area (+/-)	Length (+/-)
Upper Perennial (R3) Stream Channel	0.1 AC	1,443 LF
Intermittent (R4) Stream Channel	499 SF	331 LF
Jurisdictional Ditch (JD)	0.2 AC	55 LF
Palustrine Emergent (PEM) Wetland	0.5 AC	–
Palustrine Scrub Shrub (PSS) Wetland	1.1 AC	–



WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0293	ELW	02/17/23

0 0.25 0.5 1 Miles

Scale is 1 IN = 0.5 MI when printed at original size of 11x17

SITE DATA

- Project Area
- Map Sheet

Notes:
1. Basemap from ESRI World Street Map, VGIN 2022 aerial imagery, USGS Chester and Drewrys Bluff, VA Topographic Quad Maps
2. Road centerlines and parcels from VGIN
3. Contours created from USGS 1-meter DEM South Central, VA 2017
4. National Wetlands Inventory Features Provided by USFWS
5. Soil Series provided by NRCS Web Soil Survey
6. 100 Year Floodplain from FEMA panels 51041C0169D effective 12/18/2012, and 51041C0335D effective 12/18/2012
7. Wetland delineation conducted by Stantec and subsequently confirmed by the U.S. Army Corps of Engineers in a letter dated April 16, 2019 (NAO-2018-01978)



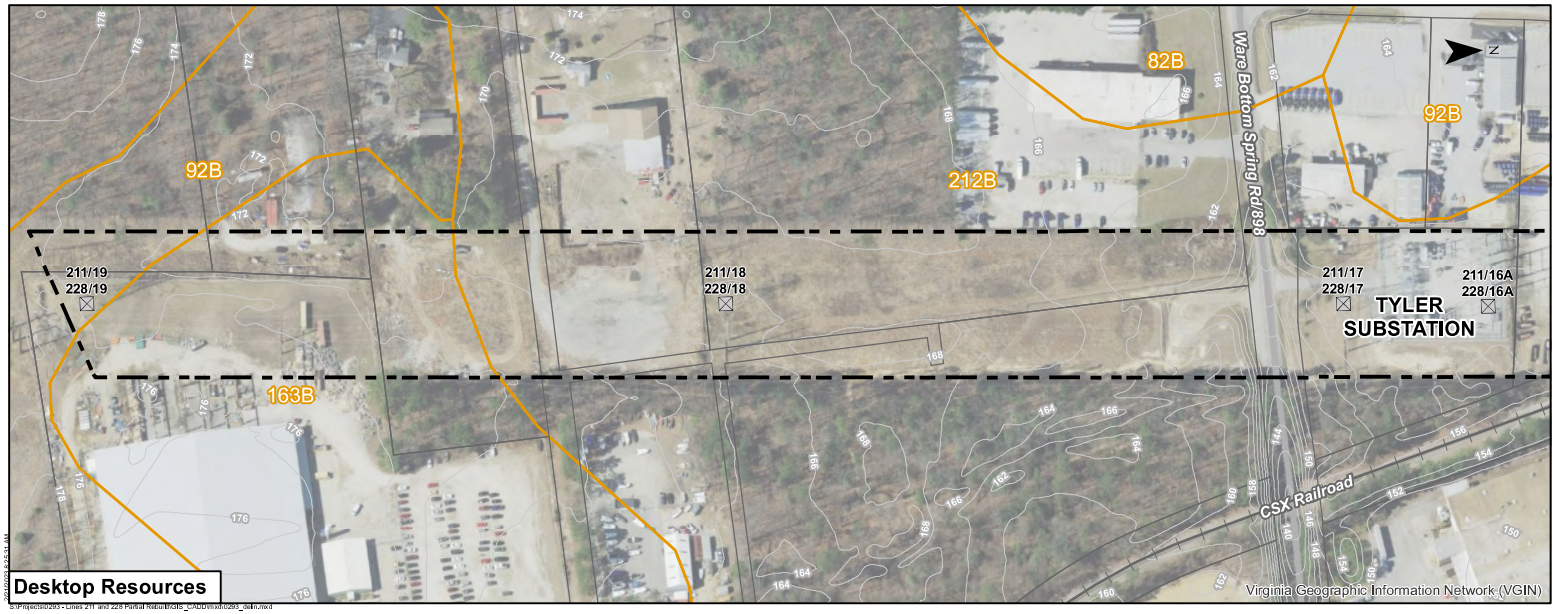
C2 ENVIRONMENTAL

SHEET 1 OF 9

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Field Delineation



Desktop Resources

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WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

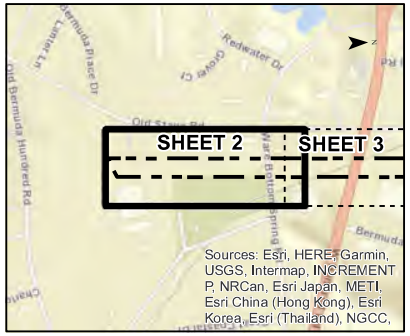
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0293	ELW	02/17/23

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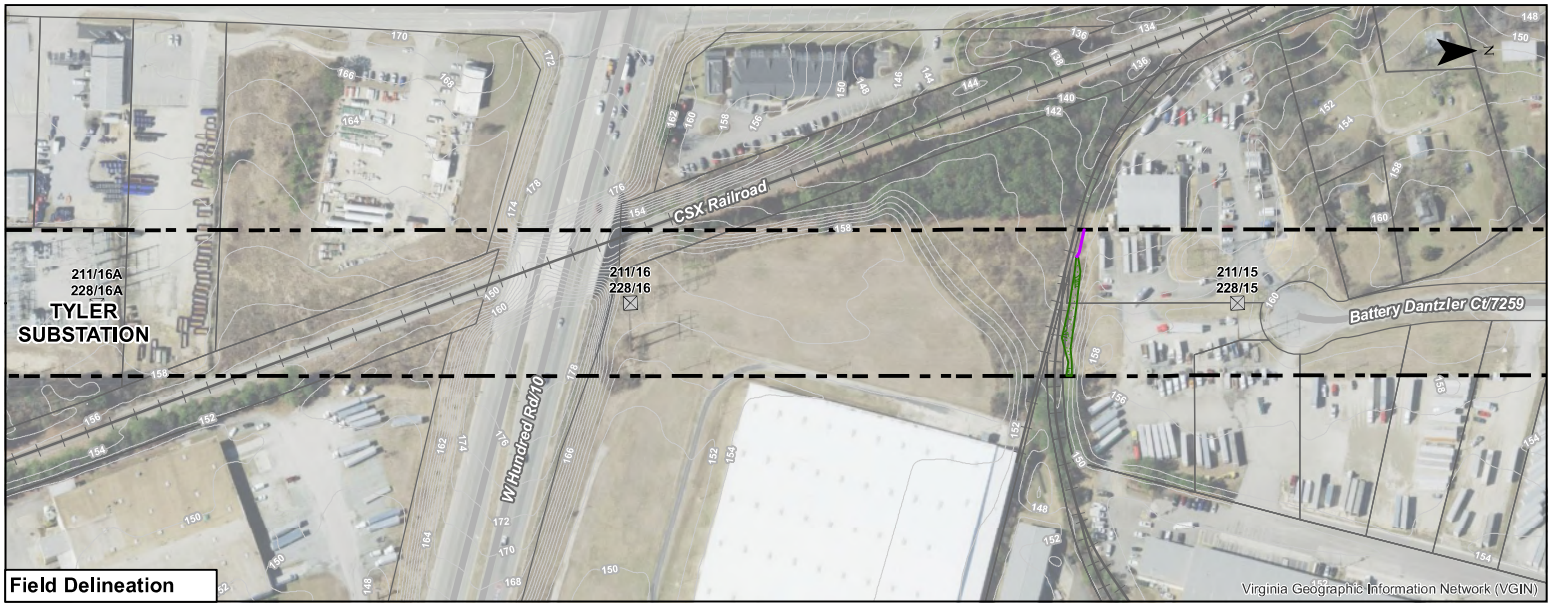
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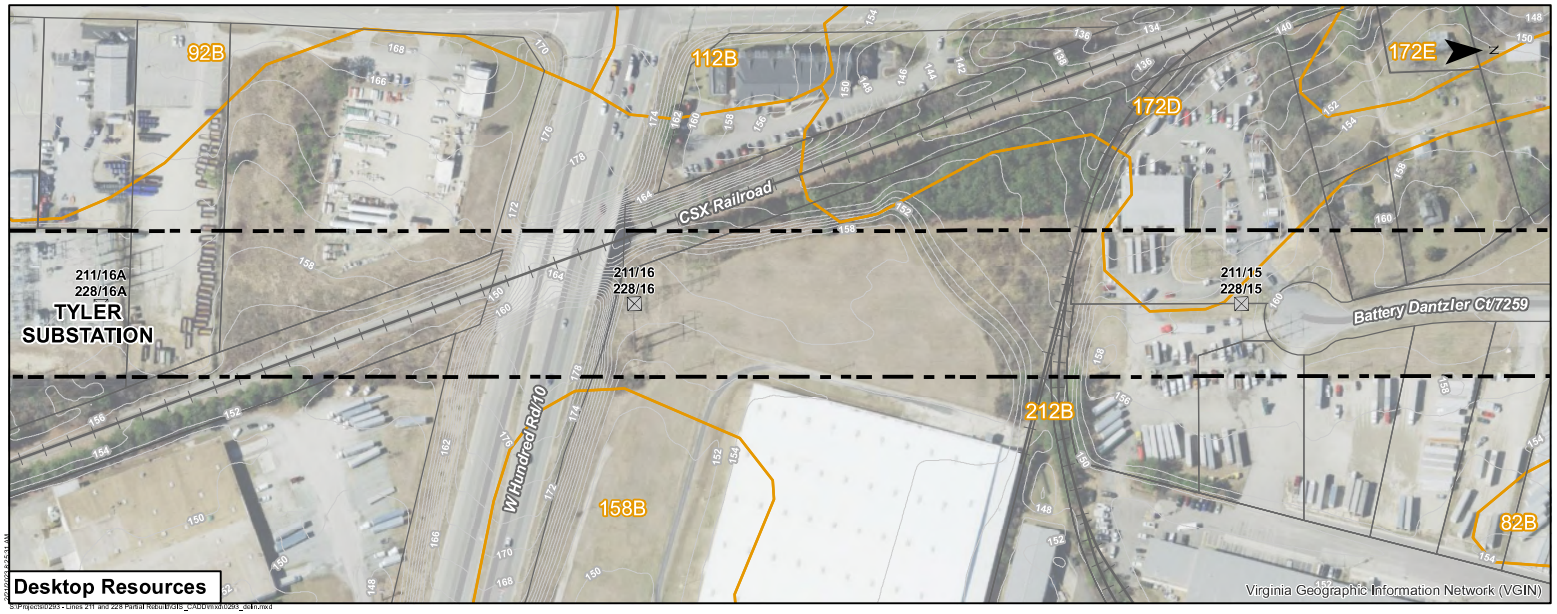
- Project Area
- Existing Structure
- Approximate R3 Stream Channel Limits
- Approximate R4 Stream Channel Limits
- Approximate PSS Wetland Limits
- Approximate PEM Wetland Limits
- Approximate Jurisdictional Ditch Limits
- NWI Limits
- FEMA 100-Year Floodplain
- NRCS Soil Series
- NRCS Hydric Soil Series
- Existing 2 FT Contour
- Parcel Boundary



C2 ENVIRONMENTAL

SHEET 2 OF 9





WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

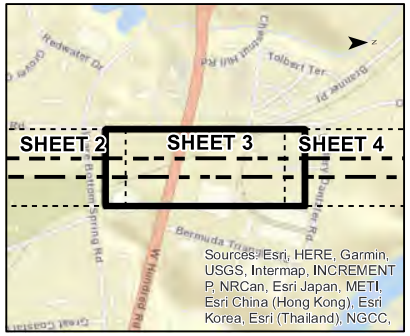
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0293	ELW	02/17/23

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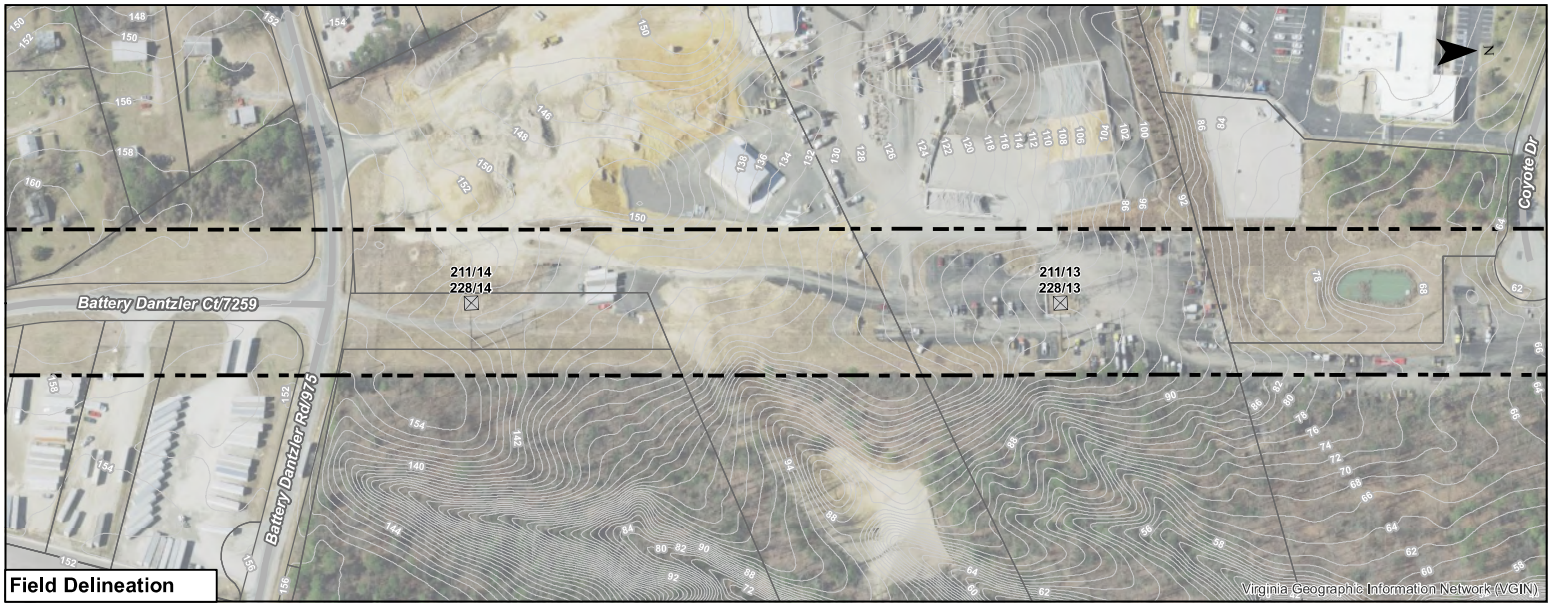
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- FEMA 100-Year Floodplain
- NRCS Soil Series
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- Existing 2 FT Contour
- Parcel Boundary

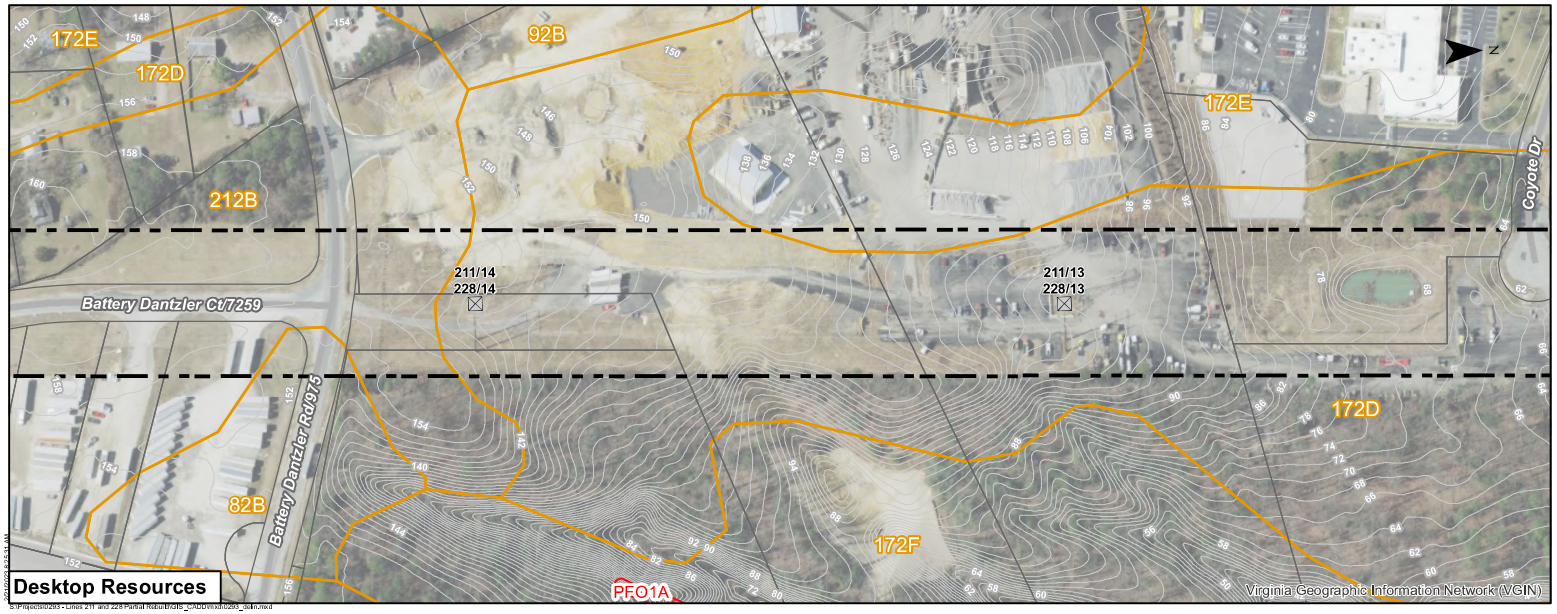


C2 ENVIRONMENTAL

SHEET 3 OF 9



Field Delineation



Desktop Resources

WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

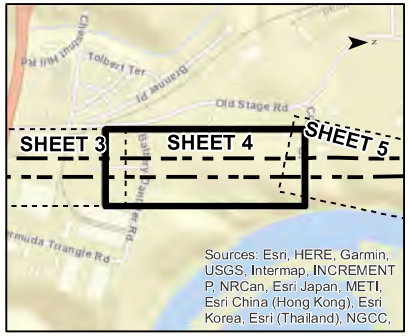
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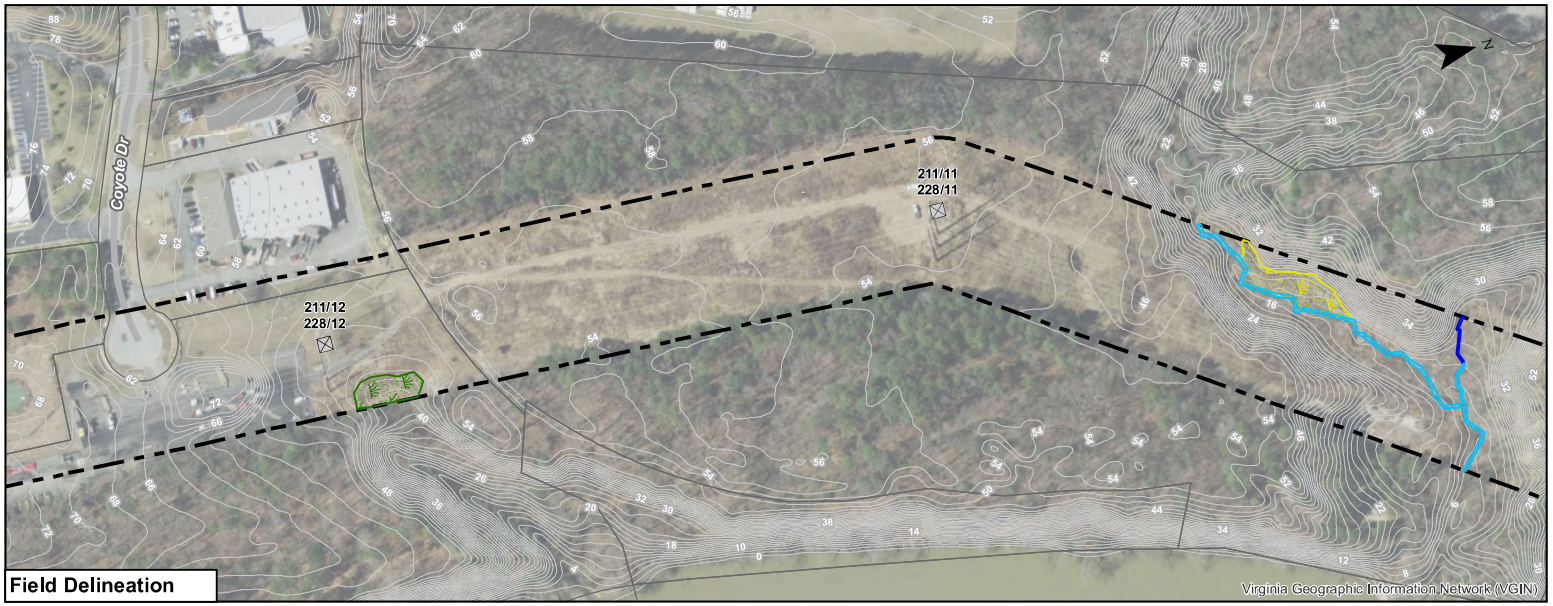
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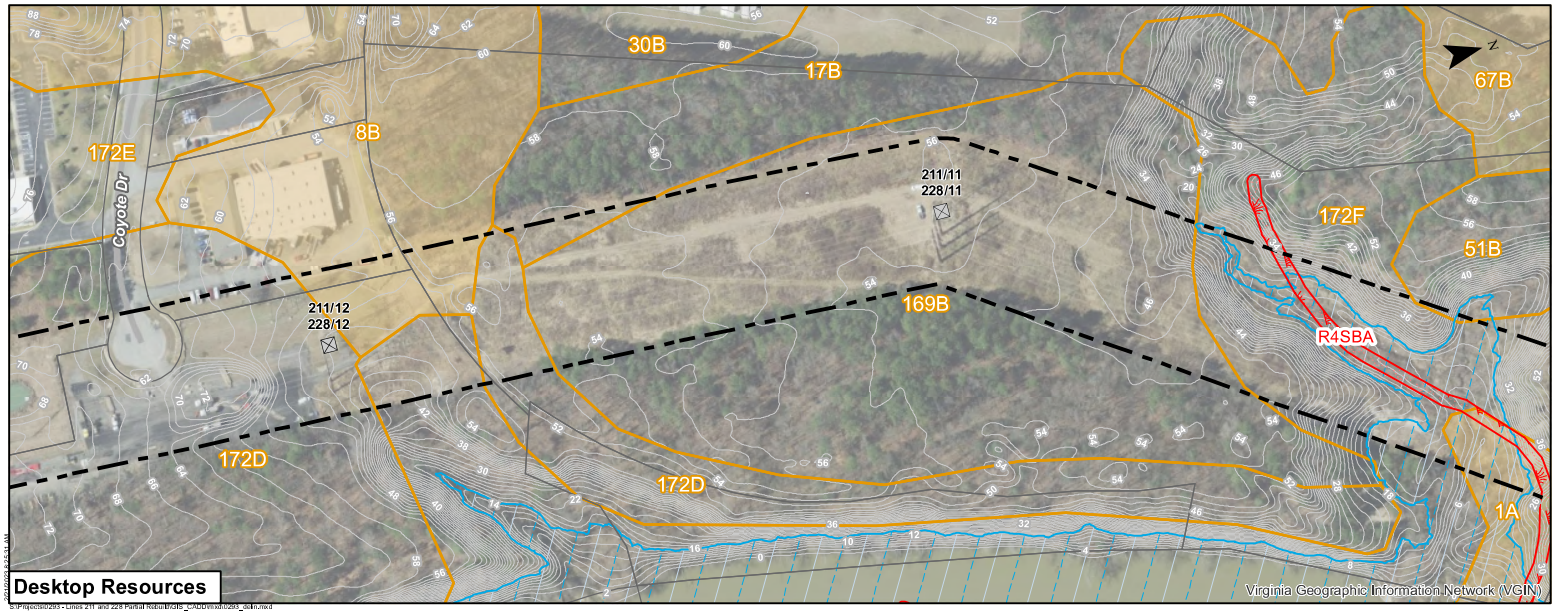
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- NRCS Soil Series
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- Existing 2 FT Contour
- Parcel Boundary



C2 ENVIRONMENTAL





WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

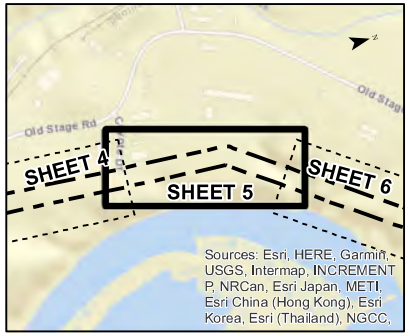
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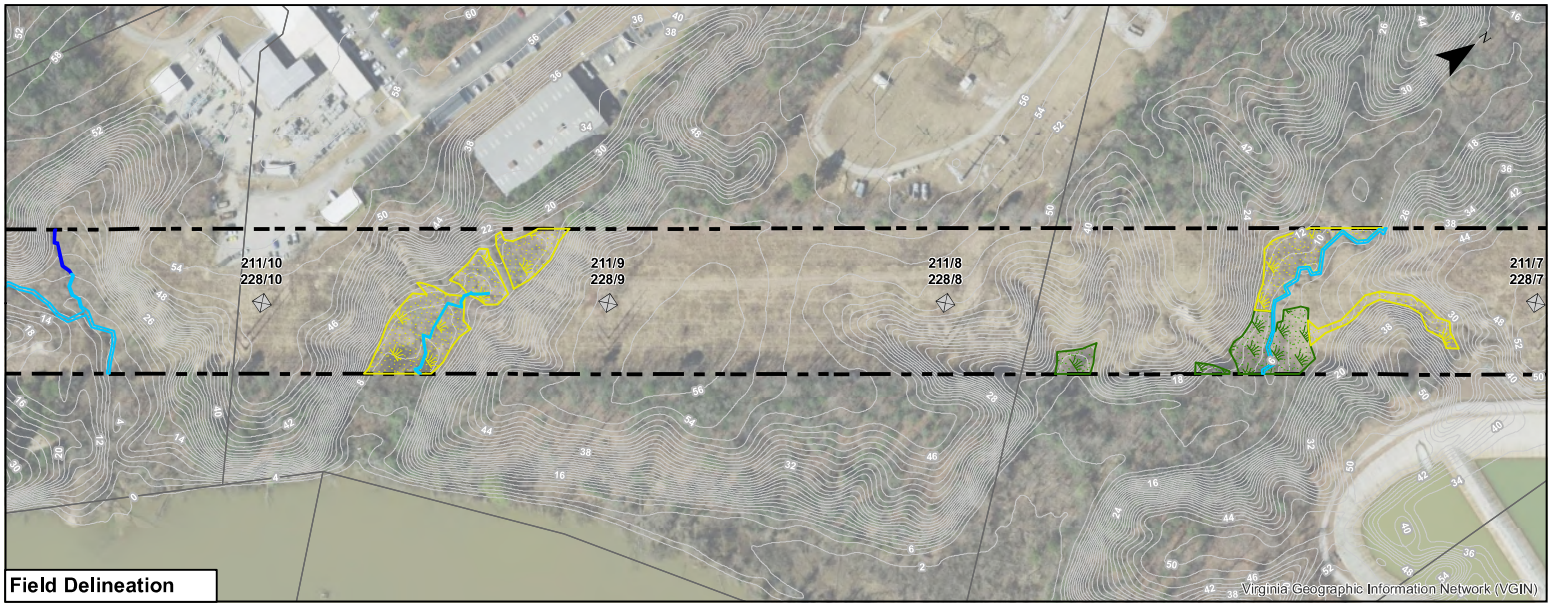
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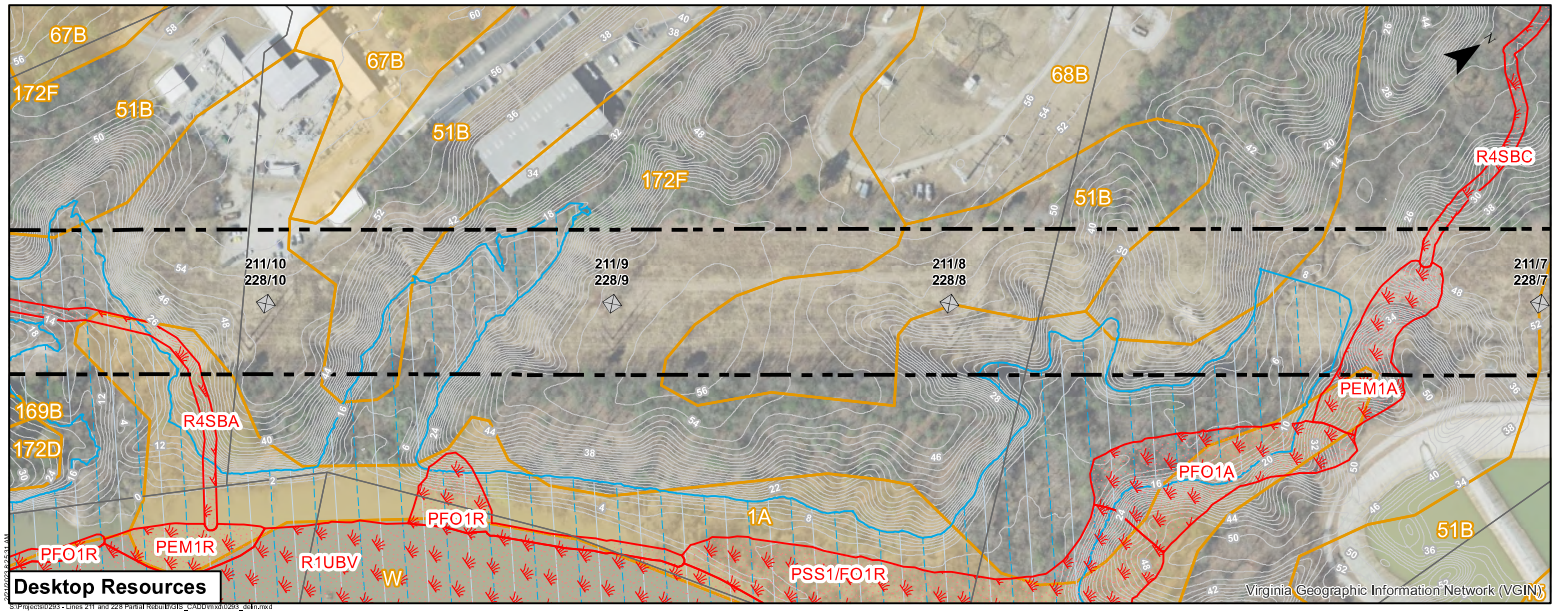
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- NRCS Soil Series
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- Existing 2 FT Contour
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C2 ENVIRONMENTAL

SHEET 5 OF 9





WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

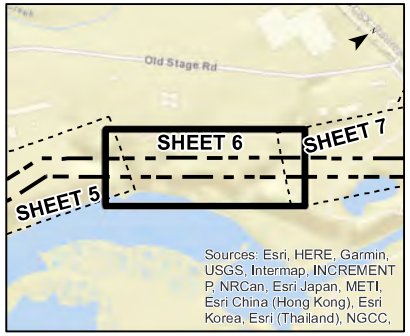
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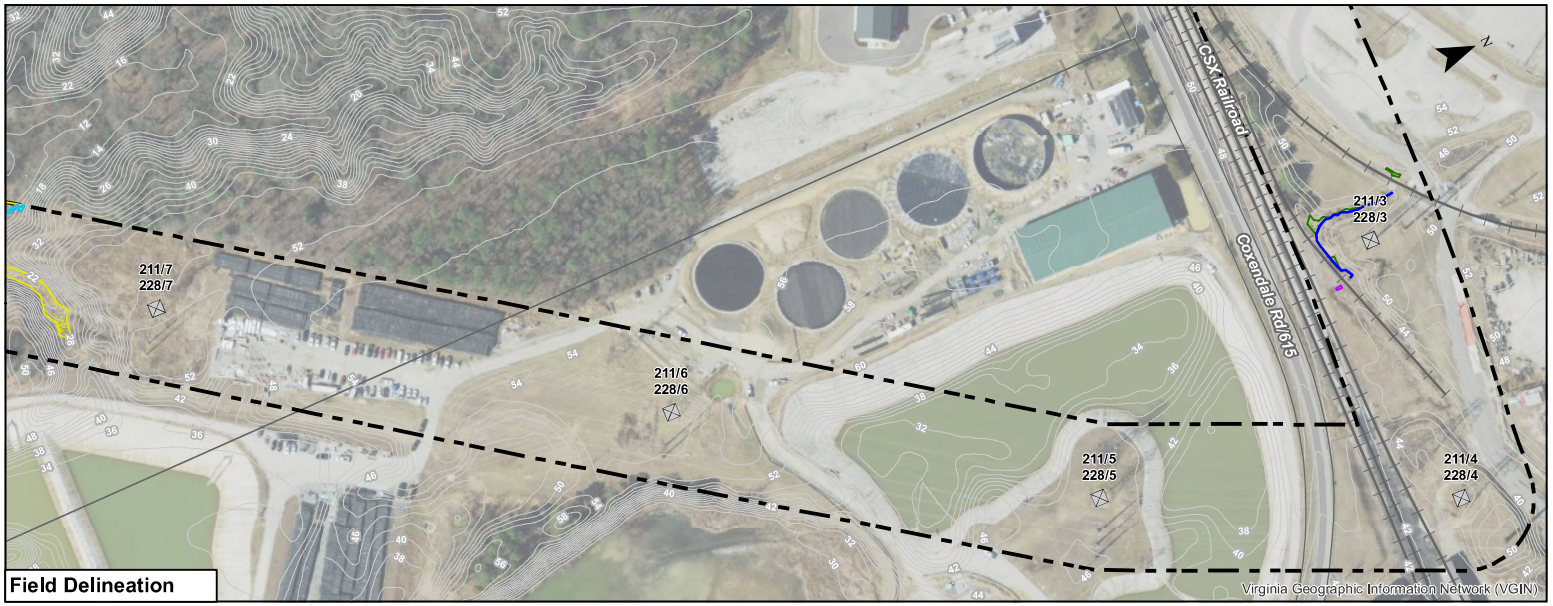
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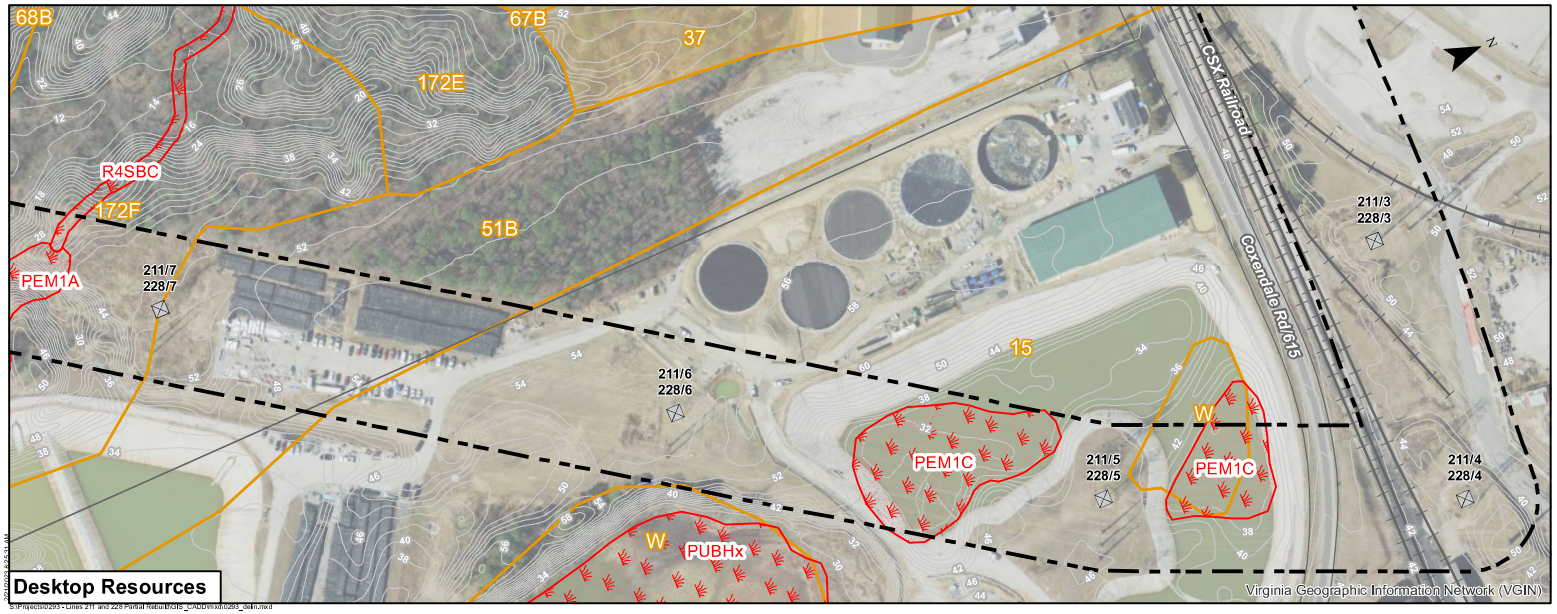
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- Existing 2 FT Contour
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C2 ENVIRONMENTAL

SHEET 6 OF 9





WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

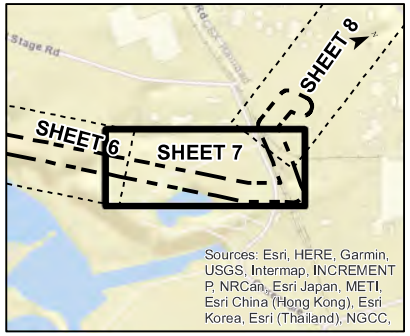
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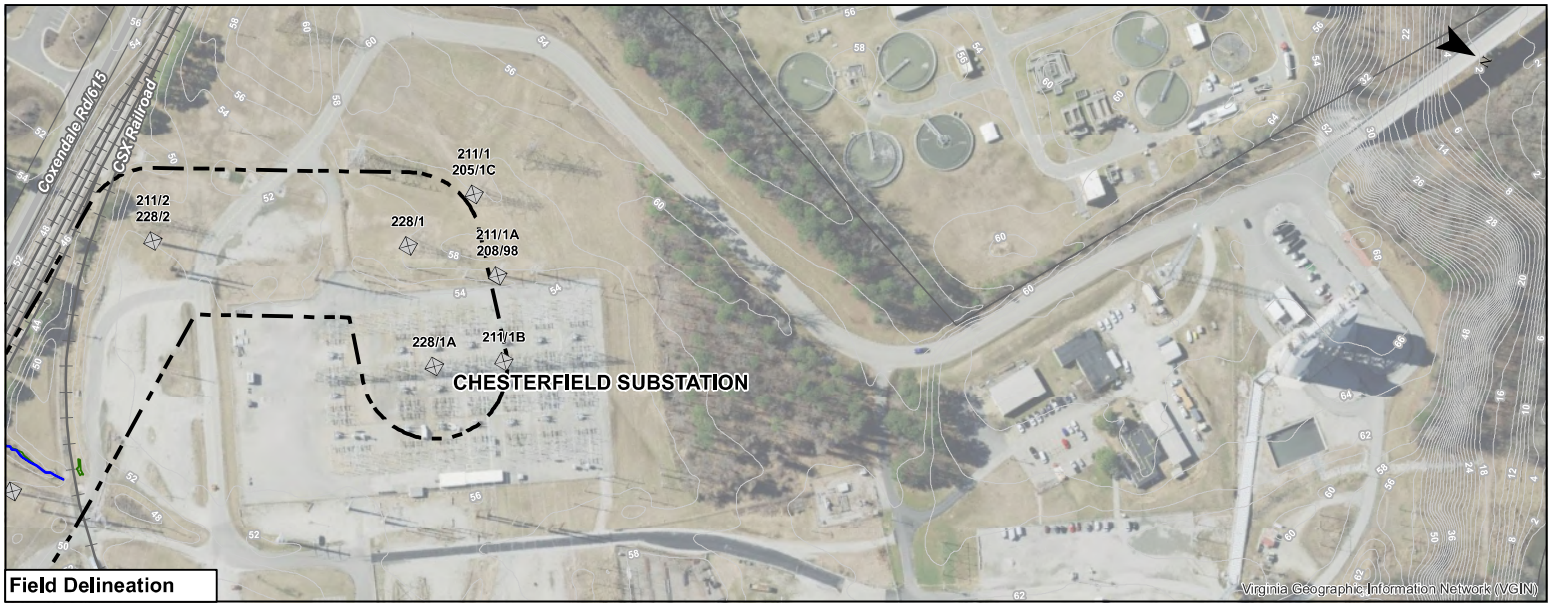
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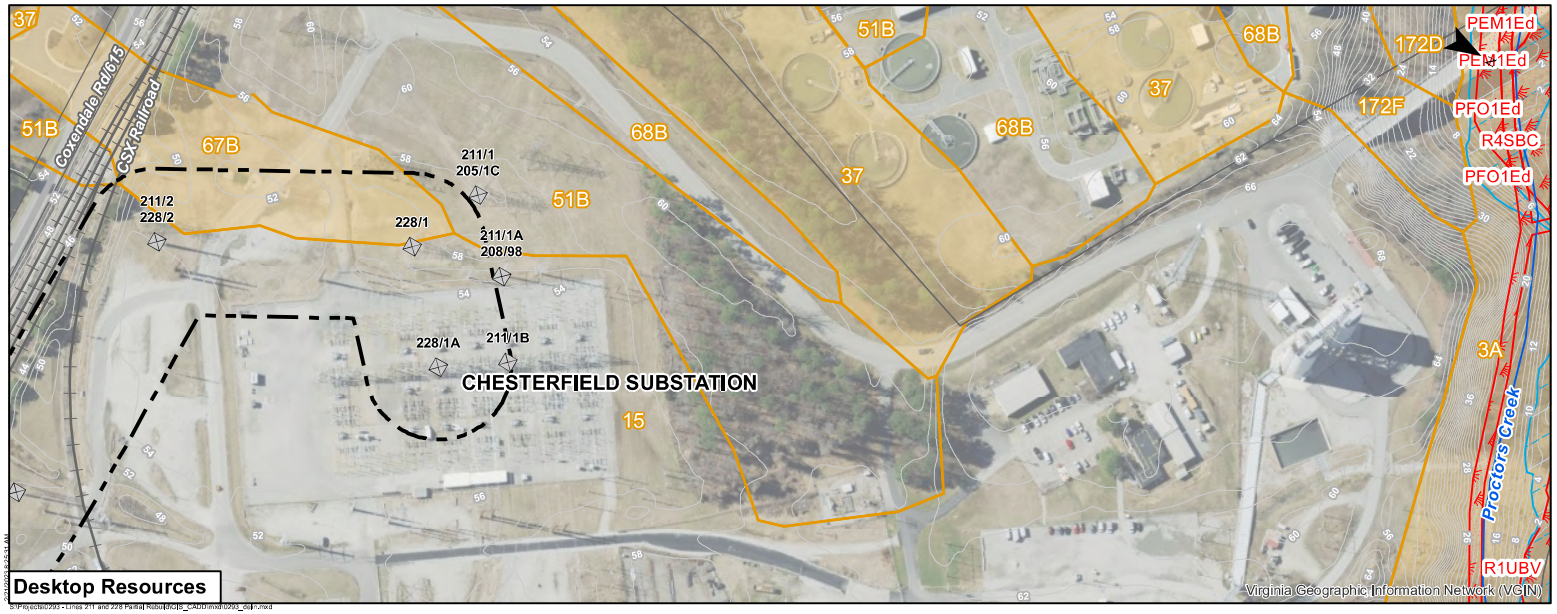
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C2 ENVIRONMENTAL

SHEET 7 OF 9





WETLAND DELINEATION MAP

Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project

Chesterfield County, Virginia

Client:
Dominion Energy Virginia

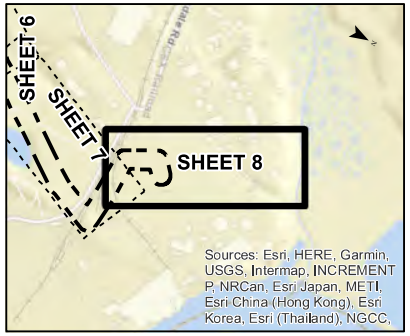
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- Approximate PEM Wetland Limits
- Approximate Jurisdictional Ditch Limits
- NWI Limits
- FEMA 100-Year Floodplain
- NRCS Soil Series
- NRCS Hydric Soil Series
- Existing 2 FT Contour
- Parcel Boundary



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Soil Series Symbol	Soil Series Name	Hydric Rating	Percentage of PA
15	Made land	No	0.6%
163B	Vaucluse sandy loam, 2 to 6 percent slopes	No	19.5%
169B	Bourne sandy loam, 2 to 6 percent slopes	No	3.7%
172D	Nevarc-Remlik complex, 6 to 12 percent slopes	No	7.2%
172E	Nevarc-Remlik complex, 12 to 20 percent slopes	No	14.8%
172F	Nevarc-Remlik complex, 20 to 35 percent slopes	No	0.3%
17B	Gritney fine sandy loam, 2 to 6 percent slopes	No	13.4%
1A	Fluvaquents	Yes	0.2%
212B	Lucy-Orangeburg loamy sands, 2 to 6 percent percent slopes	No	0.5%
51B	Pamunkey loam, 0 to 6 percent slopes	No	28.4%
67B	Lenoir loam, flooded, 0 to 4 percent slopes	Yes	6.8%
68B	Dogue loam, variant, 0 to 4 percent slopes	No	1.4%
82B	Kempsville-Bourne complex, 2 to 6 percent slopes	No	1.3%
8B	Tetotum fine sandy loam, ponded	Yes	0.3%
92B	Rumford loamy fine sand, 2 to 6 percent slopes	No	0.9%
W	Water	Unranked	0.6%

WETLAND DELINEATION MAP

Line 211/228 - Rebuild
Chesterfield County, Virginia

Client:
Dominion Energy Virginia

C2 Env Project:	Prepared By:	Date:
0293	ELW	02/17/23



C2 ENVIRONMENTAL

SHEET 9 OF 9

S:\Projects\0293 - Lines 211 and 228 Partial Rebuild\GIS_CAD\mxd\0293_dvlr_soils.mxd

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Andrew R. Wheeler
Secretary of Natural and Historic Resources

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

March 22, 2023

Heather E.B. Kennedy
Environmental Specialist II
Dominion Energy Services
120 Tredegar Street, Richmond, VA 23219

RE: Dominion Energy Virginia's Proposed Chesterfield-Hopewell 230 kV Transmission Lines 211 and 228 Partial Rebuild Project in Chesterfield County, Virginia

In accordance with the Department of Environmental Quality-State Corporation Commission *Memorandum of Agreement Regarding Wetland Impact Consultation* (July 2003), we have reviewed the information submitted by Dominion Energy Virginia (here after, Dominion) regarding potential wetland impacts on the above referenced project. Dominion proposes to rebuild approximately 2.9 miles of 230 kV Lines #211 and #228 on double-circuit weathering steel structures between Chesterfield Substation and Hopewell Substation in Chesterfield County, Virginia (the "Project"). The Project is entirely within existing transmission line right-of-way or on Company-owned property and no additional right-of-way is necessary.

Summary of Findings

Based on the wetland desktop analysis provided by Dominion, Waters of the U.S. (WOUS) are located within the corridor alignments. A wetland delineation was previously completed for this existing transmission line right-of-way by Stantec Consulting Services, Inc., in accordance with the methods outlined in the 1987 Corps of Engineers Wetland Delineation Manual and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0).* A Preliminary Jurisdictional Determination ("PJD") was issued by the U.S. Army Corps of Engineers on April 16, 2019 (NAO-2018-01978). Features from this delineation located within the proposed Project are summarized in the table below.

Table 1: Summary of wetland and other waters of the U.S. along the proposed project

Jurisdictional Feature Type				
Upper Perennial (R3) Stream Channel	**Intermittent (R4) Stream Channel**	**Jurisdictional Emergent Ditch (JD)**	**Palustrine (PEM) Wetland**	**Palustrine Scrub Shrub (PSS) Wetland**
0.1 AC, 1,443 LF	<0.1 AC, 331 LF	0.2 AC, 55 LF	0.5 AC	1.1 AC

According to the information provided, it is anticipated that the PJD will no longer be valid at the time of permitting for the proposed Project. As such, it is expected that a new wetland delineation will need to be conducted and submitted to the U.S. Army Corps of Engineers for confirmation.

Water Quality and Wetlands. Measures such as but not limited to Best Management Practices (BMPs) must be taken to avoid and minimize impacts to surface waters during construction activities, including potential water quality impacts resulting from construction site runoff. The disturbance of land and surface waters, which include wetlands, open water, and streams, may require prior approval by DEQ; the U.S. Army Corps of Engineers; the Virginia Marine Resources Commission (VMRC); and/or local government wetlands boards (generally in the northern and piedmont regions of Virginia). The Army Corps of Engineers and DEQ work in conjunction to provide official confirmation of whether there are federal and/or state jurisdictional surface waters that may be impacted by the proposed project. VMRC provides its own review to determine its agency jurisdiction. Review of National Wetland Inventory maps or topographic maps for locating wetlands, open waters, or streams may not be sufficient; there may need to be a site-specific review by a qualified professional. If construction activities will occur in or along any streams (perennial, intermittent, or ephemeral), open water or wetlands, the applicant should contact the DEQ-VWP manager at our Piedmont Regional Office (PRO) to determine the need for any permits prior to commencing work that could impact surface waters. DEQ's permit need decisions neither replace nor supersede requirements set forth by other local, state, federal, and Tribal laws, nor eliminate the need to obtain additional permits, approvals, consultations, or authorizations as required by law before proposed activities may commence.

If the project qualifies for a Nationwide Permit that DEQ has provided 401 certification, then a Virginia Water Protection (VWP) permit is not necessary. If the applicant does not obtain a NWP, then a VWP permit may be necessary. The DEQ Piedmont Regional Office (PRO) will make the final permitting decisions for state waters.

Erosion and Sediment Control and Storm Water Management. DEQ has regulatory authority for the Virginia Pollutant Discharge Elimination System (VPDES) programs related to municipal separate storm sewer systems (MS4s) and construction activities. Erosion and sediment control measures are addressed in local ordinances and State regulations. Additional information is available at https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-construction and https://www.deq.virginia.gov/permits-regulations/permits/water/stormwater-ms4. Non-point source pollution resulting from this project should be minimized by using effective erosion and sediment control practices and structures. Consideration should also be given to using permeable paving for parking areas and walkways where appropriate, and denuded areas should be promptly revegetated following construction work. If the total land disturbance exceeds 10,000 square feet, an erosion and sediment control plan will be required. Some localities also require an E&S plan for disturbances less than 10,000 square feet. A stormwater management plan may also be required. For any land disturbing activities equal to one acre or more, you are required to apply for coverage under the VPDES General Permit for Discharges of Storm Water from Construction Activities. The Virginia Stormwater Management Permit Authority may be DEQ or the locality.

Recommendations and Potential Permits

Based upon review of the information provided, DEQ's OWSP offers the following general recommendations concerning potential surface water impacts:

1. Prior to commencing project work, all surface waters on the project site should be delineated by a qualified professional and verified by the U.S. Army Corps of Engineers (the Corps) for federal jurisdictional waters and by DEQ for state jurisdictional waters.
2. Wetland and stream impacts should be avoided and minimized to the maximum extent practicable.
3. If the scope of the project changes, additional review will be necessary by one or more offices in the Commonwealth's Secretariat of Natural Resources and/or the Corps.
4. At a minimum, any required compensation for impacts to State Waters, including the compensation for permanent conversion of forested wetlands to emergent wetlands, should be in accordance with all applicable state regulations and laws. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed.
5. Any temporary impacts to surface waters associated with this project should be restored to pre-existing conditions.
6. No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. Furthermore the activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows.
7. Erosion and sedimentation controls should be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992.
8. No machinery may enter surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage.
9. Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work.
10. Activities should be conducted in accordance with any Time-of-Year restriction(s) as recommended by the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, or the Virginia Marine Resources Commission. The permittee should retain a copy of the agency correspondence concerning the Time-of-Year restriction(s), or the lack thereof, for the duration of the construction phase of the project.
11. All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a Virginia Water Protection (VWP) individual permit, general permit, or general permit coverage. Wet, excess, or waste concrete should be prohibited from entering surface waters.
12. Herbicides used in or around any surface water should be approved for aquatic use by the United States Environmental Protection Agency (EPA) or the U.S. Fish & Wildlife Service. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters.

Permits:

Based on DEQ's review of the information dated March 6, 2023 provided by Dominion, the proposed project may require a Virginia Water Protection (VWP) individual permit or general permit coverage. The applicant may submit a Joint Permit Application (JPA) in accordance with form instructions for further evaluation and final permit need determination by DEQ.

Should you have any questions, please don't hesitate to contact me at 804-965-4329 or at **michelle.henicheck@deq.virginia.gov**.

Sincerely,

Michelle Henicheck

Michelle Henicheck, PWS
Senior Wetland Ecologist
Office of Wetlands & Stream Protection

Cc: Bryan Jones, DEQ- PRO
Bettina Sullivan, DEQ - Office of Environmental Review

MEMORANDUM

To: Heather Kennedy, Dominion Energy Virginia

From: Alyssa Johnson, C2 Environmental, Inc.

Date: January 18, 2023

Project: Chesterfield – Hopewell Lines #211 and #228 Partial Rebuild

Reference: Solid and Hazardous Waste Review

On behalf of Dominion Energy Virginia (Dominion), C2 Environmental, Inc. completed online database searches for solid and hazardous wastes and petroleum release sites within a 0.5-mile radius of the proposed Chesterfield – Hopewell Lines #211 and #228 Partial Rebuild project that should be considered during project planning and construction. The proposed project includes the rebuild of 2.9 miles of existing 230 kV overhead electric transmission line. This project will take place in the existing, cleared transmission line right-of-way (ROW) that begins at Chesterfield Substation and terminates at Structure 211/19 (228/19) in Chesterfield, Virginia.

Publicly available data from the Environmental Protection Agency (EPA) Facility Registry System (FRS) were obtained, which provide information about facilities, sites, or places subject to environmental regulation or of environmental interest. Although this dataset includes all sites subject to environmental regulation by the EPA or other state authority, such as sites that fall under air emissions or wastewater programs, the results reported here only include those sites which fall under the EPA's hazardous waste, solid waste, remediation, and underground storage tank programs. These sites include Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)/Superfund; Resource Conservation and Recovery Act (RCRA); and brownfield sites. This search identified 22 RCRA sites within the 0.5 mile search radius but did not identify and CERCLA/Superfund or Brownfield sites. The RCRA sites are summarized in Table 1. None of these sites are crossed by the proposed project.

Virginia Department of Environmental Quality (DEQ) records were also searched for the presence of solid waste permits, Voluntary Remediation Program (VRP) sites, petroleum releases, and registered tank facilities within 0.5-mile of the proposed project. This data revealed two solid waste permits, one VRP site, 20 petroleum release sites, and 34 registered tank facilities within the 0.5-mile search radius. None of these sites are crossed by the proposed project. These results are summarized in Tables 2-5, respectively.

Of the petroleum release sites identified by the search, only one site was listed as open, site PC19941599. This site is not crossed by the proposed project. All other sites were closed and the nearest site to the project area is approximately 140 feet away from the project right-of-way.

Of the registered tank facilities, the closest sites are approximately 62 FT and 49 FT from the ROW (Facility IDs: 4025338 and 4001604, respectively). Both sites contain one inactive underground storage tank (UST) and no above ground storage tanks (AST). Dominion has a procedure in place to handle petroleum contaminated soil if encountered.

Table 1. RCRA sites identified by the EPA within 0.5-mile of the project

Site Name	Registry ID	Latitude	Longitude	Distance to Project Centerline (feet)
COLUMBIA GAS OF VIRGINIA	110012214772	37.36393	-77.39568	370
ALLWASTE SERVICES OF VIRGINIA INC	110005241719	37.35791	-77.39249	634
SAIA MOTOR FREIGHT	110043193184	37.35033	-77.39765	686
RACEWAY #288	110006457565	37.3539	-77.39734	686.
ENVIRONMENTAL LAB AND TECHNICAL TRAINING CENTER	110005287563	37.3764	-77.39103	1109
TRANS IND- COXENDALE FACILITY	110001889831	37.377106	-77.381309	1109
TWIN RIVERS FOREST PRODUCTS CO	110002097793	37.3647	-77.39809	1109
FEDEX FREIGHT RCH	110038914618	37.34749	-77.39935	1162
THE HON COMPANY, CHESTER	110000342497	37.37473	-77.39283	1214
ADAMSON GLOBAL TECHNOLOGY CORP	110005219281	37.346654	-77.390949	1320
CANNON OLIVER B	110005239401	37.342006	-77.393245	1320
PENSKE TRUCK LEASING CO., LP	110032961178	37.34905	-77.40052	1531
PROFESSIONAL CARPET SYSTEMS	110005215864	37.342186	-77.390706	1742
PROCTORS CREEK WASTEWATER PLANT	110005217434	37.381453	-77.378036	1848
XPO LOGISTICS FREIGHT, INC. - NRM	110008202202	37.341622	-77.400469	1901
DOMINION ENERGY CHESTERFIELD POWER STATION	110000342530	37.3821	-77.3779	2006
REC INC	110005224818	37.350224	-77.388375	2006
SOUTHEASTERN FREIGHT LINES	110070676883	37.350612	-77.388203	2006
ALTEC INDUSTRIES, INC.	110070123263	37.34646	-77.38841	2059
ATLANTIC INDUSTRIAL SERVICES	110000826358	37.34475	-77.38801	2165
BROWNING-FERRIS IND CHEMICAL	110005224471	37.34443	-77.38777	2270
HEARTLAND EXPRESS	110064304051	37.350858	-77.387068	2376

Table 2. Solid waste permits identified by DEQ within 0.5-mile of the project

Facility Name	Facility ID	Latitude	Longitude	Operating Status	Distance to Project Centerline (feet)
TFC RECYCLING - CHESTER FACILITY	900000005697	37.362	-77.397	Active	2266
DOMINION ENERGY - CHESTERFIELD POWER STATION	900000004450	37.382	-77.382	Active	7393

Table 3. VRP sites identified by DEQ within 0.5-mile of the project

Site Name	Site Number	Primary Status	Latitude	Longitude	Secondary Status	Distance to Project Centerline (feet)
CONTINENTAL CAN NURSERY CHEMICAL STORAGE	VRP00011	Pre-VRP	37.351	-77.388	Completed	4623

Table 4. Petroleum release sites identified by DEQ within 0.5-mile of the project

Site Name	PC Number	Latitude	Longitude	Federally Registered Tank	Status	Type of Release	Distance to Project Centerline (feet)
FARMINGTON FARMS	19930273	37.36512	-77.3981	Y	Closed	Confirmed	2532
TFC RECYCLING - CHESTER FACILITY	20114310	37.36204	-77.3991	N	Closed	Confirmed	2736
RENNIES CHESTER YARD	20004229	37.36807	-77.3984	Y	Closed	Confirmed	3098
VEPCO CENTRAL DIVISION SATELLITE GARAGE	19932233	37.37231	-77.395	Y	Closed	Suspected	3674
RACETRAC	20214344	37.35422	-77.3972	Y	Closed	Confirmed	3879
RUAN	19891418	37.35359	-77.3964	Y	Closed	Confirmed	3961

RACETRAC SS	19984201	37.3536	-77.3967	Y	Closed	Confirmed	4001
RACETRAC 288	20144001	37.3536	-77.3967	Y	Closed	Confirmed	4001
OIL TRANSPROT INC	19900032	37.35152	-77.3892	Y	Closed	Confirmed	4219
FORMER OIL TRANSPORT INCORPORATED	20064281	37.35152	-77.3892	Y	Closed	Confirmed	4219
CENTRAL DIVISION SATELLITE GARAGE	19940010	37.37448	-77.3929	Y	Closed	Suspected	4241
CROSS FLUID POWER	20064315	37.35099	-77.3878	Y	Closed	Confirmed	4447
FIRST IMPRESSIONS	19890537	37.35056	-77.3887	Y	Closed	Confirmed	4577
CONTINENTAL LAND RESOURCES	19900645	37.34876	-77.387	N	Closed	Confirmed	5285
PRIMARY OIL AND ENERGY CORP	19931121	37.34516	-77.3882	Y	Closed	Confirmed	6549
MAINTECH INTERNATIONAL INC	19932342	37.34472	-77.3875	Y	Closed	Confirmed	6725
CENTRAL DIVISION SATELLITE GARAGE	19940220	37.38162	-77.3867	Y	Closed	Confirmed	6805
PROCTORS CREEK WWTP	19984152	37.38273	-77.3916	N	Closed	Confirmed	7167
VIRGINIA POWER CHESTERFIELD DISTRICT OFFICE	19910919	37.38151	-77.3787	Y	Closed	Suspected	7443
VIRGINIA POWER CHESTERFIELD POWER STATION	19941599	37.38342	-77.3841	Y	Open	Confirmed	7584

Table 5. Registered petroleum tanks identified by DEQ within 0.5-mile of the project

Facility Name	Facility ID	Latitude	Longitude	Facility Active	Federally Registered	Number of Active USTs	Number of Inactive USTs	Number of Active ASTs	Number of Inactive ASTs	Distance to Project Centerline (feet)
CHESTER ASPHALT PLANT	4043346	37.36077	-77.3971	Y	N	0	0	3	0	2283
CONWAY TRANSPORTATION SERVICES	4037734	37.36804	-77.3969	Y	Y	2	0	0	0	2742
QUARLES Q CARD FUEL SITE	4039756	37.35941	-77.3982	Y	Y	2	0	0	0	2801
THE CONTRACTOR YARD INC	4039179	37.35482	-77.3918	Y	N	0	0	1	0	3069
RUAN	4002111	37.3682	-77.399	Y	Y	1	5	0	0	3264
SUBURBAN PROPANE	4018954	37.35456	-77.3966	N	Y	0	1	0	0	3692

RICHMOND COLD STORAGE CHESTER	4025338	37.35352	-77.3956	N	Y	0	1	0	0	3875
RACEWAY 6787	4018303	37.35388	-77.3973	Y	Y	4	4	0	0	3999
SONOCO PRODUCTS COMPANY	4002086	37.35215	-77.391	N	Y	0	1	0	0	4002
RUAN	4010667	37.35409	-77.3987	N	Y	0	1	0	0	4180
VEPCO - CENTRAL DIVISION SATELLITE GARAGE	4020542	37.37429	-77.3933	N	Y	0	3	0	0	4198
OIL TRANSPORT INCORPORATED	4002021	37.35127	-77.3872	N	Y	0	4	0	0	4370
PINE TREE NURSERY	4013088	37.35086	-77.3871	N	Y	0	2	0	0	4523
FIRST IMPRESSIONS	4026914	37.35054	-77.3899	N	Y	0	1	0	0	4573
VEPCO COMM OPERATIONS TRAINING CENTER	4008923	37.37558	-77.3919	N	Y	0	1	0	0	4587
HENRICO COUNTY WATER RECLAMATION FACILITY	4020499	37.35492	-77.4019	Y	Y	3	0	3	0	4617
7 ELEVEN INC 40023	4009866	37.35609	-77.4033	Y	Y	3	5	0	0	4676
EPES TRUCKING	4001604	37.35037	-77.3947	N	Y	0	1	0	0	4852
PENSKE TRUCK LEASING CORP	4040736	37.34847	-77.3991	Y	Y	2	0	1	0	5969
ABC BUILDING SUPPLY	4018758	37.34641	-77.3904	N	Y	0	2	0	0	6080
ADAMSON GLOBAL TECHNOLOGY	4014675	37.34638	-77.3905	N	Y	0	5	0	0	6093
BROOK ROAD EXXON	4013210	37.34921	-77.4026	Y	Y	4	1	0	0	6274
PROCTORS CREEK WASTEWATER PLANT	4001640	37.37826	-77.3793	N	Y	0	1	0	0	6310
E FUELING NETWORK	4039597	37.34693	-77.3987	Y	Y	4	0	0	0	6433
MARTHA 1985 CHESTER AKA FEDEX	4037458	37.34686	-77.3987	Y	Y	1	0	0	0	6456
CARDINAL FREIGHT LEASED TO EPES TRANSPORT	4039583	37.34708	-77.3999	Y	Y	1	0	0	0	6527
ATLANTIC INDUSTRIAL SERVICES	4026809	37.34463	-77.3879	Y	N	0	0	7	3	6746
MAINTECH INTERNATIONAL INC	4013733	37.34335	-77.3871	N	Y	0	4	0	0	7234
HEARTLAND EXPRESS INCORPORATED	4037550	37.34572	-77.4035	Y	Y	1	5	0	0	7487
CHESTERFIELD POWER STATION	4012652	37.38352	-77.3836	Y	Y	0	9	9	7	7650
CROSS BUILDING LLC	4037353	37.34156	-77.3913	Y	Y	2	0	0	0	7856

TARMAC - DUTCH GAP	4006711	37.38183	-77.3761	N	Y	0	1	0	0	7896
CHESTERFIELD DISTRICT OFFICE	4012669	37.38184	-77.3757	N	Y	0	3	0	0	7952
VEPCO - SAFETY & EMERGENCY RESPONSE TRAINING	4012664	37.38184	-77.3757	N	Y	0	1	0	0	7952

ENVIRONMENTAL

MEMORANDUM

To: Heather Kennedy, Dominion Energy Virginia

From: Alyssa Johnson, C2 Environmental, Inc.

Date: January 19, 2023

Project: Chesterfield – Hopewell Lines #211 and #228 Partial Rebuild

Reference: Protected Species Review

On behalf of Dominion Energy Virginia (Dominion), C2 Environmental, Inc. has completed online database searches for federal and state protected species for the Chesterfield – Hopewell Lines #211 and #228 Partial Rebuild project. The proposed project includes the rebuild of 2.9 miles of existing double circuit 230 kV overhead electric transmission line. This project will take place in the existing, cleared transmission line right-of-way (ROW) that begins at Chesterfield Substation and terminates at Structure 211/19 (228/19) in Chesterfield, Virginia. It is understood that no new ROW is required and that selective danger tree removal may be needed along the existing ROW edge and construction access roads. The proposed scope of work assumes construction access will avoid stream crossings where practical or use crane mats to span stream crossings, and erosion and sediment controls will be used as appropriate throughout the project to protect wetlands and water resources.

The online database searches included the following:

- U.S. Fish & Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC)
- USFWS Critical Habitat for Threatened and Endangered Species Mapper
- USFWS Bald Eagle Concentration Area Map
- Center for Conservation Biology (CCB) Eagle and Osprey Nest Mapping Portal
- Department of Wildlife Resources (DWR) Virginia Fish and Wildlife Information Service (VAFWIS)
- DWR Northern Long-eared Bat (NLEB) Winter Habitat and Roost Trees Map
- Virginia Department of Conservation and Recreation (DCR) Natural Heritage Data Explorer (NHDE)

Database searches were completed on January 19, 2023.

Results

Federal and state listed, proposed, and candidate species identified by the database searches as confirmed or potentially occurring within the project vicinity are summarized below in Table 1. No bald eagle (*Haliaeetus leucocephalus*) nests were identified with management buffers that overlap the proposed project and no osprey nests (*Pandion haliaetus*) were identified within the project area. The James River, which is adjacent to the project area, was identified as confirmed Anadromous Fish Use Area.

Table 1. Database Search Results

Species	Status	Database	Results
Northern long-eared bat *(Myotis septentrionalis)*	FE	USFWS IPaC	Noted as potentially occurring in the project vicinity. No known hibernacula or maternity roosts are identified in the vicinity of the project.
Monarch Butterfly (*Danaus plexippus*)	FC	USFWS IPaC	Noted as potentially occurring in the project vicinity.
Tri-Colored Bat (*Perimyotis subflavus*)	FP, SE	DWR VAFWIS	Documented within the project vicinity.
Atlantic Sturgeon *(Acipenser oxyrinchus)*	FE, SE	DWR VAFWIS, DCR NHDE	Documented within the project vicinity.
Sensitive Joint-vetch (*Aeschynomene virginica*)	FT, ST	DCR NHDE	Noted as potentially occurring in the project vicinity.
Swamp-pink (*Helonias bullata*)	FT, SE	DCR NHDE	Noted as potentially occurring in the project vicinity.

F: federal, S: state; E: endangered, T: threatened; P: proposed, C: candidate; BGEPA: Bald and Golden Eagle Protection Act

The project is located within the White Nose Syndrome Zone for the federal and state threatened northern long-eared bat (NLEB). The NLEB has been identified by the USFW as potentially occurring within the vicinity of the proposed project. DWR records indicate that no known hibernacula or maternity roost trees occur within the vicinity. The NLEB has been up-listed to endangered by USFWS with the final rule expected to take effect April 1, 2023. Dominion should coordinate with regulatory agencies to follow the conditions of the final rule and associated guidance regarding the NLEB and any proposed tree clearing activities.

USFWS identified the federal candidate species monarch butterfly as potentially occurring in the project area. The species is found in herbaceous and scrub-shrub areas particularly with the presence of milkweed. Suitable habitat may be present within the ROW depending on field conditions at the time of construction.

DWR identified the proposed federally endangered and state endangered tri-colored bat as occurring within the vicinity of the project. This species can be found in forested areas and along waterways. DWR records indicate that no known hibernacula or maternity roost trees occur within the vicinity.

The federally endangered and state endangered Atlantic sturgeon has been identified by DWR and DCR as occurring within the project vicinity. This species can be found in marine waters, close to shore, and in riverine habitats for breeding. The James River, which is adjacent to the project, has been identified as Confirmed Anadromous Fish Use area by VAFWIS and as Critical Habitat for Atlantic sturgeon by National Oceanic and Atmospheric Association Fisheries.

The federally threatened and state threatened sensitive joint-vetch has been identified by DCR as potentially occurring within the project vicinity. This species can be found on raised banks of fresh water or brackish, tidal rivers, or on the border of estuarine marshes. No suitable habitat for this species is expected to be present within the project ROW given existing site elevations.

The federally threatened and state endangered swamp-pink been identified by DCR as potentially occurring within the project vicinity. This species can be found in swampy forested wetland bordering meandering streams, headwater wetlands that are saturated year-round but rarely flooded. Palustrine shrub scrub wetlands are mapped along stream channels within the ROW. This vegetation could provide enough canopy/shade for this species provided other conditions are met. Suitable habitat for this species may be present depending on existing conditions at the time of construction.

The CCB mapping portal did not identify any bald eagle nests within 660- feet of the project area, nor any osprey nests within the project area. The project is not located within a designated Eagle Concentration Area according to the USFWS Bald Eagle Concentration Area Map.

The complete results from the database searches are attached for your reference. If you have any questions, please contact me at your earliest convenience.

Attachments: Appendix A- USFWS Database Search Results
Appendix B- DWR Database Search Results
Appendix C- CCB Nest Mapping Portal Search Results
Appendix D- DCR Database Search Results

APPENDIX A

USFWS Database Search Results

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project Code: 2023-0036080
Project Name: Lines #211 and #228 Partial Rebuild Project

January 20, 2023

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

Official Species List

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

This species list is provided by:

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

Project Summary

Project Code: 2023-0036080
Project Name: Lines #211 and #228 Partial Rebuild Project
Project Type: Transmission Line - Maintenance/Modification - Above Ground
Project Description: The proposed project includes the rebuild of 2.9 miles of existing transmission line to a minimum summer emergency rating of 1572MVA. This project will take place in the existing, cleared transmission line right-of-way (ROW) that begins at Structure 211/19 (228/19) and terminates at Chesterfield Substation in Chesterfield, Virginia

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.36310835,-77.39439976520494,14z



Counties: Chesterfield County, Virginia

Endangered Species Act Species

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

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

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

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

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

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

Insects

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

Critical habitats

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

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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

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 should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list 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.	Breeds Sep 1 to Aug 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

NAME	BREEDING SEASON
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler *Dendroica 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
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	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 and understand the FAQ "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.

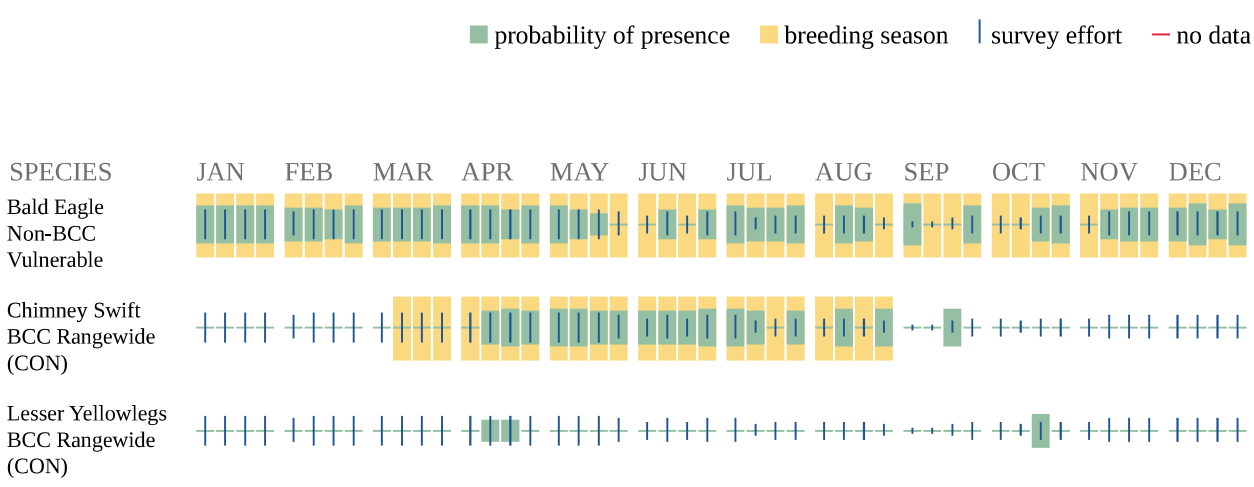
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 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.

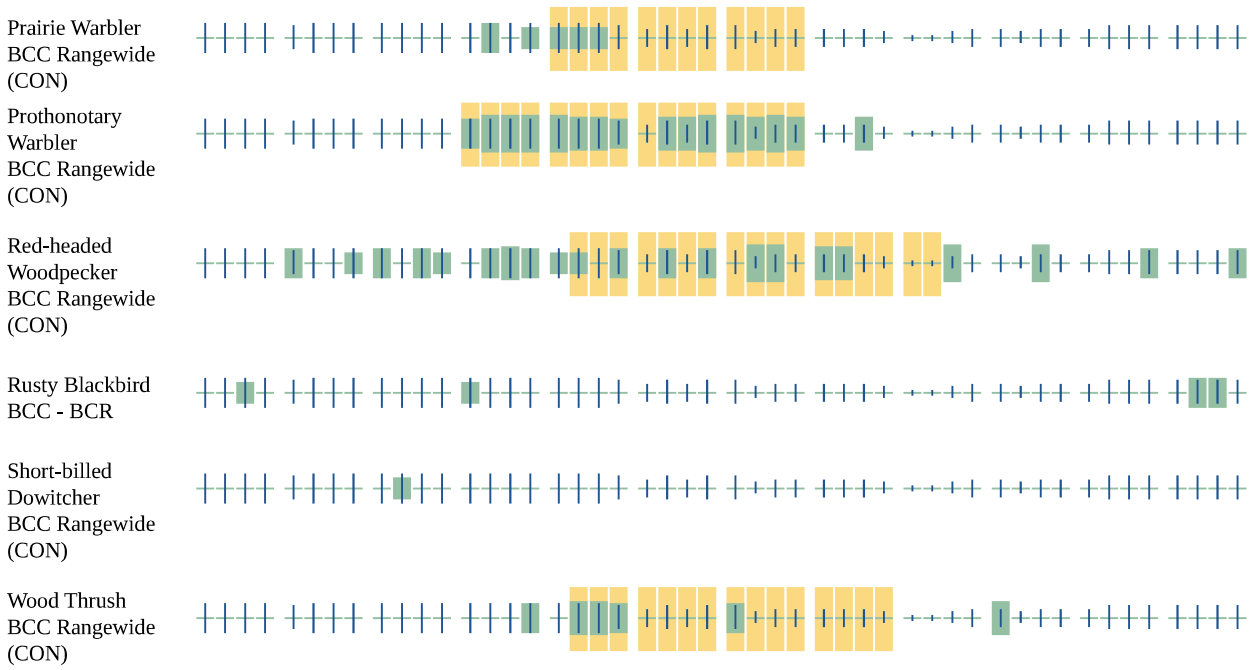
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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.

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.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- 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

Migratory Birds FAQ

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.

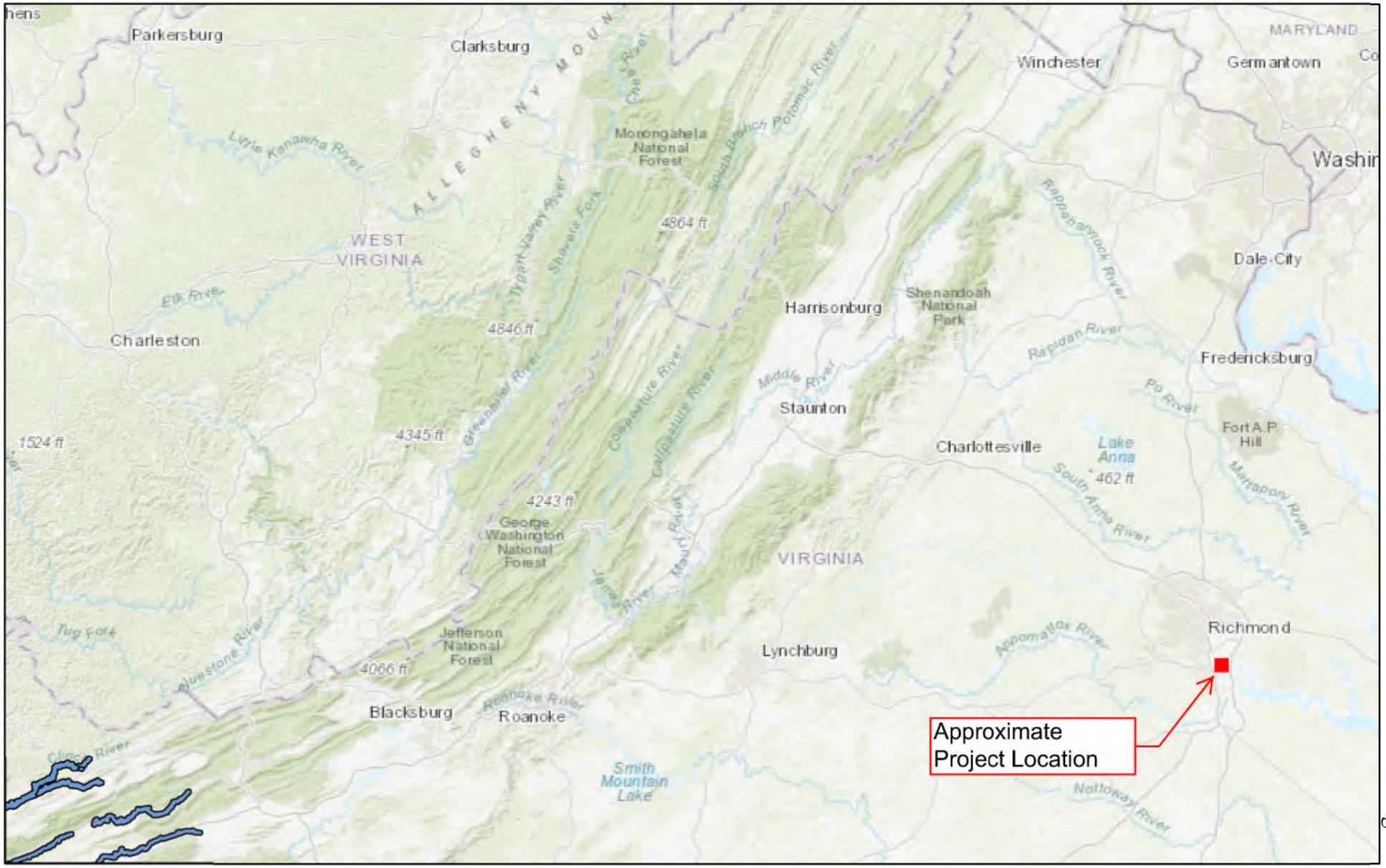
What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

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.

IPaC User Contact Information

Agency: C2 Environmental
Name: Alyssa Johnson
Address: 11846 Rock Landing Drive, Suite A
City: Newport News
State: VA
Zip: 23606
Email ajohnson@c2environmental.com
Phone: 8048981717

USFWS Critical Habitat



March 2, 2023

Virginia Critical Habitat (published)

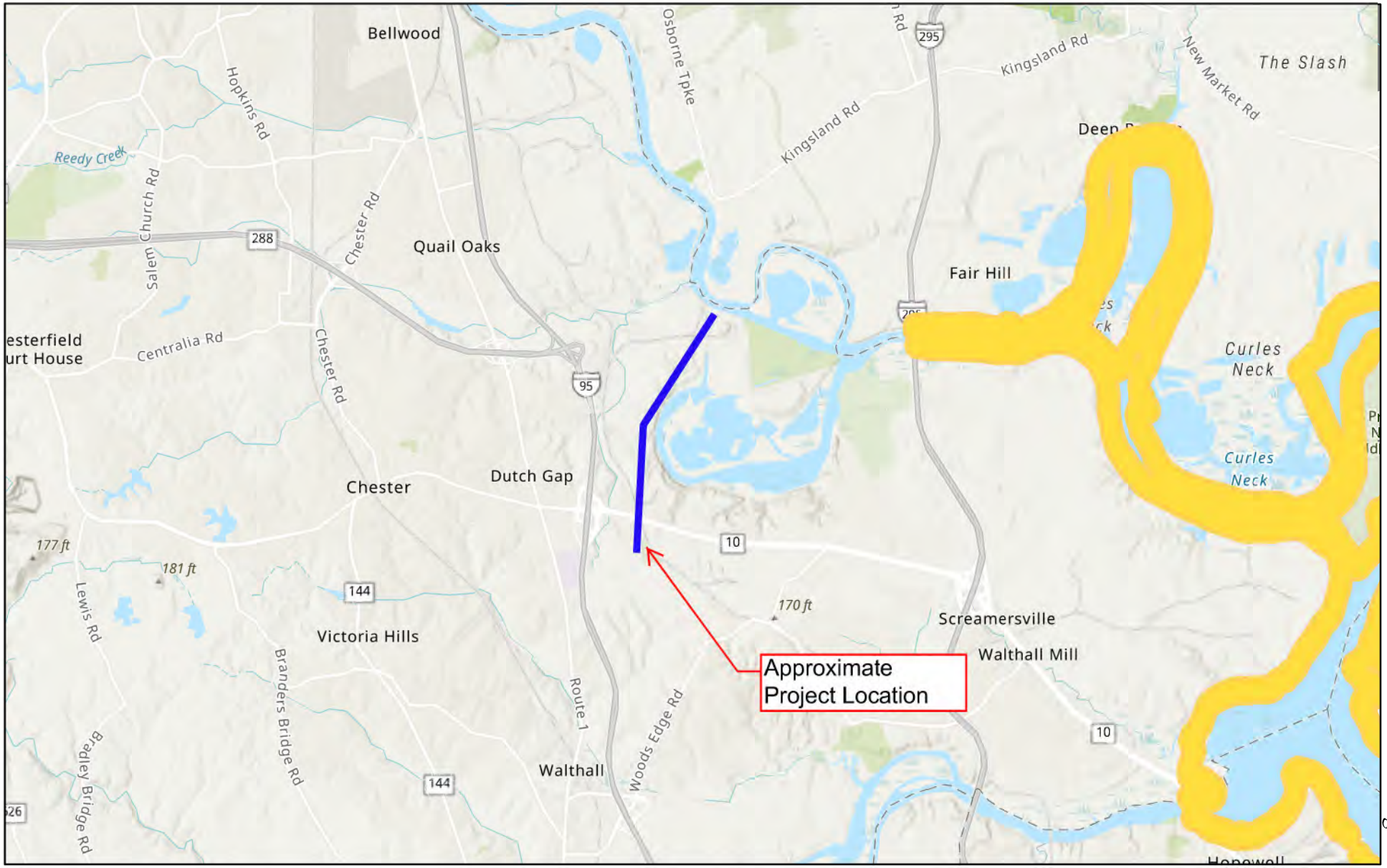
1:2,311,162

0 15 30 60 mi

0 20 40 80 km

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

USFWS Bald Eagle Concentration Areas - Virginia



1/19/2023

1:108,185

0 0.75 1.5 3 mi

0 1 2 4 km

County of Henrico, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA,

APPENDIX B

DWR Database Search Results

Site Location

37,21,30.2 -77,23,38.8
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 buffer

Display at center | **Search Point** is not at map center

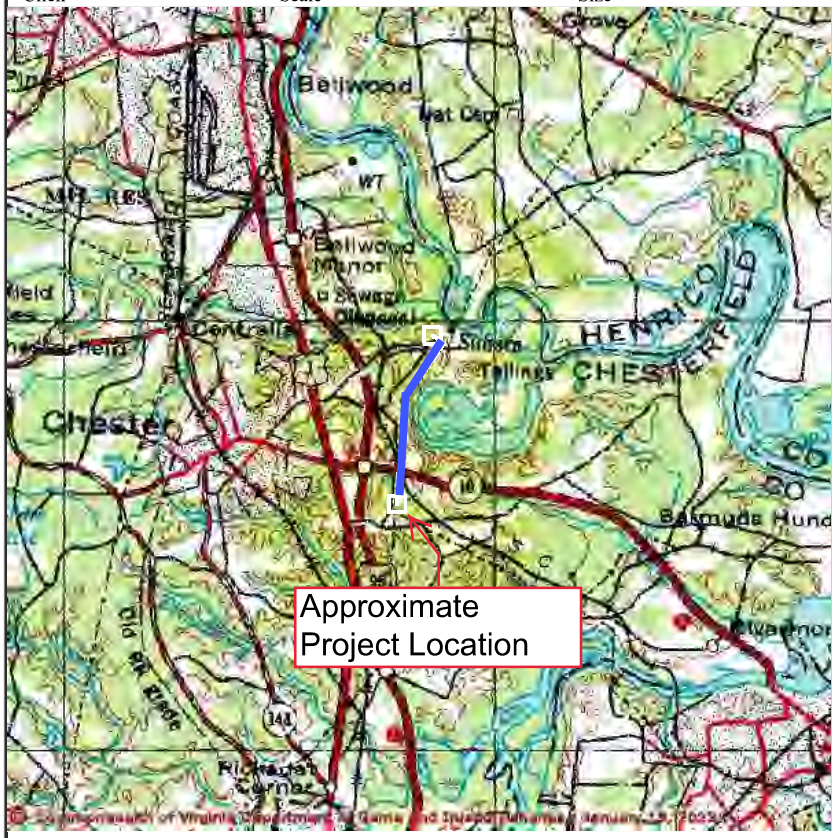
Base Map Choices
Topography

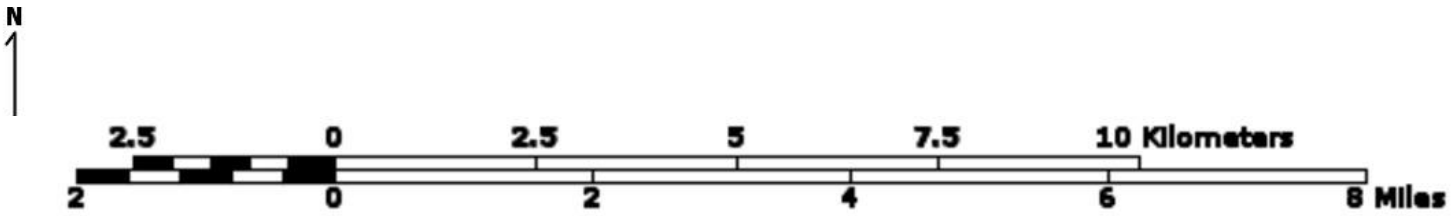
Map Overlay Choices
Current List: Search

Map Overlay Legend
2 mile radius Search Area

back | Refresh Browser Page

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





Point of Search 37,21,30.2 -77,23,38.8
Map Location 37,21,47.8 -77,23,22.8

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 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details) Map projection is UTM Zone 18 NAD 1983 with left 278776 and top 4147454. Pixel size is 17. . 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 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 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 Game and Inland Fisheries. map assembled 2023-01-19 11:49:33 (qa/qc March 21, 2016 12:20 - tn=1453359.0 dist=3218 I) $poi=37.3583889 -77.3941111

| DGIF | Credits | Disclaimer | Contact vafwis_support@dgif.virginia.gov |Please view our privacy policy |
© 1998-2023 Commonwealth of Virginia Department of Game and Inland Fisheries

VaFWIS Search Report Compiled on 1/19/2023, 11:47:29 AM

Help

Known or likely to occur within a **2 mile buffer around line beginning 37,21,30.2 -77,23,38.8** in **041 Chesterfield County, 087 Henrico County, VA**

View Map of Site Location

541 Known or Likely Species ordered by Status Concern for Conservation (displaying first 28) (28 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
060017	FESE	Ia	Spinymussel, James	Parvaspina collina		BOVA
060003	FESE	Ia	Wedgemussel, dwarf	Alasmidonta heterodon		BOVA
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes	BOVA,TEWaters,SppObs,HU6
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
060173	FTST	Ia	Pigtoe, Atlantic	Fusconaia masoni		BOVA
060029	FTST	IIa	Lance, yellow	Elliptio lanceolata		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		HU6
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus	Yes	BOVA,SppObs
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus	Potential	BOVA,BBA,HU6
060081	ST	IIa	Floater, green	Lasmigona subviridis		HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA,HU6
030031	CC	IIIc	Kingsnake, scarlet	Lampropeltis elapsoides		BOVA
010077		Ia	Shiner, bridle	Notropis bifrenatus		BOVA
040092		Ia	Eagle, golden	Aquila chrysaetos		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		HU6

060084		Ib	Pigtoe, Virginia	Lexingtonia subplana		BOVA
040213		Ic	Owl, northern saw-whet	Aegolius acadicus	Yes	BOVA,SppObs
020002		IIa	Treefrog, barking	Hyla gratiosa		BOVA,HU6
040052		IIa	Duck, American black	Anas rubripes		BOVA,HU6
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
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
040105		IIb	Rail, king	Rallus elegans	Potential	BOVA,Habitat,HU6

To view **All 541 species** View 541

*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 (1 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C92	James River 1	Confirmed	6		IV	Yes

Impediments to Fish Passage (2 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1040	CHESTERFIELD POWER STATION	TR-JAMES RIVER	Yes
1302	I-95	PROCTORS CREEK	Yes

Colonial Water Bird Survey (4 records)

View Map of All Query Results
Colonial Water Bird Survey

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE*	Highest Tier**	
Western Shore, Chester, Chesterfield	1	May 4 2013	1			Yes
Western Shore, Drewrys Bluff, Chesterfield	2	May 4 2013	1			Yes
Henricus	1	Apr 28 2003	1			Yes
Aiken Swamp/Dutch Gap Cut	1	Jun 1 1993	1			Yes

Displayed 4 Colonial Water Bird Survey

Threatened and Endangered Waters (11 Reaches)

View Map of All
Threatened and Endangered Waters

Stream Name	T&E Waters Species							View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name						
James River (0159144)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0161402)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0163242)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0163551)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0163753)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0167412)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0169802)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0171573)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0174220)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes
James River (0179857)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		Yes

James River (0185318)	FESE	010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

are present. View Map of Bald Eagle Concentration Areas and Roosts

(1 records)

BECAR ID	Observation Year	Authority	Type	Comments	View Map
49	2006 - 2007	Center for Conservation Biology at the College of William and Mary/Virginia Commonwealth University	Summer Concentration Area	Eagle_use Moderate	Yes

Bald Eagle Nests (3 records)

View Map of All Query Results
Bald Eagle Nests

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
CD0804	2	Apr 23 2008	Unknown	Yes
CD9901	16	Apr 23 2008	UNKNOWN	Yes
HE0801	2	Apr 23 2008	Unknown	Yes

Displayed 3 Bald Eagle Nests

Species Observations (590 records - displaying first 20 , 2 Observations 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**	
313540	SppObs	Jun 29 2005	JOHN BOLIN, III (PRINCIPLE PERMITTEE), VIRGINIA POWER	11	FESE	I	Yes
628383	SppObs	Jun 30 2015	Cynthia Hauser	2	FPSE	I	Yes
606287	SppObs	Nov 2 2008	Robert; Reilly	1		I	Yes
627910	SppObs	May 31 2018	Kathlean Davis; Rick Mittler	8		III	Yes
628529	SppObs	Feb 17 2016	Greg; Barker| Dan; Zurlo| Jason; Rose| Cortney; Marquett	13		III	Yes

628523	SppObs	Feb 3 2016	Greg; Barker| Dan; Zurlo| Jason; Rose| Cortney; Marquett	11		III	Yes
628508	SppObs	Jan 6 2016	Greg; Barker| Dan; Zurlo| Jason; Rose| Cortney; Marquett	5		III	Yes
628491	SppObs	Oct 7 2015	Greg; Barker | Dan; Zurlo| Jason; Rose| Kaylie; Johnson|	21		III	Yes
628467	SppObs	Jul 13 2015	Greg; Barker | Dan; Zurlo| Jason; Rose| Kaylie; Johnson|	15		III	Yes
318413	SppObs	May 20 2006	Robert Reilly/Jethro Runco	1		III	Yes
313541	SppObs	Oct 4 2005	JOHN BOLIN, III (PRINCIPLE PERMITTEE), VIRGINIA POWER	6		III	Yes
339742	SppObs	Jun 2 2000	D. FOWLER, B. MEHL	10		III	Yes
339692	SppObs	Apr 4 2000	Greenlee/dbt	10		III	Yes
339761	SppObs	Oct 5 1999	Greenlee, RLH	15		III	Yes
339759	SppObs	Aug 6 1998	R. Simmonds & C. Routh	14		III	Yes
59137	SppObs	Jul 8 1998	JOHN BOLIN, III (PRINCIPLE PERMITTEE), VIRGINIA POWER	6		III	Yes
339758	SppObs	May 6 1998	R. Simmonds & C. Routh	12		III	Yes
59134	SppObs	Jan 27 1998	JOHN BOLIN, III (PRINCIPLE PERMITTEE), VIRGINIA POWER	5		III	Yes
628498	SppObs	Nov 4 2015	Greg; Barker | Dan; Zurlo| Jason; Rose| Kaylie; Johnson|	5		IV	Yes
628487	SppObs	Sep 23 2015	Greg; Barker | Dan; Zurlo| Jason; Rose| Kaylie; Johnson|	13		IV	Yes

Displayed 20 Species Observations

Selected 590 Observations View 500 (system constraint) Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040105		IIb	Rail, king	Rallus elegans	Yes

Virginia Breeding Bird Atlas Blocks (5 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**	
51072	Chester, NE	28		III	Yes
51086	Drewrys Bluff, SE	68		III	Yes
52085	Dutch Gap, SW	2		III	Yes
52073	Hopewell, CW	62	ST	I	Yes
52071	Hopewell, NW	1			Yes

Public Holdings: (1 names)

Name	Agency	Level
Richmond National Battlefield Park	National Park Service	Federal

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
041	Chesterfield	397	FESE	I
087	Henrico	389	FESE	I

USGS 7.5' Quadrangles:
Chester
Drewrys Bluff
Hopewell
Dutch Gap

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
JA45	Appomattox River-Ashton Creek	72	FESE	I
JL03	James River-Proctors Creek	64	SS	II
JL06	James River-Curles Creek	70	SE	I

Compiled on 1/19/2023, 11:47:29 AM I1453359.0 report=all searchType= L dist= 3218 poi= 37,21,30.2 -77,23,38.8 siteDD= 37.3812083 -77.3869026;37.3796694 -77.3841387;37.3674611 -77.3939887;37.3454861 -77.3953248

PixelSize=64; Anadromous=0.025928; BBA=0.044341; BECAR=0.02928; Bats=0.020889; Buffer=0.115218; County=0.060751; HU6=0.075528; Impediments=0.023382; Init=0.149136; PublicLands=0.03269; Quad=0.046396; SppObs=0.357759; TEWaters=0.037562; TierReaches=0.031078; TierTerrestrial=0.050716; Total=1.274578; Tracking_BOVA=0.216435; Trout=0.025484; huva=0.042379

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

37,21,30.2 -77,23,38.8 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 buffer

Display	**Search Point** is not
at center	at map center

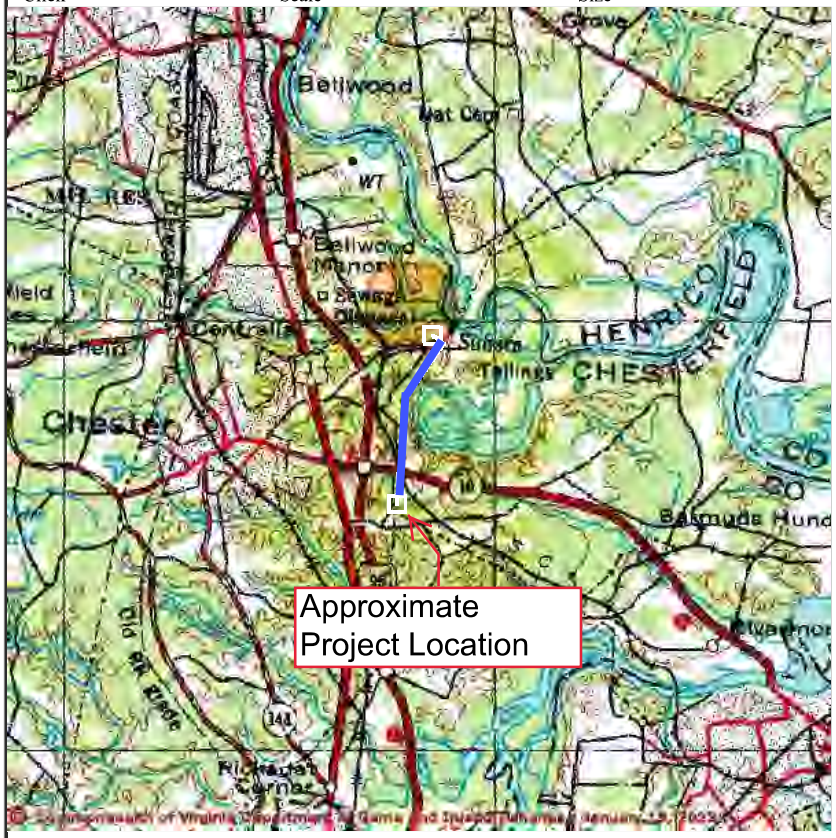
Base Map Choices
Topography

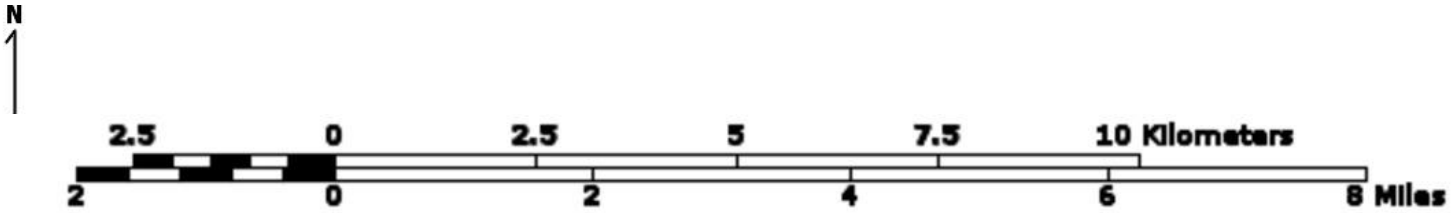
Map Overlay Choices
Current List: Position, Search, SppObs

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 37,21,30.2 -77,23,38.8
Map Location 37,21,47.8 -77,23,22.8

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 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details) Map projection is UTM Zone 18 NAD 1983 with left 278776 and top 4147454. Pixel size is 17. . 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 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 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 Game and Inland Fisheries. map assembled 2023-01-19 12:01:14 (qa/qc March 21, 2016 12:20 - tn=1453359.1 dist=3218 I) $poi=37.3583889 -77.3941111

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1 Species Observations where Sturgeon, Atlantic (010032) observed

37,21,30.2 -77,23,38.8 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 buffer

Display	**Search Point** is not
at center	at map center

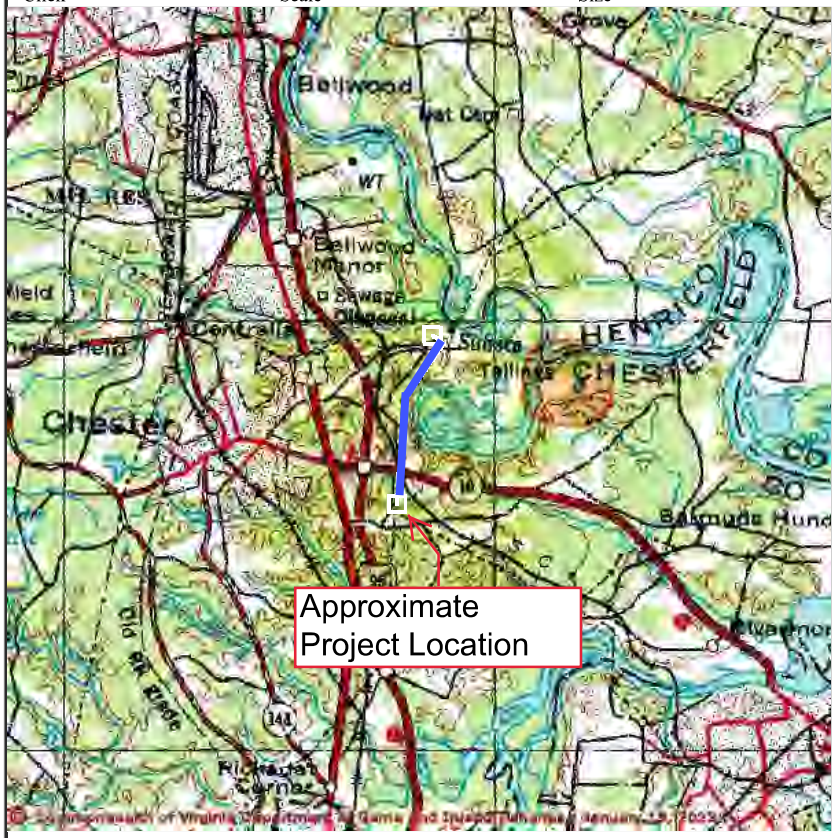
Base Map Choices
Topography

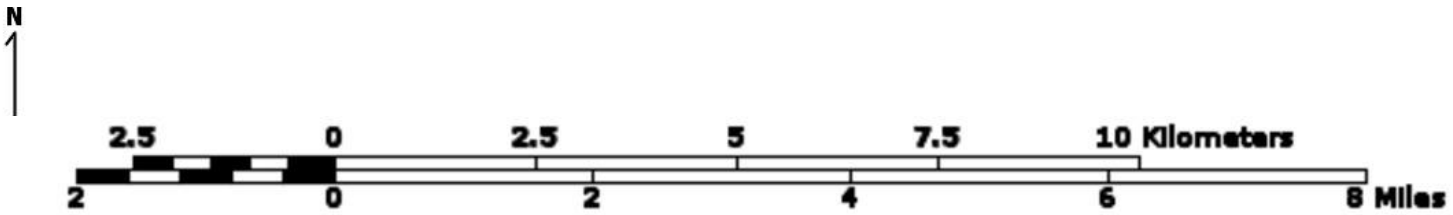
Map Overlay Choices
Current List: Position, Search, SppObs

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





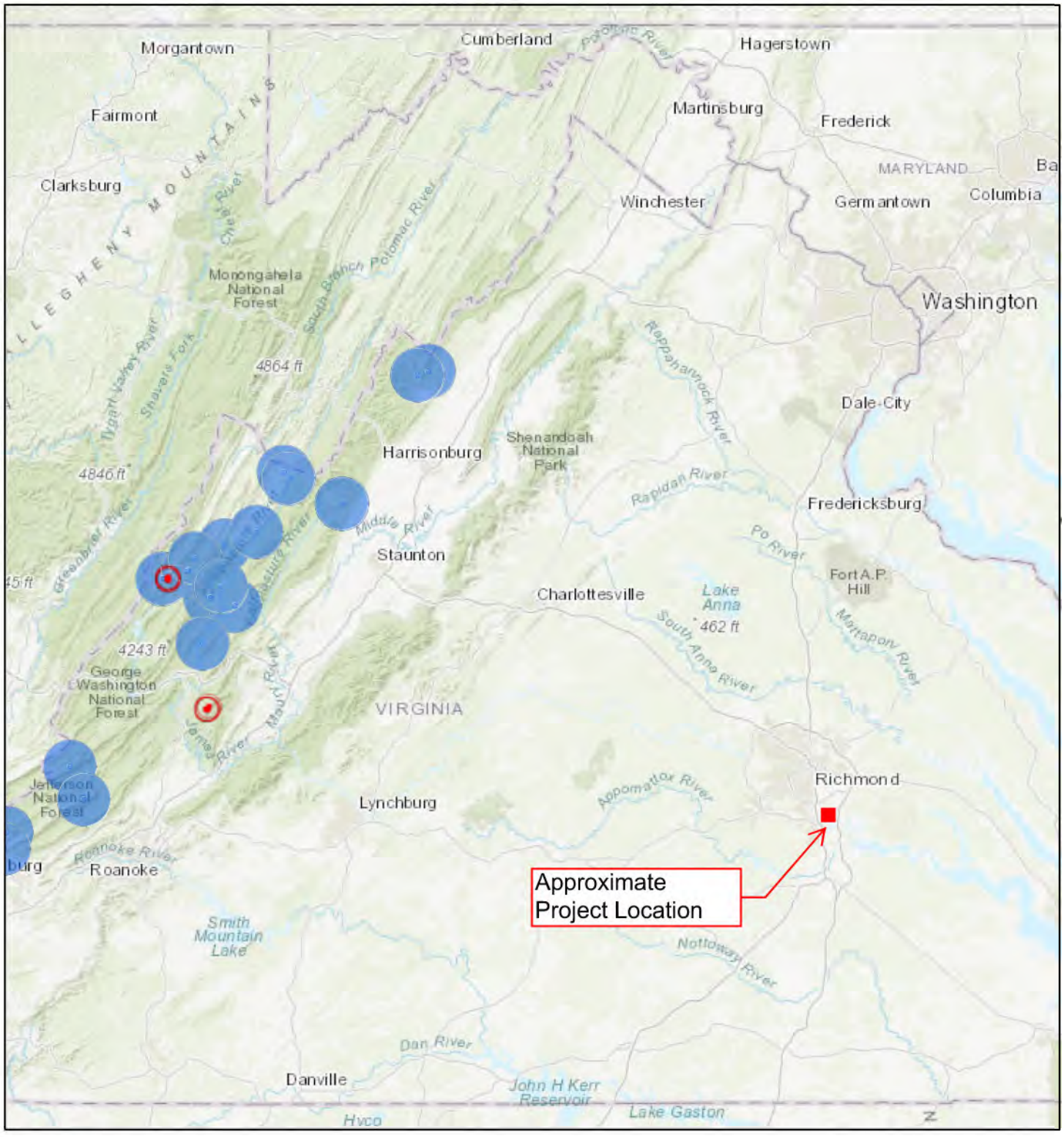
Point of Search 37,21,30.2 -77,23,38.8
Map Location 37,21,47.8 -77,23,22.8

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 1:250,000 topographic maps (see Microsoft terraserver-usa.com for details) Map projection is UTM Zone 18 NAD 1983 with left 278776 and top 4147454. Pixel size is 17. . 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 19200 meters east to west by 19200 meters north to south for a total of 368.6 square kilometers. The map display represents 63002 feet east to west by 63002 feet north to south for a total of 142.3 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 Game and Inland Fisheries. map assembled 2023-01-19 12:00:18 (qa/qc March 21, 2016 12:20 - tn=1453359.1 dist=3218 I) $poi=37.3583889 -77.3941111

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NLEB Locations and Roost Trees



3/2/2023, 2:39:09 PM

1:2,311,162

0 15 30 60 mi
0 20 40 80 km

NLEB Known Occupied Maternity Roost (Summer Habitat)

NLEB Hibernaculum 5.5 Mile Buffer

NLEB Hibernaculum Half Mile Buffer

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

VA Dept. Game & Inland Fisheries
Esri, HERE, Garmin, FAO, USGS, EPA, NPS |

APPENDIX C

CCB Nest Mapping Portal Search Results

CCB Mapping Portal



Layers: VA Eagle Nest Buffers, VA Eagle Nest Locator

Map Center [longitude, latitude]: [-77.38297462463379, 37.365723253698775]

Map Link:
https://ccbbirds.org/maps/#layer=VA+Eagle+Nest+Buffers&layer=VA+Eagle+Nest+Locator&zoom=14&lat=37.365723253698775&lng=-77.38297462463379&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=World+Imagery+%28ESRI%29

Report Generated On: 01/19/2023

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the Data Use Agreement to ensure compliance with our data use policies. For additional data access questions, view our Data Distribution Policy, or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

CCB Mapping Portal



Layers: OspreyWatch Nests

Map Center [longitude, latitude]: [-77.38297462463379, 37.36575736185545]

Map Link:
https://ccbbirds.org/maps/#layer=OspreyWatch+Nests&zoom=14&lat=37.36575736185545&lng=-77.38297462463379&legend=legend_tab_41b097d8-e52c-11e4-b6e6-0e853d047bba&base=World+Imagery+%28ESRI%29

Report Generated On: 01/19/2023

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the Data Use Agreement to ensure compliance with our data use policies. For additional data access questions, view our Data Distribution Policy, or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

APPENDIX D

DCR Database Search Results

Natural Heritage Resources

Your Criteria

Federal Legal Status: LE - Listed endangered,LT - Listed threatened

State Legal Status: LE - Listed endangered,LT - Listed threatened

Watershed (8 digit HUC): 02080206 - Lower James River

Subwatershed (12 digit HUC): JL03 - James River-Proctors Creek,JL06 - James River-Curles Creek

Search Run: 1/19/2023 13:18:30 PM

Result Summary

Total Species returned: 3

Total Communities returned: 0

Click scientific names below to go to NatureServe report.

Click column headings for an explanation of species and community ranks.

Common Name/Natural Community	Scientific Name	Scientific Name Linked	Global Conservation Status Rank	State Conservation Status Rank	Federal Legal Status	State Legal Status	Statewide Occurrences	Virginia Coastal Zone
Lower James								
James River-Curles Creek								
FISH								
Atlantic Sturgeon	Acipenser oxyrinchus	Acipenser oxyrinchus	G3	S2	LE	LE	4	Y
VASCULAR PLANTS								
Sensitive Joint-vetch	Aeschynomene virginica	Aeschynomene virginica	G2	S2	LT	LT	22	Y
James River-Proctors Creek								
VASCULAR PLANTS								
Swamp-pink	Helonias bullata	Helonias bullata	G3	S2S3	LT	LE	38	Y

Note: On-line queries provide basic information from DCR's databases at the time of the request. They are NOT to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

For Additional Information on locations of Natural Heritage Resources please submit an information request.

Travis A. Voyles
Secretary of Natural and Historic Resources

Matthew S. Wells
Director

Andrew W. Smith
Chief Deputy Director

Frank N. Stovall
Deputy Director for Operations

Darryl Glover
Deputy Director for Dam Safety, Floodplain Management and Soil and Water Conservation

Laura Ellis
Deputy Director for Administration and Finance

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

March 24, 2023

Alyssa Johnson
C2 Environmental, Inc.
11846 Rock Landing Drive, Suite A
Newport News, VA 23606

Re: 0293, Line 211-228

Dear Ms. Johnson:

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

According to the information currently in Biotics, natural heritage resources have not been documented within the submitted project boundary including a 100 foot buffer. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. In addition, the project boundary 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 DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

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

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

A fee of $390.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not

documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Amy Martin at (804-367-2211) or amy.martin@dwr.virginia.gov.

Should you have any questions or concerns, please contact me at 804-225-2429. Thank you for the opportunity to comment on this project.

Sincerely,



Tyler Meader
Natural Heritage Locality Liaison

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

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

August 13, 2019

Mr. Jason E. Williams
Director Environmental Services
Dominion Energy
5000 Dominion Boulevard
Glen Allen, VA 23060

Transmitted electronically: jason.e.william@dominionenergy.com

Subject: Dominion Energy (Electric Transmission) – Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management (AS&S for ESC and SWM)

Dear Mr. Williams:

The Virginia Department of Environmental Quality ("DEQ") hereby approves the Annual Standards and Specifications for Erosion & Sediment Control and Stormwater Management for Dominion Energy (Electric Transmission) dated "May 29, 2019". This coverage is effective from August 13, 2019 to August 12, 2020.

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 separately from this Annual Standards and Specifications submission to DEQ. DEQ may require project-specific plans associated with variance 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
   - i: Project name or project number;
   - ii: Project location (including nearest intersection, latitude and longitude, access point);
   - iii: On-site project manager name and contact info;
   - iv: Responsible Land Disturber (RLD) name and contact info;
   - v: Project description;

vi: Acreage of disturbance for project;
vii: Project start and finish date; and
viii: Any variances/exceptions/waivers associated with this project.

3. Project tracking of all regulated land disturbing activities (LDA) must be submitted to the DEQ on a bi-annual basis. 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 plan review and approval must be conducted by DEQ-Certified plan reviewers and documented in writing.

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

Thank you very much for your submission and continued efforts to conserve and protect Virginia's precious natural resources.

Sincerely,

Jaime B. Robb

Jaime B. Robb, Manager
Office of Stormwater Management

Cc: Amelia Boschen, *Amelia.h.boschen@dominionenergy.com*
Elizabeth Hester, *Elizabeth.l.hester@dominionenergy.com*
Stacey Ellis, *Stacey.t.ellis@dominionenergy.com*

Case Decision Information:
As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

REPORT >

Pre-Application Analysis of Cultural Resources for the Lines# 211/228 Chesterfield-Hopewell Partial Rebuild Project

LOCATION > Chesterfield County, Virginia

DATE> MARCH 2023

PREPARED FOR >

Dominion Energy



PREPARED BY >

Dutton + Associates,

PROJECT REVIEW # >

Dutton + Associates
CULTURAL RESOURCE SURVEY, PLANNING, AND MANAGEMENT

SCC Pre-Application Analysis of Cultural Resources for the Lines# 211/228 Chesterfield-Hopewell Partial Rebuild Project

Chesterfield County, Virginia

PREPARED FOR:
DOMINION ENERGY
10900 NUCKOLS ROAD, 4TH FLOOR
GLEN ALLEN, VA 23060

PREPARED BY:
DUTTON + ASSOCIATES, LLC
1115 Crowder Drive
Midlothian, Virginia 23236
804.897.1960

PRINCIPAL INVESTIGATOR:
Robert J. Taylor, Jr. M.A.

March 2023

ABSTRACT

In March 2023, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the Lines# 211/228 Partial Rebuild Project in Chesterfield County, Virginia. The analysis was performed for Dominion Energy Virginia (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with 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 (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia (August 2017).

The Lines# 211/228 Chesterfield-Hopewell Partial Rebuild Project entails the rebuild of two existing 230kV transmission lines that share a set of transmission structures stretching a distance of approximately 2.85 miles, as well as the reconductor of a separate, 0.09-mile length of Line 228. Currently, Lines# 211/288 are suspended from a set of transmission structures centered within a 235-foot ROW shared by two other sets of transmission line structures. The existing structures on the project alignment are primarily galvanized steel lattice structures. The structures to be replaced as part of the project currently range from 97 to 151 feet in height and will be replaced with weathering steel monopole structures that will generally range in height from 102 to 142 feet As such, some structures will be increased in height while others will be decreased; however, the overall average structure will increase only minimally, from 121-feet to 124-feet or approximately 2.5%. The structures will be replaced on a one-to-one basis in generally the same locations along the same centerline. All improvements will take place within existing right-of-way (ROW).

The background research conducted as part of this analysis was consistent with VDHR guidance and designed to identify all previously recorded National Historic Landmarks (NHL) located within 1.5-miles of the proposed project or closer, all National Register of Historic Places (NRHP)-listed properties, battlefields, and historic landscapes located within 1-mile of the proposed project or closer, all historic properties considered eligible for listing in the NRHP located within 0.5-miles of the proposed project or closer, and all archaeological sites located directly within the proposed project area. 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 was undertaken to assess each property's significant character-defining features, as well as the character of its current setting. Following identification of historic properties, D+A assessed the potential for impacts to any identified properties as a result of the proposed project. Specific attention was given to determining whether or not construction related to the project could introduce new visual elements into the property's viewshed or directly impact the property through construction, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP.

Review of the VDHR VCRIS inventory records revealed a total of ninety-eight (98) previously recorded architectural resources are located within 1.5 mile of the project area. Of these, there

are no (0) NHLs located within 1.5 mile of the proposed project or closer, one (1) property listed in the NRHP located within 1.0 mile or closer of the project, seven (7) battlefields located within 1.0 mile or closer of the project, and three (3) properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project. One (1) additional property is considered contributing to the NRHP-listed resource and is also held under a historic preservation easement by the VDHR. Of the architectural resources, one (1) property listed in the NRHP and four (4) battlefields or associated components are located directly within or crossed by the project ROW.

Inspection from these resources found that they are all located within a densely developed suburban setting with extensive nonhistoric and ongoing development. The project area roughly parallels the Interstate-95 corridor which is flanked by dense residential, commercial and industrial areas. The majority of the landscape directly crossed by the project alignment is characterized by light-industry and associated development. Due to the dense development patterns in the area, coupled with pockets and lines of vegetation scattered throughout the area, the existing transmission line is generally visible only from vantages in close proximity or along road corridors where the ROW allows more distant views. Because many of the historic properties are crossed by the alignment or in close proximity, the existing transmission line is visible, however, views are generally limited to one or two structures visible above rooftops or treelines. Wide and/or uninterrupted views are limited to vantages where public ROW crosses or intersects the project ROW.

As part of the project, most of the existing structures along the alignment will be replaced while some will remain. Some of the structures to be replaced will be increased in height, some will be replaced with structures of the same height as the existing, and some will be decreased in height. Of the structures being increased in height, most will be only slightly taller while just one structure is more being increased more substantially. As a result of the project, the overall average structure height will increase only minimally, from 121-feet to 125-feet or an approximately 3.3% increase.

Therefore, it is anticipated that visibility of the project and associated structures will remain nearly identical to current views, with visibility of proposed structures from where the existing structures can currently be seen and no visibility where the existing structures are currently screened. Further, the alignment is within a shared ROW and flanked by other transmission lines of similar height to both sides. As such, the project improvements are not anticipated to introduce a substantial cumulative change in setting or viewshed from any of the properties, many of which already include modern development and views of other transmission lines. ***It is therefore D+A's opinion that the Lines# 211/228 Partial Rebuild Project will pose no more than a minimal impact on any architectural resources that are designated an NHL, listed in the NRHP, or determined eligible or potentially eligible for listing per VDHR's impact characterization scale.***

Potential impacts summary for architectural resources.

VDHR #	*Resource Name, Address*	*NRHP-Status*	*Distance from Project*	*Recommended Impact*
020-0015	*Clay House, 2341 Old Bermuda Hundred Road*	*NRHP-Eligible*	*~0.36 Mile*	*No Impact*
020-0121	*Osborne's Naval Battle*	*NRHP-Eligible*	*~0.30 Mile*	*Minimal Impact*
020-0232	*Howlett Line, Parker's Battery, Parker's Battery Earthworks*	*NRHP-Eligible*	*Directly Crossed*	*Minimal Impact*

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project	Recommended Impact
020-5316	Chester Station Battlefield	Not Eligible	Directly Crossed	Minimal Impact
020-5317	Port Walthall Junction Battlefield, Indian Hills Road	NRHP-Eligible	~0.81 Mile	No Impact
020-5318	Arrowfield Church, Fort Clifton, Swift Creek Battlefield	Potentially NRHP-Eligible	~0.77 Mile	No Impact
020-5319	Ware Bottom Church Battlefield	Potentially NRHP-Eligible	Directly Crossed	Minimal Impact
020-5319	Battery Dantzler	VDHR Easement	Immediately Adjacent	Minimal Impact
020-5320	Drewry's Bluff (2nd) Battlefield, Fort Darling, Fort Drewry, Proctor's Creek Battlefield	Potentially NRHP-Eligible	Directly Crossed	Minimal Impact
043-0033	Richmond National Battlefield Park	NRHP-Listed	Directly Crossed	Minimal Impact
043-0307	Battle of Chaffin's Farm, New Market Road, New Market Heights Battlefield	Potentially NRHP-Eligible	~0.72 Mile	Minimal Impact
123-5025	Assault on Petersburg, Petersburg Battlefield II	Potentially NRHP-Eligible	~0.66 Mile	No Impact

With regards to archaeology, a review of VCRIS reveals that much of the project ROW has been subject to previous Phase I cultural resource survey. The most recent Phase I survey was conducted in 2020 and titled the Phase I Cultural Resources Survey of Approximately 3 Miles Associated with the Proposed Chesterfield to Tyler 230 kV Partial Rebuild Project (Stantec 2020). That survey that was conducted in relation to the rebuild of a parallel transmission line within the same ROW as the project. As a result, roughly the western half of the 235-foot ROW was subject to survey as part of that effort. The Lines# 211/228 alignment, subject to this project, is set centrally within the ROW, and therefore the portion of the ROW west of the project centerline was subject to survey but the portion to the east was not included in the survey.

As part of the 2020 survey and other survey efforts that have included portions of the project ROW, a total of twelve (12) previously recorded sites have been identified. Of these, six (6) have been recommended potentially eligible or determined eligible for listing in the NRHP following phase II evaluations, four (4) have been determined not eligible, and two (2) have not been formally evaluated.

No archaeological fieldwork was conducted as part of this effort and previously recorded sites within or adjacent to the project were not visited or investigated for existing conditions or impacts at this time. However, ***it is D+A's opinion that based upon review of background data, those portions of the project ROW that have not been previously surveyed be subject to Phase I survey, and previously identified sites be re-identified. D+A further recommends that those sites within the ROW that are considered eligible or potentially eligible for listing be avoided, and if avoidance is not feasible, they be subject to further consideration and treatment to assess and minimize impacts.***

Summary of potential impacts summary for archaeological resources within the project ROW. Bold font indicates the site is considered eligible or potentially eligible for listing in the NRHP.

VDHR#	*Site Summary*	*NRHP Status*	*Impacts*
44CF0102	***Prehistoric/historic - Dwelling, multiple, Railroad bed, Village/Town, Wharf***	***DHR Staff: Eligible***	***TBD***
44CF0124	***Prehistoric/historic - Camp, temporary, Midden***	***DHR Staff: Potentially Eligible***	***TBD***
44CF0127	*Historic - Bridge, Road*	*Not Evaluated*	*TBD*
44CF0128	*Prehistoric/historic - Camp, temporary*	*DHR Staff: Not Eligible*	*TBD*
44CF0129	*Prehistoric - Camp, temporary, Quarry*	*Not Evaluated*	*TBD*
44CF0130	***Prehistoric/historic - Camp, temporary, Dwelling, single, Hospital, Lithic workshop***	***DHR Staff: Potentially Eligible***	***TBD***
44CF0578	***Historic - Earthworks, Fort***	***DHR Staff: Potentially Eligible***	***TBD***
44CF0873	***Historic - Artifact scatter***	***DHR Staff: Potentially Eligible***	***TBD***
44CF0874	*Prehistoric/historic - Artifact scatter*	*DHR Staff: Not Eligible*	*TBD*
44CF0875	*Prehistoric - Artifact scatter*	*DHR Staff: Not Eligible*	*TBD*
44CF0876	***Prehistoric/historic - Artifact scatter***	***DHR Staff: Potentially Eligible***	***TBD***
44CF0877	*Prehistoric/historic - Artifact scatter*	*DHR Staff: Not Eligible*	*TBD*

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1. INTRODUCTION

In March 2023, Dutton + Associates, LLC (D+A) completed a Pre-Application Analysis (analysis) of cultural resources for the Lines# 211/228 Partial Rebuild Project in Chesterfield County, Virginia (Figure 1-1). The analysis was performed for Dominion Energy Virginia (Dominion) in support of a State Corporation Commission (SCC) application. The analysis was conducted in accordance with 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* (January 2008) and Commonwealth of Virginia State Corporation Commission Division of Public Utility Regulation *Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia* (August 2017).

This analysis was performed at a level that meets the purpose and intent of VDHR and the SCC's guidance. It provides information on the presence of previously recorded National Historic Landmark (NHL) properties located within a 1.5-mile buffer area established around the project area, properties listed on the National Register of Historic Places (NRHP), battlefields, and historic landscapes located within a 1-mile buffer around the project area, and properties previously determined eligible for listing in the NRHP located within a 0.5-mile buffer area around the project area, and previously identified archaeological resources directly within the project area. This analysis will not satisfy Section 106 identification and evaluation requirements in the event 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.

This report contains a research design which describes the scope and methodology of the analysis, discussion of previously identified historic properties, and an assessment of potential impacts. D+A Senior Architectural Historian Robert J. Taylor, Jr. M.A. served as Principal Investigator and oversaw the general course of the project and supervised all aspects of the work. Copies of all notes, maps, correspondence, and historical research materials are on file at the D+A main office in Midlothian, Virginia.

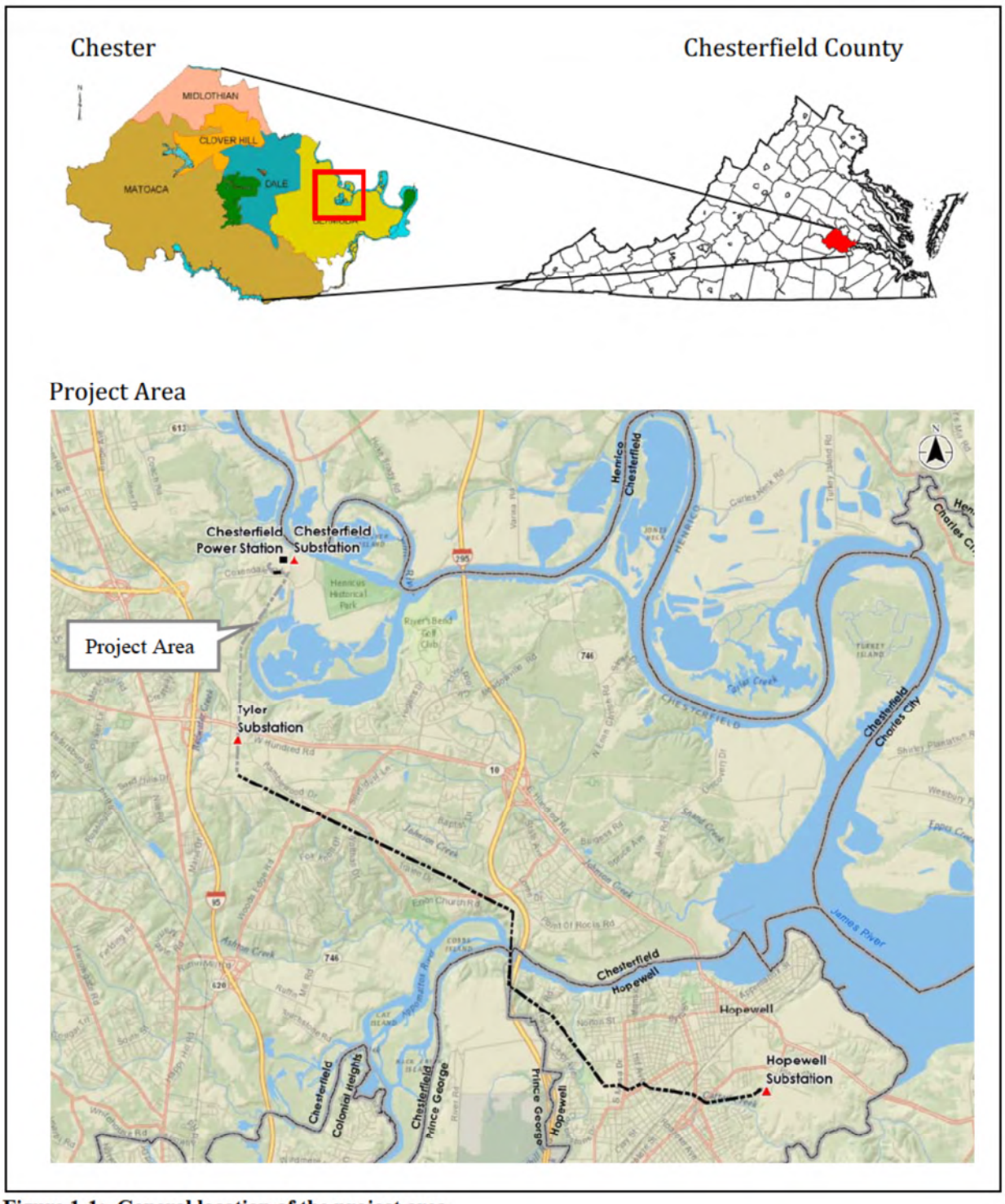


Figure 1-1: General location of the project area.

2. PROJECT DESCRIPTION

The Lines# 211/228 Chesterfield-Hopewell Partial Rebuild Project entails the rebuild of two existing 230kV transmission lines that share a set of transmission structures stretching a distance of approximately 2.85 miles, as well as the reconductor of a separate, 0.09-mile length of Line 228. The rebuild extends from the existing Chesterfield Substation to structure 211/19 at the ROW split to Hopewell, although several structures near the Chesterfield Substation will be reused and not replaced. The reconductor will take place on a short length of line just outside the existing Hopewell Substation, and will not include the replacement of any transmission structures (Figure 2-1).

Currently, Lines# 211/228 are suspended from a set of transmission structures centered within a 235-foot ROW shared by two other sets of transmission line structures. Lines #100/2049 parallel the east side of the project alignment suspended from steel H-frames that average 98-feet in height while Lines# 205/2003 parallel the west side of the project alignment suspended from a mix of steel monopoles and H-frame structures that average 120-feet in height.

The existing structures on the project alignment are primarily galvanized steel lattice structures. The structures to be replaced as part of the project currently range from 97 to 151 feet in height and will be replaced with weathering steel monopole structures that will generally range in height from 102 to 142 feet (Table 2-1 and Figure 2-1). As such, some structures will be increased in height while others will be decreased; however, the overall average structure will increase only minimally, from 121-feet to 125-feet or approximately 3.3%. The structures will be replaced on a one-to-one basis in generally the same locations along the same centerline. All improvements will take place within existing right-of-way (ROW) (Figures 2-2 through 2-5).

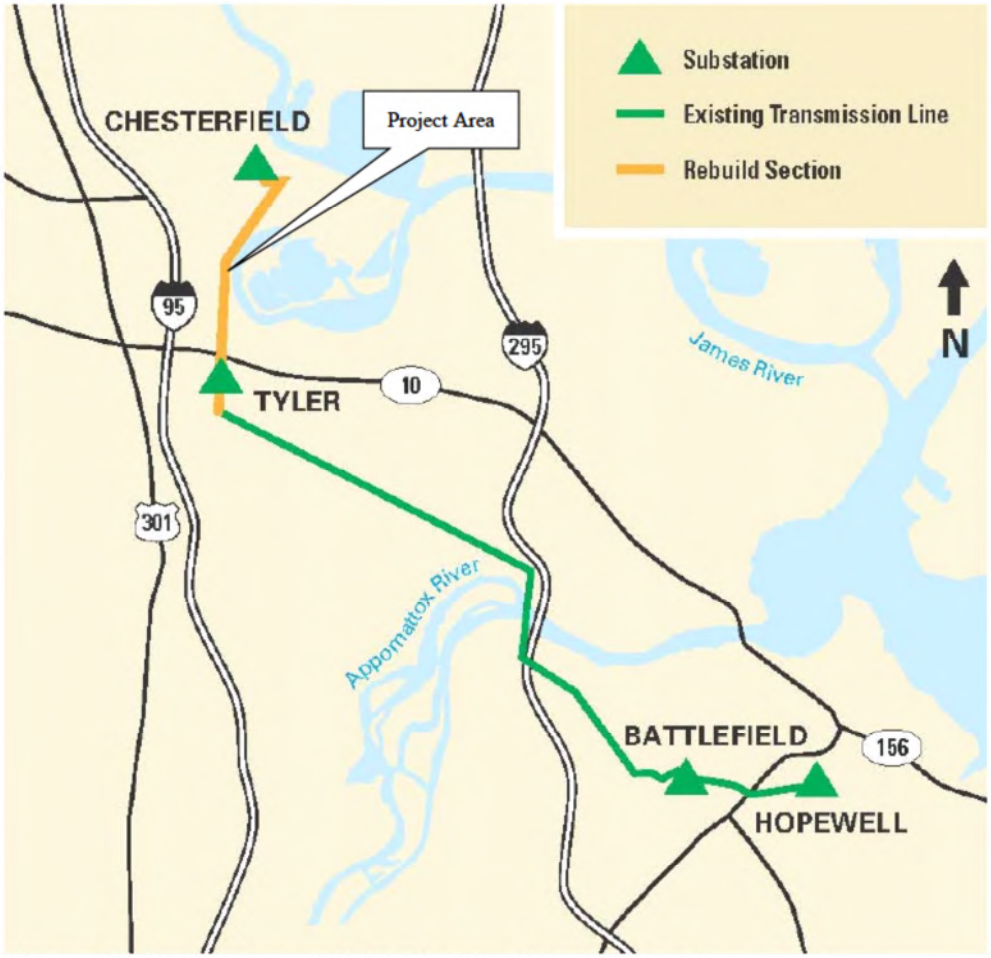


Figure 2-1: Project Overview Map. Source: Dominion Energy

Table 2-1: Existing and proposed structure information.

Existing Structure #	Existing Structure Height	Proposed Structure Height
211/1B	80	EXISTING STRUCTURES TO REMAIN
211/1A; 208/98	105	
211/1; 205/1C	104	
228/1A	80	
228/1	100	102
211/2; 228/2	120	EXISTING STRUCTURES TO REMAIN
211/3; 228/3	120	
211/4; 228/4	115	108
211/5; 228/5	97	102
211/6; 228/6	108	117
211/7; 228/7	118	127
211/8; 228/8	118	122
211/9; 228/9	108	117
211/10; 228/10	132	132

Existing Structure #	Existing Structure Height	Proposed Structure Height
211/11; 228/11	125	122
211/12; 228/12	128	132
211/13; 228/13	118	127
211/14; 228/14	132	137
211/15; 228/15	132	132
211/16; 228/16	132	142
211/16A; 228/16A	115	EXISTING STRUCTURE TO REMAIN
211/17; 228/17	132	132
211/18; 228/18	117	137
211/19; 228/19	151	142
***Minimum**	**97**	**102**
***Maximum**	**151**	**142**
***Average**	**121**	**125**
***Average Increase:**	**3.3%**	

* Minimum, Maximum, and Average of Structures to be replaced.

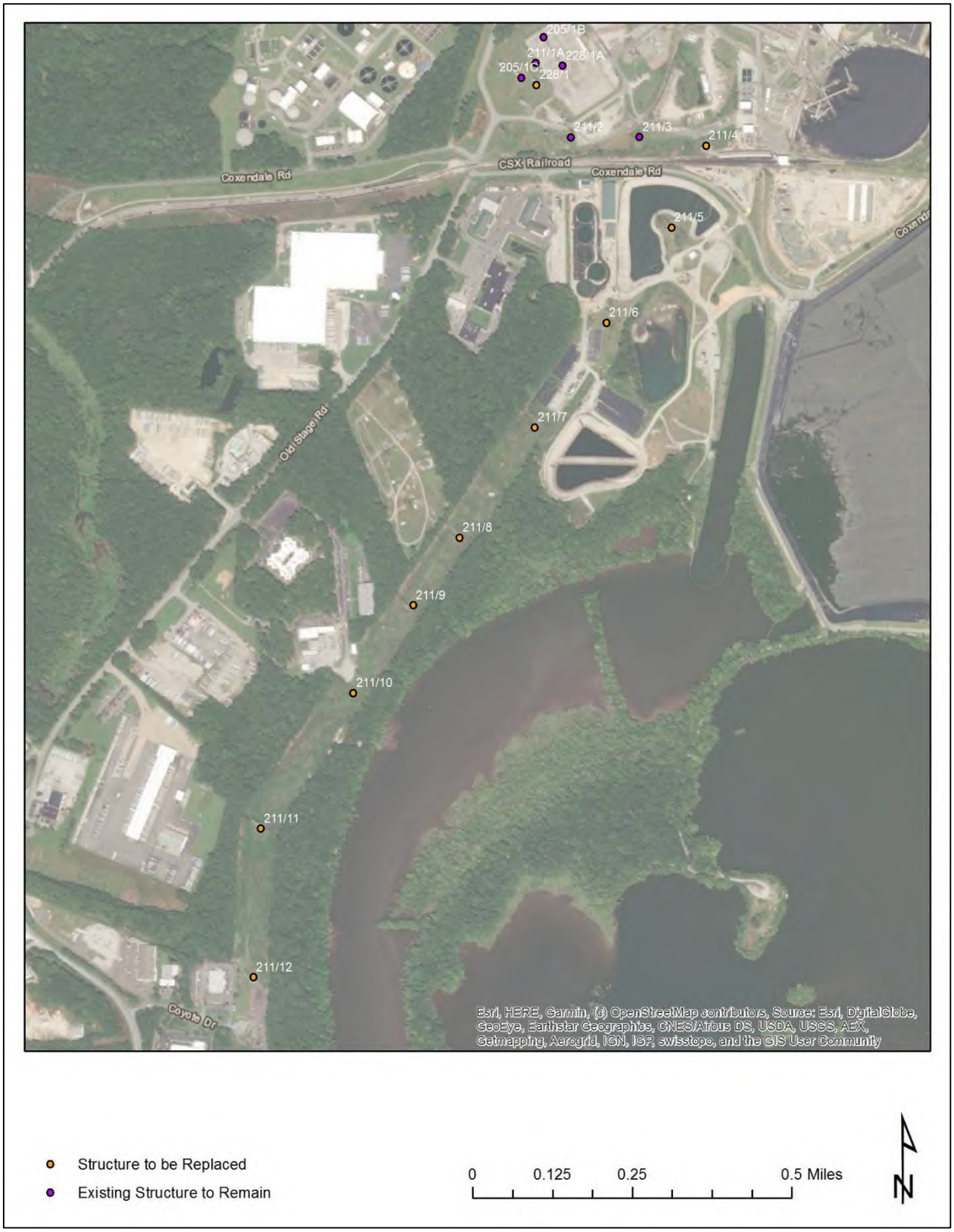
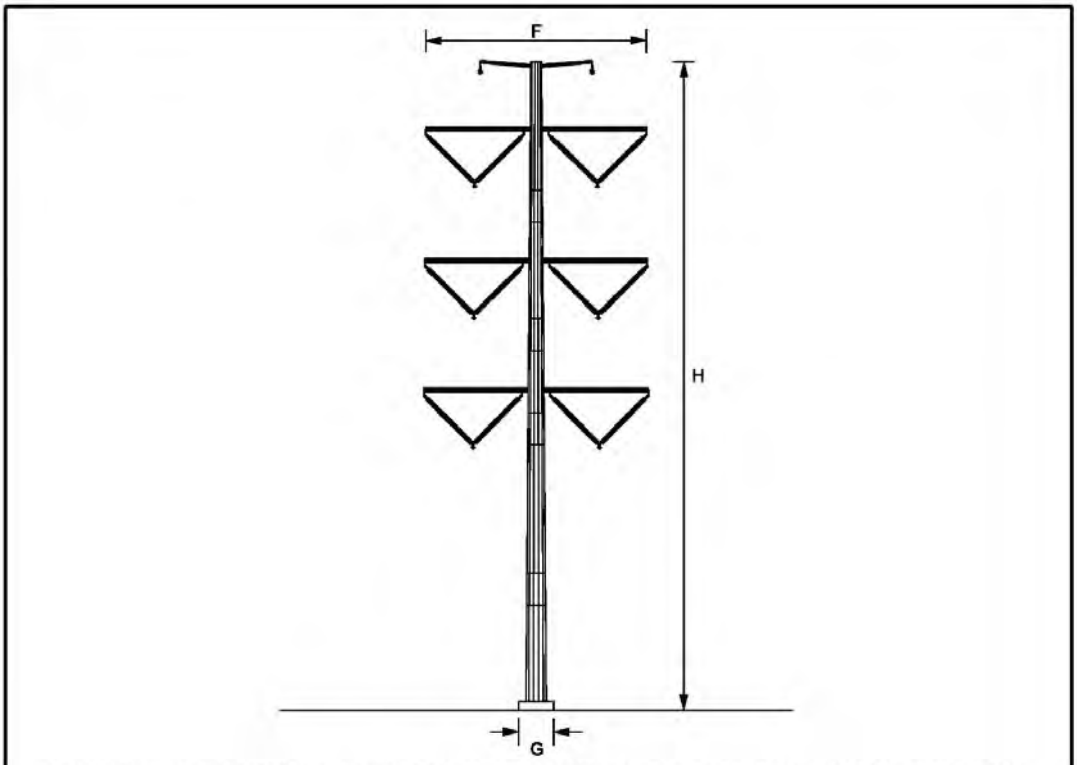


Figure 2-2: Lines# 211/228 Rebuild Project Map (1 of 2)



Figure 2-3: Lines# 211/228 Rebuild Project Map (2 of 2)



TYPICAL DC ENGINEERED MONOPOLE SUSPENSION STRUCTURE (V-STRING)

A. STRUCTURE MAPPING	SEE ATTACHMENT II.B.5
B. RATIONALE FOR STRUCTURE TYPE:	MAINTAINS THE EXISTING STRUCTURES VERTICAL CONFIGURATION V-STRING CHOSEN TO INCREASE CLEARANCES TO ADJACENT CIRCUITS
C. LENGTH OF ROW (STRUCTURE QTY):	1.29 MILES (5) - SEE NOTE 1
D. STRUCTURE MATERIAL:	WEATHERING STEEL
RATIONALE FOR STRUCTURE MATERIAL:	WEATHERING STEEL WAS SELECTED TO MATCH THE ADJACENT EXISTING WEATHERING STEEL STRUCTURES IN THE ROW
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	CONCRETE SEE NOTE 2
F. AVERAGE WIDTH AT CROSSARM:	35'
G. AVERAGE WIDTH AT BASE:	6' DIAMETER FOUNDATION - SEE NOTE 3
H. MINIMUM STRUCTURE HEIGHT (SEE NOTE 4): MAXIMUM STRUCTURE HEIGHT (SEE NOTE 4): AVERAGE STRUCTURE HEIGHT (SEE NOTE 4):	127' 142' 135'
I. AVERAGE SPAN LENGTH (RANGE):	988' (887' - 1061') - SEE NOTE 5
J. MINIMUM CONDUCTOR-TO-GROUND:	22.5' (AT MAXIMUM OPERATING TEMPERATURE)

NOTES:
1. ROW LENGTH & STRUCTURE QUANTITY ARE EXCLUSIVE OF COMPANY-OWNED PROPERTY
2. MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAX REVEAL IS SUBJECT TO FINAL DESIGN
3. FINAL FOUNDATION DIAMETER SHALL BE BASED ON GEOTECHNICAL FINDINGS DURING FINAL DESIGN
4. STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE AND INCLUDE FOUNDATION REVEAL
5. THE SPAN LENGTHS ASSOCIATED WITH EACH STRUCTURE DRAWING ARE THE AHEAD SPANS

THE INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED PRELIMINARY IN NATURE AND IS SUBJECT TO CHANGE BASED ON FINAL DESIGN

Dominion Energy
Dominion Energy
10900 Nuckols Road
Glen Allen, VA 23060

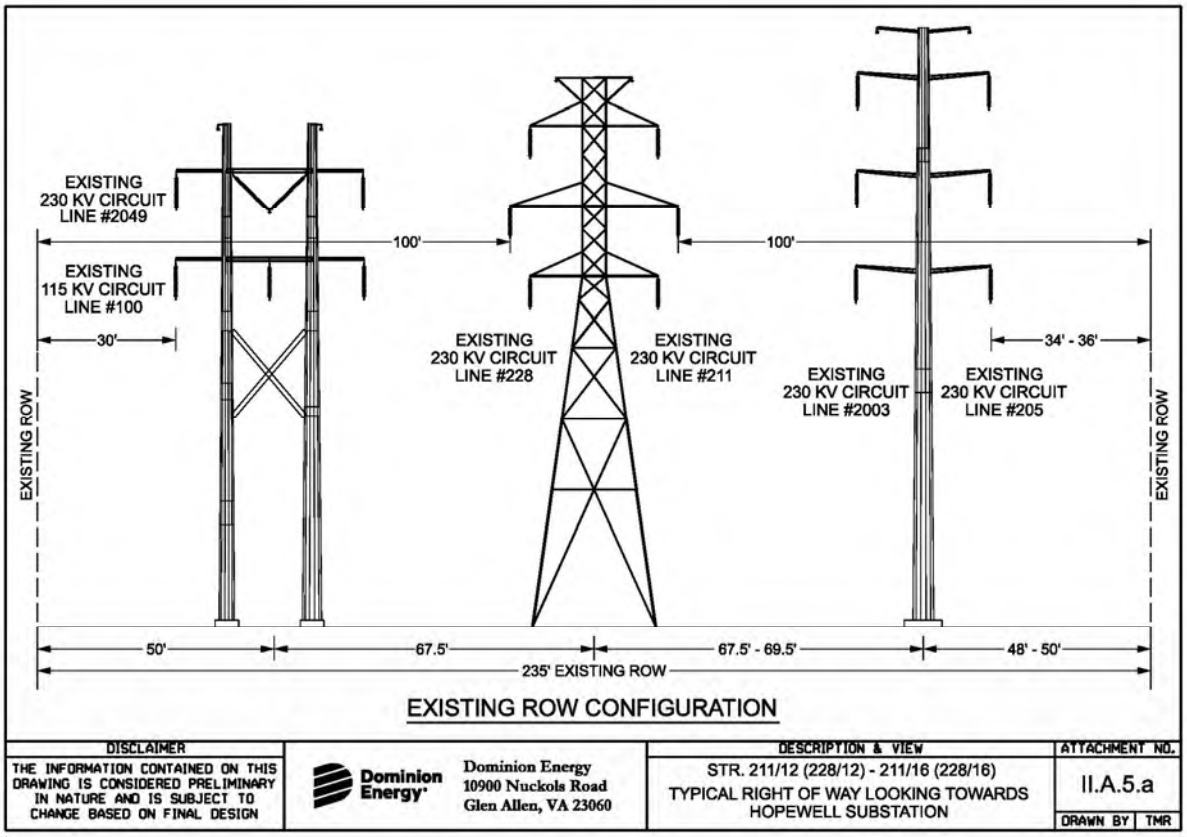
LINES 211 & 228

TYPICAL DC ENGINEERED MONOPOLE SUSPENSION STRUCTURE (V-STRING)

ATTACHMENT NO.
II.B.3.a

DRAWN BY: TMR

Figure 2-4: Detail of typical proposed structures within ROW. Source: Dominion Energy Virginia



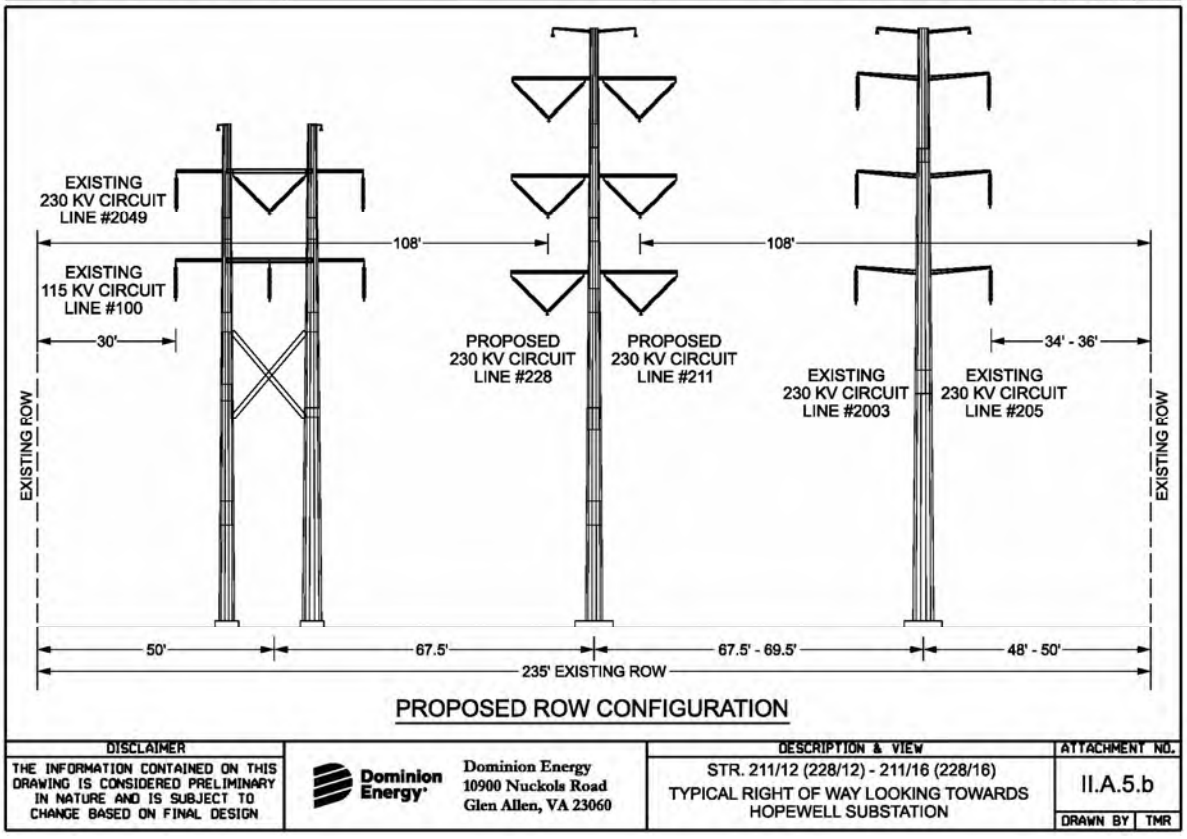


Figure 2-5: Typical Existing and Proposed ROW Profile. Source: Dominion Energy Virginia

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3. RESEARCH DESIGN

The intent of this effort was to identify all known historic properties within the vicinity of the project area in order to assess them for potential impacts brought about by the project. Historic properties include architectural and archaeological (terrestrial and underwater) resources, historic and cultural landscapes, battlefields, and historic districts. For each previously recorded historic property, an examination of property documentation, current aerial photography, and a field reconnaissance was undertaken to assess each property's integrity of feeling, setting, and association, and to provide photo documentation of the property including views toward the proposed project. The D+A personnel who directed and conducted this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9).

ARCHIVAL RESEARCH

In January 2023, D+A conducted archival research with the goal of identifying all previously recorded historic properties and any additional historic property locations referred to in historic documents and other archives, as well as consultation with local informants and other professionals with intimate knowledge of the project area as appropriate. Background research was conducted at the VDHR and on the internet and included the following sources:

- VDHR Virginia Cultural Resource Information System (VCRIS) site files; and
- National Park Service (NPS), American Battlefield Protection Program (ABPP), maps and related documentation.

Data collection was performed according to VDHR guidance in *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008) and was organized in a multi-tier approach. As such, the effort was designed to identify all previously recorded NHL's located within 1.5-miles of the proposed project area, all historic properties listed in the NRHP, battlefields, and historic landscapes located within 1-mile of the project area, all historic properties previously determined eligible for listing in the NRHP located within 0.5-mile of the project area, and all properties located directly within the project area.

FIELD RECONNAISSANCE

Field reconnaissance included visual inspection of those previously recorded historic properties identified within the defined study tiers in order to document existing conditions and assess potential impacts. Visual inspection included digital photo documentation of each property's existing conditions including its setting and views toward the proposed project. Photographs were taken of primary resource elevations, general setting, and existing viewsheds. All photographs were taken from public right-of-way or where property access was granted. No subsurface archaeological testing was conducted as part of this effort.

ASSESSMENT OF POTENTIAL IMPACTS

Following identification and field inspection of historic properties, D+A assessed each resource for potential impacts brought about by the proposed project. Assessment of impacts was conducted through a combination of field inspection, digital photography, review of topography and aerial photography, and select photo simulation. As the overall average increase in height between the existing and proposed structures does not meet the threshold of a "substantial increase" as outlined by the VDHR in *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (January 2008), comprehensive photo simulation along the entire length of the project was not conducted. However, one transmission structure is proposed for a significant increase in height, and because it is in proximity to a historic property, photo simulation was utilized in this situation. It is also noted that another transmission line that runs parallel to the project alignment within the same ROW was recently subjected to impacts assessment related to a separate project and therefore the results of that effort were considered with regards to this project.

When assessing impacts, D+A considered those qualities and characteristics that qualify the property for listing and whether the project has the potential to alter or diminish the integrity of the property and its associated significance. Specific attention was given to determining whether or not the proposed project would introduce new visual elements into a property's viewshed, which would either directly or indirectly alter those qualities or characteristics that qualify the historic property for listing in the NRHP. Identified impacts were characterized as severe, moderate, minimal, or none in accordance with the following guidance:

- **None** – Project is not visible from the property
- **Minimal** – Occur within viewsheds that have existing transmission lines, locations where there will only be a minor change in tower height, and/or views that have been partially obstructed by intervening topography and vegetation.
- **Moderate** – Include viewsheds with expansive views of the transmission line, more dramatic changes in the line and tower height, and/or an overall increase in the visibility of the route from the historic properties.
- **Severe** – Occur within viewsheds that do not have existing transmission lines and where the views are primarily unobstructed, locations where there will be a dramatic increase in tower visibility due to the close proximity of the route to historic properties, and viewsheds where the visual introduction of the transmission line is a significant change in the setting of the historic properties.

REPORT PREPARATION

The results of the archival resource, field inspection, and analysis were synthesized and summarized in a summary report accompanied by maps, illustrations, and photographs as appropriate. All research material and documentation generated by this project is on file at D+A's office in Midlothian, Virginia.

4. ARCHIVES SEARCH

This section includes a summary of efforts to identify previously known and recorded cultural resources within the tiered project buffers. It includes lists, maps, and descriptive data on all previously conducted cultural resource surveys, and previously recorded architectural resources and archaeological sites according to the VDHR archives and VCRIS database.

PREVIOUSLY SURVEYED AREAS

VDHR and VCRIS records indicate that there have been twenty-nine (29) prior Phase I cultural resource surveys within 1-mile of the project area, including ten (10) of which overlap portions of the project area. These surveys are at a minimum archaeological in nature, although some include architectural resources as well. The ten surveys that overlap the project area were conducted as part of regional surveys, targeted site investigations, and transportation and utility projects. As a result of the previous surveys, much of the project ROW has been subject to Phase I archaeological identification, including most recently in 2020 as part of the *Phase I Cultural Resources Survey of Approximately 3 Miles Associated with the Proposed Chesterfield to Tyler 230 kV Partial Rebuild Project* (Stantec 2020) that was conducted in relation to the rebuild of a parallel transmission line within the same ROW. The ten previously conducted cultural resource surveys that include portions of the project area are listed in Table 4-1 and are illustrated in Figure 4-1.

Table 4-1: Previously conducted cultural resource surveys that include the project area. Source: VDHR.

VDHR Survey #	Title	Author	Date
CF-091	Archaeological Investigations at Site 44CF102, Osbornes Town Site, Chesterfield County, Virginia	WMCAR	1996
CF-101	Phase I Archaeological Investigations of Six Proposed Sites on the Virginia Civil War Trails Project	GP	1996
CF-108	Archaeological Survey of Proposed Route 10 Road Widening in Chester, Chesterfield County, Virginia	LBG	1997
CF-380	A Phase I Cultural Resources Survey of Approximately 8.2 Miles Associated with the Proposed Chesterfield to Hopewell 230 kV Rebuild Project in Chesterfield County, Virginia	STANTEC	2018
CF-396	A Phase I Cultural Resources Survey of Approximately 3 Miles Associated with the Proposed Chesterfield to Tyler 230 kV Partial Rebuild Project in Chesterfield County, Virginia	STANTEC	2020
CF-417	A Phase I Cultural Resources Survey of Approximately 3 Miles Associated with the Proposed Allied to Chesterfield Line #2049 230 kV Partial Rebuild Project in Chesterfield County, Virginia	STANTEC	2021
HE-008	The 1979 Henrico Survey	VRCA	1979
HE-012	Archaeological Investigations in the Vicinity of Dutch Gap, Virginia	VRCA	1980
HE-019	Phase I Archaeological Reconnaissance Survey of Three Alternatives for Connectors of Interstate Status to Connect Existing I-95 to the Proposed I-295	VDOT	1983
HE-421	A Phase I Cultural Resources Survey of Approximately 21.3 Miles Associated with the Proposed Chesterfield to Lakeside Rebuild Project in Henrico and Chesterfield Counties, Virginia	STANTEC	2019

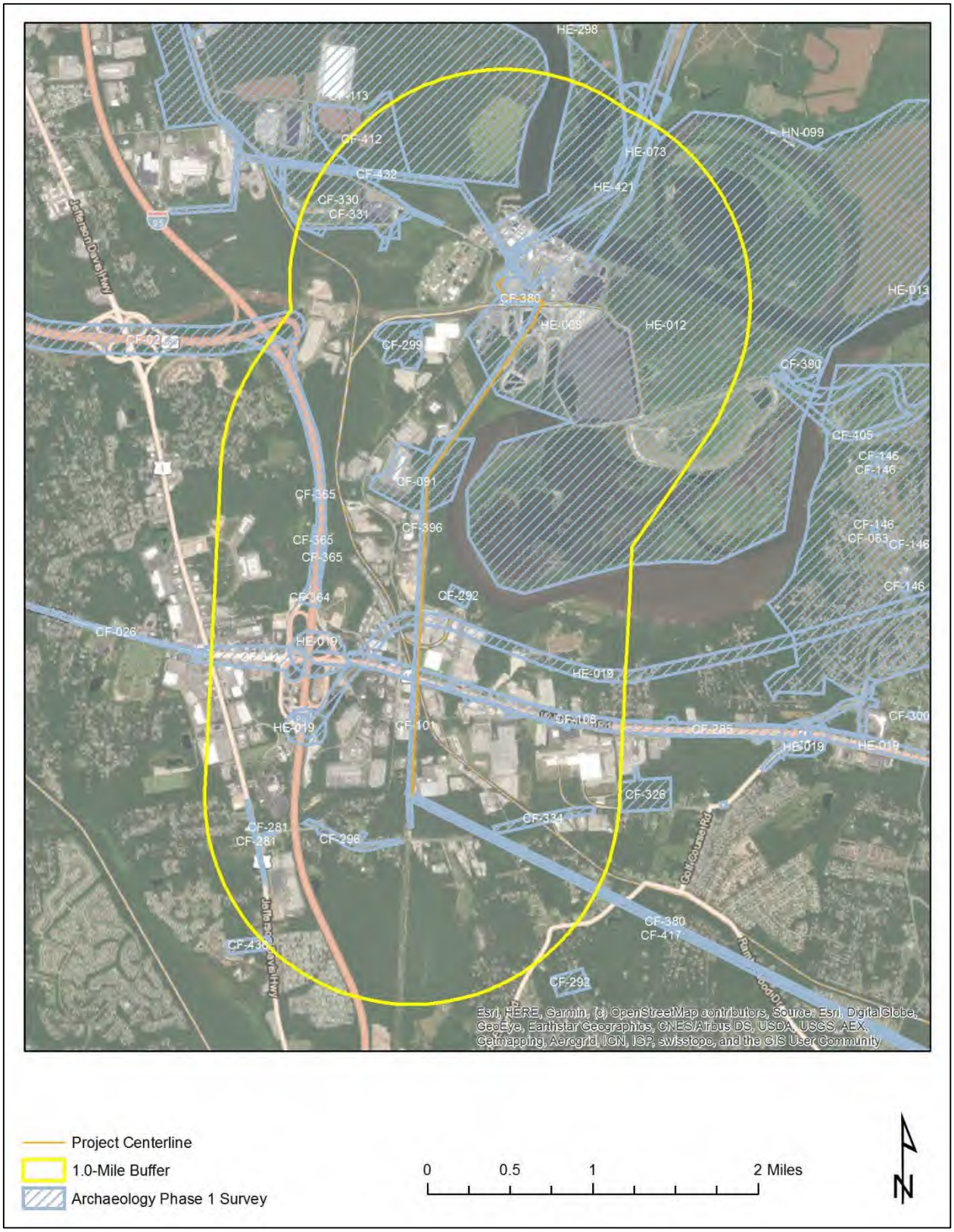


Figure 4-1: Previously conducted surveys within 1-mile of the project area. Source: VCRIS

ARCHITECTURAL RESOURCES

Review of the VDHR VCRIS inventory records revealed a total of ninety-eight (98) previously recorded architectural resources are located within 1.5 mile of the project area. Of these, there are no (0) NHLs located within 1.5 mile of the proposed project or closer, one (1) property listed in the NRHP located within 1.0 mile or closer of the project, seven (7) battlefields located within 1.0 mile or closer of the project, and three (3) properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project. One (1) additional property is considered contributing to the NRHP-listed resource and is also held under a historic preservation easement by the VDHR. Of these, one (1) property listed in the NRHP and four (4) battlefields or associated components are located directly within or crossed by the project ROW.

Table 4-2 lists all NHLs, NRHP-listed, and NRHP-eligible resources within their respective buffered tiers. A map of all previously recorded architectural resources within 1.5 mile of the project area is depicted in Figure 4-2 and a map of considered resources within their respective study tiers is included in Figure 4-3.

Table 4-2: Previously recorded cultural resources within their respective tiered buffer zones as specified in the VDHR Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia

Buffer(miles)	Considered Resources	VDHR #	Description
1.5	National Historic Landmarks	None	None
1.0	National Historic Landmarks	None	None
	National Register- Listed	None	None
	Battlefields	020-5317	Port Walthall Junction Battlefield, Indian Hills Road
		020-5318	Arrowfield Church, Fort Clifton, Swift Creek Battlefield
		043-0307	Battle of Chaffin's Farm, New Market Road, New Market Heights Battlefield
		123-5025	Assault on Petersburg, Petersburg Battlefield II
	Historic Landscapes	None	None
0.5	National Historic Landmarks	None	None
	National Register- Listed	None	None
	Battlefields	020-0121	Osborne's Naval Battle
	Historic Landscapes	None	None
	National Register- Eligible	020-0015	Clay House, 2341 Old Bermuda Hundred Road

Buffer(miles)	Considered Resources	VDHR #	Description
		020-0232	Howlett Line, Parker's Battery, Parker's Battery Earthworks
0.0 (ROW)	National Historic Landmarks	None	None
	National Register- Listed	043-0033	Richmond National Battlefield Park
	Battlefields	020-5316	Chester Station Battlefield
		020-5319	Ware Bottom Church Battlefield
		020-5320	Drewry's Bluff (2nd) Battlefield, Fort Darling, Fort Drewry, Proctor's Creek Battlefield
	Historic Landscapes	None	None
	National Register- Eligible	020-5319-0002	Battery Dantzler

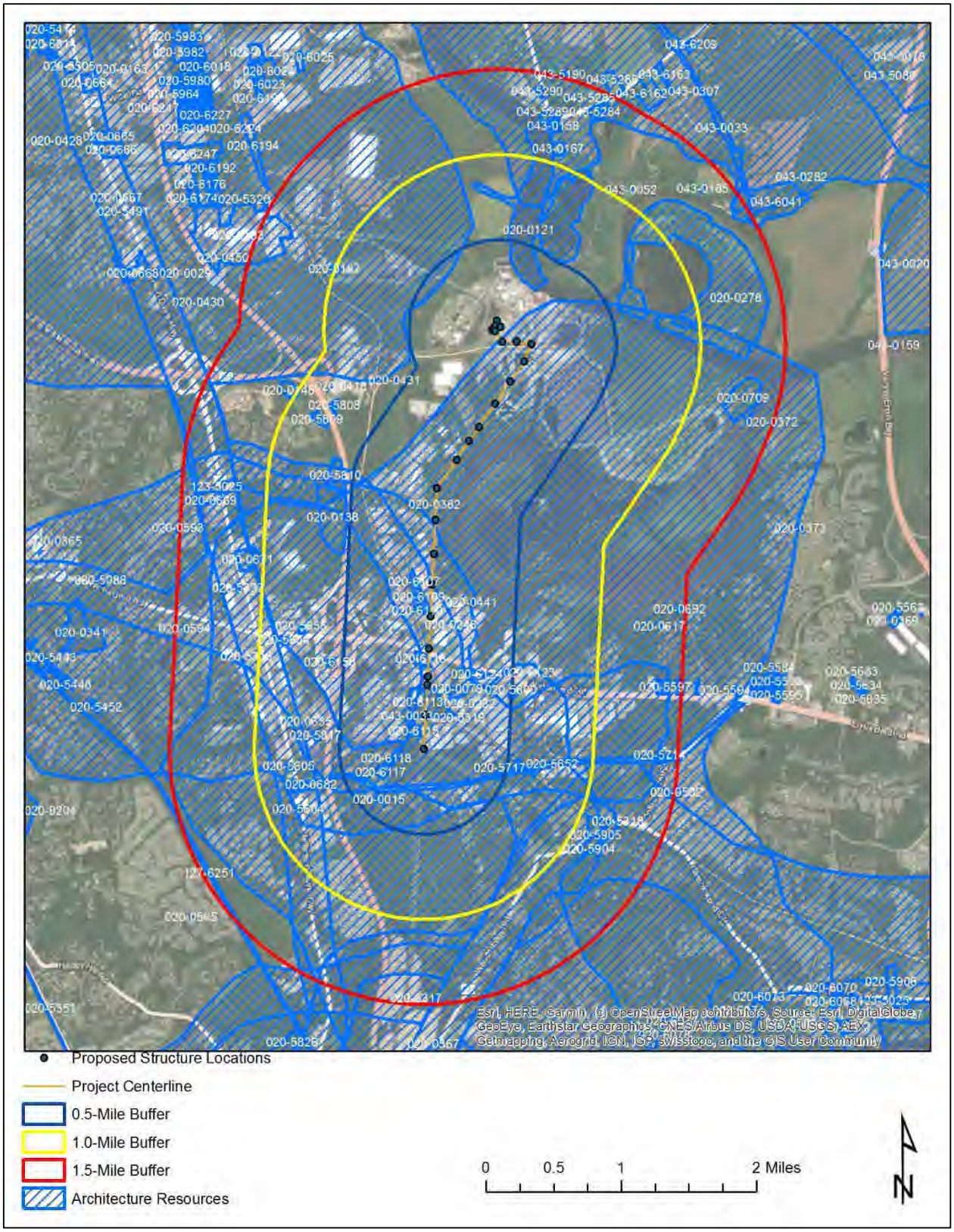


Figure 4-2: All previously identified architectural resources within 1.5 miles of the project area. Source: VCRIS

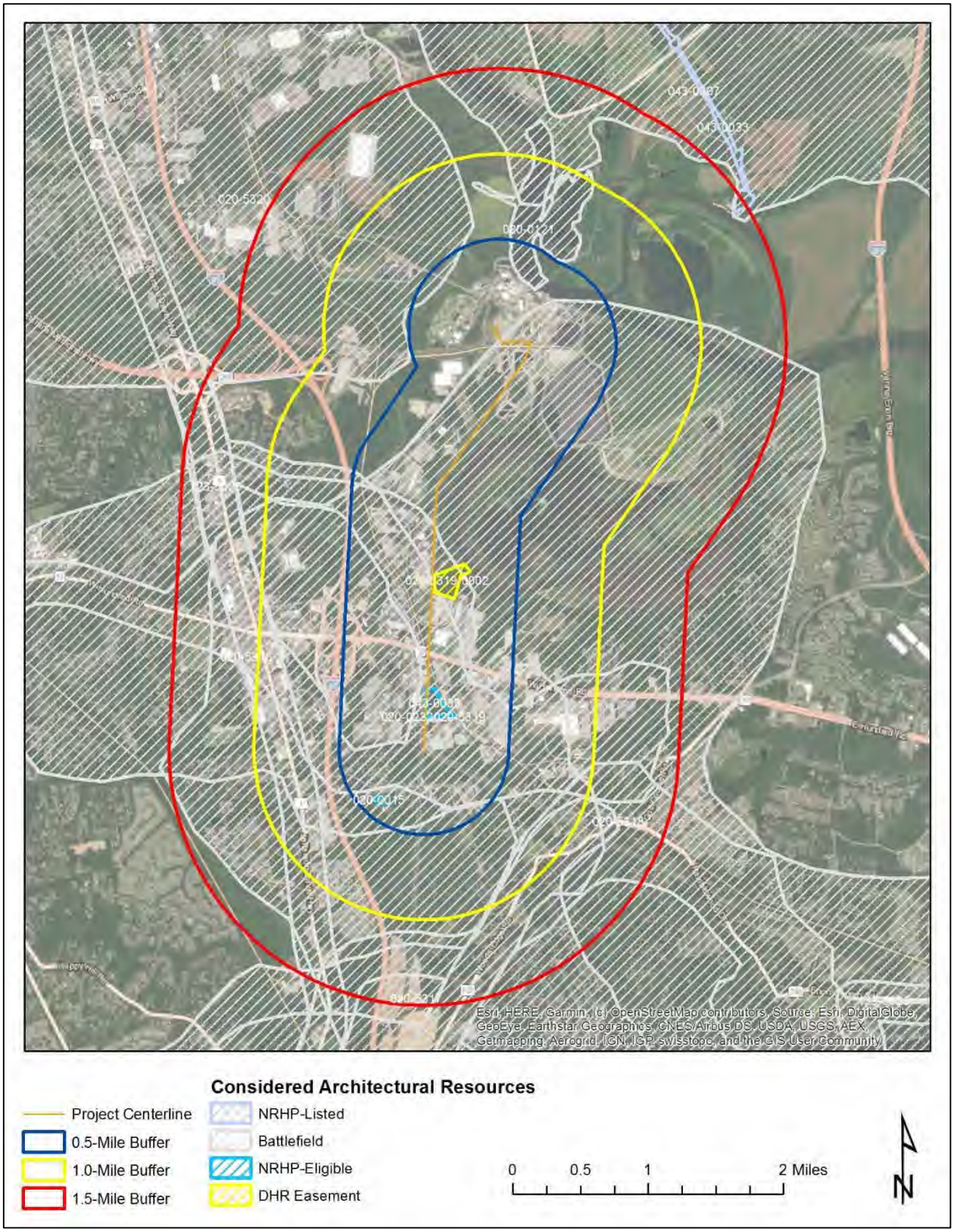


Figure 4-3: Considered architectural resources within their respective tiers around the project area. Source: VCRIS

NPS AMERICAN BATTLEFIELD PROTECTION PROGRAM (ABPP)

Because portions of Civil War battlefields extend within one mile of the project area, the NPS ABPP records and maps prepared by the Civil War Sites Advisory Commission (CWSAC) were reviewed to note the existing conditions and integrity, as well as recommendation of NRHP-eligibility.

As defined by the ABPP in 2009, battlefields may be divided into three tiers that correlate to both the historic association and the current level of integrity and preservation. The battlefield ***study area*** represents the historic extent of the battle as it unfolded upon the landscape; the battlefield ***core area*** represents the areas of fighting on the battlefield and typically includes the areas of greatest importance to understanding the events of the battle; and the ***potential National Register boundaries*** encompass the area that remains reasonably intact and warrant preservation.

A review of the NPS ABPP records reveals that the project area is located within one mile of portions of seven (7) defined battlefields. These include the Port Walthall Junction (VA047), Swift Creek (VA050), Chester Station (VA051), Proctor's Creek (VA053), Ware Bottom Church (VA054), Petersburg II (VA063), and Chaffin's Farm (VA075) Battlefields.

Table 4-3 lists the battlefields within one mile and identifies portions of each battlefield directly crossed by the project and within one mile. Figure 4-4 illustrates the location of each battlefield in relation to the project area.

Table 4-3: ABPP Battlefields within one mile and proximity to battlefield tiers

ABPP #	Battlefield Name	Study Area	Core Area	Potential National Register Area
VA047	Port Walthall Junction	**Within one mile**	>1 mile away	>1 mile away
VA050	Swift Creek	**Within one mile**	>1 mile away	**Within one mile**
VA051	Chester Station	**Crossed by Project**	**Within one mile**	**Crossed by Project**
VA053	Proctor's Creek	**Crossed by Project**	**Within one mile**	**Crossed by Project**
VA054	Ware Bottom Church	**Crossed by Project**	**Crossed by Project**	>1 mile away
VA063	Petersburg II	**Within one mile**	>1 mile away	>1 mile away
VA075	Chaffin's Farm	**Within one mile**	>1 mile away	>1 mile away

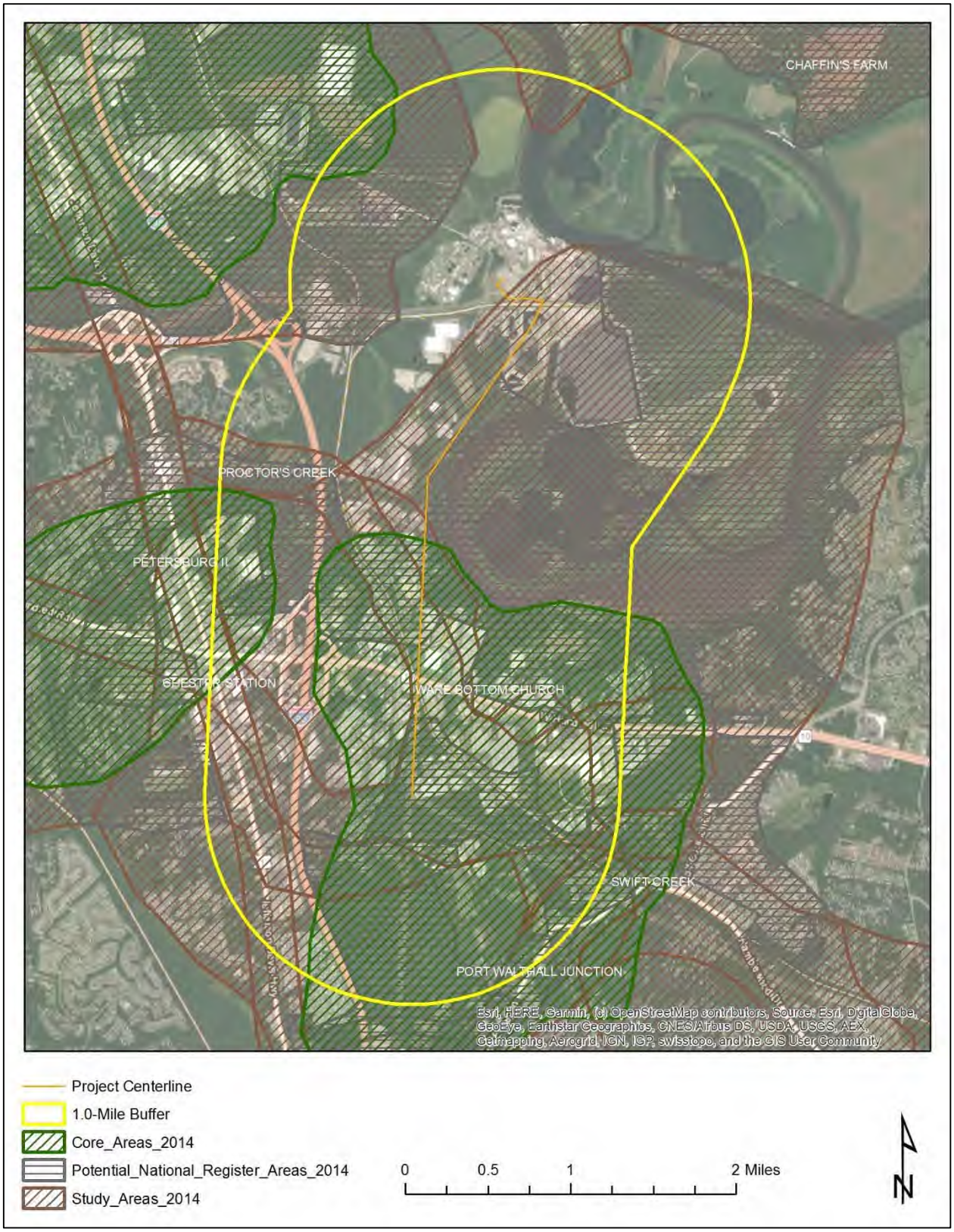


Figure 4-4: ABPP-delineated battlefield tiers within one mile of the project. Source: VCRIS

ARCHAEOLOGICAL SITES

Review of the VDHR VCRIS records reveals there are seventy-five (75) previously recorded archaeological sites within one mile of the project area. These include prehistoric lithic scatters, quarries, and camps; as well as historic domestic sites, a town site, industrial and transportation-related sites, earthworks, cemeteries, and refuse scatters. Of these, fourteen (14) have been determined eligible or potentially eligible for listing in the NRHP, sixteen (16) have been determined not eligible for listing in the NRHP, and the remaining sites have not been formally evaluated. Twelve (12) of these sites are located directly within or crossed by the project ROW, of which six (6) are considered potentially eligible for listing in the NRHP.

Table 4-4 lists the previously recorded archaeological resources within one-mile of the project area and Table 4-5 lists those previously recorded sites that are located within or crossed by the project ROW. Figure 4-5 illustrates the locations of the previously recorded sites within one mile of the project study area and Figures 4-6 and 4-7 illustrate the locations of the sites located within or adjacent to the ROW for the project.

Table 4-4: Previously recorded archaeological resources within one mile of the project area. Bold font denotes resource is considered NRHP-eligible. Orange highlight denotes site is located within or crossed by the project ROW.

VDHR #	Type	Temporal Association	NRHP Status
No Data	**Lithic scatter**	**Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606)**	**DHR Staff: Potentially Eligible**
44CF0003	Camp, Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44CF0010	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0061	<Null>	Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44CF0062	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0063	<Null>	<Null>	Not Evaluated
44CF0099	Shipwreck	Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829)	Not Evaluated
44CF0102	**Dwelling, multiple, Railroad bed, Village/Town, Wharf**	**Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), 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), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)**	**DHR Staff: Eligible**
44CF0103	Church, Grave/burial	Prehistoric/Unknown (15000 B.C. - 1606 A.D.), Middle Woodland (300 - 999 A.D.), 18th Century (1700 - 1799)	Not Evaluated
44CF0113	Camp	Archaic (8500 - 1201 B.C.), Late Woodland (1000 - 1606)	Not Evaluated
44CF0122	Dam, Mill	17th Century (1600 - 1699), 18th Century (1700 - 1799)	Not Evaluated

VDHR #	Type	Temporal Association	NRHP Status
44CF0124	**Camp, temporary, Midden**	**Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829)**	**DHR Staff: Potentially Eligible**
44CF0125	Other, Trash pit	18th Century (1700 - 1799), 19th Century (1800 - 1899)	Not Evaluated
44CF0126	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0127	Bridge, Road	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), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated
44CF0128	Camp, temporary	Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829)	DHR Staff: Not Eligible
44CF0129	Camp, temporary, Quarry	Pre-Contact	Not Evaluated
44CF0130	**Camp, temporary, Dwelling, single, Hospital, Lithic workshop**	**Pre-Contact, Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), Contact Period (1607 - 1750), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)**	**DHR Staff: Potentially Eligible**
44CF0131	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0132	Camp, temporary	Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44CF0176	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0177	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0182	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0183	Camp, temporary	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0189	Earthworks	Woodland (1200 B.C. - 1606 A.D.)	Not Evaluated
44CF0199	Camp, temporary	<Null>	Not Evaluated
44CF0200	<Null>	18th Century (1700 - 1799)	Not Evaluated
44CF0448	Grave/burial	19th Century: 3rd quarter (1850 - 1874)	Not Evaluated
44CF0450	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0451	Earthworks	19th Century: 2nd/3rd quarter (1825 - 1874)	Not Evaluated
44CF0452	Cemetery	Historic/Unknown	Not Evaluated
44CF0544	<Null>	Late Archaic (3000 - 1201 B.C.), Woodland (1200 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44CF0545	<Null>	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44CF0546	Fort	19th Century: 3rd quarter (1850 - 1874)	DHR Staff: Not Eligible
44CF0578	**Earthworks, Fort**	**Civil War (1861 - 1865)**	**DHR Staff: Potentially Eligible**
44CF0600	Lithic workshop, Trash pit	Archaic (8500 - 1201 B.C.), 18th Century: 1st quarter (1700 - 1724)	Not Evaluated
44CF0672	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible

VDHR #	Type	Temporal Association	NRHP Status
44CF0673	Lithic quarry	Early/Middle Woodland (1200 B.C. - 999 A.D.)	DHR Staff: Not Eligible
44CF0674	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44CF0675	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44CF0676	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	DHR Staff: Not Eligible
44CF0681	**Battlefield, Earthworks, Fort**	**Civil War (1861 - 1865)**	**DHR Staff: Potentially Eligible**
44CF0682	Earthworks, Fort	18th Century: 2nd/3rd quarter (1725 - 1774), 19th Century: 3rd quarter (1850 - 1874)	Not Evaluated
44CF0688	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0689	Earthworks, Lithic procurement site, Outbuilding	Early Archaic Period (8500 - 6501 B.C.), Middle Archaic (6500 - 3001 B.C.), Middle Archaic Period (6500 - 3001 B.C.), Late Archaic Period (3000 - 1201 B.C.), Early Woodland (1200 B.C. - 299 A.D.), Late Woodland (1000 - 1606), Contact Period (1607 - 1750), Civil War (1861 - 1865)	Not Evaluated
44CF0690	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0693	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0694	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0695	Lithic scatter	Prehistoric/Unknown (15000 B.C. - 1606 A.D.)	Not Evaluated
44CF0696	**Farmstead**	**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)**	**DHR Staff: Potentially Eligible**
44CF0792	Artifact scatter	Pre-Contact	DHR Staff: Not Eligible
44CF0793	Camp, temporary, Cemetery, Dwelling, single, Other	Middle Woodland (300 - 999 A.D.), Antebellum Period (1830 - 1860), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1988), Post Cold War (1989 - Present)	DHR Staff: Not Eligible
44CF0814	Artifact scatter	Pre-Contact, Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CF0825	Camp, Farmstead	Pre-Contact, Antebellum Period (1830 - 1860), Civil War (1861 - 1865)	DHR Staff: Not Eligible
44CF0826	Camp	Pre-Contact	DHR Staff: Not Eligible
44CF0830	**Artifact scatter**	**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)**	**DHR Staff: Potentially Eligible**
44CF0831	Artifact scatter, Other	Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), Contact Period (1607 - 1750), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CF0832	Artifact scatter, Other	Pre-Contact, Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916), World War I to World War II (1917 - 1945)	Not Evaluated

VDHR #	Type	Temporal Association	NRHP Status
44CF0840	**Earthworks**	**Civil War (1861 - 1865)**	**DHR Staff: Potentially Eligible**
44CF0841	**Earthworks**	**Civil War (1861 - 1865)**	**DHR Staff: Potentially Eligible**
44CF0866	**Lithic scatter**	**Pre-Contact, Antebellum Period (1830 - 1860)**	**DHR Staff: Potentially Eligible**
44CF0867	**Lithic scatter**	**Pre-Contact**	**DHR Staff: Potentially Eligible**
44CF0873	**Artifact scatter**	**Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)**	**DHR Staff: Potentially Eligible**
44CF0874	Artifact scatter	Pre-Contact, Antebellum Period (1830 - 1860), Civil War (1861 - 1865)	DHR Staff: Not Eligible
44CF0875	Artifact scatter	Pre-Contact	DHR Staff: Not Eligible
44CF0876	**Artifact scatter**	**Pre-Contact, Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)**	**DHR Staff: Potentially Eligible**
44CF0877	Artifact scatter	Pre-Contact, Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	DHR Staff: Not Eligible
44CF0897	Artifact scatter	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CF0912	Road	Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)	Not Evaluated
44CF0913	Road	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), World War I to World War II (1917 - 1945)	Not Evaluated
44CF0914	Earthworks	Civil War (1861 - 1865)	Not Evaluated
44CF0915	Earthworks	Civil War (1861 - 1865)	Not Evaluated
44CF0931	Shipwreck	World War I to World War II (1917 - 1945)	Not Evaluated
44CF0932	Hotel	The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated
44HE1083	Trash scatter	Historic/Unknown, Paleo-Indian (15000 - 8501 B.C.E), Early Archaic Period (8500 - 6501 B.C.E), Middle Archaic Period (6500 - 3001 B.C.E), Late Archaic Period (3000 - 1201 B.C.E), Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606)	Not Evaluated

Table 4-5: Previously recorded archaeological resources within or crossed by the project area. Bold font denotes resource is NRHP-eligible

VDHR #	Type	Temporal Association	NRHP Status
44CF0102	**Dwelling, multiple, Railroad bed, Village/Town, Wharf**	**Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), 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), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991)**	**DHR Staff: Eligible**
44CF0124	**Camp, temporary, Midden**	**Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829)**	**DHR Staff: Potentially Eligible**
44CF0127	Bridge, Road	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), World War I to World War II (1917 - 1945), The New Dominion (1946 - 1991), Post Cold War (1992 - Present)	Not Evaluated
44CF0128	Camp, temporary	Pre-Contact, Contact Period (1607 - 1750), Colony to Nation (1751 - 1789), Early National Period (1790 - 1829)	DHR Staff: Not Eligible
44CF0129	Camp, temporary, Quarry	Pre-Contact	Not Evaluated
44CF0130	**Camp, temporary, Dwelling, single, Hospital, Lithic workshop**	**Pre-Contact, Early Woodland (1200 B.C.E - 299 C.E), Middle Woodland (300 - 999 C.E), Late Woodland (1000 - 1606), Contact Period (1607 - 1750), Antebellum Period (1830 - 1860), Civil War (1861 - 1865), Reconstruction and Growth (1866 - 1916)**	**DHR Staff: Potentially Eligible**
44CF0578	**Earthworks, Fort**	**Civil War (1861 - 1865)**	**DHR Staff: Potentially Eligible**
44CF0873	**Artifact scatter**	**Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)**	**DHR Staff: Potentially Eligible**
44CF0874	Artifact scatter	Pre-Contact, Antebellum Period (1830 - 1860), Civil War (1861 - 1865)	DHR Staff: Not Eligible
44CF0875	Artifact scatter	Pre-Contact	DHR Staff: Not Eligible
44CF0876	**Artifact scatter**	**Pre-Contact, Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)**	**DHR Staff: Potentially Eligible**
44CF0877	Artifact scatter	Pre-Contact, Colony to Nation (1751 - 1789), Early National Period (1790 - 1829), Antebellum Period (1830 - 1860)	DHR Staff: Not Eligible

5. RESULTS OF FIELD RECONNAISSANCE

In accordance with the VDHR guidelines for assessing impacts of proposed electric transmission lines on historic resources, previously recorded historic architectural properties designated an NHL, or either listed or determined eligible or potentially eligible for listing in the NRHP located within 1.5 mile, 1.0 mile, or 0.5 mile of the project area (Table 5-1) were field verified for existing conditions and photo documented. Inspection and analysis of the setting around the resource and views towards the project alignment were also investigated to assess potential impacts.

This includes no (0) NHLs located within 1.5 mile of the proposed project or closer, one (1) property listed in the NRHP located within 1.0 mile or closer of the project, seven (7) battlefields located within 1.0 mile or closer of the project, and three (3) properties that have been determined eligible or potentially eligible for listing in the NRHP within 0.5 mile or closer of the project. One (1) additional property is considered contributing to the NRHP-listed resource and is also held under a historic preservation easement by the VDHR.

The results of the field reconnaissance for each resource, organized by VDHR ID#, is summarized in the following pages.

Previously recorded archaeological sites located directly within the project ROW were not field inspected or subject to assessment at this time.

Table 5-1: Considered Architectural Resources with their respective NRHP-status and distance to the project.

VDHR #	Resource Name, Address	NRHP-Status	Distance from Project
020-0015	Clay House, 2341 Old Bermuda Hundred Road	NRHP-Eligible	~0.36 Mile
020-0121	Osborne's Naval Battle	NRHP-Eligible	~0.30 Mile
020-0232	Howlett Line, Parker's Battery, Parker's Battery Earthworks	NRHP-Eligible	Directly Adjacent
020-5316	Chester Station Battlefield	Not Eligible	Directly Crossed
020-5317	Port Walthall Junction Battlefield, Indian Hills Road	NRHP-Eligible	~0.81 Mile
020-5318	Arrowfield Church, Fort Clifton, Swift Creek Battlefield	Potentially NRHP-Eligible	~0.77 Mile
020-5319	Ware Bottom Church Battlefield	Potentially NRHP-Eligible	Directly Crossed
020-5319-0002	Battery Dantzler	VDHR Easement	Directly Adjacent
020-5320	Drewry's Bluff (2nd) Battlefield, Fort Darling, Fort Drewry, Proctor's Creek Battlefield	Potentially NRHP-Eligible	Directly Crossed
043-0033	Richmond National Battlefield Park	NRHP-Listed	Directly Adjacent
043-0307	Battle of Chaffin's Farm, New Market Road, New Market Heights Battlefield	Potentially NRHP-Eligible	~0.72 Mile
123-5025	Assault on Petersburg, Petersburg Battlefield II	Potentially NRHP-Eligible	~0.66 Mile

Clay House, 2341 Old Bermuda Hundred Road (VDHR# 020-0015)



Clay House, located at 3141 Old Bermuda Hundred Road was constructed circa 1825 as a Vernacular single-family dwelling. The L-shaped frame structure is comprised of two blocks – a one-and-a-half-story hall-and-parlor original block and a rear ell of the same height. The front block is topped by a side gable roof flanked on either gable end by a double-shouldered brick exterior end chimney. The form of the structure, along with its pier foundation, are two of the few remaining features of the house.

Clay House has maintained integrity of location, setting, and association, although integrity of design, materials, and workmanship have been diminished due to a mid-twentieth century renovation. Even so, the resource stands as a decently well-preserved example of an early Vernacular home in the region. Additionally, the house served as headquarters for Robert E. Lee during the Civil War. As such, the resource is considered potentially eligible for listing in the NRHP under Criteria A and C.

Because the Clay House is considered NRHP-eligible and the property is located within one-half mile of the project alignment, it was subject to assessment for potential impacts. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the Clay House and photographs were taken to document viewshed with emphasis on views from the resource towards the project alignment. The Clay House is located within a suburban area southwest of the project area and is roughly 0.36 mile away from the nearest structure to be replaced as part of the project. The home is oriented generally facing west, with the project alignment in the landscape to the northeast.

A site visit to the property found that the historic setting has been compromised by nonhistoric property subdivision and suburban development. The home that historically sat on a large rural property now rests on a small suburban lot within a neighborhood composed of numerous

twentieth century homes on suburban lots. Because the home is sited back from the road (roughly 200 feet back) with scattered vegetation in the yard between, views of the home are partially screened from public ROW.

Inspection was not conducted from the immediate vicinity of the home, however, it is assumed that the vegetation that screens views of the house from the road likely screen views outward from the house, including in the direction of the project. Inspection from the road along the front of the house revealed that an existing transmission structure associated with a length of the line not to be rebuilt as part of this project is visible above the treeline while looking down the road to the east. Views to the north and northeast in the direction of the project are interrupted by thick vegetation within a residential neighborhood. This vegetation consists of mature forest with a mix of deciduous and evergreen trees that prevent visibility of any existing structures to be replaced as part of the project, and is anticipated to do so year-round as this assessment was conducted in January under winter conditions.

The structure nearest the property to be replaced is currently 151 feet and will be replaced by a structure 142-feet in height. The second nearest structure within one-half mile is currently 117-feet and will be replaced with a 137-feet tall structure. The nearest structure is being decreased in height, and although the next nearest structure is being increased in height, it will still be 14 feet lower than the nearest existing structure that is not currently visible. As such, it is expected that the intervening vegetation will continue to provide complete screening of views in the direction of the project area and associated improvements.

Because the project improvements are not anticipated to be visible, and will therefore not introduce any change in setting or viewshed from the property which is already compromised by modern development and includes views of other transmission lines, it is D+A's opinion that the Lines# 211/228 partial Rebuild Project will pose ***no impact*** to the Clay House per VDHR's impact characterization scale.

Figure 5-1 depicts the location of Clay House in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-2 through 5-4 are representative photographs of the property, as well as those taken from locations within and near the property towards the project area.

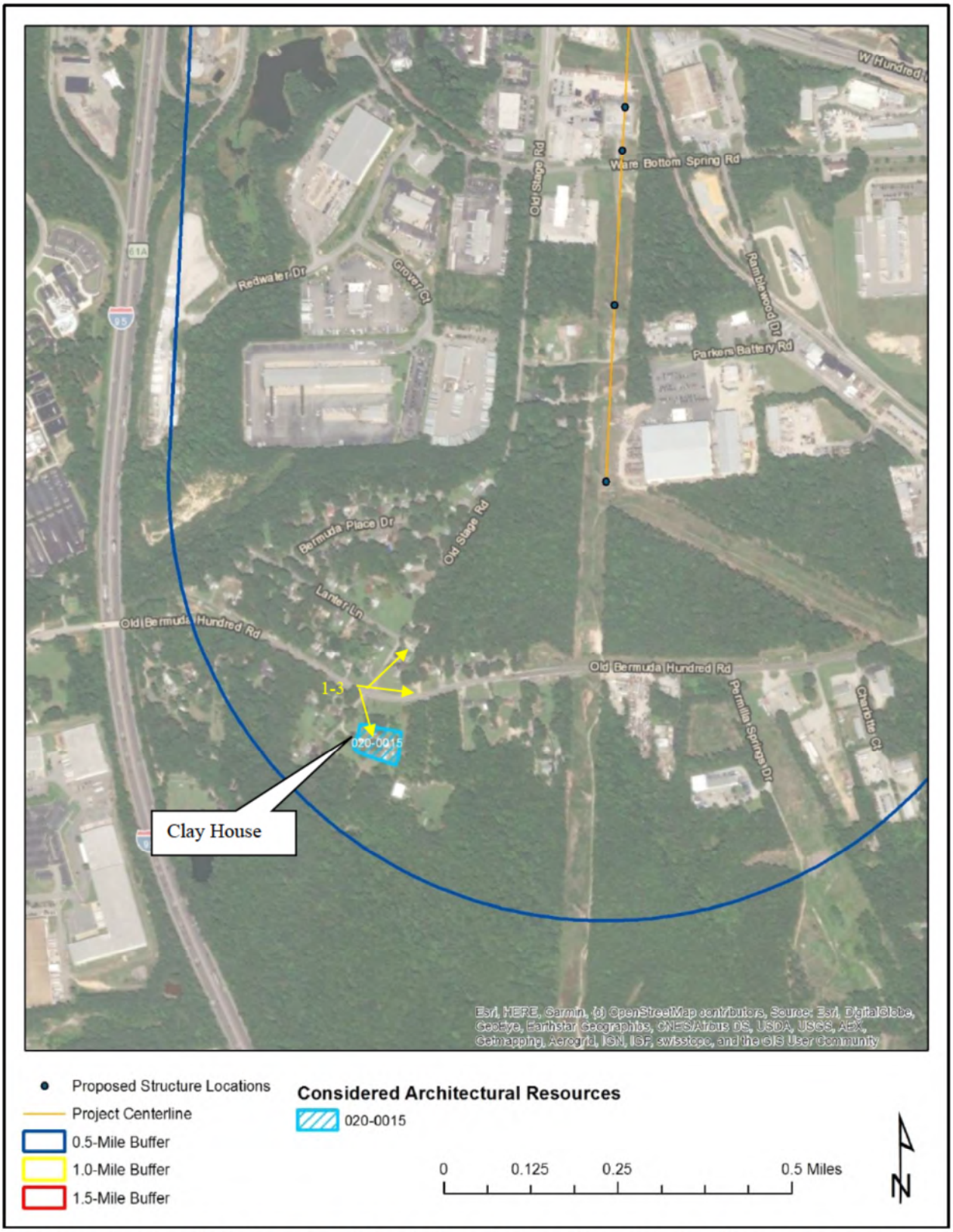


Figure 5-1: Location of Clay House in relation to the project area (Representative photographs and views towards the project area depicted in yellow).



Figure 5-2: Photo location 1- View of Clay House setting, facing southeast.



Figure 5-3: Photo location 2- View from front of Clay House property towards existing transmission line not included in this project, facing east.



Figure 5-4: Photo location 3- View from front of Clay House property towards the project area (not visible – screened by vegetation), facing northeast.

Osborne's Naval Battle (VDHR# 020-0121)



The Osborne's Naval Battle Site is an American Revolutionary War battle site in Chesterfield County dating to 1781. After defeating the American troops during the Battle of Blandford in Petersburg on April 25, British forces targeted on the American ship, the Tempest, at Osborne, a village along the south side of the James River about fifteen miles from Richmond. American naval forces returned fire, but the British destroyed much of their supplies, sank four ships, and captured two others. The landscape within the battlefield remains lightly developed with residential areas and is crossed by several power lines.

Osborne's Naval Battle Site is significant for its association with events of the American Revolution, and retains a relatively high level of integrity. As such, this resource is considered potentially eligible for listing in the NRHP.

Because the Osborne's Naval Battle site is considered NRHP-eligible and the property is located within one-half mile of the project alignment, it was subject to assessment for potential impacts. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around the site and photographs were taken to document viewshed with emphasis on views from the resource towards the project alignment. The Osborne Naval Battle Site includes a roughly one-mile length of James River from approximately Kingsland Road downstream to the Chesterfield Power Plant on the west side of the river. The northern terminus of the project alignment is within the power plant property and the nearest structure to be replaced as part of the project is roughly 0.31 mile away.

A site visit to the area found that the setting of the upriver portion of the battle site remains relatively intact as the shoreline remains mostly wooded and undeveloped with only a few private residences bordering the north (east) side of the river. However, the downriver portion of the battle site is heavily compromised by the massive Chesterfield Power Plant complex that includes

numerous large buildings, multiple smokestacks, and a network of transmission lines extending in and out of the complex from all directions, including several that cross the river.

As most of the shoreline bordering both sides of the battle site is privately owned, photographs were taken from the limited publicly-accessible locations in the vicinity. Inspection from the Osborne Park and Boat Landing that is roughly 1.39 mile from the nearest portion of the project revealed that the smokestacks of the plant are visible just above the treeline, as is a transmission line backbone structure within the plant, however, none of the existing transmission line structures included in this project are visible. Inspection from Community Road where it borders the shoreline of the battle site roughly 0.62 mile from the project alignment revealed similar visibility of just a smokestack and taller backbone structure, whereas all of the existing transmission line structures are screened by other improvements within the plant, as well as the thick vegetation in the area.

The project structures nearest the property that are located within the power plant complex are proposed for reconductoring only and not replacement. The nearest structure to be replaced is currently 115 feet and will be replaced by a structure 108-feet in height. The second nearest structure is currently 97-feet and will be replaced with a 102-feet tall structure. As such, the nearest structure is being decreased in height, and although the next nearest structure is being increased in height, it will still be 13 feet lower than the nearest existing structure that is not currently visible. Therefore, it is expected that the intervening vegetation will continue to provide complete screening of views in the direction of the project area and associated improvements.

As such, it is anticipated that project improvements will not be visible from publicly-accessible land-based vantage points in the vicinity, and will therefore not introduce any change in setting or viewshed from the property which already includes views of the Chesterfield Power Plant from many locations. While it is expected that the potential for some visibility from vantage points within the river exist, any visibility of project structures would be seen in conjunction with and behind extensive other infrastructure and transmission lines within the power plant complex. It is D+A's opinion that the Lines# 211/228 partial Rebuild Project will pose no more than a ***minimal impact*** to the Osborne's Naval Battle Site per VDHR's impact characterization scale.

Figure 5-5 depicts the location of Osborne's Naval Battle in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-6 through 5-7 are representative photographs of the property, as well as those taken from locations within and near the property towards the project area.

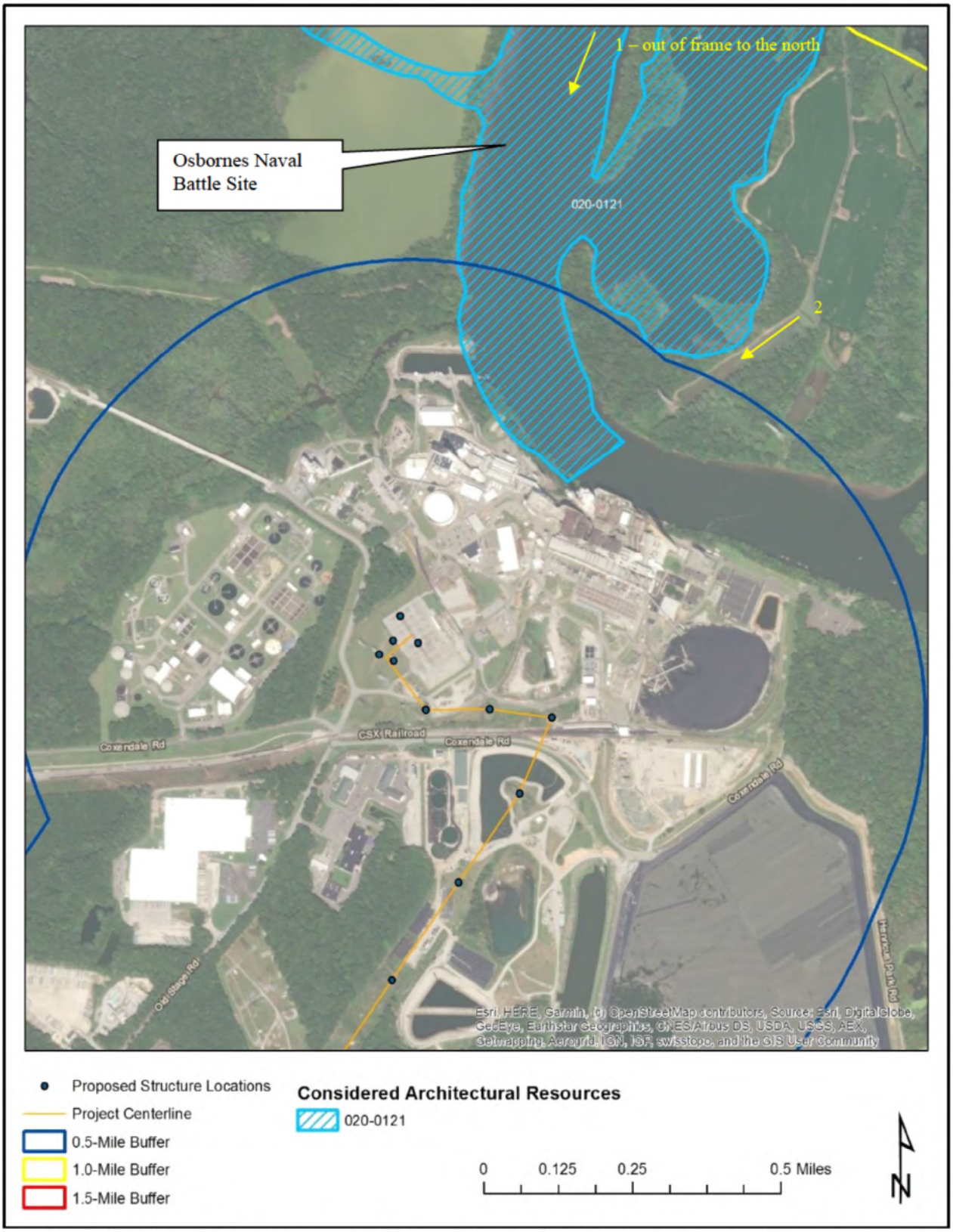


Figure 5-5: Location of Osborne's Naval Battle in relation to the project area (Representative photographs and views towards the project area depicted in yellow).



Figure 5-6: Photo location 1- View from Osborne Park and Boat Landing towards the project area (not visible – screened by vegetation), facing southwest.



Figure 5-7: Photo location 2- View from Community Road towards the project area (not visible – screened by vegetation), facing southwest.

Howlett Line, Parker's Battery, Parker's Battery Earthworks (VDHR# 020-0232)



Parker's Battery Earthworks, part of the Bermuda Hundred defensive lines, consist of 10-foot high, 5-foot wide linear earthworks that run north-south to Parker's Battery. The earthworks feature four 4-foot, 4-inch gun embrasures. The site was historically surrounded by open farmland but is now engulfed by woods.

Parker's Battery Earthworks were constructed as part of the defense system of Parker's Battery during the Bermuda Campaign of the Civil War. The earthworks remain relatively well-preserved and retain their association with major events of the Civil War. As such, the resource is considered potentially eligible for listing in the NRHP. The site is also now owned by the National Park Service and preserved as part of the Richmond National Battlefield Park.

Because the Howlett Line/Parker's Battery/Parker's Battery Earthworks (from here on referred to as Parker's Battery) is considered NRHP-eligible and the property is located within one-half mile of the project alignment, it was subject to assessment for potential impacts. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around Parker's Battery and photographs were taken to document viewshed with emphasis on views from the resource towards the project alignment. Parker's Battery is located within a light-industrial area directly adjacent to the east edge of the project alignment. Access to the site is by a driveway and parking lot directly under the project alignment.

A site visit to the property found that the overall historic setting has been compromised by nonhistoric development including commercial and industrial development as well as an extensive infrastructure network. The property is bordered by a high-voltage transmission line corridor to one side, a railroad corridor to the other, and industrial properties beyond in all directions. The immediate setting of the property is generally intact, although now wooded, and has been preserved as a public park.

Inspection was conducted from throughout the property as well as public ROW in the vicinity. This effort revealed that the project area and existing transmission line is highly visible from many vantage points in the vicinity, particularly from the driveway to the property off of Ware Bottom Spring Road. The driveway and public parking lot are both within the project ROW and the existing line is suspended directly overhead. The project alignment and multiple existing structures are also visible from the trailhead into the preservation area, however, upon entering this area, visibility of the project area quickly becomes screened by thick vegetation within the wooded area. This vegetation consists of mature forest with a mix of deciduous and evergreen trees that permit only minimal views of existing structures, and is anticipated to provide increased screening at other times of the rear as this assessment was conducted in January under winter conditions. Views remain nearly completely screened from throughout the trail system and in the immediate vicinity of the Parker's Battery earthworks. The project area and multiple structures become visible again as the trail emerges from the site into the ROW where it extends along the treeline back to the parking area.

Existing structures within one-half mile of the property currently range from 117-feet to 151 feet in height. As part of the project, the 151-foot tall structure is proposed to be decreased in height to 142-feet, two structures that are currently 132-feet tall will remain the same height while one 132-foot structure will be increased to 135-feet, and the 117-foot tall structure is proposed to be increased to 137-feet tall. As such, visibility of the replacement structures is expected to be similar to current conditions, although the structures will have a smaller profile as a result of the shift from lattice structures to monopoles. The one structure that will be increased in height more substantially than the others (117-feet to 137-feet) is located within the portion of ROW immediately adjacent to the property, and therefore visibility of this structure will likely increase, however, it will only be minimally taller than the majority of other existing structure heights, and continue to be shorter than the next adjacent structure down the alignment that is currently 151-feet and will be replaced with a 142-foot structure.

Due to the change in structure heights as well as configuration, the project is anticipated to result in a slight change in the overall appearance of the line from the Parker's Battery site, however, the project alignment is within a shared ROW, and located between two other existing transmission lines of similar height. One of these lines was also recently rebuilt with replacement within one-half mile ranging from 100- to 140-feet tall, and as part of the project review, it was determined that the project would have a minimal impact on the resource.

Because of the increase in height of the structure located immediately adjacent to the site, a photo simulation was conducted to model the appearance of the proposed structure. This simulation was conducted from the trailhead to the preservation area and reveals that at 117-feet the existing structure is shorter than the structure on the adjacent Lines #100/2049, however, once the structure is replaced and increased in height to 137-feet, it will appear only minimally taller that adjacent structure that is 130-feet in height.

As the overall change in structure height as part of this project will be only minimally increased and will remain no taller than another existing structure adjacent to the site, the project improvements are not anticipated to introduce a substantial cumulative change in setting or

viewshed from the property which is already compromised by modern development and includes views of other transmission lines, and it is therefore D+A's opinion that the Lines# 211/228 Partial Rebuild Project will pose no more than a ***minimal impact*** to Parker's Battery per VDHR's impact characterization scale.

Figure 5-8 depicts the location of Parker's Battery in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-9 through 5-16 are representative photographs of the property, as well as those taken from locations within and near the property towards the project area. Figure 5-17 provides photo simulation of the existing and proposed views towards the adjacent project structure that will be increased in height.

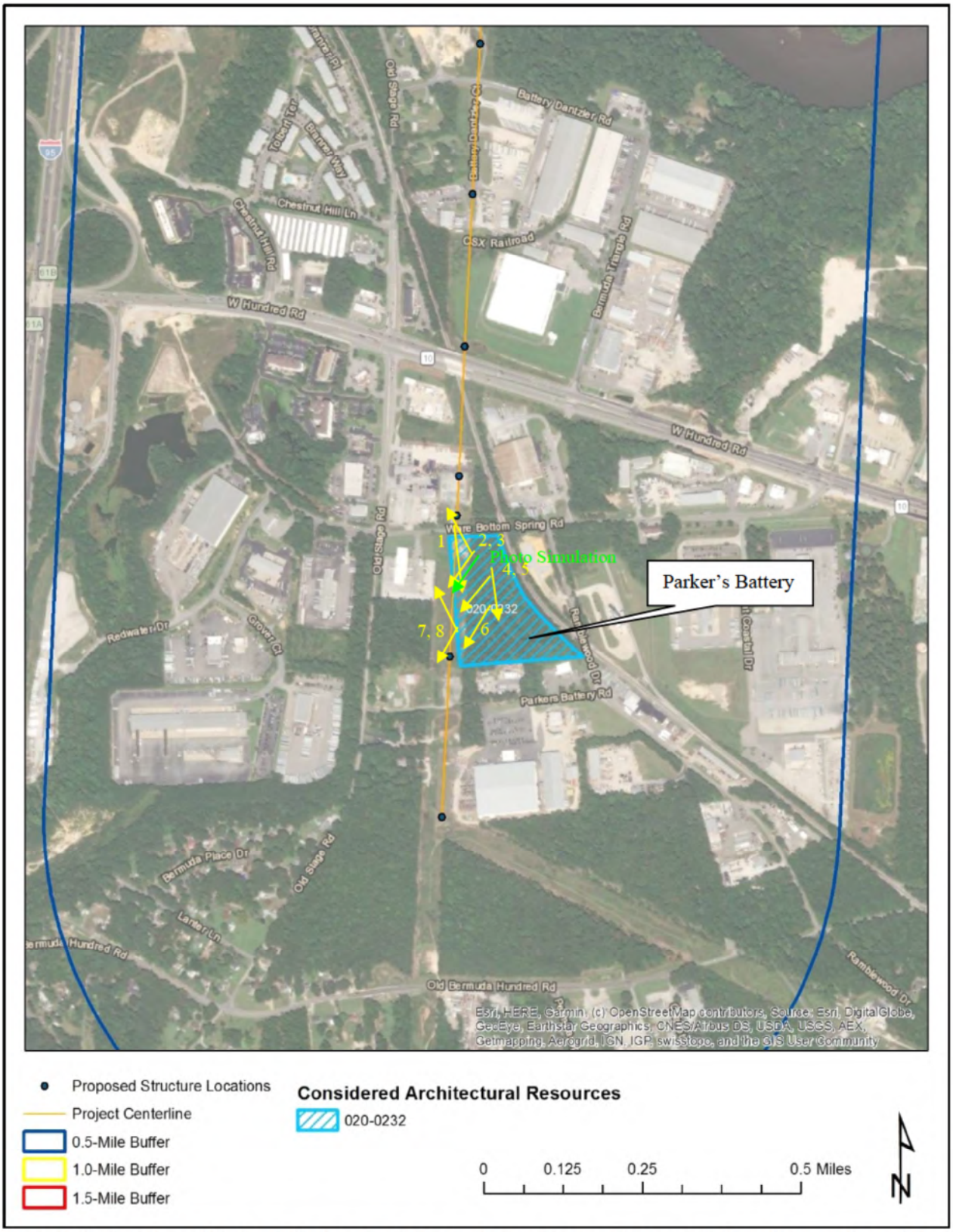


Figure 5-8: Location of Parker's Battery in relation to the project area (Representative photographs and views towards the project area depicted in yellow).



Figure 5-9: Photo location 1- View of Parker's Battery setting, facing southeast.

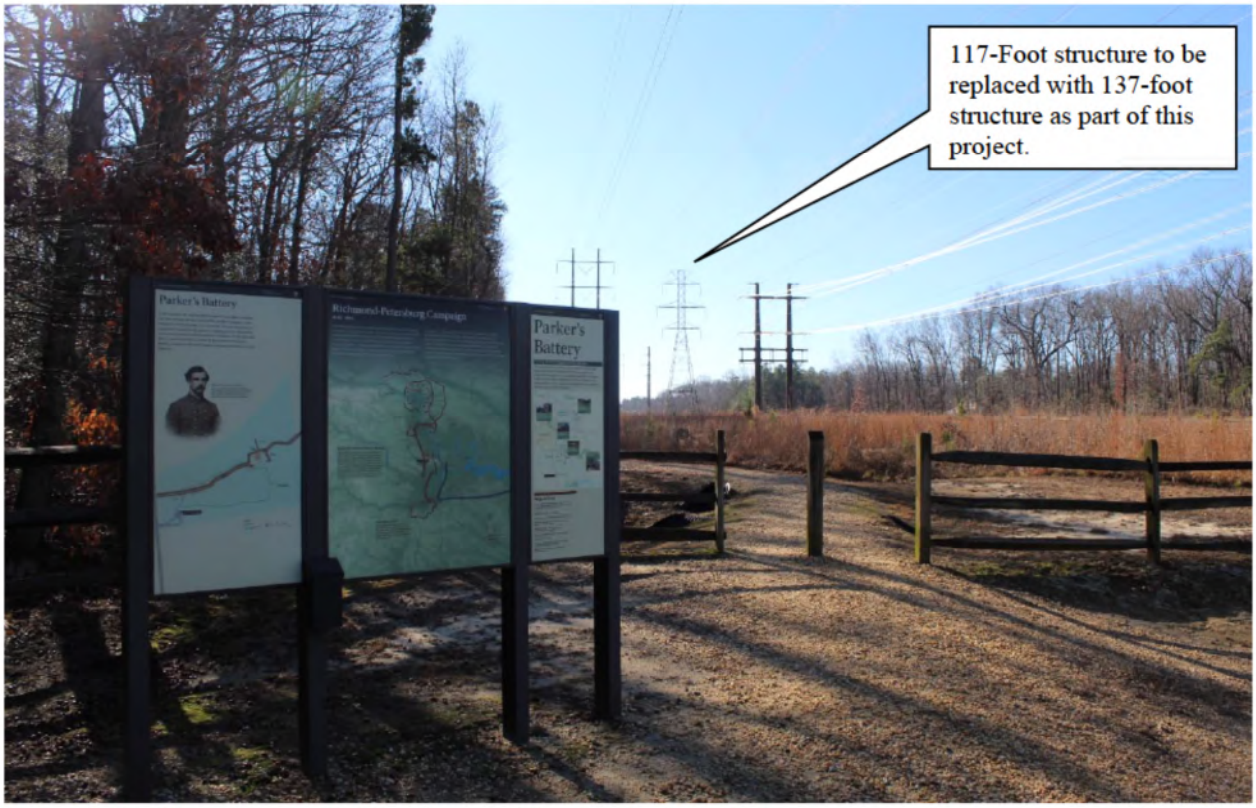


Figure 5-10: Photo location 2- View from trailhead to Parker's Battery preservation area towards the project area (visible), facing south.



Figure 5-11: Photo location 3- View from trailhead to Parker's Battery preservation area towards the project area (visible amongst extensive other infrastructure not included in this project), facing north.



Figure 5-12: Photo location 4- View from Parker's Battery preservation area towards the project area (not visible – screened by vegetation), facing south.



Figure 5-13: Photo location 5- View from Parker's Battery preservation area towards the project area (not visible – screened by vegetation), facing southwest.



Figure 5-14: Photo location 6- View from Parker's Battery preservation area towards the project area (One structure seasonally visible through vegetation), facing west.



Figure 5-15: Photo location 7- View from trail at exit from Parker's Battery preservation area towards the project area (visible), facing west.



Figure 5-16: Photo location 8- View from trail at exit from Parker's Battery preservation area towards the project area (visible), facing west.



Figure 5-17: Photo simulation from Parker's Battery illustrating existing conditions (top) and proposed view following the project (below). Source: Dominion Energy.

Chester Station Battlefield (VDHR# 020-5316)

The Battle of Chester Station, part of the Bermuda Hundred Campaign of the Civil War, took place on May 10, 1864 between Confederate troops led by General P.G.T. Beauregard and Union troops led by General Benjamin Butler. The Chester Station Battlefield, situated in the eastern portion of Chesterfield County, consists of monuments, interpretive markers, a cemetery, and some period structures, with the core of the battlefield located between Route 10 and Route 1. Much of the historic landscape and view sheds have been compromised by modern development, with the current uses of the landscape within the battlefield being residential and commercial in nature.

Although the Chester Station Battlefield maintains associations with major events of the Civil War, its integrity has been severely diminished by modern development. The battlefield was therefore determined not eligible for listing in the NRHP by the VDHR on several occasions from 2003-2020.

However, because portions of the Chester Station Battlefield are located within one mile of the project alignment, it was subject to assessment for potential impacts in accordance with VDHR guidance. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around and within the battlefield and photographs were taken to document viewshed with emphasis on views from the battlefield towards the project alignment. As much of the battlefield landscape is comprised of private property, field inspection was conducted from public ROW or property where access was granted.

The Chester Station Battlefield occupies a large landscape in eastern Chesterfield County focused around Chester Station. Although much of the battlefield, including the core area, is situated well to the west of the project, a short length of the project alignment extends directly through a portion of the battlefield near the eastern edge of the boundaries. A total of eight (8) existing transmission structures spread across a roughly 1.3-mile length of ROW associated with this project area located directly within the delineated boundaries of the battlefield. This includes the southern terminus of the project, however, the alignment extends beyond the battlefield to the north.

A site visit to the battlefield found that much of the landscape within the vicinity of the project alignment is heavily fractured and has been subject to modern development that has compromised the historic setting. Although several discrete battlefield features have been preserved as public parks or conservation areas, much of the landscape is characterized by commercial and light-industrial development, and is crossed by modern infrastructure in form of roads, railroads, and other utilities.

As part of the project, several of the existing structures located directly in the battlefield will be replaced while one will remain in place. The structures to be replaced will be done so on a one-to-one basis near the location of the existing structures and will not require any additional ROW or clearing within the property. The existing structures to be replaced within the battlefield currently range from 118- to 151-feet in height. As part of the project, the 151-foot tall structure is proposed to be decreased in height to 142-feet, three structures that are currently 132-feet tall will remain the same height, and three structures will be increased in height, including a 132-feet tall structure that will be increased to 137-feet, a 118-feet tall structure that will be increased to 127-feet, and a

117-foot tall structure that will be increased to 137-feet tall. As a result of the structure replacement, the project will have a direct impact on the battlefield, however, because the project will replace structures that already exist within a shared ROW occupied by numerous other transmission line infrastructure, it will not introduce any substantially new or different components into the landscape. Nor will it result in clearing or demolition of any associated battlefield features, and therefore the direct impact is anticipated to be minimal.

Inspection from representative vantage point throughout the battlefield found that visibility of the existing structure varies from completely screened by intervening vegetation and development to wide and unobstructed views of long lengths of the line. Where the project structures are visible is generally limited to vantage points in close proximity and views are in conjunction with and set amongst extensive modern development, as well as multiple other transmission lines, including two within the same shared ROW as the project alignment. More distant views are limited to vantage points along open road corridors that cross the project alignment such as West Hundred Road. Inspection from Civil War-era battlefield features reveal that the project area and some existing structures are visible from public ROW in the vicinity, however, they are screened from vantages within the interpretation/preservation areas by vegetation.

Due to the change in structure heights as well as configuration, the project is anticipated to result in a slight change in the overall appearance of the line from vantage points where it is already visible, however, due to the minimal increase in height for those structures that will be taller, new or expanded visibility from other locations is not expected. Because the project alignment is within a shared ROW and located between two other existing transmission lines of similar height, the change is not anticipated to be particularly noticeable. One of these lines was also recently rebuilt with replacement structures averaging 124-feet in height, and as part of the project review, it was determined that the project would have a minimal impact on the battlefield. As the overall change in structure height as part of this project will be only minimally increased, the project improvements are not anticipated to introduce a substantial cumulative change in setting or viewshed from the property which is already compromised by modern development and includes views of other transmission lines, and it is therefore D+A's opinion that the Lines# 211/228 partial Rebuild Project will pose no more than a ***minimal impact*** to Chester Station Battlefield per VDHR's impact characterization scale.

Figure 5-18 depicts the boundaries of the Chester Station Battlefield in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-19 through 5-37 are representative photographs of the battlefield, as well as those taken from locations within the battlefield towards the project area.

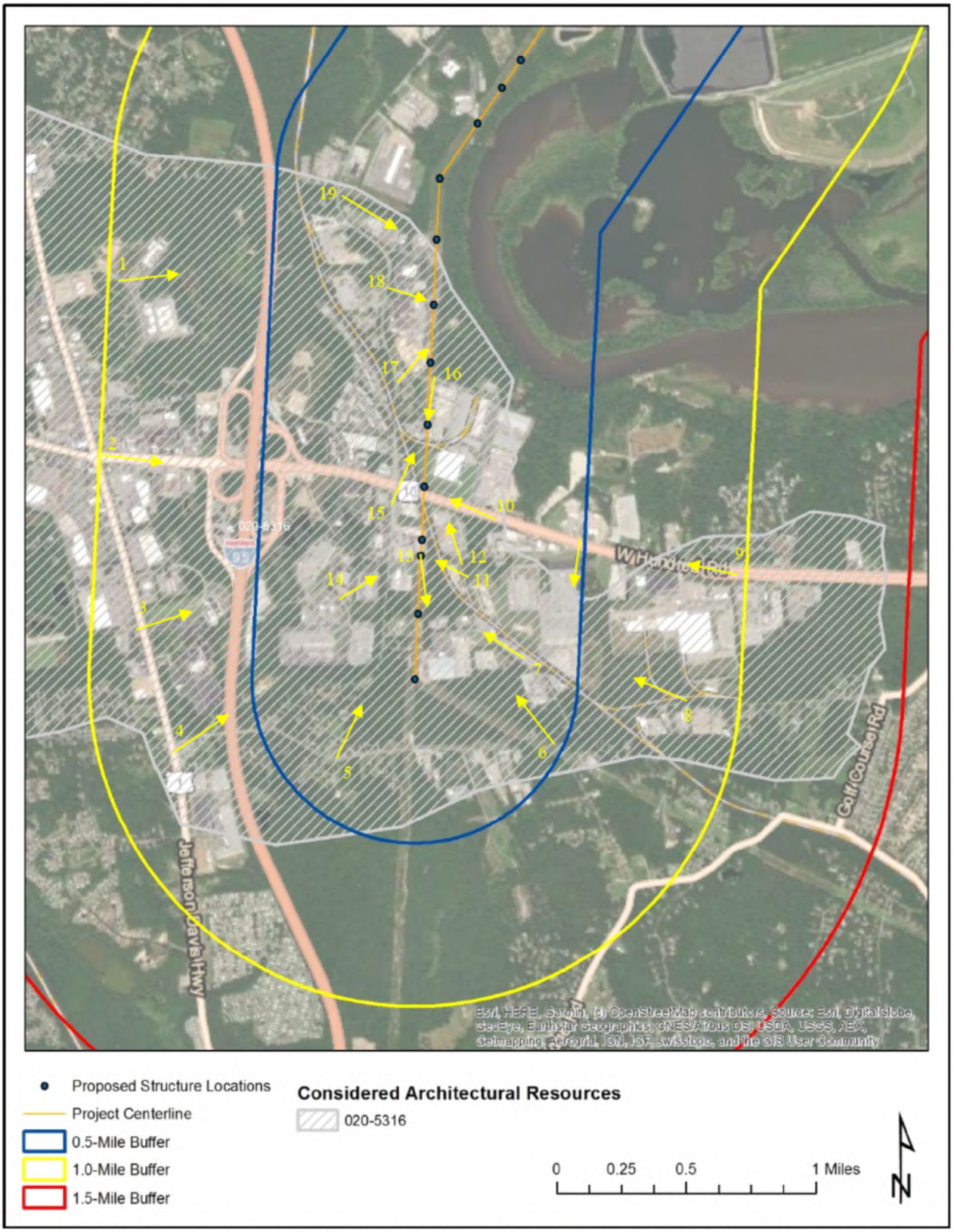


Figure 5-18: Location of Chester Station Battlefield in relation to the project alignment (Representative photographs and views towards the project area depicted in yellow).



Figure 5-19: Photo location 1- View from Moore's Lake Road (No project structures visible), facing east.



Figure 5-20: Photo location 2- View from W Hundred Road at US-1 (One project structure visible), facing east.



Figure 5-21: Photo location 3- View from US-1 at John Tyler Drive (No project structures visible), facing east.



Figure 5-22: Photo location 4- View from US-1 at Old Bermuda Hundred Road (No project structures visible), facing northeast.



Figure 5-23: Photo location 5- View from Clay House (VDHR# 020-0015) at Old Bermuda Hundred Road and Old Stage Road (No project structures visible), facing northeast.



Figure 5-24: Photo location 6- View from Ware Bottom Church Battlefield Park along Old Bermuda Hundred Road (No project structures visible – Visible structures are another line not included in this project), facing northeast.



Figure 5-25: Photo location 7- View from Ramblewood Drive (One project structure visible above treeline), facing northwest.



Figure 5-26: Photo location 8- View from Old Bermuda Hundred Road (No project structures visible), facing northwest.



Figure 5-27: Photo location 9- View from West Hundred Road at one-mile distance (One project structure visible above development), facing west.



Figure 5-28: Photo location 10- View from West Hundred Road at Bermuda Triangle Road (One project structure visible), facing west.



Figure 5-29: Photo location 11- View from Ramblewood Drive (One project structure visible through vegetation), facing northwest.



Figure 5-30: Photo location 12- View from Ware Bottom Spring Road at Ramblewood Drive (Three project structures visible through vegetation and above development), facing north.



Figure 5-31: Photo location 13- View from entrance to Parkers Battery (Two project structures visible down open ROW), facing south.



Figure 5-32: Photo location 14- View from Grover Court (One project structure visible through vegetation), facing northeast.



Figure 5-33: Photo location 15- View from Old Stage Road at W Hundred Road (Three project structures visible), facing northeast.



Figure 5-34: Photo location 16- View from Battery Dantzler Court (Multiple project structures visible down open ROW), facing south.



Figure 5-35: Photo location 17- View from Old Stage Road at Battery Dantzler Court (One project structure visible through vegetation), facing northeast.



Figure 5-36: Photo location 18- View from Old Stage Road (One project structure visible above development), facing east.



Figure 5-37: Photo location 19- View from Old Stage Road (No project structures visible), facing southeast.

Port Walthall Junction Battlefield, Indian Hills Road (VDHR# 020-5317)

This Battle of Port Walthall Junction took place in 1864 in conjunction with the opening of Grant's Overland Campaign of the Civil War. The two-day engagement at Port Walthall Junction ended in a Federal retreat after they destroyed only about 100 feet of railroad track near the junction. The Port Walthall Junction Battlefield, located in the eastern portion of Chesterfield County, contains monuments, historic road beds, trenches/field fortifications, and an old railroad bed. Its current uses are agricultural and industrial in nature. Some portions of the battlefield, including the core of the battlefield located near I-95, have been severely compromised by modern development, although large areas of the site remain relatively undeveloped.

Port Walthall Junction Battlefield is significant for its association with notable events of the Civil War, and maintains a relatively high level of integrity despite being subject to modern development in some areas. As such, the battlefield is considered potentially eligible for listing in the NRHP.

However, because portions of the Port Walthall Junction Battlefield are located within one mile of the project alignment, it was subject to assessment for potential impacts in accordance with VDHR guidance. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around and within the battlefield and photographs were taken to document viewshed with emphasis on views from the battlefield towards the project alignment. As much of the battlefield landscape is comprised of private property, field inspection was conducted from public ROW or property where access was granted.

The Port Walthall Junction Battlefield occupies a large landscape in eastern Chesterfield County focused around the former location of the Port Walthall Junction depot on the Richmond-Petersburg Railroad. Although much of the battlefield, including the core area, is situated well to the south of the project, a small portion of the northeastern edge of the battlefield boundaries are situated within one mile of the southern terminus of the project alignment. The nearest structure to be replaced as part of the project is roughly 0.81 mile away and just one additional structure is located within one-mile of the battlefield.

A site visit to the battlefield found that much of the landscape within the vicinity of the project alignment is heavily fractured and has been subject to modern development that has compromised the historic setting. Much of the landscape is characterized by suburban single-family homes and neighborhoods, and is crossed by modern infrastructure in form of roads, railroads, and other utilities.

Inspection from representative vantage points throughout the battlefield found that none of the existing structures to be replaced as part of the project are visible due to intervening vegetation and development. As part of the project, two existing structures located within one-mile of the battlefield will be replaced. The structures to be replaced will be done so on a one-to-one basis near the location of the existing structures and will not require any additional ROW or clearing. The nearest structure to be replaced is currently 151-feet in height and the next adjacent structure is 117-feet in height. As part of the project, the 151-foot tall structure is proposed to be decreased in height to 142-feet, while the 117-foot structure will be increased in height to 137-feet tall. As

such, it is expected that the intervening vegetation will continue to provide complete screening of views in the direction of the project area and associated improvements.

Because the project improvements are not anticipated to be visible, and will therefore not introduce any change in setting or viewshed from the battlefield which is already compromised by modern development and considered not eligible for listing in the NRHP, it is D+A's opinion that the Lines# 211/228 partial Rebuild Project will pose ***no impact*** to the Port Walthall Junction Battlefield per VDHR's impact characterization scale.

Figure 5-38 depicts the boundaries of the Port Walthall Junction Battlefield in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-39 through 5-41 are representative photographs of the battlefield, as well as those taken from locations within the battlefield towards the project area.

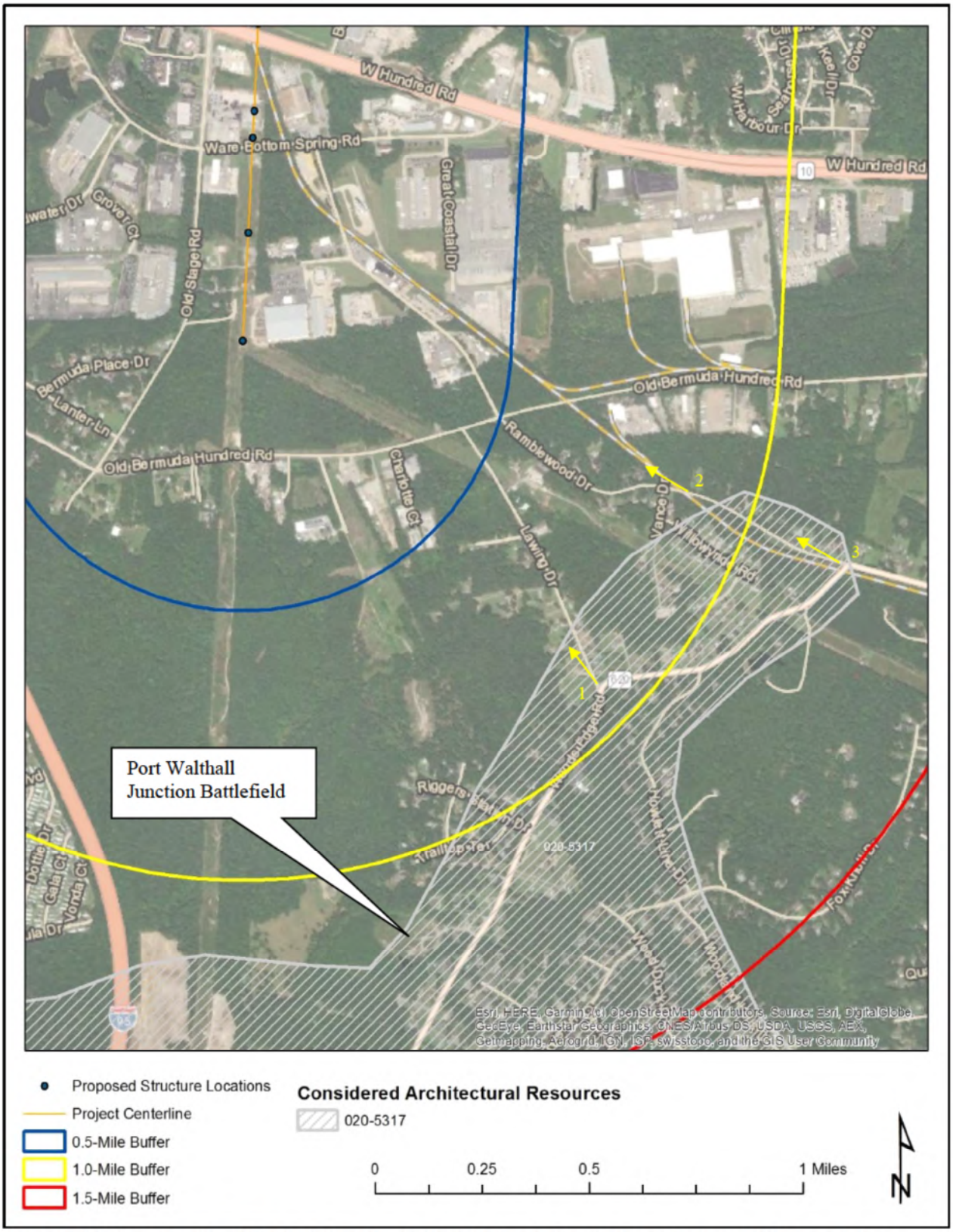


Figure 5-38: Location Port Walthall Junction Battlefield in relation to the project area (Representative photographs and views towards the project area depicted in yellow).



Figure 5-39: Photo location 1- View from Osborne Park and Boat Landing towards the project area (not visible – screened by vegetation), facing southwest.



Figure 5-40: Photo location 2- View from Community Road towards the project area (not visible – screened by vegetation), facing southwest.



Figure 5-41: Photo location 3- View from front of Clay House property towards the project area (not visible – screened by vegetation), facing northeast.

Swift Creek Battlefield (VDHR# 020-5318)

The Battle of Swift Creek took place in 1864 as part of the Overland Campaign of the Civil War. In early May, Union General Benjamin Butler advanced toward Petersburg intending to destroy the railroad and bridges over Swift Creek. The effort was to no avail, however, as the Union forces withdrew to Bermuda Hundred after a day of skirmishing. A majority of the battlefield is situated in the eastern part of Chesterfield, although it extends into the northern portion of Colonial Heights. The battlefield contains monuments, interpretive markers, and period structures and its current uses are agricultural, residential, and industrial in nature. Portions of the battlefield, including the core of the battlefield along Route 1, have been subject to heavy modern development that has compromised its historic character.

Although the historic landscape and character in portions of the battlefield have been compromised by modern development, large areas of the battlefield maintain a high level of integrity. Additionally, the site is significant for its associations with notable events of the Civil War. As such, it is considered potentially eligible for listing in the NRHP.

However, because portions of the Swift Creek Battlefield are located within one mile of the project alignment, it was subject to assessment for potential impacts in accordance with VDHR guidance. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around and within the battlefield and photographs were taken to document viewshed with emphasis on views from the battlefield towards the project alignment. As much of the battlefield landscape is comprised of private property, field inspection was conducted from public ROW or property where access was granted.

The Swift Creek Battlefield occupies a large landscape in eastern Chesterfield County focused on the Richmond-Petersburg road crossing over Swift Creek. Although much of the battlefield, including the core area, is situated well to the south of the project, a small portion of the northeastern edge of the battlefield boundaries are situated within one mile of the southern terminus of the project alignment. The nearest structure to be replaced as part of the project is roughly 0.81 mile away and just one additional structure is located within one-mile of the battlefield.

A site visit to the battlefield found that much of the landscape within the vicinity of the project alignment is heavily fractured and has been subject to modern development that has compromised the historic setting. Much of the landscape is characterized by suburban single-family homes and neighborhoods with some light-industry and commercial areas, and is crossed by modern infrastructure in form of roads, railroads, and other utilities.

Inspection from representative vantage points throughout the battlefield found that none of the existing structures to be replaced as part of the project are visible due to intervening vegetation and development. As part of the project, two existing structures located within one-mile of the battlefield will be replaced. The structures to be replaced will be done so on a one-to-one basis near the location of the existing structures and will not require any additional ROW or clearing. The nearest structure to be replaced is currently 151-feet in height and the next adjacent structure is 117-feet in height. As part of the project, the 151-foot tall structure is proposed to be decreased

in height to 142-feet, while the 117-foot structure will be increased in height to 137-feet tall. As such, it is expected that the intervening vegetation will continue to provide complete screening of views in the direction of the project area and associated improvements.

Because the project improvements are not anticipated to be visible, and will therefore not introduce any change in setting or viewshed from the battlefield which is already compromised by modern development and considered not eligible for listing in the NRHP, it is D+A's opinion that the Lines# 211/228 partial Rebuild Project will pose ***no impact*** to the Swift Creek Battlefield per VDHR's impact characterization scale.

Figure 5-42 depicts the boundaries of the Swift Creek Battlefield in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-43 through 5-46 are representative photographs of the battlefield, as well as those taken from locations within the battlefield towards the project area.

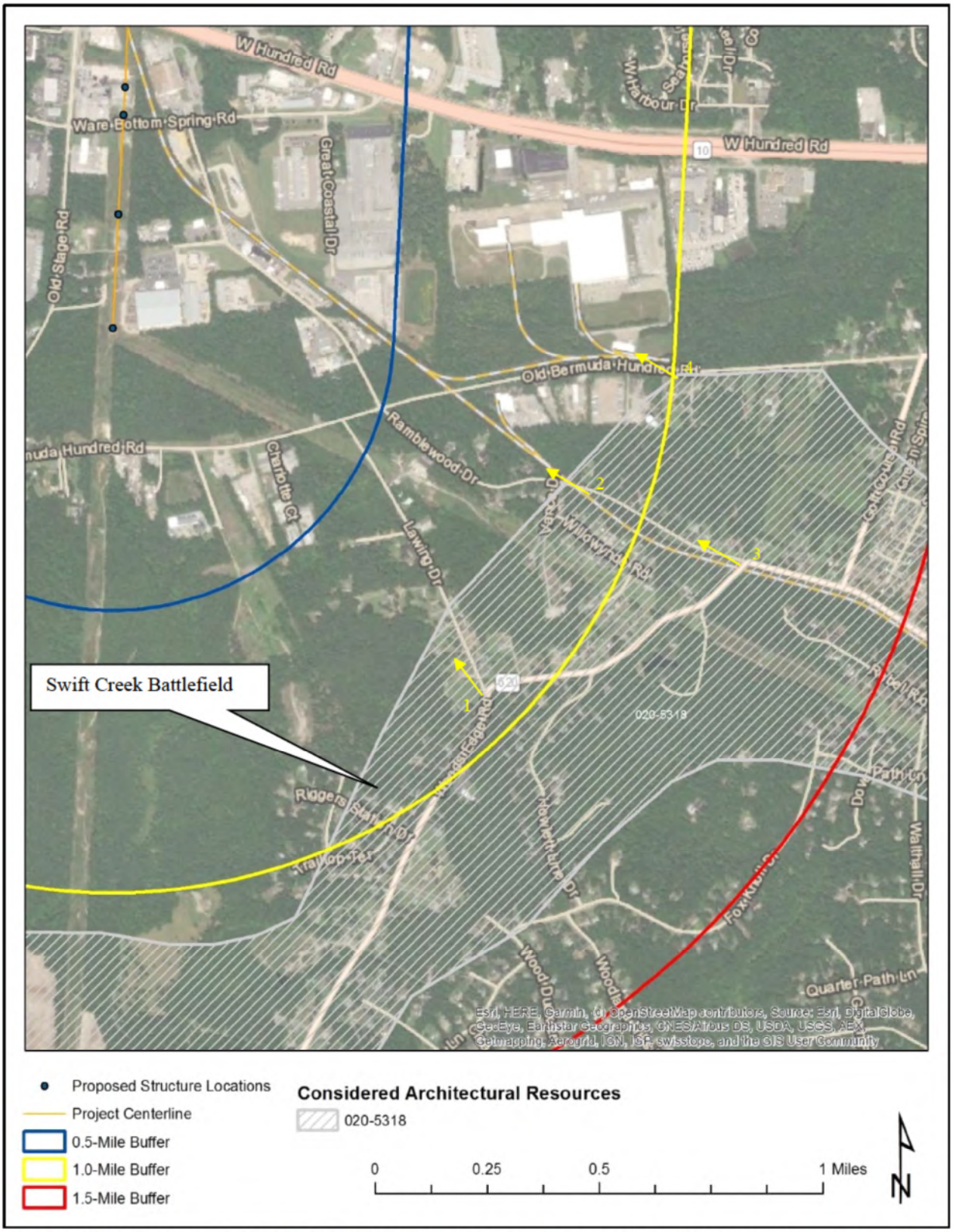


Figure 5-42: Location of Swift Creek Battlefield in relation to the project area (Representative photographs and views towards the project area depicted in yellow).



Figure 5-43: Photo location 1- View from Osborne Park and Boat Landing towards the project area (not visible – screened by vegetation), facing southwest.



Figure 5-44: Photo location 2- View from Community Road towards the project area (not visible – screened by vegetation), facing southwest.



Figure 5-45: Photo location 3- View from front of Clay House property towards the project area (not visible – screened by vegetation), facing northeast.



Figure 5-46: Photo location 4- View from Old Bermuda Hundred Road (No project structures visible), facing northwest.

Ware Bottom Church Battlefield (VDHR# 020-5319)

The Battle of Ware Bottom Church was the final encounter between Confederate and Union troops in the Bermuda Hundred Campaign of the Civil War. In May 1863, Confederate troops led by General P.G.T. Beauregard attacked the Union Lines at Ware Bottom Church and established a defensive line known as the Howlett Line, which they occupied until April 1865. A majority of the battlefield is situated in the eastern part of Chesterfield County, although it extends into Henrico and Prince George counties as well as Colonial Heights. The battlefield contains interpretive markers, unearthed burials, archaeological sites, and remains of trenches/field fortifications. Its current uses are agricultural, residential, industrial, and commercial in nature. While some portions of the battlefield have been preserved as undeveloped open landscape or woods, large portions of the battlefield have been subject to heavy development that has compromised its historic character.

Ware Bottom Church Battlefield is significant for its associations with notable Civil War events, and maintains a relatively high level of integrity, despite some areas of its historic landscape having been compromised by modern development. As such, it is considered potentially eligible for listing in the NRHP.

Because portions of the Ware Bottom Church Battlefield are located within one mile of the project alignment, it was subject to assessment for potential impacts in accordance with VDHR guidance. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around and within the battlefield and photographs were taken to document viewshed with emphasis on views from the battlefield towards the project alignment. As much of the battlefield landscape is comprised of private property, field inspection was conducted from public ROW or property where access was granted.

The Ware Bottom Church Battlefield occupies a large landscape in eastern Chesterfield County focused around the former location of Ware Bottom Church. Although the battlefield extends to the south and east, a large portion, including some of the core area, is directly crossed by the project alignment. A total of nineteen (19) existing transmission structures spread across a roughly 2.7-mile length of ROW associated with this project are located directly within the delineated boundaries of the battlefield.

A site visit to the battlefield found that much of the landscape within the vicinity of the project alignment is heavily fractured and has been subject to modern development that has compromised the historic setting. Although several discrete battlefield features have been preserved as public parks or conservation areas, much of the landscape is characterized by commercial and light-industrial development, and is crossed by modern infrastructure in form of roads, railroads, and other utilities.

As part of the project, many of the existing structures located directly in the battlefield will be replaced while three will remain in place. The structures to be replaced will be done so on a one-to-one basis near the location of the existing structures and will not require any additional ROW or clearing within the property. The existing structures to be replaced within the battlefield currently range from 97- to 151-feet in height. As part of the project, the replacement structures

will range from 102- to 142-feet in height. As a result of the structure replacement, the project will have a direct impact on the battlefield, however, because the project will replace structures that already exist within a shared ROW occupied by numerous other transmission line infrastructure, it will not introduce any substantially new or different components into the landscape. Nor will it result in clearing or demolition of any associated battlefield features, and therefore the direct impact is anticipated to be minimal.

Inspection from representative vantage point throughout the battlefield found that visibility of the existing structure varies from completely screened by intervening vegetation and development to wide and unobstructed views of long lengths of the line. Where the project structures are visible is generally limited to vantage points in close proximity and views are in conjunction with and set amongst extensive modern development, as well as multiple other transmission lines, including two within the same shared ROW as the project alignment. More distant views are limited to vantage points along open road corridors that cross the project alignment such as West Hundred Road. Inspection from Civil War-era battlefield features reveal that the project area and some existing structures are visible from public ROW in the vicinity, however, they are screened from vantages within the interpretation/preservation areas by vegetation.

Due to the change in structure heights as well as configuration, the project is anticipated to result in a slight change in the overall appearance of the line from vantage points where it is already visible, however, due to the minimal increase in height for those structures that will be taller, new or expanded visibility from other locations is not expected. Because the project alignment is within a shared ROW and located between two other existing transmission lines of similar height, the change is not anticipated to be particularly noticeable. One of these lines was also recently rebuilt with replacement structures averaging 124-feet in height, and as part of the project review, it was determined that the project would have a minimal impact on the battlefield. As the overall change in structure height as part of this project will be only minimally increased, the project improvements are not anticipated to introduce a substantial cumulative change in setting or viewshed from the property which is already compromised by modern development and includes views of other transmission lines, and it is therefore D+A's opinion that the Lines# 211/228 partial Rebuild Project will pose no more than a ***minimal impact*** to Ware Bottom Church Battlefield per VDHR's impact characterization scale.

Figure 5-47 depicts the boundaries of the Ware Bottom Church Battlefield in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-48 through 5-74 are representative photographs of the battlefield, as well as those taken from locations within the battlefield towards the project area.

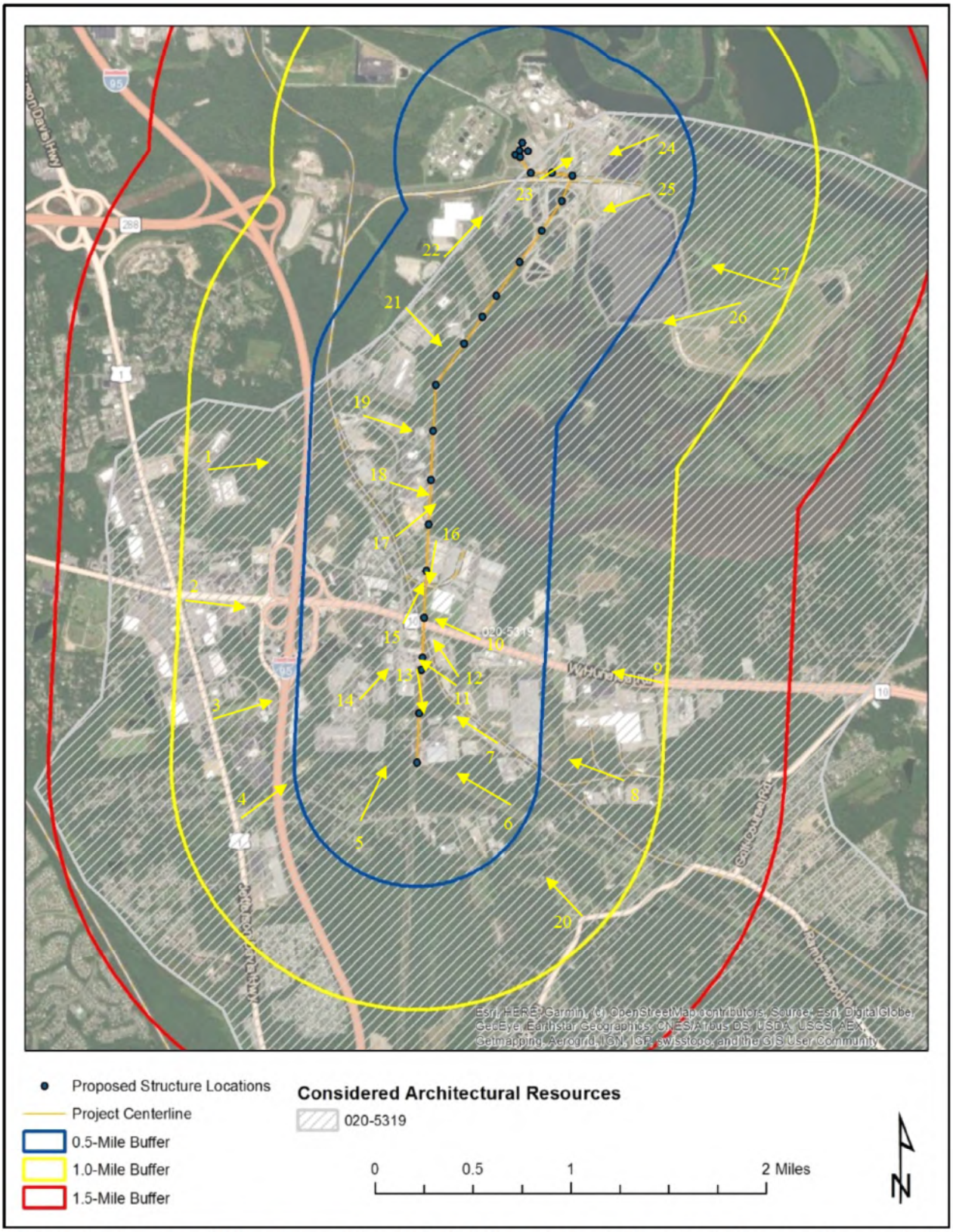


Figure 5-47: Location of Ware Bottom Church Battlefield in relation to the project alignment (Representative photographs and views towards the project area depicted in yellow).



Figure 5-48: Photo location 1- View from Moore's Lake Road (No project structures visible), facing east.



Figure 5-49: Photo location 2- View from W Hundred Road at US-1 (One project structure visible), facing east.



Figure 5-50: Photo location 3- View from US-1 at John Tyler Drive (No project structures visible), facing east.



Figure 5-51: Photo location 4- View from US-1 at Old Bermuda Hundred Road (No project structures visible), facing northeast.



Figure 5-52: Photo location 5- View from Clay House (VDHR# 020-0015) at Old Bermuda Hundred Road and Old Stage Road (No project structures visible), facing northeast.



Figure 5-53: Photo location 6- View from Ware Bottom Church Battlefield Park along Old Bermuda Hundred Road (No project structures visible – Visible structures are another line not included in this project), facing northeast.



Figure 5-54: Photo location 7- View from Ramblewood Drive (One project structure visible above treeline), facing northwest.



Figure 5-55: Photo location 8- View from Old Bermuda Hundred Road (No project structures visible), facing northwest.



Figure 5-56: Photo location 9- View from West Hundred Road at one-mile distance (One project structure visible above development), facing west.



Figure 5-57: Photo location 10- View from West Hundred Road at Bermuda Triangle Road (One project structure visible), facing west.



Figure 5-58: Photo location 11- View from Ramblewood Drive (One project structure visible through vegetation), facing northwest.



Figure 5-59: Photo location 12- View from Ware Bottom Spring Road at Ramblewood Drive (Three project structures visible through vegetation and above development), facing north.



Figure 5-60: Photo location 13- View from entrance to Parkers Battery (Two project structures visible down open ROW), facing south.



Figure 5-61: Photo location 14- View from Grover Court (One project structure visible through vegetation), facing northeast.



Figure 5-62: Photo location 15- View from Old Stage Road at W Hundred Road (Three project structures visible), facing northeast.



Figure 5-63: Photo location 16- View from Battery Dantzler Court (Multiple project structures visible down open ROW), facing south.



Figure 5-64: Photo location 17- View from Old Stage Road at Battery Dantzler Court (One project structure visible through vegetation), facing northeast.



Figure 5-65: Photo location 18- View from Old Stage Road (One project structure visible above development), facing east.



Figure 5-66: Photo location 19- View from Old Stage Road (No project structures visible), facing southeast.



Figure 5-67: Photo location 20- View from Osborne Park and Boat Landing towards the project area (not visible – screened by vegetation), facing southwest.



Figure 5-68: Photo location 21- View from Old Stage Road towards the project area (not visible – screened by vegetation and development), facing southeast.



Figure 5-69: Photo location 22- View from Old Stage Road towards the project area (One structure not to be replaced visible above treeline), facing northeast.



Figure 5-70: Photo location 23- View from Coxendale Road towards the project area (Multiple project and unrelated structures visible), facing east.



Figure 5-71: Photo location 24- View from Dutch Gap Boat Ramp towards the project area (Multiple project structures visible), facing southwest.

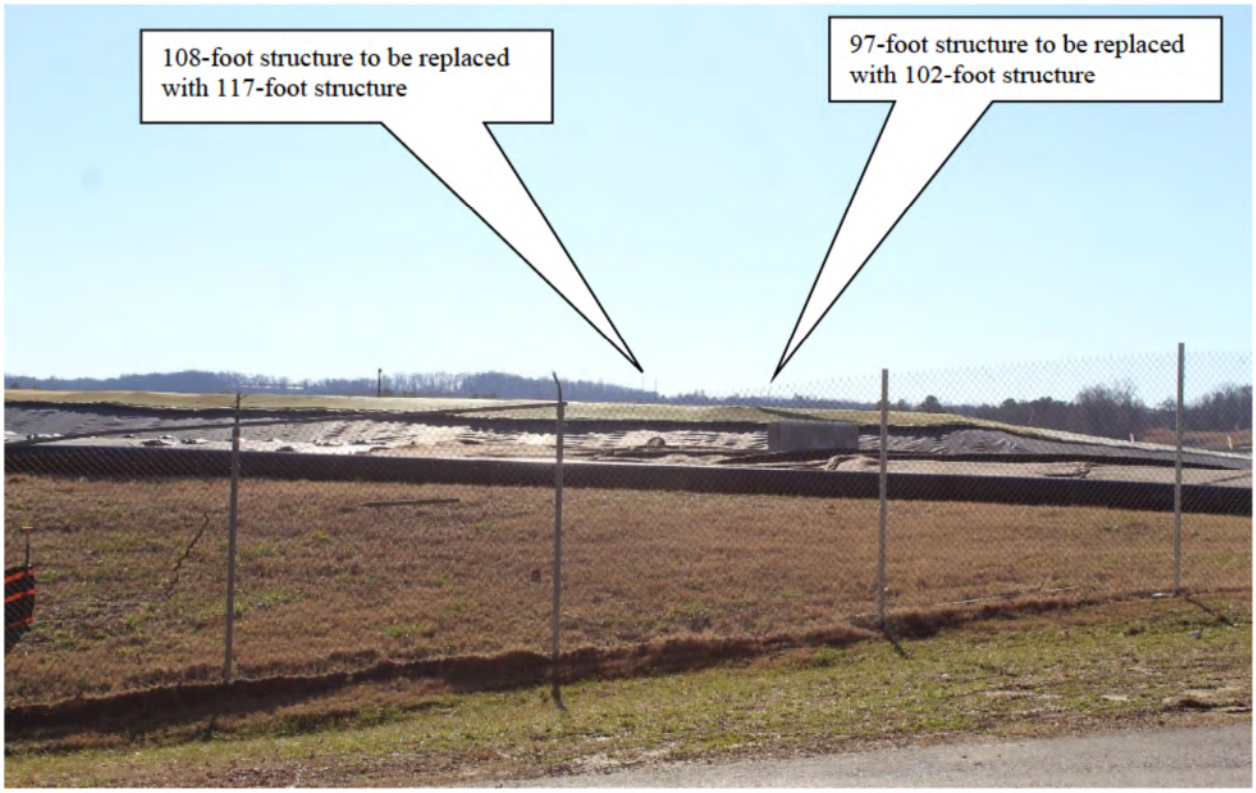


Figure 5-72: Photo location 25- View from Henricus Park Road towards the project area (Two project structures visible above treeline), facing southwest.



Figure 5-73: Photo location 26- View from Henricus Park Road towards the project area (not visible – screened by vegetation and development), facing west.

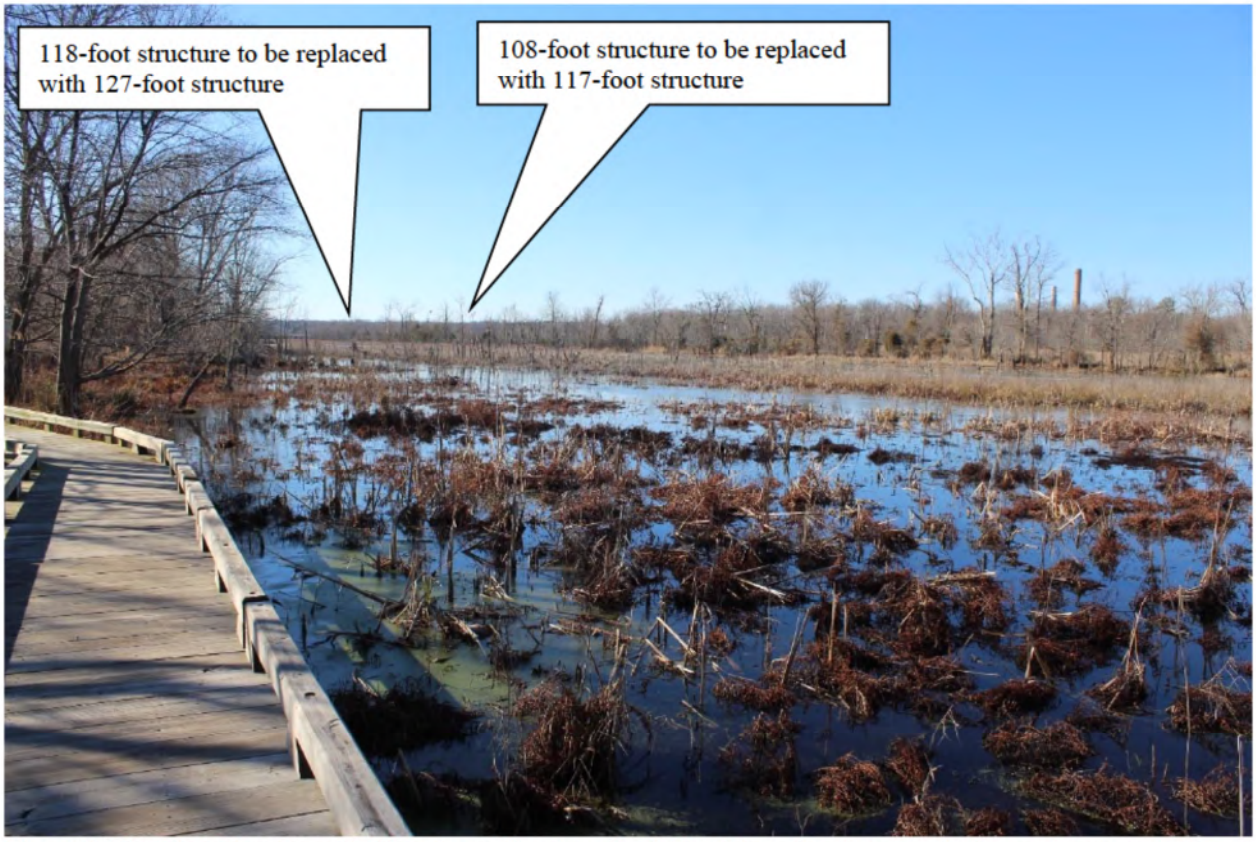


Figure 5-74: Photo location 27- View from Henricus Park Road boardwalk towards the project area (two project structures visible above treeline), facing west.

Battery Dantzler (VDHR# 020-5319-0002)



Battery Dantzler was an earthen fort that served as part of the Bermuda Hundred defensive lines. The Confederate Army began construction of the earthen fort known as Battery Dantzler on May 18, 1864 after successfully pushing Union Major General Benjamin Butler's Army of the James back to their prepared positions on the Bermuda Hundred Lines located one mile to the east. The fort's purpose was to stop Union naval forces from advancing up the James River to Richmond. On May 20, 1864, Battery Dantzler anchored the left end of the Confederate line during the Battle of Ware Bottom Church.

The earthworks remain relatively well-preserved and retain their association with major events of the Civil War. As such, the resource is considered potentially eligible for listing in the NRHP and has been placed under a Preservation Easement held by the VDHR. The site is currently owned by Chesterfield County, which operates the property as a public interpretive park.

Because Battery Dantzler is considered NRHP-eligible and the property is located within one-half mile of the project alignment, it was subject to assessment for potential impacts. In order to assess the potential impact of the proposed project, visual inspection was conducted of the setting around Battery Dantzler and photographs were taken to document viewshed with emphasis on views from the resource towards the project alignment. Battery Dantzler is located at the edge of a light-industrial area directly adjacent to the east edge of the project alignment.

A site visit to the property found that the overall historic setting has been compromised by nonhistoric development including commercial and industrial development as well as an extensive infrastructure network. The property is bordered by a high-voltage transmission line corridor with industrial development beyond to the east, and industrial properties beyond in all directions. The immediate setting of the property is generally intact, although now wooded, and has been preserved as a public park.

Inspection was conducted from throughout the property as well as public ROW in the vicinity. This effort revealed that the project area and existing transmission line is visible from the road along the perimeter of and leading to the property, particularly at the western edge of the property where the road travels across the transmission ROW with the project line suspended above. The line itself remains visible from the entry to the parking lot, however, no existing structures can be seen from this location. Upon entering the parking lot, visibility of the project area quickly becomes screened by thick vegetation within the wooded area. Inspection from along the interpretive trail reveals the vegetation provides complete screening of the project from all accessible vantages. This vegetation consists of mature forest with a mix of deciduous and evergreen trees that is anticipated to provide year-round screening as this assessment was conducted in January under winter conditions.

Existing structures bordering and within one-half mile of the property currently range from 118-feet to 132 feet in height. As part of the project, one structure will be decreased in height, three will be increased, and two will remain the same height, resulting in the replacement structures ranging from 122- to 137-feet in height. As such, visibility of the replacement structures is expected to be similar to current conditions, although the structures will have a smaller profile as a result of the shift from lattice structures to monopoles.

Due to the change in structure heights as well as configuration, the project is anticipated to result in a slight change in the overall appearance of the line from the vicinity of Battery Dantzler, however, they will continue to be screened from vantages within the preservation/interpretation area. The project alignment is within a shared ROW, and located between two other existing transmission lines of similar height. As the overall change in structure height as part of this project will be only minimally increased, the project improvements are not anticipated to introduce a substantial cumulative change in setting or viewshed from the property. It is therefore D+A's opinion that the Lines# 211/228 partial Rebuild Project will pose no more than a ***minimal impact*** to Battery Dantzler per VDHR's impact characterization scale.

Figure 5-75 depicts the location of Battery Dantzler in relation to the project area and viewshed buffers, with the location and direction of all representative photographs. Figures 5-76 through 5-81 are representative photographs of the property, as well as those taken from locations within and near the property towards the project area.

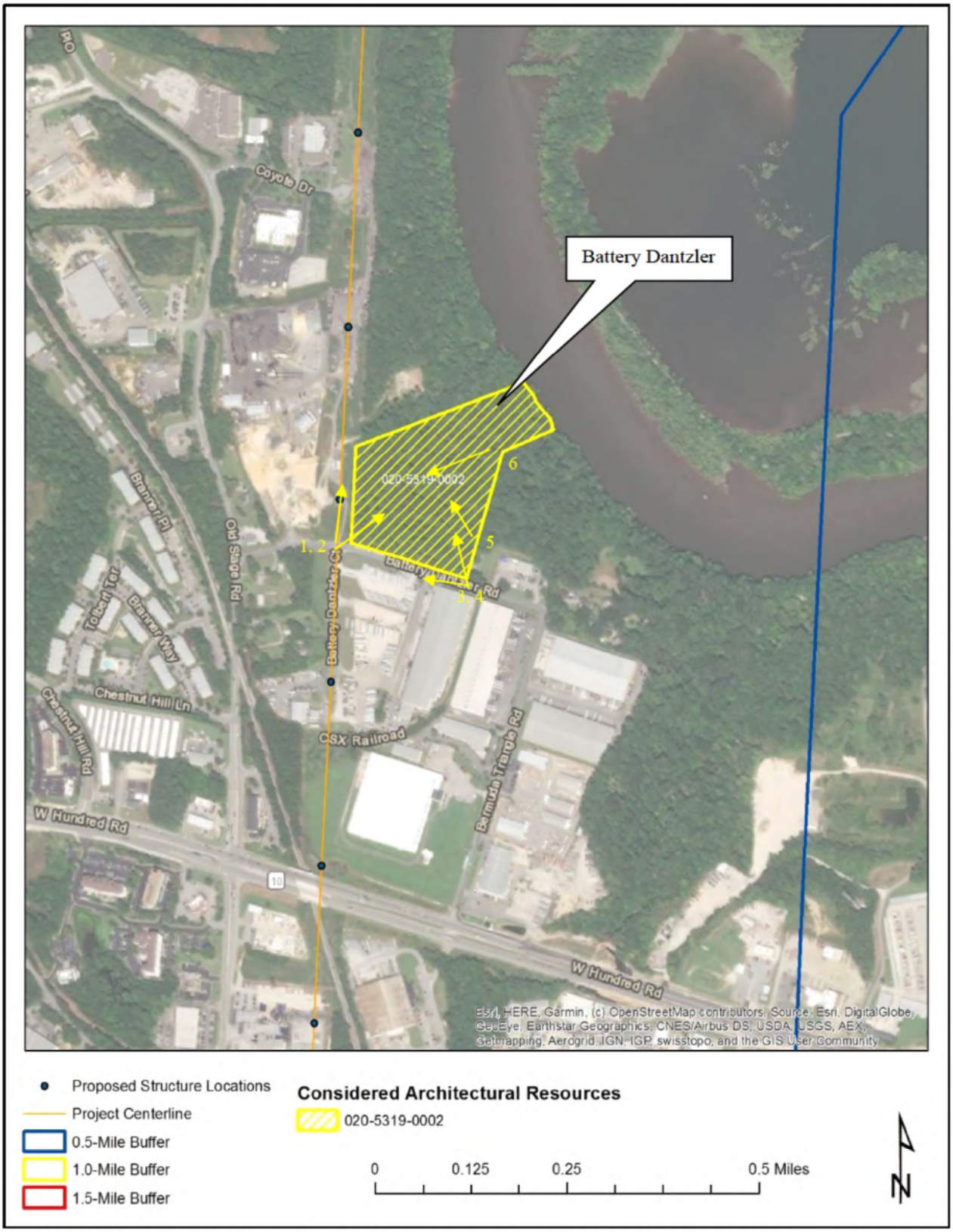


Figure 5-75: Location of Battery Dantzler in relation to the project area (Representative photographs and views towards the project area depicted in yellow).



Figure 5-76: Photo location 1- View of Battery Dantzler setting (project conductor visible), facing northeast.

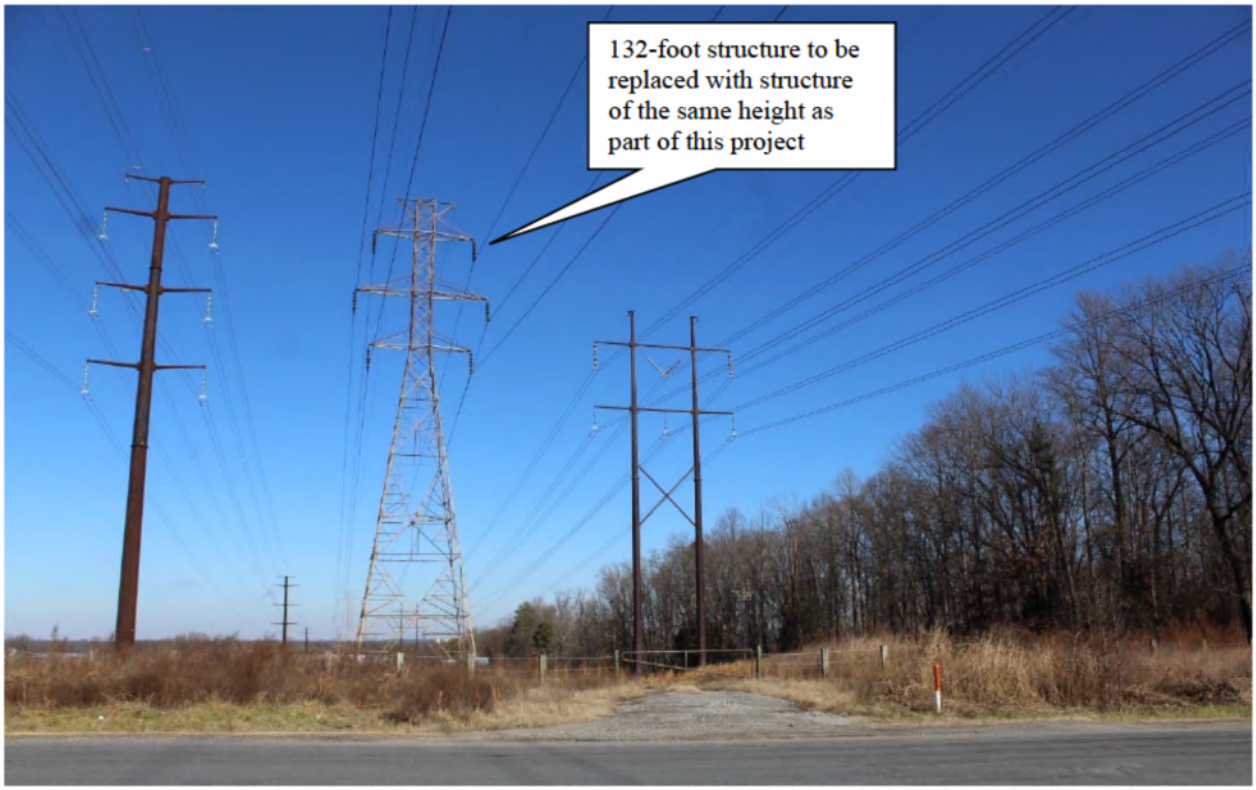


Figure 5-77: Photo location 2- View from Battery Dantzler Court towards the project area (visible), facing north.