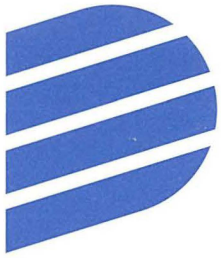

Dominion Energy®

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

Before the State Corporation Commission of Virginia

Potomac Yards Undergrounding and Glebe GIS Conversion

Application No. 291

Case No. PUR-2019-00040

Filed: March 7, 2019

Volume 2 of 2

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

APPLICATION OF	)	
	)	
VIRGINIA ELECTRIC AND POWER COMPANY	)	Case No. PUR-2019-00040
	)	
For approval and certification of electric transmission facilities: Potomac Yards Undergrounding and Glebe GIS Conversion	)	

IDENTIFICATION AND SUMMARIES OF DIRECT WITNESSES OF VIRGINIA ELECTRIC AND POWER COMPANY

Peter Nedwick

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Michael L. Lamb

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Robert J. Shevenock II

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

Thomas W. Reitz, Jr.

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

W. Chase Bland

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

John A. Mulligan

Witness Direct Testimony Summary
Direct Testimony
Appendix A: Background and Qualifications

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Peter Nedwick

Title: Principal Engineer – Electric Transmission Planning

Summary:

Company Witness Peter Nedwick will sponsor those portions of the Appendix describing the Company's transmission system and need for, and benefits of, the proposed Project, as follows:

- Section I.B: This section details the engineering justifications for the proposed project.
- Section I.C: This section describes the present system and details how the proposed project will effectively satisfy present and projected future load demand requirements.
- Section I.D: This section describes critical contingencies and associated violations due to the inadequacy of the existing system.
- Section I.E: This section explains feasible project alternatives.
- Section I.G: This section provides a system map for the affected area.
- Section I.H: This section provides the desired in-service date of the proposed project and the estimated construction time.
- Section I.J: This section provides information about the project if approved by the RTO.
- Section I.K: Although not applicable to the proposed project, this section provides outage history and maintenance history for existing transmission lines if the proposed project is a rebuild and is due in part to reliability issues.
- Section I.M: Although not applicable to the proposed project, this section contains information for transmission lines interconnecting a non-utility generator.
- Section I.N: Although not applicable to the proposed project, this section, when applicable, provides the proposed and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations, and other ground facilities associated with the proposed project.
- Section II.A.3: This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed project.
- Section II.A.10: This section provides details of the construction plans for the proposed project, including requested and approved line outage schedules.

Additionally, Company Witness Nedwick co-sponsors the following portion of the Appendix:

- Section I.A (co-sponsored with Company Witnesses Michael L. Lamb, Robert J. Shevenock II, Thomas W. Reitz, Jr., and W. Chase Bland): This section details the primary justifications for the proposed project.
- Section I.F (co-sponsored with Company Witnesses Robert J. Shevenock II, Thomas W. Reitz, Jr., and W. Chase Bland): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed project.
- Section II.B.1 (co-sponsored with Company Witness Thomas W. Reitz, Jr.): This section provides the line design and operational features of the underground portions of the proposed project, including the transfer capability.

A statement of Mr. Nedwick's background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
PETER NEDWICK
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2019-00040

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Peter Nedwick, and I am a Principal Engineer in Electric Transmission Planning for the Company. My business address is 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

Q. Please describe your areas of responsibility with the Company.

A. I am responsible for planning the Company's electric transmission system for voltages of 69 kilovolt ("kV") through 500 kV.

Q. What is the purpose of your testimony in this proceeding?

A. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy Virginia proposes: (i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to

underground lines and to tie the converted lines into Glebe Substation, including the removal and replacement of related underground lines, specifically, a total installation of approximately 2,100 feet of new underground cable from existing manhole #110 to new manhole #111 to Glebe Substation ("Potomac Yards Undergrounding"), of which, 1,100 feet will be installed utilizing microtunneling and 1,000 feet will be installed in existing underground right-of-way, and also the removal of 550 feet of underground cable and pipe from Potomac Yards Station to new manhole #111 and removal of 1,000 feet of cable only from new manhole #111 to existing manhole #110; and, (ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") ("Glebe GIS Conversion") (collectively, the "Project").

The purpose of my testimony is to describe the Company's transmission system and the need for, and benefits of, the proposed Project. I am sponsoring Sections I.B, I.C, I.D, I.E, I.G, I.H, I.J, I.K, I.M, I.N, II.A.3, and II.A.10 of the Appendix. Additionally, I am co-sponsoring Section I.A of the Appendix with Company Witnesses Michael L. Lamb, Robert J. Shevenock II, Thomas W. Reitz, Jr., and W. Chase Bland; Section I.F of the Appendix with Robert J. Shevenock II, Thomas W. Reitz, Jr., and W. Chase Bland; and Section II.B.1 with Company Witness Thomas W. Reitz, Jr.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

BACKGROUND AND QUALIFICATIONS OF PETER NEDWICK

Peter Nedwick graduated from The Pennsylvania State University with a Bachelor's Degree in Electrical Engineering. He is also Registered Professional Engineer with the Commonwealth of Virginia (No. 0402 019479).

Mr. Nedwick's experience with the Company includes System Protection, Distribution Planning and Transmission Planning. He joined the Company in 1984 as an Associate Engineer in the System Protection Group. In 1986, he joined the Company's Transmission Planning Group, where he was promoted to Engineer in 1987 and to Senior Engineer in 1991. While in the Transmission Planning Group, Mr. Nedwick was responsible for special operating studies and for planning the Company's electric transmission system for eastern Virginia and North Carolina.

In 1997, Mr. Nedwick was promoted to Staff Engineer and joined the Company's Distribution Planning Department, where he served as that department's technical expert. While in the Distribution Planning Department, Mr. Nedwick was promoted to Consulting Engineer in 2000. In 2002, Mr. Nedwick joined the Company's Electric Transmission Planning Group and was promoted to Principal Engineer in 2017.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Michael L. Lamb

Title: Manager – Electric Transmission Operations Engineering

Summary:

Company Witness Michael L. Lamb sponsors the following portions of the Appendix describing the need for the Glebe GIS Conversion based on the condition of the Company's existing Glebe Substation, as follows:

- Section I.L: This section provides details on the deterioration of infrastructure and associated equipment.

Additionally, Company Witness Lamb co-sponsors the following portion of the Appendix:

- Section I.A (co-sponsored with Company Witnesses Peter Nedwick, Robert J. Shevenock II, Thomas W. Reitz, Jr., and W. Chase Bland): This section details the primary justifications for the proposed project.

- Section II.C (co-sponsored with Company Witness W. Chase Bland): This section describes and furnishes a one-line diagram of the substation associated with the proposed project.

A statement of Michael L. Lamb's background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
MICHAEL L. LAMB
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2019-00040

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Michael L. Lamb, and I am a Manager – Electric Transmission Operations Engineering of the Power Delivery Group of the Company. My business address is 2400 Grayland Avenue, Richmond, Virginia 23220. A statement of my qualifications and background is provided as Appendix A.

Q. Please describe your areas of responsibility with the Company.

A. In my role as Manager of Electric Transmission Operations Engineering in the Power Delivery Group, I lead a team of specialized engineers responsible for major electric transmission equipment specifications, system analysis, technical investigations and root cause analyses, using state of the art tools, and providing analysis and guidance for emerging technological challenges.

Q. What is the purpose of your testimony in this proceeding?

A. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy Virginia proposes:

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation, including the removal and replacement of related underground lines, specifically, a total installation of approximately 2,100 feet of new underground cable from existing manhole #110 to new manhole #111 to Glebe Substation ("Potomac Yards Undergrounding"), of which, 1,100 feet will be installed utilizing microtunneling and 1,000 feet will be installed in existing underground right-of-way, and also the removal of 550 feet of underground cable and pipe from Potomac Yards Station to new manhole #111 and removal of 1,000 feet of cable only from new manhole #111 to existing manhole #110; and, (ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") ("Glebe GIS Conversion") (collectively, the "Project").

The purpose of my testimony is to describe the need for the Glebe GIS Conversion based on the condition of the Company's existing Glebe Substation. As it pertains to the condition of the station, I sponsor Section I.L of the Appendix, and co-sponsor Section I.A with Company Witnesses Peter Nedwick, Thomas W. Reitz, Jr., Robert J. Shevenock II, and W. Chase Bland. I also co-sponsor Section II.C of the Appendix with Company Witness W. Chase Bland.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

BACKGROUND AND QUALIFICATIONS OF MICHAEL L. LAMB

Michael L. Lamb graduated from Virginia Military Institute in 1988 with a Bachelor's of Science Degree in Electrical Engineering. He joined Dominion Energy in 1988 and has held a number of engineering positions during his career with experience in electric substation and transmission line design and maintenance, distribution system planning and operations, system operations, and power transformer technical expertise. He has been actively involved in CIGRE, IEEE and other industry associations.

Mr. Lamb is currently Manager of Electric Transmission Operations Engineering in the Power Delivery Group at Dominion Energy in Richmond Virginia, USA. He leads a team of specialized engineers responsible for major electric transmission equipment specifications, system analysis, technical investigations and root cause analyses, using state of the art tools, and providing analysis and guidance for emerging technological challenges.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Robert J. Shevenock II

Title: Principal Engineer – Electric Transmission Line Engineering

Summary:

Company Witness Robert J. Shevenock II co-sponsors those portions of the Appendix providing an overview of the design characteristics of the existing overhead transmission facilities being removed as part of the proposed Project, as follows:

- Section I.A (co-sponsored with Company Witnesses Peter Nedwick, Michael L. Lamb, Thomas W. Reitz, Jr., and W. Chase Bland): This section details the primary justifications for the proposed project.

- Section I.F (co-sponsored with Company Witness Thomas W. Reitz, Jr. and W. Chase Bland): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed project.

- Section I.I (co-sponsored with Company Witnesses Thomas W. Reitz, Jr., and W. Chase Bland): This section provides the estimated total cost of the proposed project.

- Section II.B.5 (co-sponsored with Company Witness John A. Mulligan): This section provides the mapping and structure heights for the existing overhead structures.

A statement of Mr. Shevenock's background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
ROBERT J. SHEVENOCK II
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2019-00040

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Robert J. Shevenock II, and I am a Principal Engineer in the Electric Transmission Line Engineering Department of the Company. My business address is 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

Q. Please describe your areas of responsibility with the Company.

A. I am responsible for the estimating and conceptual design on high voltage transmission line projects from 69 kilovolt ("kV") to 500 kV.

Q. What is the purpose of your testimony in this proceeding?

A. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy Virginia proposes: (i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to

underground lines and to tie the converted lines into Glebe Substation, including the removal and replacement of related underground lines, specifically, a total installation of approximately 2,100 feet of new underground cable from existing manhole #110 to new manhole #111 to Glebe Substation ("Potomac Yards Undergrounding"), of which, 1,100 feet will be installed utilizing microtunneling and 1,000 feet will be installed in existing underground right-of-way, and also the removal of 550 feet of underground cable and pipe from Potomac Yards Station to new manhole #111 and removal of 1,000 feet of cable only from new manhole #111 to existing manhole #110; and, (ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") ("Glebe GIS Conversion") (collectively, the "Project").

The purpose of my testimony is to describe the design characteristics of the existing overhead transmission facilities being removed as part of the proposed Project. As it pertains to existing overhead transmission facilities being removed, I am co-sponsoring Section I.A with Company Witnesses Peter Nedwick, Michael L. Lamb, Thomas W. Reitz, Jr., and W. Chase Bland; Sections I.F and I.I of the Appendix with Company Witnesses Thomas W. Reitz, Jr. and W. Chase Bland, and Section II.B.5 of the Appendix with Company Witness John A. Mulligan.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

BACKGROUND AND QUALIFICATIONS OF ROBERT J. SHEVENOCK II

Robert J. Shevenock II graduated from Pennsylvania State University in 1985 with a Bachelor of Science in Electrical Engineering. He joined the Company in 1985 and has held various engineering titles within the Electric Transmission Engineering department, where he currently works as a Principal Engineer.

Mr. Shevenock previously has testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: Thomas W. Reitz Jr.

Title: Consulting Engineer – Electric Transmission Line Engineering Department

Summary:

Company Witness Thomas W. Reitz Jr. sponsors those portions of the Appendix providing an overview of the design characteristics of the existing and proposed underground transmission facilities for the proposed Project, and discusses electric and magnetic field levels, as follows:

- Section II.A.5: This section provides cross section drawings of the proposed underground transmission facilities.

- Sections II.B.3 and II.B.4: These sections provide the line design and operational features of the underground portions of the proposed project.

- Section IV: This section provides analysis on the health aspects of electric and magnetic field levels.

Additionally, Company Witness Reitz co-sponsors the following portions of the Appendix:

- Section I.A (co-sponsored with Company Witnesses Peter Nedwick, Michael L. Lamb, Robert J. Shevenock II, and W. Chase Bland): This section details the primary justifications for the proposed project.

- Section I.I (co-sponsored with Company Witnesses Robert J. Shevenock II and W. Chase Bland): This section provides the estimated total cost of the proposed project.

- Section II.B.1 (co-sponsored with Company Witness Peter Nedwick): This section provides the line design and operational features of the underground portions of the proposed project, including the transfer capability.

- Section II.B.2 (co-sponsored with Company Witness W. Chase Bland): This section provides the line design and operational features of the underground portions of the proposed project, including typical configurations.

A statement of Mr. Reitz's background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
THOMAS W. REITZ JR.
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2019-00040

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is Thomas W. Reitz Jr., and I am a Consulting Engineer in the Electric Transmission Line Engineering Department of the Company. My office is located at 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

Q. Please describe your areas of responsibility with the Company.

A. I am responsible for the design of underground transmission lines.

Q. What is the purpose of your testimony in this proceeding?

A. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy Virginia proposes: (i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation, including the

removal and replacement of related underground lines, specifically, a total installation of approximately 2,100 feet of new underground cable from existing manhole #110 to new manhole #111 to Glebe Substation ("Potomac Yards Undergrounding"), of which, 1,100 feet will be installed utilizing microtunneling and 1,000 feet will be installed in existing underground right-of-way, and also the removal of 550 feet of underground cable and pipe from Potomac Yards Station to new manhole #111 and removal of 1,000 feet of cable only from new manhole #111 to existing manhole #110; and, (ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") ("Glebe GIS Conversion") (collectively, the "Project").

The purpose of my testimony is to provide an overview of the design of the existing and proposed underground transmission line components of the proposed Project, and also to discuss electric and magnetic field ("EMF") levels. As it pertains to underground transmission line components, I am sponsoring Sections II.A.5, II.B.3 to II.B.4 and Section IV of the Appendix. I am also co-sponsoring Section I.A with Company Witnesses Peter Nedwick, Michael L. Lamb, Robert J. Shevenock II, and W. Chase Bland; Section I.I of the Appendix with Company Witnesses Robert J. Shevenock II and W. Chase Bland; Section II.B.1 with Company Witness Peter Nedwick; and Section II.B.2 with Company Witness W. Chase Bland.

Q. The information you sponsor in Section IV.A of the Appendix shows the calculated maximum EMF at the edge of the rights-of-way for the Project. How do the strengths of the maximum magnetic fields at the edge of the right-of-way compare to magnetic fields found elsewhere?

A. The field strengths shown in Appendix Section IV.A can be compared to those created by other electrical sources. For example, a hair dryer produces 300 milligauss ("mG") or more, a copy machine can produce 90 mG or more, and an electric power saw can produce 40 mG or more, depending on the circumstances and operation of these devices. The strength of the field received by the person operating these devices would depend, of course, on the distance between the device and the person operating it.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

BACKGROUND AND QUALIFICATION OF THOMAS W. REITZ JR.

Thomas W. Reitz Jr. received a Bachelor's degree in Electrical Engineering from the University of Evansville in Indiana. He has worked for the Company for 32 years. During his time with the Company, Mr. Reitz has held various positions in Distribution Engineering, Transmission Operations and Maintenance, System Operations Center, local district offices, and Transmission and Distribution Projects.

Mr. Reitz has previously testified before the Virginia State Corporation Commission.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: W. Chase Bland

Title: Supervisor – Substation Engineering Conceptual

Summary:

Company Witness W. Chase Bland co-sponsors the following portions of the Appendix describing the work to be performed at the substation for the Project, as follows:

- Section I.A (co-sponsored with Company Witnesses Peter Nedwick, Michael L. Lamb, Robert J. Shevenock II, and Thomas W. Reitz, Jr.): This section details the primary justifications for the proposed project.

- Section I.F (co-sponsored with Company Witnesses Peter Nedwick, Robert J. Shevenock II, and Thomas W. Reitz, Jr.): This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed project.

- Section I.I (co-sponsored with Company Witnesses Robert J. Shevenock II and Thomas W. Reitz, Jr.): This section provides the estimated total cost of the proposed project.

- Section II.B.2 (co-sponsored with Company Witness Thomas W. Reitz, Jr.): This section provides the line design and operational features of the underground portions of the proposed project, including typical configurations.

- Section II.C (co-sponsored with Company Witness Michael L. Lamb): This section describes and furnishes a one-line diagram of the substation associated with the proposed project.

A statement of W. Chase Bland's background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
W. CHASE BLAND
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2019-00040

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is W. Chase Bland, and I am a Supervisor in the Substation Engineering Conceptual section of the Electric Transmission group of the Company. My business address is 2400 Grayland Avenue, Richmond, Virginia 23220. A statement of my qualifications and background is provided as Appendix A.

Q. Please describe your areas of responsibility with the Company.

A. I am responsible for conceptual design, scope development, and cost estimating for all new high voltage transmission switching stations, transmission substations, and distribution substations.

Q. What is the purpose of your testimony in this proceeding?

A. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy Virginia proposes: (i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal

Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation, including the removal and replacement of related underground lines, specifically, a total installation of approximately 2,100 feet of new underground cable from existing manhole #110 to new manhole #111 to Glebe Substation ("Potomac Yards Undergrounding"), of which, 1,100 feet will be installed utilizing microtunneling and 1,000 feet will be installed in existing underground right-of-way, and also the removal of 550 feet of underground cable and pipe from Potomac Yards Station to new manhole #111 and removal of 1,000 feet of cable only from new manhole #111 to existing manhole #110; and, (ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") ("Glebe GIS Conversion") (collectively, the "Project").

The purpose of my testimony is to describe the work to be performed at the Company's existing Glebe Substation in connection with the Glebe GIS Conversion. As it pertains to station work, I am co-sponsoring Section I.A with Company Witnesses Peter Nedwick, Michael L. Lamb, Robert J. Shevenock II, and Thomas W. Reitz, Jr.; Section I.F with Company Witnesses Peter Nedwick, Robert J. Shevenock II, and Thomas W. Reitz, Jr.; Section I.I with Company Witnesses Robert J. Shevenock II and Thomas W. Reitz, Jr.; Section II.B.2 with Company Witness Thomas W. Reitz, Jr.; and Section II.C with Company Witness Michael L. Lamb.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

BACKGROUND AND QUALIFICATIONS OF W. CHASE BLAND

W. Chase Bland graduated in 2008 with a Bachelor's Degree in Mechanical Engineering and Minor in Mathematics and Physics from Virginia Commonwealth University. He is registered as an Engineer in Training in the Commonwealth of Virginia as of 2013. From 2008 to 2010, he worked for the Company in the Substation Engineering (Physical Design) Department where he held the position of Engineer I for substation upgrade construction projects. In 2010, he was promoted to Engineer II in the Substation Engineering (Physical Design) Department where he expanded the scope of projects to include substation build-outs, upgrades, and new substations. In 2014, he was promoted to Engineer III in the Substation Engineering (Physical Design) Department. His responsibilities in all three positions included working closely with construction crews to communicate detailed drawings clearly to execute a project successfully and ensuring that the crews had all physical material correctly specified and on site on time. In 2015, Mr. Bland became a Conceptual Engineer (Engineer III) in the Conceptual Engineering Department. In 2018, Mr. Bland became Supervisor – Substation Engineering Conceptual. His responsibilities include conceptual design, scope development, and cost estimating for substation construction for the Company.

Mr. Bland has previously testified before the State Corporation Commission of Virginia.

WITNESS DIRECT TESTIMONY SUMMARY

Witness: John A. Mulligan

Title: Senior Siting and Permitting Specialist

Summary:

Company Witness John A. Mulligan will sponsor those portions of the Appendix providing an overview of the design of the route for the proposed Project, and related permitting, as follows:

- Section II.A.1: This section provides the length of the proposed corridor and viable alternatives to the proposed project.
- Section II.A.2: This section provides a map showing the route of the proposed project in relation to notable points close to the proposed project.
- Section II.A.4: This section explains why the existing right-of-way is not adequate to serve the need.
- Sections II.A.6 to II.A.8: These sections provide detail regarding the right-of-way for the proposed project.
- Section II.A.9: This section describes the proposed route selection procedures and details alternative routes considered.
- Section II.A.11: This section details how the construction of the proposed project follows the provisions discussed in Attachment 1 of the Guidelines.
- Section II.A.12: This section identifies the counties and localities through which the proposed project will pass and provides General Highway Maps for these localities.
- Section II.B.6: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.
- Section III: This section details the impact of the proposed project on scenic, environmental, and historic features.
- Section V: This section provides information related to public notice of the proposed project.

Additionally, Mr. Mulligan co-sponsors the following portion of the Appendix:

- Section II.B.5 (co-sponsored with Company Witness Robert J. Shevenock II): This section provides the mapping and structure heights for the existing overhead structures.

Finally, Mr. Mulligan sponsors the DEQ Supplement filed with the Application.

A statement of Mr. Mulligan's background and qualifications is attached to his testimony as Appendix A.

DIRECT TESTIMONY
OF
JOHN A. MULLIGAN
ON BEHALF OF
VIRGINIA ELECTRIC AND POWER COMPANY
BEFORE THE
STATE CORPORATION COMMISSION OF VIRGINIA
CASE NO. PUR-2019-00040

Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").

A. My name is John Mulligan, and I am Senior Siting and Permitting Specialist for Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company"). My business address is 10900 Nuckols Road, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.

Q. Please describe your areas of responsibility with the Company.

A. I am responsible for identifying appropriate routes for transmission lines and obtaining necessary federal, state, and local approvals and environmental permits for those facilities. In this position, I work closely with government officials, permitting agencies, property owners, and other interested parties, as well as with other Company personnel, to develop facilities needed by the public so as to reasonably minimize environmental and other impacts on the public in a reliable, cost-effective manner.

Q. What is the purpose of your testimony in this proceeding?

A. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to

accommodate necessary transmission terminations, Dominion Energy Virginia proposes: (i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation, including the removal and replacement of related underground lines, specifically, a total installation of approximately 2,100 feet of new underground cable from existing manhole #110 to new manhole #111 to Glebe Substation ("Potomac Yards Undergrounding"), of which, 1,100 feet will be installed utilizing microtunneling and 1,000 feet will be installed in existing underground right-of-way, and also the removal of 550 feet of underground cable and pipe from Potomac Yards Station to new manhole #111 and removal of 1,000 feet of cable only from new manhole #111 to existing manhole #110; and, (ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") ("Glebe GIS Conversion") (collectively, the "Project").

The purpose of my testimony is to provide an overview of the route and permitting for the proposed Project. As it pertains to routing and permitting, I sponsor Sections II.A.1, II.A.2, II.A.4, II.A.6, II.A.7, II.A.8, II.A.9, II.A.11, II.A.12, II.B.6, III, and V of the Appendix. I also sponsor the DEQ Supplement filed with the Application, and co-sponsor Section II.B.5 of the Appendix with Company Witness Robert J. Shevenock II.

Q. Has the Company complied with Va. Code § 15.2-2202 E?

A. Yes. In accordance with Va. Code § 15.2-2202 E, letters dated January 28, 2019, included as Attachment V.D, were mailed to Mr. Mark Jinks, City Manager of the City of Alexandria and Mr. Mark Schwartz, County Manager of the County of Arlington, advising of the Company's intention to file this Application and inviting these localities to consult with the Company about the Project. Copies of these letters are included as Appendix Attachment V.D.1.

Q. Does this conclude your pre-filed direct testimony?

A. Yes, it does.

BACKGROUND AND QUALIFICATIONS OF JOHN A. MULLIGAN

John A. Mulligan graduated from Old Dominion University in 2000 with a Bachelor of Science in Biology. He joined the Company's Transmission Right-of-Way Group in June 2015 as a Senior Siting and Permitting Specialist, the position he currently holds. Prior to joining the Company, he worked as an Environmental Inspector for the County of Henrico from June 2005 to June 2015.

BEFORE THE
STATE CORPORATION COMMISSION
OF VIRGINIA

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

Potomac Yards Undergrounding and Glebe GIS Conversion

Application No. 291

DEQ Supplement

Case No. PUR-2019-00040

Filed: March 7, 2019

Table of Contents

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

1. Project Description

In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical services, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy Virginia proposes:

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation, including the removal and replacement of related underground lines, specifically, a total installation of approximately 2,100 feet of new underground cable from existing manhole #110 to new manhole #111 to Glebe Substation ("Potomac Yards Undergrounding"), of which, 1,100 feet will be installed utilizing microtunneling and 1,000 feet will be installed in existing underground right-of-way, and also the removal of 550 feet of underground cable and pipe from Potomac Yards Station to new manhole #111 and removal of 1,000 feet of cable only from new manhole #111 to existing manhole #110; and,

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") ("Glebe GIS Conversion")

(collectively, the "Project"). Absent the Project, the Company's remaining transmission facilities located in this area would not be able to provide adequate service to the Company's existing customers located in the City of Alexandria and Arlington County consistent with North American Electric Reliability Corporation ("NERC") Reliability Criteria.

Specifically, the Project will allow for the undergrounding of an existing overhead portion of Line #248 and Line #2023 consistent with Condition #5 of the SUP originally issued by the City of Alexandria in 1996, and as subsequently extended in 2013. In addition, the Project will allow the Company to maintain critical energy infrastructure needed to provide continued reliable electric service to facilities depended upon to provide critical service, as well as replace aging substation infrastructure that would otherwise require repair or replacement, mitigate existing operational constraints, and make required physical security upgrades in order to maintain the overall long-term reliability of the transmission system.

While existing Company-owned property is adequate to construct the proposed Glebe GIS Conversion, the Potomac Yards Undergrounding would be constructed in a combination of existing Company-owned property/rights-of-way and new right-of-way across Four Mile Run.

The expected in-service date for the Project is May 2022. The Company estimates it will take approximately 30 months for detailed engineering, materials procurement, permitting,

and construction after a final order from the Commission. Accordingly, to support this estimated construction timeline and construction plan, the Company respectfully requests a final order by December 31, 2019. Should the Commission issue a final order by December 31, 2019, the Company estimates that construction should begin on March 1, 2020 and be completed by May 31, 2022. While the Company believes that this construction timeline will enable it to meet the targeted in-service date for the Project, these estimates do not account for timing risks associated with underground construction, such as the long lead times required for material, unpredictable subterranean characteristics, unexpected permitting delays, and limited contractor resources, which could result in further delays in construction.

2. Environmental Analysis

The Company solicited comments from all relevant state and local agencies about the proposed Project in January and February 2019. Copies of those letters are included as Attachment 2 to this DEQ Supplement.

A. Air Quality

Both the Potomac Yards Undergrounding and Glebe GIS Conversion are located in the Northern Virginia marginal – Nonattainment area for 8-hour Ozone. The Potomac Yards Undergrounding will require minimal tree clearing. Tree clearing would be limited to areas associated with the temporary disturbance needed at the microtunnel launch pit work area located adjacent the southeast corner of the intersection of U.S. Route 1 and Four Mile Run. The temporary microtunnel launch pit work area will be used for construction staging and boring machine and operator during the construction of the underground of a portion of Lines #248 and #2023. Other areas that may require minimal vegetation removal are identified as the areas over the existing underground transmission that will be removed between new manhole #111 and the existing Potomac Yards Station, as well as the termination point in a landscaped area of the Potomac Yard Center parking lot. Once construction is completed, these areas and the former Potomac Yards Station location will be re-landscaped or returned to a natural area. Merchantable logs from those trees cleared would be removed and the remaining limbs and branches typically chipped and removed. The Company does not expect to burn cleared material. Equipment and vehicles that are powered by gasoline or diesel motors will be used during the construction of the line, so there will be exhaust from those motors. Project contractors will be encouraged to minimize truck idling. During construction, if the weather is dry for an extended period 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 sedimentation control is addressed in Section 2.G of this Supplement and the Company will utilize dust suppression measures as part of the erosion and sedimentation control plan. The Company will coordinate activities with the responsible locality to ensure all local ordinances are met. The Company's tree clearing methods are described in Section 2.K.

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 undergrounding.)

The Project is located within the Potomac River – Four Mile Run (Hydrologic Unit Code 02070010-0301) watershed. Waterbodies within the Study Area were identified and mapped using publicly-available geographic information system databases, U.S. Geological Survey ("USGS") topographic maps (1:24,000), and recent (2018) digital aerial photography.

Potomac Yards Undergrounding

The Potomac Yards Undergrounding crosses under one tidal waterbody, Four Mile Run. As a micro-tunnel crossing beneath the waterbody, risks are minimized for environmental impacts during construction. Dominion Energy Virginia will require its contractor to have to implement an inadvertent return plan for the unlikely event that drilling fluid is discharged into the waterbody.

Short-term, minor water quality impacts could occur during the construction of the Potomac Yards Undergrounding, which includes the removal of two existing transmission structure foundations located in Four Mile Run and the removal of the Potomac Yards Station located adjacent to Four Mile Run. Such impacts would be associated with the soils from disturbed areas being transported by stormwater into adjacent waters during rain events. Increased turbidity and localized sedimentation of the stream bottom may occur as a result of the runoff. These impacts would be significantly reduced by the implementation of erosion and sediment control measures outlined in the Company's Annual Standards and Specifications, as well as the Company's compliance with federal and state permitting requirements (see below).

No tributaries identified as a public water supply in the DEQ Water Quality Standards will be crossed and no additional wetlands and/or streams will be crossed by the Potomac Yards Undergrounding.

Glebe GIS Conversion

The Glebe GIS Conversion will not cross or impact any water bodies.

C. Discharge of Water

No discharge of cooling waters is associated with the Project.

D. Tidal and Non-Tidal Wetlands

An on-site delineation of wetlands and other waters of the U.S. was completed by Stantec Consulting Services, Inc. ("Stantec") in January 2019. The delineation was conducted using the Routine Determination Method as 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 Region (Version 2.0). Jurisdictional features identified by Stantec within the Project limits may be classified

as emergent tidal wetland and a tidal riverine system. The Waters of the U.S. Study is included in Attachment 2.D.1.

Below, Table 1 provides the area of wetlands and other waters of the U.S. within the Project area.

Table 1
Wetland and Waters of the U.S. Summary Table
Crossing Areas

Total Area (Ac)	Forested (Ac)	Non-forested					
		Shrub (Ac)	Emergent (Ac)	Open Water (Ac)	Riverine (tidal-Ac)	Riverine (non-tidal-Ac)	Stream Crossings (Number)
1.95	--	--	0.006	--	1.94	--	1 (w/ 2 circuits)

Potomac Yards Undergrounding

The Potomac Yards Undergrounding will require two underground transmission circuits to be installed beneath Four Mile Run via microtunneling. No work will be required within wetlands to install the underground lines. Removal of the foundations for the existing overhead lines will require temporary work within Four Mile Run. A temporary causeway or floating timber mat bridge will be used to provide construction access to one existing transmission structure in the center of Four Mile Creek. This temporary access will be removed upon Project completion. As Four Mile Run is a navigable waterway, the Company will seek permits from the U.S. Army Corps of Engineers ("USACE") and Virginia Marine Resources Commission ("VMRC") for all work within and below this waterbody. The Company will prepare and implement an Erosion and Sedimentation Control Plan and Stormwater Pollution Prevention Plan in accordance with state regulations and the Company's Annual Standards and Specifications.

Although not anticipated, any clearing within or adjacent to waterbodies will be performed by hand within 100 feet of either side of the waterbody.

Glebe GIS Conversion

The Glebe GIS Conversion will not cross or impact any water bodies.

E. Solid and Hazardous Waste

Data from DEQ Virginia Environmental Geographic Information Systems ("VEGIS") and the Environmental Protection Agency ("EPA") MyEnvironment database was reviewed to identify Solid and Hazardous Waste sites. These databases provide "information about facilities and properties subject to environmental regulation or of environmental interest." These include sites that use and/or store hazardous materials, waste producing facilities operating under permits from the EPA or other regulatory authorities, Superfund sites, the storage of petroleum, petroleum release sites, and solid waste sites. The identification of a

site in a database does not mean that the site necessarily contains contaminated soil and/or groundwater.

The database search generated the following results:

Potomac Yards Undergrounding and Glebe GIS Conversion

- A review of the DEQ database identified one documented petroleum spill upstream near the proposed right-of-way crossing of Four Mile Run. The release is documented approximately 170 feet south of the existing Glebe Substation in the center of Four Mile Run stream. There was a confirmed release reported in September 2014. The case was closed in March 2014. The release is not likely to have an impact on the proposed underground lines as the location of the spill is outside of the proposed right-of-way.

- The EPA database identified one Voluntary Remediation Site ("VRP") located approximately 115 feet west of the proposed right-of-way of the Potomac Yards Undergrounding. The site is identified as the Helms Concrete – Old Alexandria Landfill at 3800 Jefferson Davis Highway.

- The EPA database identified two sites that produce hazardous waste within the proposed right-of-way of the Potomac Yards Undergrounding; these are the Alexandria Toyota site and the Hertz Corp. However, this does not mean that a spill has occurred at this site; it simply identifies that the parcel is documented to produce / have produced hazardous waste.

F. Natural Heritage, Threatened, and Endangered Species

In order to identify areas of ecological significance within the Project area, the Virginia Department of Game and Inland Fisheries ("VDGIF") Forest and Wildlife Information Service ("FWIS") database and the U.S. Fish and Wildlife Services ("USFWS") Information for Planning and Conservation ("IPaC") online system was searched for threatened and endangered species. The Virginia Department of Conservation and Recreation ("VDCR") Natural Heritage Data Explorer ("NHDE") was reviewed and includes three components: Conservation Sites ("CS"), Stream Conservation Units ("SCU"), and General Location Areas for Natural Heritage Resources ("GLANHR"). General locations areas ("GLAs") of possible habitats are identified in NHDE database searches for threatened and endangered natural heritage resources ("NHRs") due to the sensitive nature of detailed natural resource locations and protected habitats. Findings for the Proposal Study area are presented below.

Potomac Yards Undergrounding and Glebe GIS Conversion

In January and February 2019, the VDGIF database and the USFWS IPaC online system were searched for threatened and endangered species. Utilizing the VDGIF-FWIS database, the center of the combined Potomac Yards Undergrounding and Glebe GIS Conversion Proposal Study area was used to search within a two-mile radius for state-threatened and -

endangered species. Two confirmed anadromous fish reaches were identified within the Proposal Study area along Four Mile Run and a nearby section of the Potomac River.

The Glebe GIS Conversion portion of the Project along with the microtunneling of the proposed underground lines will not impact Four Mile Run or the Potomac River. Instream work will occur during the removal of the foundations for two of the existing structures on Four Mile Run; however, use of a temporary causeway or floating timber mat bridge, as well as a Time of the Year Restriction ("TOYR"), are anticipated to reduce the likelihood of impacts.

The USFWS IPaC did not identify any federally-threatened or -endangered species within the vicinity of the project. The results of the IPaC search are included in Attachment 2.F.1. The National Marine Fisheries Service ("NMFS") has designated the Potomac River, approximately one (1) mile downstream of the project, as critical habitat for the federal and state endangered Atlantic sturgeon. Based upon the TOYR proposed for the foundation removal and the use of microtunneling, no adverse effects are expected to the Atlantic sturgeon or critical habitat. The VDGIF-FWIS database did not identify any federally or state threatened or endangered species within two miles of the Project. The corresponding VDGIF-FWIS Search Report is located in Attachment 2.F.2.

A preliminary VDCR-NHDE database search performed February 2019 has identified two species of potential concern located in the general local area of the Proposal Study area.

Further discussion of the select species of potential concern identified in the VDCR-NHR database and any potential for impacts from the proposed Project are detailed below.

One of the listed species of potential concern is a freshwater turtle:

- *Wood turtle*

Based upon the wood turtle's preferred habitat (low gradient shallow pools and forested wetlands), the probability of finding the referenced species in, or immediately adjacent to, the Project area is deemed extremely unlikely.

One of the listed species of potential concern is a vascular plant:

- *Torrey's mountain-mint*

Preferred habitat for this species (dry, rocky deciduous woods along roadsides and in thickets near streams, power line rights-of-way) may be present in the area, however, based on the scope of the proposed Project (undergrounding of transmission lines), adverse effects to this species is not anticipated.

The corresponding Natural Heritage Resources database list is located in Attachment 2.F.3.

On February 8, 2019, the Company submitted an order form (online ID 19020813123122) to VDCR to initiate a formal Environmental Project Review for the Proposal Study Area. See Attachment 2.F.4 for results of the review.

In addition, as the Company will obtain all necessary permits prior to construction, such as authorization from the VMRC, DEQ, and the Corps, coordination with the DGIF, DCR, and USFWS will take place through the respective permit processes, helping to avoid and minimize impacts to listed species.

G. Erosion and Sediment Control

The DEQ approved the Company's Annual Standards & Specification for Erosion & Sediment Control and Stormwater Management for Construction of Linear Electric Transmission Facilities (TE VEP 8000) in January 2018. The Standards & Specifications include non-erodible cofferdams for use when working in a live watercourse. These specifications are given to the Company's contractors and require erosion and sediment control measures to be in place before construction of the proposed Project begins and specify the requirements for rehabilitation of the right-of-way.

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

A Stage I Pre-application Analysis of potential cultural resource impacts was conducted in accordance with the Virginia Department of Historic Resources ("VDHR") 2008 Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia (2008) ("Guidelines"). This report is included as Attachment 2.H.1. For the pre-application analysis of cultural resources, the following was considered: National Historic Landmark ("NHL") properties located within a 1.5-mile radius of the centerline; National Register of Historic Place ("NRHP")-listed properties, NHLs, battlefields, and historic landscapes within a 1.0-mile radius of the centerline; NRHP-eligible and –listed properties, NHLs, battlefields, and historic landscapes within a 0.5-mile radius of the centerline; and all of the above qualifying architectural resources as well as archaeological sites located within the right-of-way for each alternative. Information the resources in each tier was collected from the Virginia Cultural Resource Information System ("VCRIS") using the center of the combined Potomac Yards Undergrounding and Glebe GIS Conversion Proposal Study Area.

A summary of the results of the GIS data review conducted is listed below.

Potomac Yards Undergrounding and Glebe GIS Conversion

Archaeological Sites:

The Stage I identified two (2) archaeological sites (identified as VDHR ID: 44AX0207 and 44AX0028) within the project area for the Potomac Yards Undergrounding. Neither of these archaeological sites has been evaluated for listing on the NRHP by VDHR. Both sites are located within areas that have been significantly disturbed by development

Historic and Architectural Sites:

The Stage I did not identify any architectural sites within the proposed rights-of-way of the underground conversion of existing overhead lines or within the limits of the existing Project area. Four NRHP-listed resources were identified within 1.0 mile of the Project area. Two eligible historic districts were identified within 1.0 mile of the Project area. These resources are listed in Table 2 below.

Table 2. Previously Recorded Architectural Resources Considered in the Stage I

VDHR #	Resource Name	VDHR/NRHP Status	Distance to Nearest Structure (Feet)	Impact
000-0045	Washington National Airport Terminal and South Hanger Line	NRHP Listed 1997; VLR Listed 1995	1,886	None
029-0218	George Washington Memorial Highway	NRHP Listed 1981; VLR Listed 1981	624	None
100-0136	Town of Potomac Historic District	NRHP Listed 1995; VLR Listed 1994	2,143	None
100-5021	Lynhaven Historic District	Eligible 1998	840	None
500-0001	Richmond, Fredericksburg, and Potomac Railroad Historic District	Eligible 2018	444	None
000-9706	Aurora Highlands Historic District	NRHP Listed 2008; VLR Listed 2008	2,854	None

The proposed Project will remove six transmission line structures and foundations and replace them with underground transmission lines. This activity will remove modern infrastructure from the viewshed. The Glebe GIS Conversion will not result in significant change to current viewshed conditions. Therefore, it has been recommended that there would be no visual impact to the historic properties identified in the Stage I.

I. Chesapeake Bay Preservation Areas

Construction, installation, operation, and maintenance of electric transmission lines are conditionally exempt from the Chesapeake Bay Act as stated in the exemption for public utilities, railroads, public roads, and facilities in 9 VAC 25-830-150. The Company will meet those conditions for the Potomac Yards Undergrounding and the Glebe GIS Conversion.

J. Wildlife Resources

The FWS, VDCR, and VDGIF databases were reviewed in order to assess the potential presence of federal- or state-listed threatened or endangered species for the Potomac Yards

Undergrounding and Glebe GIS Conversion. As discussed in Section 2.F, certain federal- and state-listed species were identified as potentially occurring in the Project area; however based on habitat present onsite and the scope of the proposed Project (undergrounding of transmission lines, TOYRs), adverse effects to these species are not anticipated.

K. Recreation, Agricultural, and Forest Resources

Potomac Yards Undergrounding

The proposed undergrounding of a portion of existing overhead lines will cross one park – Four Mile Run Park. There is an existing paved trail for recreational pedestrian use on the north perimeter of Four Mile Run Park. The location of the proposed underground lines will be coordinated with Arlington County and Alexandria City to avoid conflicts between existing and planned uses and to minimize disruption during construction.

There are no agricultural or forest resources crossed by this Project.

Any vegetation that might require disturbance will be replaced or substituted with species suitable to the site in collaboration with the City of Alexandria. The Company's tree clearing methods utilize the Virginia Department of Forestry's Best Management Practices ("BMPs") for Water Quality. Specific sections of the BMPs that are pertinent to transmission line clearing operations include:

- Equipment Maintenance and Litter
- Harvest Closure (rehabilitation of the right-of-way after construction)
- Revegetation of Disturbed Areas

The Company will utilize the above BMPs on this Project as applicable. Further discussion of right-of-way clearing, rehabilitation and maintenance can be found in Section II.A.5 of the Appendix.

Glebe GIS Conversion

The Glebe GIS Conversion work is contained within the existing substation boundaries. No impacts to recreation, agricultural, or forest resources are anticipated with the Glebe GIS Conversion.

L. Use of Pesticides and Herbicides

The Company maintains transmission 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 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. These herbicides are

routinely applied by hand. DEQ has made previous requests that only herbicides approved for aquatic use by the EPA or the FWS be used in or around any surface water; the Company intends to comply with this request for both the Potomac Yards Undergrounding and Glebe GIS Conversion.

M. Geology and Mineral Resources

Geology and Mineral Resources were identified using desktop data sources. These sources include maps and data obtained from the U.S. Geological Service ("USGS") and Department of Mines, Minerals and Energy (DMME). No abandoned or active mining locations were identified in the vicinity of the Proposal Study area. The geology within the Potomac Yards Undergrounding and Glebe GIS Conversion constitutes surficial fluvial and estuarine deposits comprising of sand, gravel, silt, and clay. Impacts to geology and mineral resources are likely to be minimal as the Project area has been disturbed and impacted by previous above- and underground utilities and urban and industrial construction.

N. Transportation Infrastructure

Temporary closures of roads and/or traffic lanes would be required during construction of the Potomac Yards Undergrounding. No long-term impacts to roads are anticipated. The Company will comply with Virginia Department of Transportation ("VDOT") and City of Alexandria requirements for access to the rights-of-way from public roads as well as the underground crossings of roads. At the appropriate time, the Company will obtain necessary VDOT and/or City of Alexandria permits as required and comply with permit conditions.

In the United States the Federal Aviation Administration ("FAA") oversees air transportation by managing air traffic and evaluating physical objects that have the potential to impact any and all aeronautical operations. The FAA regularly conducts obstruction evaluations in order to monitor the safety of aeronautical operations and secure the most efficient travel patterns.

Potomac Yards Undergrounding

One road crossing was identified for the Potomac Yards Undergrounding. U.S. Route 1 will be crossed. As micro-tunnel construction is anticipated, there are no traffic impacts associated with the Potomac Yards Undergrounding. Removal of the overhead lines will require an MOT and permit with VDOT or the city, as applicable.

The Potomac Yards Undergrounding will remove existing overhead lines and install underground transmission lines. The Potomac Yards Undergrounding does not meet requirements for FAA notice in 14 CFR part 7.9 based on height impacts. However, temporary crane use is anticipated during the removal of the existing structures and FAA notice would be filed, as required.

Glebe GIS Conversion

The Glebe GIS Conversion is contained entirely within the existing Glebe Substation boundaries and will not require road closures and/or long-term impacts to roads. The

temporary cranes required for the work at the Glebe GIS Conversion will require construction notice to the FAA under 14 CFR part 77.9. Since the Glebe GIS Conversion will not result in any permanent height increase, it is not expected that FAA notice will be required for the permanent construction; however, the Company will coordinate with the FAA to confirm that no notice is required.

Attachments

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Erik Schwenke
Metropolitan Washington Airports Authority
Office of Engineering
45045 Aviation Drive, Suite 300
Dulles, VA 20166

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Schwenke,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Metropolitan Washington Airports Authority ("MWAA") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If the MWAA would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information MWAA may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mrs. Jessica Shea
U.S. Coast Guard
Fifth Coast Guard District
431 Crawford Street
Portsmouth, VA 23704

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mrs. Shea,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

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As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the United States Coast Guard ("USCG") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If the USCG would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information USCG may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Ms. Theresita Crockett-Augustine
U.S. Army Corps of Engineers - Norfolk District
Northern Virginia Field Office
18139 Triangle Plaza, Suite 213
Dumfries, VA 22026

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Crockett-Augustine,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the U.S. Army Corps of Engineers ("USACE") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If the USACE would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information USACE may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Thomas Crone, Manager Adjacent Construction
Washington Metropolitan Area Transit Authority
Office of Joint Development & Adjacent Construction
3500 Pennsy Drive, Bldg. C, Room C106
Landover, MD 20785

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Crone,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Washington Metropolitan Area Transit Authority ("WMATA") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If WMATA would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information WMATA may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Ms. Valerie Fulcher, Executive Secretary Senior
Office of Environmental Impact Review
Department of Environmental Quality
629 East Main Street, 6th Floor
Richmond, Virginia 23219

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Fulcher,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Department of Environmental Quality ("DEQ") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If DEQ would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information DEQ may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Ms. S. Rene Hypes, Project Review Coordinator
Natural Heritage Program
Virginia Department of Conservation and Recreation
Division of Natural Heritage
600 East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Hypes,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Conservation and Recreation ("DCR") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If DCR would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information DCR may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Ms. Robbie Rhur
Planning Bureau
Department of Conservation and Recreation
600 East Main Street, 17th Floor
Richmond, Virginia 23219

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Rhur,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Conservation and Recreation ("DCR") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If DCR would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information DCR may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

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

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Kirchen,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Department of Historic Resources ("DHR") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If DHR would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information DHR may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Ms. Amy M. Ewing
Virginia Department of Games and Inland Fisheries
7870 Villa Park, Suite 400
Henrico, Virginia 23228

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Ewing,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Game and Inland Fisheries ("VDGIF") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If VDGIF would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information VDGIF may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Keith Tignor
Endangered Species Coordinator
Virginia Department of Agriculture and Consumer Services
102 Governor Street
Richmond, Virginia 23219

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Tignor,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Agriculture and Consumer Services ("VDACS") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If VDACS would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information VDACS may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Todd Groh
Forestland Conservation Division
Virginia Department of Forestry
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Groh,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Forestry ("VDOF") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If VDOF would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information VDOF may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Tony Watkinson
Habitat Management Division
Virginia Marine Resources Commission
2600 Washington Avenue, 3rd Floor
Newport News, Virginia 23607

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Watkinson,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Marine Resources Commission ("VMRC") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If VMRC would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information VMRC may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Troy Andersen
US Fish and Wildlife Service
Ecological Services Virginia Field Office
6669 Short Lane
Gloucester, Virginia 23061

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Anderson,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the U.S. Fish and Wildlife Service ("USFWS") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If USFWS would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information USFWS may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Jeff Steers
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Steers,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Environmental Quality ("DEQ") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If DEQ would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information DEQ may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Mr. Robert Alexander
Obstruction Evaluation Specialist
Federal Aviation Administration
FAA Eastern Regional Office
159-30 Rockaway Blvd
Jamaica, New York 11434

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Alexander,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Federal Aviation Administration ("FAA") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If FAA would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information FAA may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

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

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Denny,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Aviation ("DOAV") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If DOAV would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information DOAV may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Ms. Trisha Beasley
Virginia Department of Environmental Quality
Wetlands Protection Program
13901 Crown Court
Woodbridge, VA 22193

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Beasley,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

Stantec Consulting Services, Inc. delineated wetlands and other waters of the United States using the Route Determination Method as 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 Region (Version 2.0). In total, 1.94 acres of wetlands were identified within the proposed project limits. The limits of these features are illustrated on the attached Delineation Maps and a breakdown of features by each project Section is provided below. The limits of wetlands and other waters of the United States will be submitted to the U.S. Army Corps of Engineers for confirmation.

Table 1. Wetlands and WOUS Calculations

PEM1T	Stream Channels (R1)
0.006	1.94 (375)

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Department of Environmental Quality ("DEQ") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If DEQ would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information DEQ may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Ms. Eileen Sobeck, Assistant Administrator for Fisheries
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
1315 East-West Highway
Silver Spring, MD 20910

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Sobeck,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the National Oceanic and Atmospheric Administration ("NOAA") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If NOAA would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information NOAA may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

January 31, 2019

Helen Cuervo, P.E.
Virginia Department of Transportation
Northern Virginia District
4975 Alliance Drive
Fairfax, VA 22030

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Cuervo,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Department of Transportation ("VDOT") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If VDOT would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information VDOT may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Dominion Energy Virginia
10900 Nuckols Road, 4th Floor, Glen Allen, Virginia 23060

February 13, 2019

Ms. Martha Little, Deputy Director
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, Virginia 23219

Reference: **Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion**
City of Alexandria and County of Arlington, Virginia
Applicant: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Little,

Dominion Energy Virginia (the "Company") is proposing a new project which, if approved, will take place in both the City of Alexandria, Virginia and the County of Arlington, Virginia. The project has two components (collectively, the "Project"):

(i) to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines and to tie the converted lines into Glebe Substation ("Potomac Yards Undergrounding"); and

(ii) to convert and rebuild the Company's existing Glebe Substation to a Gas Insulated Substation ("GIS") to allow the Potomac Yards Undergrounding to be terminated in the Glebe Substation ("Glebe GIS Conversion")

The Project is necessary in order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, and to maximize available land use to accommodate necessary transmission terminations.

As the project involves proposed improvements to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). At this time, in advance of the SCC filing, the Company respectfully requests that the Virginia Outdoors Foundation ("VOF") submit any comments or additional information that would have bearing on the proposed project within 30 days of the date of this letter. If the VOF would like to receive a GIS shapefile of the transmission line route to assist in the project review or if there are any questions, please do not hesitate to contact me at (804) 771-6937 or John.A.Mulligan@dominionenergy.com. The Company appreciates your assistance with this project review and looks forward to any additional information the VOF may have to offer.

Regards,

John A. Mulligan
Senior Siting and Permitting Specialist

Enclosed: Project Overview Map

Stantec Consulting Services Inc.
150 Riverside Parkway, Suite 301
Fredericksburg, Virginia 22406

January 25, 2019
File: 203401260

Attention: Ms. Theresita Crockett-Augustine
U.S. Army Corps of Engineers
Northern Virginia Field Office
18139 Triangle Plaza, Suite 213
Dumfries, Virginia 22026
Via Email: theresita.m.crockett-augustine@usace.army.mil

Reference: **Request for Preliminary Jurisdictional Determination**
Potomac Yard Undergrounding, Arlington County & City of Alexandria, Virginia
Latitude: 38.840579° Longitude: -77.053145°

Applicant: Mr. John Mulligan
Dominion Energy Virginia
10900 Nuckols Road, 4th Floor
Glen Allen, Virginia 23060

Dear Ms. Crockett-Augustine:

Stantec Consulting Services, Inc. (Stantec) has been retained by Virginia Electric and Power Company, doing business as Dominion Energy Virginia, to conduct a detailed investigation of waters of the U.S., including wetlands, on the above-referenced project. The approximate 8.77-acre site is located within the Four Mile Run drainage basin in Arlington County and the City of Alexandria, Virginia (Figure 1). The project area encompasses the Glebe Substation and crosses Four Mile Run, extending generally southeast to encompass the Potomac Yard North Transition Station and additional areas. The project area is bisected by Jefferson Davis Highway (U.S. Route 1) and situated southeast of South Eads Street and west of Potomac Avenue. There is also a small disjunct portion of the project located south of the larger project area, along the eastern side of Jefferson Davis Highway, near the East Reed Avenue intersection. The project area can be accessed via the terminus of South Eads Street and from parking lots located south of Four Mile Run and east and west of Jefferson Davis Highway (Figure 2). A copy of the Pre-Application and/or Jurisdictional Waters Determination Request Form is provided in Appendix A.

Off-site Evaluation

Prior to conducting fieldwork, Stantec consulted the U.S. Geological Survey (USGS) 7.5-minute Topographical Quadrangle Map for Alexandria, Virginia (1998 revision), the National Wetlands Inventory Interactive Mapper (NWI), administered by the U.S. Fish and Wildlife Service (USFWS), the SSURGO Soils Survey, administered by the Natural Resources Conservation Service (NRCS), and flood plain maps available at the Flood Map Service Center, administered by the Federal Emergency Management Agency (FEMA). The USGS quad map depicts urban and developed land situated on level to gently sloping terrain. The NWI map (Figure 3) depicts a tidal riverine system within the project boundaries. The soil survey (Figure 4) indicates that the site is underlain primarily by Urban Land and Udorthents, none of which are classified by the NRCS as hydric in Arlington County or the City of Alexandria, Virginia. Additionally, the flood plain map (Figure 5) shows that portions of the project area lie within the 100-year floodplain (Zone AE – An area inundated by 1% annual chance flooding).

Stantec

Reference: Potomac Yard Undergrounding, Arlington County & City of Alexandria, Virginia

On-site Evaluation

Fieldwork was conducted during January 2019 using the Routine Determination Method as 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 Region (Version 2.0).* Wetland flags were placed in the field by Stantec and sequentially numbered to provide an on-site record of the delineation. The data sheets (Appendix B) used in this investigation are attached along with the Delineation Map (Figure 6) showing the GPS located limits of wetlands and other water features, as well as data point locations. Representative site photos are included in Appendix C.

Site Description

Jurisdictional features identified by Stantec within the project limits may be classified as emergent tidal wetland and a tidal riverine system. Wetland vegetation is typified by river bulrush (*Bolboshoenus fluviatillis*). The transition from wetland to upland is generally identified by a shift in the vegetative community and a shift from hydric to nonhydric soils. Table 1 shows the dimensions of the identified jurisdictional resources within the project area.

Table 1. Wetlands and WOUS Calculations

PEM1T (Acres)	**Stream Channels (R1)** Acres (LF)
0.006	1.94 (375)

On behalf of our client, Stantec respectfully requests that the Corps confirm our delineation. We would appreciate the opportunity to meet with you on site to present our fieldwork. Please call to set up a meeting date or to discuss any questions regarding our investigation.

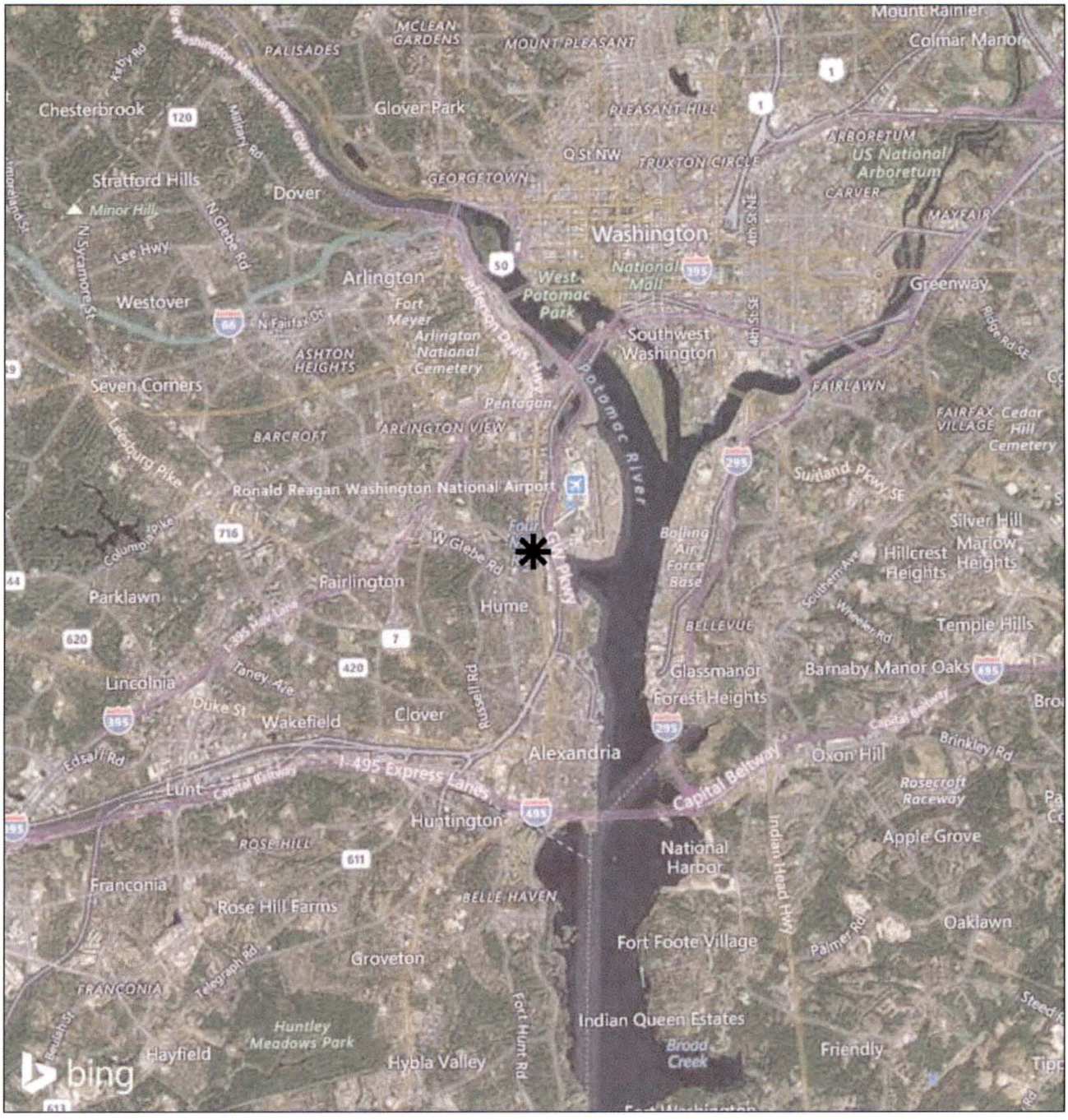
Thank you for your cooperation in this matter.

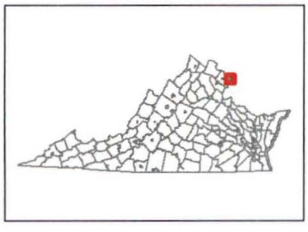
Regards,

Stantec Consulting Services

Jason Mann
Senior Ecologist
Phone: (540) 785-5544
Fax: (540) 785-1742
jason.mann@stantec.com

Enclosures: Figures 1-6 & Appendices A, B, and C





Project Location

0 5,000 10,000 Feet

(At original document size of 8.5x11)
1:120,000

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Stantec

Project Location	Prepared by ECL on 2019-01-11
	TR by MGS on 2019-01-24
City of Alexandria, Virginia	IR by JMM on 2019-01-23
Client/Project	203401260
Dominion Energy Virginia	
Potomac Yard Undergrounding	
Figure No.	
1	
Title	
Project Vicinity Map	

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Page 01 of 01

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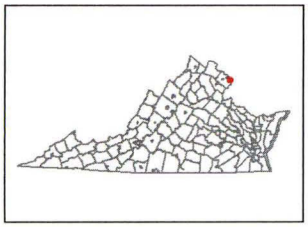

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Stantec

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia
3. Topographic map © USGS 7.5 Minute Series Topographic Map

Project Location
City of Alexandria, Virginia

Prepared by ECL on 2019-01-11
TR by MGS on 2019-01-24
IR by JMM on 2019-01-23

Client/Project
203401260
Dominion Energy Virginia
Potomac Yard Undergrounding

Figure No.
2

Title
Project Vicinity Map

Page 01 of 01

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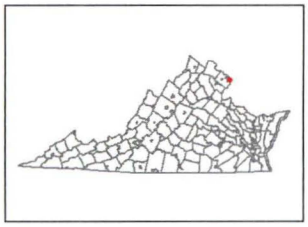

Project Limits
Freshwater Forested/Shrub Wetland
Riverine

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1:4,800

N

Stantec

Project Location
City of Alexandria, Virginia

Prepared by ECL on 2019-01-11
TR by MGS on 2019-01-24
IR by JMM on 2019-01-23

Client/Project
203401260
Dominion Energy Virginia
Potomac Yard Undergrounding

Figure No.
3

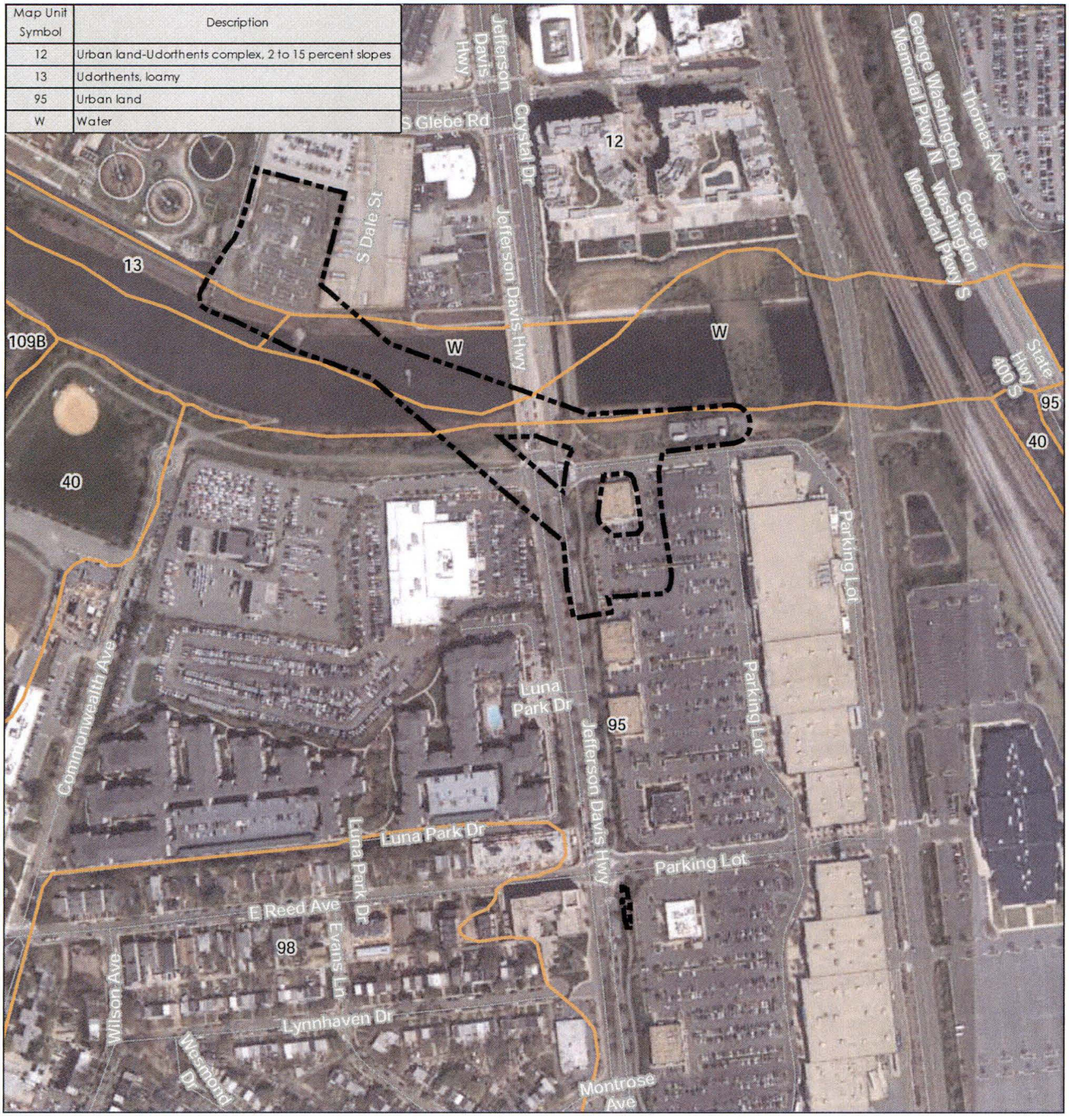
Title
National Wetlands Inventory Map

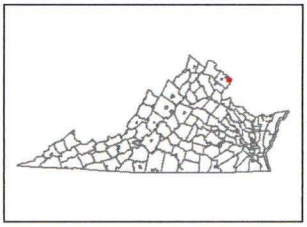
Page 01 of 01

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, USFWS National Wetlands Inventory (NWI)
3. Orthoimagery © ESRI

U:\203401260\03_data\gis_cad\gis\01260_e_nwi.mxd Revised: 2019-01-24 By: elisk.o

Map Unit Symbol	Description
12	Urban land-Udorthents complex, 2 to 15 percent slopes
13	Udorthents, loamy
95	Urban land
W	Water





Project Limits
Soils

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(At original document size of 8.5x11)
1:4,800

N

Stantec

Project Location
City of Alexandria, Virginia

Prepared by ECL on 2019-01-11
TR by MGS on 2019-01-24
IR by JMM on 2019-01-23

Client/Project
203401260
Dominion Energy Virginia
Potomac Yard Undergrounding

Figure No.
4

Title
Soils Map

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, USDA NRCS SSURGO Soil Survey
3. Orthoimagery © ESRI

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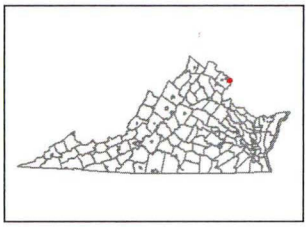
Page 01 of 01



Project Limits
100-Year Flood Zone
100-Year Floodway
500-Year Flood Zone
Area of Minimal Flood Hazard

0 200 400 Feet
(At original document size of 8.5x11)
1:4,800

N

Stantec

Project Location
City of Alexandria, Virginia

Prepared by ECL on 2019-01-11
TR by MGS on 2019-01-24
IR by JMM on 2019-01-24

Client/Project
203401260
Dominion Energy Virginia
Potomac Yard Undergrounding

Figure No.
5

Title
FEMA Flood Map

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, FEMA October 2018
3. Orthoimagery © ESRI

Page 01 of 01

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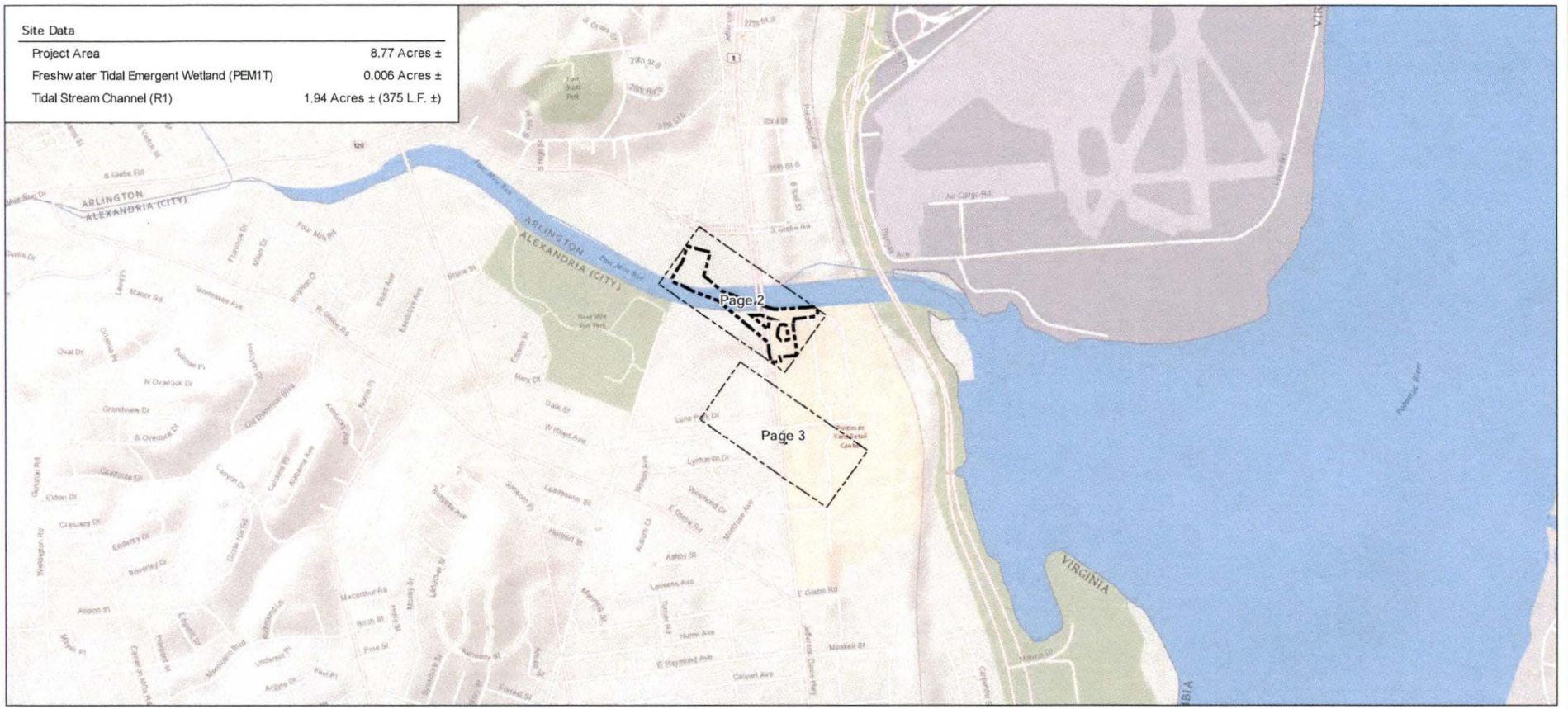
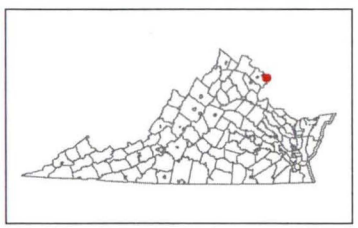
Site Data	
Project Area	8.77 Acres ±
Freshw ater Tidal Emergent Wetland (PEM1T)	0.006 Acres ±
Tidal Stream Channel (R1)	1.94 Acres ± (375 L.F. ±)





Project Limits
Page Index

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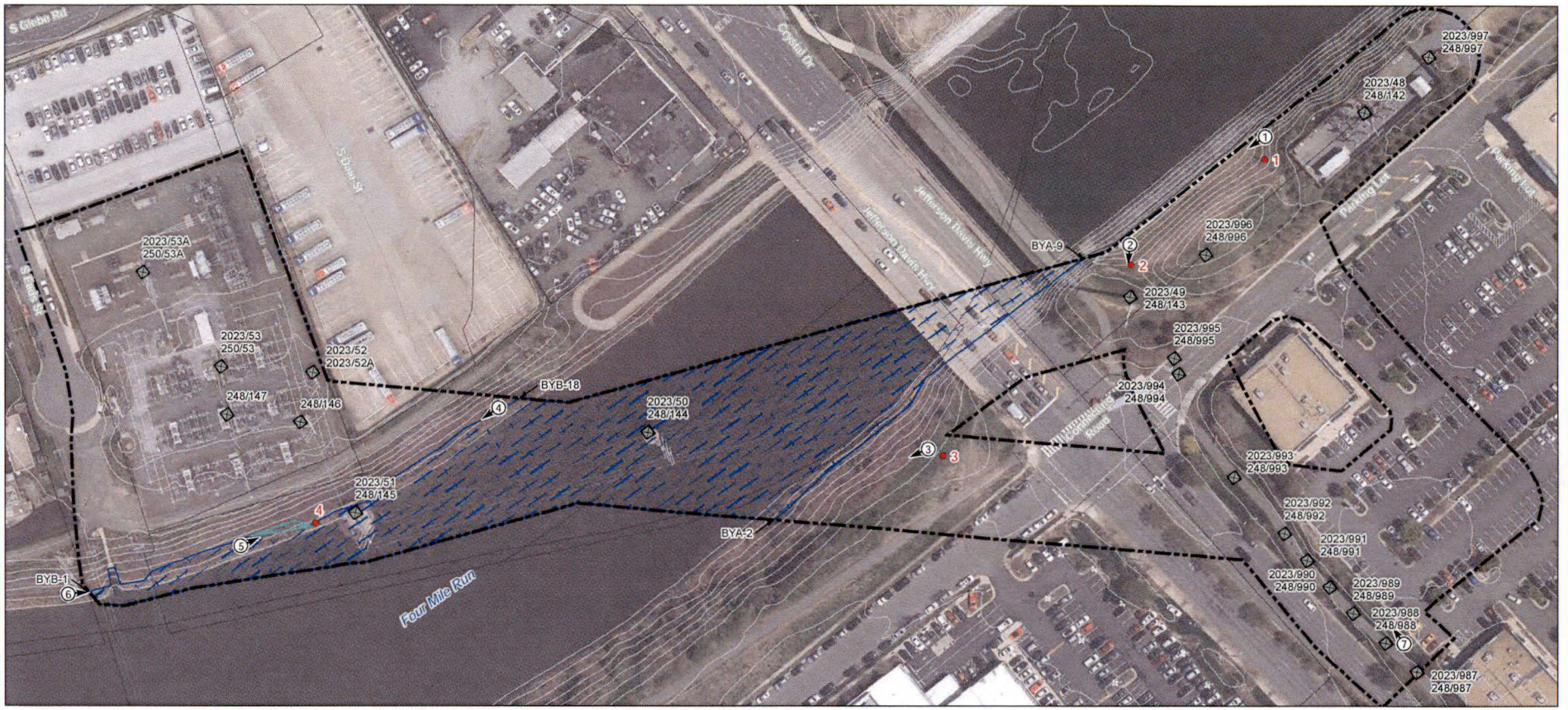
Stantec

Project Location	Prepared by ECL on 2019-01-11 TR by MGS on 2019-01-24 IR by JMM on 2019-01-23
City of Alexandria, Virginia	
Client/Project	203401260
Dominion Energy Virginia Potomac Yard Undergrounding	
Figure No.	
6	
Title	
Delineation Map	

Page 01 of 03

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia
3. Base Map © National Geographic



- Photo Location
- Data Point
- Existing Structure Location
- Project Limits
- Freshwater Tidal Emergent Wetland (PEM1T) Limits
- Approximate Tidal Stream Channel (R1) Limits
- Parcel Boundary
- 2-Foot Contour

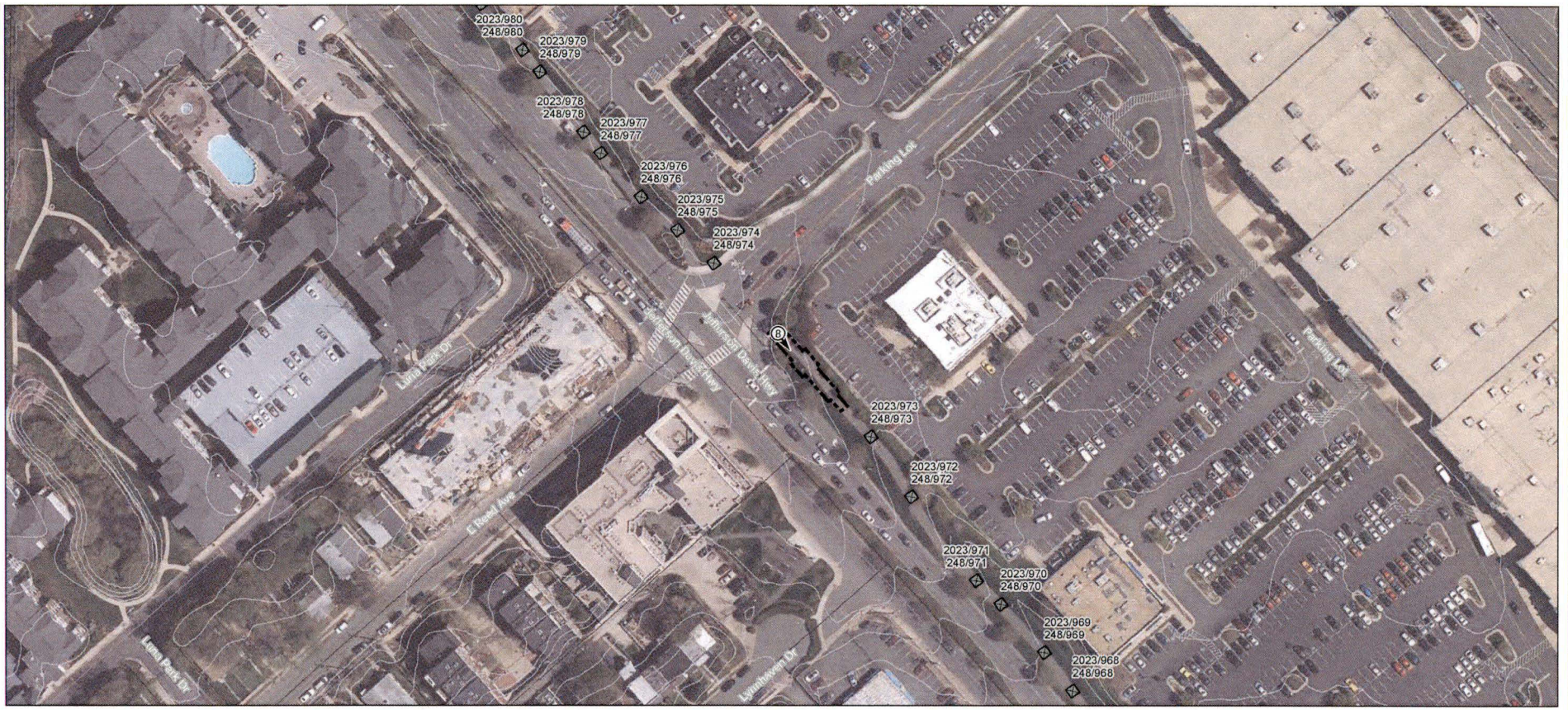
0 100 200 Feet
(At original document size of 11x17)
1:1,200

N

Stantec

Project Location	Prepared by ECL on 2019-01-11 TR by MGS on 2019-01-24 IR by JMM on 2019-01-23
City of Alexandria, Virginia	
Client/Project	203401260
Dominion Energy Virginia Potomac Yard Undergrounding	
Figure No.	
6	
Title	
Delineation Map	

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, City of Alexandria GIS Fall 2015, Arlington County GIS December 2016, VGIN
3. The limits of waters of the U.S., including wetlands, shown on this map have been field located by means of sub-meter capable GPS technology and are for planning purposes only.
4. Orthoimagery © Bing Maps and © ESRI
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



- Photo Location
- Data Point
- Existing Structure Location
- Project Limits
- Freshwater Tidal Emergent Wetland (PEM1T) Limits
- Approximate Tidal Stream Channel (R1) Limits
- Parcel Boundary
- 2-Foot Contour

0 100 200 Feet
(At original document size of 11x17)
1:1,200

N

Stantec

Project Location
City of Alexandria, Virginia

Prepared by ECL on 2019-01-11
TR by MGS on 2019-01-24
IR by JMM on 2019-01-23

Client/Project
Dominion Energy Virginia
Potomac Yard Undergrounding

203401260

Figure No.
6

Title
Delineation Map

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia, City of Alexandria GIS Fall 2015, Arlington County GIS December 2018, VGIN
3. The limits of waters of the U.S., including wetlands, shown on this map have been field located by means of sub-meter capable GPS technology and are for planning purposes only.
4. Orthoimagery © Bing Maps and © ESRI
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

APPENDIX A
PRE-APPLICATION AND JURISDICTIONAL DETERMINATION REQUEST FORM

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

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

The printed form and supporting documents should be mailed to:

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

Or faxed to (757) 201-7678

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

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

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

1. Date of Request: **January 25, 2019**

2. Project Name: **Potomac Yard Undergrounding**

3. City or County where property located: **Arlington County and City of Alexandria, Virginia**

4. Address of property and directions (attach a map of the property location and a copy of the property plat): **The approximate 8.77-acre site is located within the Four Mile Run drainage basin in Arlington County and the City of Alexandria, Virginia. The project area encompasses the Glebe Substation and crosses Four Mile Run, extending generally southeast to encompass the Potomac Yard North Transition Station and additional areas. The project area is bisected by Jefferson Davis Highway (U.S. Route 1) and situated southeast of South Eads Street and west of Potomac Avenue. The project area can be accessed via the terminus of South Eads Street and from parking lots located south of Four Mile Run and east and west of Jefferson Davis Highway.**

5. Coordinates of property (if known): **Latitude: 38.840579° Longitude: -77.053145°**

6. Size of property in acres: **8.77**

7. Tax Parcel Number / GPIN (if available):

8. Name of Nearest Waterway: **Four Mile Run**

9. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request: **Environmental constraints analysis.**

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

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

Property Owner Contact Information:

Property Owner Name: **Mr. John Mulligan – Dominion Energy Virginia** Mailing Address: **10900 Nuckols Road, 4th Floor**
City: State: Zip: **Glen Allen, Virginia 23060**
Daytime Telephone: **(804) 771-6937**
E-mail Address: **john.a.mulligan@dominionenergy.com**

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

Requestor Name: **Jason Mann – Stantec**
Mailing Address: **150 Riverside Parkway, Suite 301**
City: State: Zip: **Fredericksburg, Virginia 22406**
Daytime Telephone: **(540) 785-5544**
E-mail Address: **jason.mann@stantec.com**

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

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

_____ _____
Property Owner's Signature Date

APPENDIX B
WETLAND DETERMINATION DATA FORMS

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region Sampling Point Number: 1

Stantec

Project:	POTOMAC YARD UNDERGROUNDING		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	ARLINGTON COUNTY & CITY OF ALEXANDRIA	Subregion (LRR or MLRA):	LRR P
State:	VIRGINIA	Site Latitude:	38.840579°
Investigator(s):	J. MANN & B. YOUNG	Site Longitude:	-77.053145°
Date:	1/16/2019	Soil Map Unit Name:	URBAN LAND

Summary of Findings: UPLAND IN SWALE EAST OF JEFFERSON DAVIS HIGHWAY AND SOUTH OF FOUR MILE RUN;

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	2-4

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: _____
Water Table: _____
Saturated soil: _____

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Schedonorus arundinaceus	Herbaceous	FAC	45
Microstegium vimineum	Herbaceous	FAC	25

Non-Dominant Species	Stratum	IND	%
Trifolium repens	Herbaceous	FACU	15

% Dominant species FAC or wetter: 100%
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Prevalence Index: 3.0
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: _____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: _____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-1	10YR 3/3	100					GRAVELLY SANDY CLAY LOAM
1-20	10YR 4/3	100					GRAVELLY CLAY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: _____
Depth (inches): _____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region Sampling Point Number: 2

Stantec

Project:	POTOMAC YARD UNDERGROUNDING		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	ARLINGTON COUNTY & CITY OF ALEXANDRIA	Subregion (LRR or MLRA):	LRR P
State:	VIRGINIA	Site Latitude:	38.840579°
Investigator(s):	J. MANN & B. YOUNG	Site Longitude:	-77.053145°
Date:	1/16/2019	Soil Map Unit Name:	URBAN LAND

Summary of Findings: UPLAND IN SWALE EAST OF JEFFERSON DAVIS HIGHWAY, SOUTH OF FOUR MILE RUN, AND WEST OF DATA POINT 1;

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: _____
Water Table: _____
Saturated soil: _____

Remarks: HYDROLOGY PARAMETER NOT MET.

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Schedonorus arundinaceus	Herbaceous	FAC	70

Non-Dominant Species	Stratum	IND	%
Trifolium repens	Herbaceous	FACU	15

% Dominant species FAC or wetter: 100%
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Prevalence Index: 3.0
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: _____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: _____

Remarks: VEGETATION PARAMETER MET.

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-13	10YR 3/4	100					CLAY LOAM
13-20	10YR 5/6	100					SANDY CLAY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: _____
Depth (inches): _____

Remarks: SOIL PARAMETER NOT MET.

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region Sampling Point Number: 3

Stantec

Project:	POTOMAC YARD UNDERGROUNDING	Section/Township/Range:	N/A
Applicant:	DOMINION ENERGY VIRGINIA	Subregion (LRR or MLRA):	LRR P
City/County:	ARLINGTON COUNTY & CITY OF ALEXANDRIA	Site Latitude:	38.840579°
State:	VIRGINIA	Site Longitude:	-77.053145°
Investigator(s):	J. MANN & B. YOUNG	Soil Map Unit Name:	URBAN LAND
Date:	1/16/2019		

Summary of Findings: UPLAND WEST OF JEFFERSON DAVIS HIGHWAY AND SOUTH OF FOUR MILE RUN;

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: ____

Remarks: HYDROLOGY PARAMETER NOT MET.

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Cynodon dactylon	Herbaceous	FACU	60
Trifolium repens	Herbaceous	FACU	20

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 0
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Prevalence Index: 4.0
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: ____
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: VEGETATION PARAMETER NOT MET.

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-1	10YR 3/2	100					GRAVELLY CLAY LOAM
1-10	10YR 4/3	100					GRAVELLY CLAY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: UNCONSOLIDATED GRAVEL
Depth (inches): 10

Remarks: SOIL PARAMETER NOT MET.

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region Sampling Point Number: 4

Stantec

Project:	POTOMAC YARD UNDERGROUNDING		
Applicant:	DOMINION ENERGY VIRGINIA	Section/Township/Range:	N/A
City/County:	ARLINGTON COUNTY & CITY OF ALEXANDRIA	Subregion (LRR or MLRA):	LRR P
State:	VIRGINIA	Site Latitude:	38.840579°
Investigator(s):	J. MANN & B. YOUNG	Site Longitude:	-77.053145°
Date:	1/16/2019	Soil Map Unit Name:	UDORTHENTS, LOAMY

Summary of Findings: TIDAL WETLAND WEST OF JEFFERSON DAVIS HIGHWAY ON THE NORTHERN BANK OF FOUR MILE RUN.

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
X High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ___
Water Table: 4
Saturated soil: 1

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Bolboschoenus fluviatillis	Herbaceous	OBL	45

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 100%
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2018 NATIONAL WETLAND PLANT LIST

Prevalence Index: 1.0
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: X
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ___

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 4/2	100					LOAMY SAND
4-20	10YR 7/1	90	10YR 5/8	10	C	M	LOAMY SAND

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	X Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ___
Depth (inches): ___

Remarks: **SOIL PARAMETER MET.**

APPENDIX C
REPRESENTATIVE PHOTOS

Photo: #1

Description:

Representative photograph of uplands adjacent to Four Mile Run facing west.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

Photo: #2

Description:

Representative photograph of uplands near Structure 2023/49 248/143 facing southeast.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

Photo: #3

Description:

Representative photograph of uplands adjacent to Four Mile Run facing west.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

Photo: #4

Description:

Representative photograph of Four Mile Run and adjacent uplands in the vicinity of Structure 2023/51 248/145 facing west.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

Photo: #5

Description:

Representative photograph of small area of estuarine emergent wetland adjacent to Four Mile Run near Structure 2023/51 248/145.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

Photo: #6

Description:

Representative photograph of Four Mile Run and adjacent uplands.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

Photo: #7

Description:

Representative photograph of uplands comprised of developed land adjacent to Jefferson Davis Highway.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

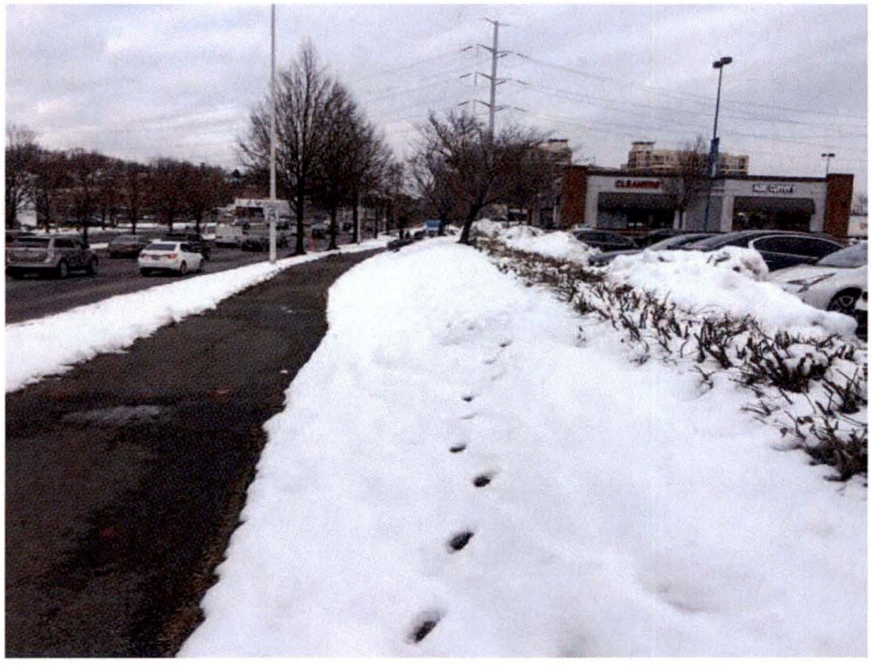


Photo: #8

Description:

Representative photograph of uplands comprised of developed land along Jefferson Davis Highway near its intersection with E. Reed Avenue.

Photographer:

Jason Mann

Stantec

Photo date:
1/16/2019

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
http://www.fws.gov/northeast/virginiafield/

In Reply Refer To:
Consultation Code: 05E2VA00-2019-SLI-1562
Event Code: 05E2VA00-2019-E-03557
Project Name: Potomac Yard Undergrounding

January 30, 2019

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

Attachment(s):

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

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

Consultation Code: 05E2VA00-2019-SLI-1562

Event Code: 05E2VA00-2019-E-03557

Project Name: Potomac Yard Undergrounding

Project Type: TRANSMISSION LINE

Project Description: conversion of overhead line to underground

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.84062891891818N77.05333938427876W

Counties: Alexandria, VA | Arlington, VA

Endangered Species Act Species

There is a total of 0 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.

---

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.

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.

Site Location

38,50,31.8 -77,03,05.8
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 radius

Search Point is at map center

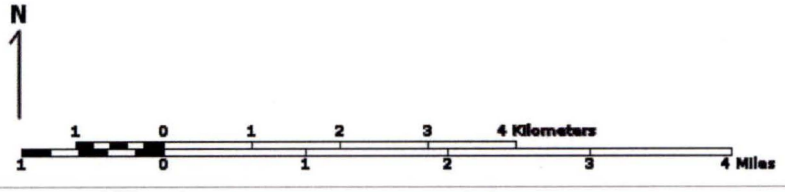
Base Map Choices
Topography

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

Map Overlay Legend

Refresh Browser Page

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



Point of Search 38,50,31.8 -77,03,05.8
Map Location 38,50,31.8 -77,03,05.8

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

Map projection is UTM Zone 18 NAD 1983 with left 317147 and top 4306062. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West.Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+-

T & E Waters

Federal

State

Predicted Habitat WAP Tier I & II

Aquatic

Terrestrial

Trout Waters

Class I - IV

Class V - VI

Anadromous Fish Reach

Confirmed

Potential

Impediment

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

2 mile radius Search Area

Bald Eagle Concentration Areas and Roosts

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 2019-01-09 10:49:13 (qa/qc March 21, 2016 12:20 - tn=953635.0 dist=3218.688 I)
$poi=38.8421667 -77.0516111

VaFWIS Search Report Compiled on 1/9/2019, 10:49:08 AM

Help

Known or likely to occur within a **2 mile radius around point 38.8421667 -77.0516111** in **013 Arlington County, 510 Alexandria City, VA**

View Map of Site Location

582 Known or Likely Species ordered by Status Concern for Conservation (displaying first 24) (24 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA,HU6
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
060006	SE	Ib	Floater, brook	Alasmidonta varicosa		BOVA
030062	ST	Ia	Turtle, wood	Glyptemys insculpta		BOVA,HU6
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
100155	ST	Ia	Skipper, Appalachian grizzled	Pyrgus wyandot		BOVA,HU6
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	Turtle, spotted	Clemmys guttata	Yes	BOVA,SppObs,HU6
030012	CC	IVa	Rattlesnake, timber	Crotalus horridus		BOVA
040040		Ia	Ibis, glossy	Plegadis falcinellus		HU6
100248		Ia	Fritillary, regal	Speyeria idalia idalia		BOVA,HU6
040213		Ic	Owl, northern saw-whet	Aegolius acadicus		HU6
040052		IIa	Duck, American black	Anas rubripes	Potential	BOVA,BBA,HU6
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA,HU6
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA,HU6
040140		IIa	Woodcock, American	Scolopax minor		BOVA,HU6
040203		IIb				BOVA

			Cuckoo, black-billed	Coccyzus erythropthalmus		
040105		IIb	Rail, king	Rallus elegans	Potential	BOVA,Habitat,HU6
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		HU6
070020		IIc	Amphipod, Pizzini's	Stygobromus pizzinii		HU6
100154		IIc	Butterfly, Persius duskywing	Erynnis persius persius		BOVA,HU6

To view **All 582 species** View 582

*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 (2 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**	
C25	Fourmile run	Confirmed	2			Yes
C64	Potomac river	Confirmed	6		IV	Yes

Impediments to Fish Passage

N/A

Colonial Water Bird Survey

N/A

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests

N/A

Species Observations (64 records - displaying first 20 , 1 Observation with Threatened or Endangered species)

View Map of All Query Results
Species Observations

obsID	class	Date Observed	Observer	N Species Different Species	Highest TE*	Highest Tier**	View Map
365017	SppObs	Jan 1 1900		3	CC	III	Yes
625226	SppObs	Sep 16 2015	Jason; Hill| Drew; Miller	19		III	Yes
623248	SppObs	Oct 7 2014	Richard; Browder| Gabriel; Darkwah| Meghan; Bandura| Ken	9		III	Yes
305871	SppObs	May 19 2004	Mike Mangold (Principle Permittee), U. S. F. W. S	4		III	Yes
307634	SppObs	May 19 2004	Mike Mangold (Principle Permittee), U. S. F. W. S	4		III	Yes
301157	SppObs	May 29 2003	Mike Mangold (Principle Permittee), U. S. F. W. S	13		III	Yes
16433	SppObs	Aug 22 1978	VIMS-B-194	10		III	Yes
336463	SppObs	Jan 1 1978	VIMS-B-VA. INST. MARINE SCI.	11		III	Yes
614202	SppObs	Jul 5 2011	Nico; Dauphine	1		IV	Yes
614201	SppObs	Jun 25 2011	Nico; Dauphine	1		IV	Yes
614200	SppObs	Jun 10 2011	Nico; Dauphine	1		IV	Yes

614199	SppObs	Jun 1 2011	Nico; Dauphine	1		IV	Yes
614197	SppObs	May 25 2011	Nico; Dauphine	1		IV	Yes
321552	SppObs	May 25 2007	Greg Zell	6		IV	Yes
301189	SppObs	Oct 14 2003	Mike Mangold (Principle Permittee), U. S. F. W. S	11		IV	Yes
301176	SppObs	Aug 13 2003	Mike Mangold (Principle Permittee), U. S. F. W. S	12		IV	Yes
301169	SppObs	Jul 15 2003	Mike Mangold (Principle Permittee), U. S. F. W. S	13		IV	Yes
301144	SppObs	May 1 2003	Mike Mangold (Principle Permittee), U. S. F. W. S	12		IV	Yes
16434	SppObs	Aug 22 1978	VIMS-B-195	9		IV	Yes
336464	SppObs	Jan 1 1978	VIMS-B-VA. INST. MARINE SCI.	10		IV	Yes

Displayed 20 Species Observations

Selected 64 Observations View all 64 Species Observations

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species (2 Species)

View Map of Combined Terrestrial Habitat Predicted for 2 WAP Tier I & II Species Listed Below

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040105		IIb	Rail, king	Rallus elegans	Yes
040038			Bittern, American	Botaurus lentiginosus	Yes

Virginia Breeding Bird Atlas Blocks (4 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE*	Highest Tier**	
54194	Alexandria, CE	49		II	Yes
54193	Alexandria, CW	27		IV	Yes

54192	Alexandria, NE	32		II	Yes
54191	Alexandria, NW	58		III	Yes

Public Holdings: (2 names)

Name	Agency	Level
George Washington Memorial National Parkway	National Park Service	Federal
The Pentagon	U.S. Dept. of Army	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
013	Arlington	458	FESE	I
510	Alexandria City	475	FESE	I

USGS 7.5' Quadrangles:
Alexandria

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
PL24	Potomac River-Pimmit Run	68	SE	I
PL25	Potomac River-Fourmile Run	67	ST	I
PL26	Cameron Run	69	ST	I

Compiled on 1/9/2019, 10:49:08 AM 1953635.0 report=all searchType= R dist= 3218.688 poi= 38.8421667 -77.0516111

PixelSize=64; Anadromous=0.038845; BBA=0.10254; BECAR=0.02317; Bats=0.023743; Buffer=0.097873; County=0.124653; HU6=0.09046; Impediments=0.025375; Init=0.153143; PublicLands=0.054323; Quad=0.057121; SppObs=0.318381; TEWaters=0.042428; TierReaches=0.049849; TierTerrestrial=0.055084; Totsf=1.479381; Tracking_BOVA=0.235065; Trout=0.025891; huva=0.047989

Natural Heritage Resources

Your Criteria
Federal Legal Status: LE - Listed endangered,LT - Listed threatened,PE - Proposed endangered,PT - Proposed threatened,C - Candidate,SOC - species of concern
State Legal Status: LE - Listed endangered,LT - Listed threatened,PE - Proposed endangered,PT - Proposed threatened,C - Candidate
Watershed (8 digit HUC): 02070010 - Middle Potomac-Anacostia-Occoquan
Subwatershed (12 digit HUC): PL25 - Potomac River (MD)-Fourmile Run
Search Run: 2/4/2019 17:11:07 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	Global Conservation Status Rank (http://www.dcr.virginia.gov/natural_heritage/help.shtml)	State Conservation Status Rank (http://www.dcr.virginia.gov/natural_heritage/help.shtml)	Federal Legal Status (http://www.dcr.virginia.gov/natural_heritage/help.shtml)	State Legal Status (http://www.dcr.vi
Middle Potomac-Anacostia-Occoquan					
Potomac River (MD)-Fourmile Run					
CRUSTACEA (AMPHIPODS, ISOPODS & DECAPODS)					
Northern Virginia Well Amphipod	*Stygobromus phreaticus* (http://www.natureserve.org/explorer/servlet/NatureServe?searchName=STYGOBROMUS+PHREATICUS)	G1	S1	SOC	None
REPTILES					
Wood Turtle	*Glyptemys insculpta* (http://www.natureserve.org/explorer/servlet/NatureServe?searchName=GLYPTEMYS+INSCULPTA)	G3	S2	None	LT
VASCULAR PLANTS					
Torrey's Mountain-mint	*Pycnanthemum torreyi* (http://www.natureserve.org/explorer/servlet/NatureServe?searchName=PYCNANTHEMUM+TORREYI)	G2	S2	SOC	None

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 (http://www.dcr.virginia.gov/natural_heritage/infoservices.shtml).

To Contribute information on locations of natural heritage resources, please fill out and submit a rare species sighting form (http://www.dcr.virginia.gov/natural-heritage/rare-species-sighting).

Attachment 2.F.3
Page 1 of 1

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

February 12, 2019

Joh'n A. Mulligan
Senior Siting and Permitting SpecialistDominion Energy
10900 Nuckols Road, 4th Floor
Glen Allen, VA 23060

RE: Dominion Energy Virginia's Proposed Potomac Yards Undergrounding and Glebe GIS Conversion; City of Alexandria and County of Arlington, Virginia

Dear Mr. Mulligan:

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, Dominion should coordinate 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 Game and Inland Fisheries
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

- DGIF 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) 698-4204 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

Stantec Consulting Services Inc.
5209 Center Street
Williamsburg VA 23188
Tel: (757) 220-6869
Fax: (757) 229-4507

March 1, 2019

Attention: Mr. Roger Kirchen
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond VA 23221
(804) 482-6091

Dear Mr. Kirchen,

Reference: Stage I Pre-Application Analysis for the Proposed Dominion Energy Virginia Potomac Yards Undergrounding, City of Alexandria and Arlington County, Virginia

Stantec Consulting Services Inc. (Stantec), on behalf of Dominion Energy Virginia (Dominion Energy), is pleased to submit one (1) hard copy and one (1) digital copy of the technical report entitled *Stage I Pre-Application Analysis for the Proposed Dominion Energy Virginia Potomac Yards Undergrounding, City of Alexandria and Arlington County, Virginia*. This document was originally submitted to VDHR on February 22, 2019. Following submission of the document we identified two errors in the report. This submission includes the corrected document for review. One additional resource has been included and distance measurements have been updated. Please disregard the originally submitted document.

On behalf of our client, Dominion Energy, and pursuant to the VDHR's guidance for State Corporation Commission projects involving transmission lines, we would like to request your review and concurrence with the project findings. If you have any questions or need additional information to initiate your review, please feel free to contact me at (757) 831-3979 or ellen.brady@stantec.com.

Regards,

Ellen Brady
Senior Principal Investigator
Phone: (757) 831-3979
Ellen.brady@stantec.com

c. Mr. John Mulligan, Dominion Energy Virginia
Mr. Corey Gray, Stantec Consulting Services Inc.

Stantec

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA POTOMAC YARDS UNDERGROUNDING, CITY OF ALEXANDRIA AND ARLINGTON COUNTY, VIRGINIA

VDHR File #: TBD

February 28, 2019

Prepared for:

Dominion Energy Virginia
Attn: Mr. John Mulligan
10900 Nuckols Road, 4th Floor
Glen Allen VA 23060

Prepared by:

Aimee Leithoff
Principal Investigator

and

Ellen Brady
Senior Principal Investigator

Stantec Consulting Services Inc.
1011 Boulder Springs Drive, Suite 225
Richmond VA 23225-4951
(804) 267-3474

This document entitled *STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA POTOMAC YARDS UNDERGROUNDING, CITY OF ALEXANDRIA AND ARLINGTON COUNTY, VIRGINIA* was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Dominion Energy Virginia (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by _____
(signature)
Aimee Leithoff, Principal Investigator

Reviewed by _____
(signature)
Ellen M. Brady, Senior Principal Investigator

Approved by _____
(signature)
Corey Gray, Environmental Consultant

Table of Contents

LIST OF TABLES

LIST OF FIGURES

Executive Summary

Stantec was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the proposed construction of the Potomac Yards Undergrounding project in the City of Alexandria and Arlington County, Virginia. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy proposes to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines ("Potomac Yards Undergrounding"). Dominion Energy also proposes to convert and rebuild the existing Glebe Substation to a Gas Insulated Substation ("GIS") which will allow for the Potomac Yards Undergrounding to be terminated in the Glebe Substation while also replacing aging infrastructure. The proposed project will remove six transmission line structures and foundations and replace with underground transmission lines.

Background research for the Stage I Pre-Application Analysis was conducted in January and February 2019 by Stantec staff. The preliminary background research and a field study was conducted pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (Virginia Department of Historic Resources [VDHR] 2008) for proposed substation and transmission line improvements. As detailed by VDHR guidance, consideration was given to National Historic Landmark (NHL) properties located within a 1.5-mile radius of the project; National Register of Historic Places (NRHP)-listed properties, Battlefields, and Historic Landscapes located within a 1.0-mile radius of the project; NRHP-eligible sites located within a 0.5-mile radius of the project; and archaeological sites located within the Dominion Energy-owned property and right-of-way (ROW). Six previously identified architectural resources were identified for inclusion in the Stage I analysis. Two previously recorded archaeological resources within the Dominion Energy-owned property and ROW for the undergrounding project were identified during this phase of the project.

Four NRHP-listed resources were identified within 1.0 mile of the Potomac Yards Undergrounding project: the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045), the Aurora Highlands Historic District (VDHR #000-9706), the George Washington Memorial Highway (VDHR #029-0218), and the Town of Potomac Historic District (VDHR #100-0136). Two eligible historic districts were identified within 1.0 mile of the Potomac Yards Undergrounding project: the Lynhaven Historic District (VDHR #100-5021) and the Richmond, Fredericksburg and Potomac Railroad Historic District (VDHR #500-0001).

The proposed project will remove six transmission line structures and foundations and replace with underground transmission lines. The Glebe Substation will be updated but will not result in a significant change in current viewshed conditions. The removal of the existing above-ground transmission line structures and replacement with an underground line would create a beneficial effect to the viewshed by

reducing the amount of overhead transmission line and structures in the project location. ***Stantec recommends that the Project would have No Visual Impact to the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045), the Aurora Highlands Historic District (VDHR #000-9706), the George Washington Memorial Highway (VDHR #029-0218), the Town of Potomac Historic District (VDHR #100-0136), the Lynhaven Historic District (VDHR #100-5021) and the Richmond, Fredericksburg and Potomac Railroad Historic District (VDHR #500-0001).***

Previously Recorded Architectural Resources Considered				
VDHR #	**Resource Name**	**VDHR/NRHP Status**	**Distance to Nearest Point within Project Area (Feet)**	**Impact**
000-0045	Washington National Airport Terminal and South Hanger Line	NRHP Listed 1997; VLR Listed 1995	1886	None
000-9706	Aurora Highlands Historic District	NRHP Listed 2008; VLR Listed 2008	2854	None
029-0218	George Washington Memorial Highway	NRHP Listed 1981; VLR Listed 1981	624	None
100-0136	Town of Potomac Historic District	NRHP Listed 1995; VLR Listed 1994	2143	None
100-5021	Lynhaven Historic District	Eligible 1998	840	None
500-0001	Richmond, Fredericksburg, and Potomac Railroad Historic District	Eligible 2018	444	None

Two previously recorded archaeological resources were identified within the ROW for the Potomac Yards Undergrounding project. Site 44AX0028 is recorded as the nineteenth century Alexandria Canal. The portion of the Alexandria Canal in proximity to the Potomac Yards Undergrounding project has not been investigated archaeologically; however, it appears likely that the canal has been destroyed or significantly altered in this location. Site 44AX0207 is a map-projected site dating to the third quarter of the eighteenth century. The site is documented as Campsite No 1 of the American Wagon Train with an assigned date of September 1781. The site has not been archaeologically verified and has not been evaluated.

The proposed underground corridor was not subject to systematic survey as part of the Stage I analysis. However, the area was subject to pedestrian survey and photographs of current conditions were taken. The area has been disturbed and no surface indications of the archaeological sites were identified. However, because the area of new ROW has not been previously surveyed, archaeological investigation is recommended for those areas planned for ground disturbing activity associated with the Project.

Abbreviations

Dominion Energy	Dominion Energy Virginia
kV	Kilovolt
NERC	North American Electric Reliability Corporation
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
ROW	Right-of-Way
SCC	State Corporation Commission
Stantec	Stantec Consulting Services, Inc.
USDI	United States Department of the Interior
V-CRIS	Virginia Cultural Resources Information System
VLR	Virginia Landmarks Register
VDHR	Virginia Department of Historic Resources

1.0 INTRODUCTION

1.1 OVERVIEW

Stantec was retained by Dominion Energy Virginia (Dominion Energy) to conduct a Stage I Pre-Application Analysis for the proposed construction of the Potomac Yards Undergrounding project in the City of Alexandria and Arlington County, Virginia. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy proposes to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards North Terminal Station ("Potomac Yards Station") located in the City of Alexandria, Virginia, to underground lines ("Potomac Yards Undergrounding"). Dominion Energy also proposes to convert and rebuild the existing Glebe Substation to a Gas Insulated Substation ("GIS") which will allow for the Potomac Yards Undergrounding to be terminated in the Glebe Substation while also replacing aging infrastructure.

Potomac Yards Undergrounding

Dominion Energy's existing transmission system includes two existing 230 kV transmission lines that leave Glebe Substation as overhead lines, travel approximately 0.2 mile across Four Mile Run, and then transition to underground at the Potomac Yards Station located on the south side of Four Mile Run, southeast of the Glebe Substation. Dominion Energy proposes to convert the overhead portion of the double circuit transmission lines located between the Glebe Substation and Potomac Yards Station to underground lines and tie into the converted Glebe Substation. Six existing transmission structures and foundations will be removed (Figure 1). These include:

- Steel single circuit monopole structure #248/146 – 80 feet in height
- Steel single circuit monopole structure #2023/52 – 80 feet in height
- Steel double circuit monopole structure #248/145 (#2023/51) – 100 feet in height
- Steel double circuit monopole structure #248/144 (#2023/50) – 95 feet in height
- Steel double circuit monopole structure #248/143 (#2023/49) – 125 feet in height
- Steel double circuit backbone structure #248/142 (#2023/48) – 96 feet in height

Glebe GIS Conversion

The Glebe GIS Conversion is required to facilitate the undergrounding of Lines #248 and #2023 consistent with the Special Use Permit issued by the City of Alexandria and replace aging substation infrastructure that would otherwise require repair or replacement, thereby enabling Dominion Energy to

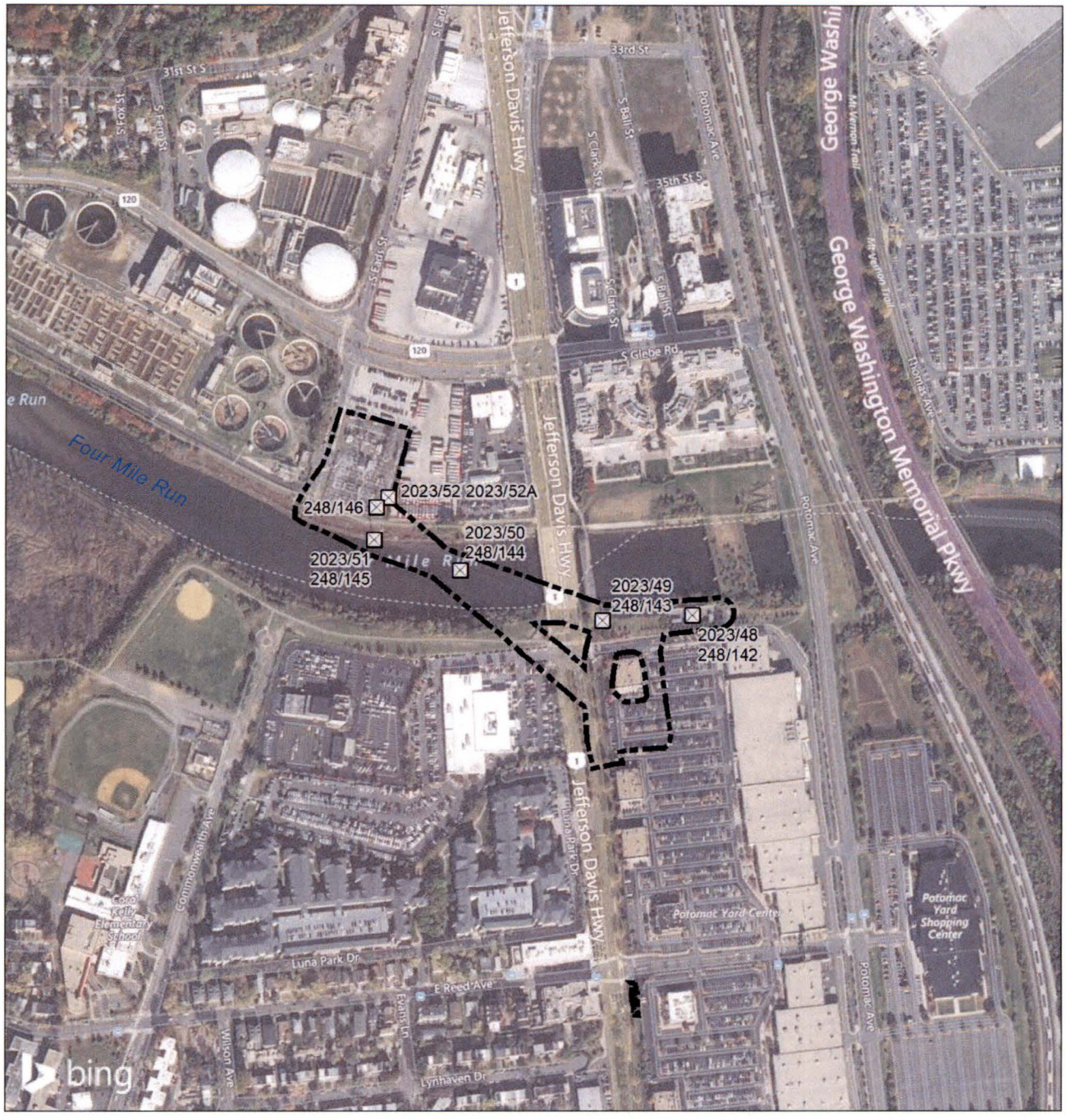
maintain the overall long-term reliability of its transmission system. New right-of-way (ROW) will be required for the 0.2-mile undergrounding relocation of the existing 230 kV overhead Lines #248 and #2023 between Potomac Yards Station and Glebe Substation.

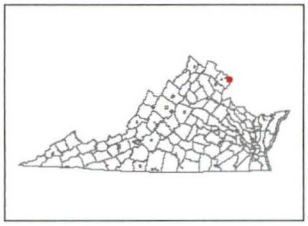
1.2 STAGE I PRE-APPLICATION ANALYSIS

The *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) were developed by the VDHR to assist the SCC and their applicants to address and minimize potential impacts to historic resources associated with the construction of large-scale transmission lines and associated facilities. In consideration of the general project design, as described above, and other elements associated with the proposed undertaking, including current ROW conditions within the proposed project area, Stantec designed the present study to identify all previously recorded architectural and archaeological resources requiring inclusion in a formal Stage I Pre-Application Analysis, as defined by the 2008 Guidelines.

As detailed by VDHR guidance, consideration was given to National Historic Landmark (NHL) properties located within a 1.5-mile radius of the project; National Register of Historic Places (NRHP)-listed properties, Battlefields, and Historic Landscapes located within a 1.0-mile radius of the proposed project; NRHP-eligible sites located within a 0.5-mile radius of the proposed project; and archaeological sites located within the Dominion Energy-owned property and ROW for the undergrounding project. Four NRHP-listed resources were identified within 1.0 mile of the proposed undergrounding project: the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045), the Aurora Highlands Historic District (VDHR #000-9706), the George Washington Memorial Highway (VDHR #029-0218), and the Town of Potomac Historic District (VDHR #100-0136). Two NRHP-eligible historic districts were identified within 1.0 mile of the proposed undergrounding project: the Lynhaven Historic District (VDHR #100-5021) and the Richmond, Fredericksburg and Potomac (RF&P) Railroad Historic District (VDHR #500-0001). Two previously recorded archaeological sites, 44AX0028 and 44AX0207 were also identified within or immediately adjacent to the project ROW.

This Stage I Pre-Application Analysis project was directed by Senior Principal Investigator Ellen Brady and co-authored by Principal Investigator Aimee Leithoff. Archaeologists Taft Kiser and Jon Tucker took the photographs under the direction of Ms. Brady. GIS Technician Sean Suttor and Melissa Sanderson prepared the report graphics and project maps.





Structures Proposed for Removal

Project Limits

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Notes

1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia
3. Orthoimagery © Bing Maps
4. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Stantec

Project Location
City of Alexandria,
Arlington County, Virginia

Prepared by TPS on 2019-02-27
TR by MMJ on 2019-02-28
IR by BSS on 2019-02-28

Client/Project
203401260

Dominion Energy Virginia
Potomac Yards Undergrounding

Figure No.
1

Title
Project Location Map

Page 1.3

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2.0 BACKGROUND RESEARCH

As part of the Stage I Pre-Application Analysis effort, VDHR guidance recommends a four-tier study area strategy to be considered for each alternative alignment for the proposed undertaking (Table 1).

Table 1. Study Areas as Defined by VDHR Guidelines for Transmission Lines

Radial Buffer (in miles)	Considered Resources
1.5	National Historic Landmarks
1.0	Above resources and National Register Properties (listed), Battlefields, Historic Landscapes (e.g. Rural HD)
0.5	Above resources and National Register-eligible (as determined by VDHR)
0.0 (Within ROW)	Above resources and Archaeological Sites

The background research included a review of the VDHR archives and of data collected from the VDHR's Virginia Cultural Resource Information System (V-CRIS) database using the most current data as provided by the VDHR. The VDHR files of archaeological sites and historic structures were examined and information was retrieved on all archaeological sites within the project ROW and a 100-foot radius around the project ROW and all previously recorded architectural resources up to a 1.5-mile radius of the proposed project. ESRI ArcGIS Online aerial photography of current conditions was examined for the entire study area. Photographs of each of the architectural resources under consideration, if visible, as well as their view sheds, were taken from the public ROW.

2.1 RESULTS OF THE BACKGROUND RESEARCH

2.1.1 Architectural Resources

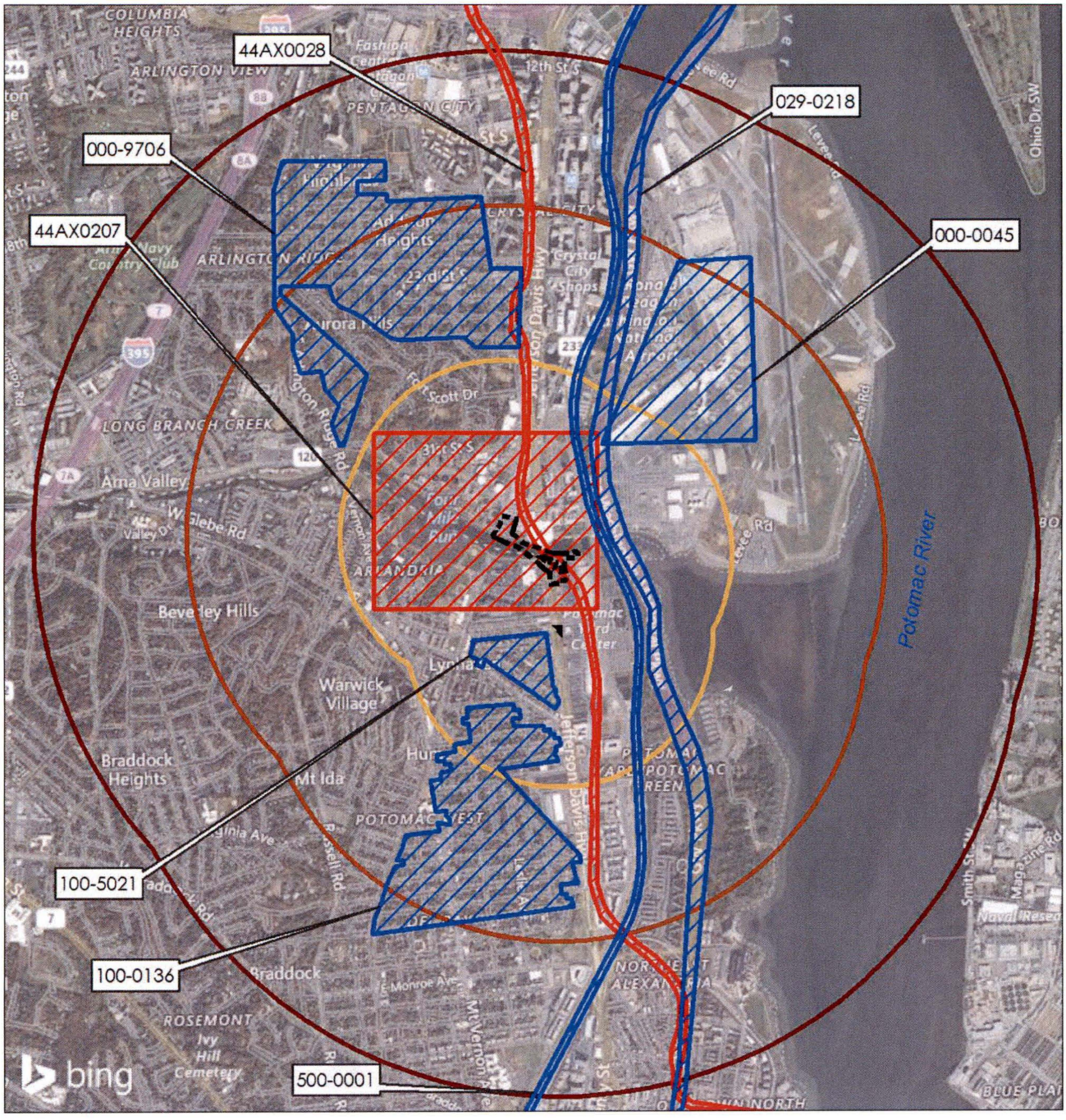
Four NRHP-listed resources were identified within 1.0 mile of the proposed Potomac Yards Undergrounding project: the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045), the Aurora Highlands Historic District (VDHR #000-9706), the George Washington Memorial Highway (VDHR #029-0218), and the Town of Potomac Historic District (VDHR #100-0136). Two eligible historic districts were identified within 1.0 mile of the proposed Potomac Yards Undergrounding project: the Lynhaven Historic District (VDHR #100-5021) and the Richmond, Fredericksburg and Potomac Railroad Historic District (VDHR #500-0001). No other previously recorded architectural resources which met the criteria for consideration were located within the designated study area (Table 2; Figure 2).

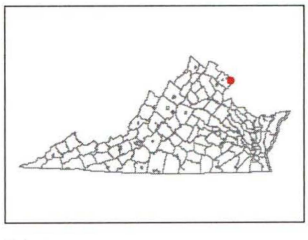
Table 2. Previously Recorded Architectural Resources Considered during the Stage I			
VDHR ID	**Resource Name**	**VDHR/NRHP Status**	**Distance to Nearest Point within the Project Area (feet)**
000-0045	Washington National Airport Terminal and South Hanger Line	NRHP Listed 1997; VLR Listed 1995	1886
000-9706	Aurora Highlands Historic District	NRHP Listed 2008; VLR Listed 2008	2854
029-0218	George Washington Memorial Highway	NRHP Listed 1981; VLR Listed 1981	624
100-0136	Town of Potomac Historic District	NRHP Listed 1995; VLR Listed 1994	2143
100-5021	Lynhaven Historic District	Eligible 1998	840
500-0001	Richmond, Fredericksburg, and Potomac Railroad Historic District	Eligible 2018	444

2.1.2 Archaeological Resources

Two previously recorded archaeological resources were identified within the ROW for the Potomac Yards Undergrounding project (Table 3, Figure 2). Site 44AX0028 is recorded as the nineteenth century Alexandria Canal. A portion of this canal was investigated and evaluated during cultural resources surveys performed for the DC2RVA high speed rail corridor and determined to be destroyed or significantly altered due to modern development (McCloskey et al. 2016). The portion of the Alexandria Canal in proximity to the Potomac Yards Undergrounding project has not been investigated archaeologically; however, it appears likely that the canal has been destroyed or significantly altered in this location. Site 44AX0207 is a map-projected site dating to the third quarter of the eighteenth century. The site is documented as Campsite No 1 of the American Wagon Train with an assigned date of September 1781. The site has not been archaeologically verified and has not been evaluated. Similar to 44AX0028, this site was reviewed as part of the DC2RVA high speed rail project. The associated reporting notes that the site was not able to be identified in that survey corridor and that it is likely to have been significantly disturbed (McCloskey et al. 2016). Site 44AX0207 is mapped as a large box which covers the entirety of the ROW for the Potomac Yards Undergrounding project ROW.

Table 3. Previously Recorded Archaeological Sites Considered			
VDHR ID	**Resource Type and Association**	**VDHR/NRHP Status**	**Distance to ROW (feet)**
44AX0028	Alexandria Canal; 19th century	Not Evaluated	0
44AX0207	Campsite No 1 of American Wagon Train Sept. 1781	Not Evaluated	0





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- 0.5-Mile Buffer
- 1-Mile Buffer
- 1.5-Mile Bufer
- Architectural Resource
- Archaeological Resource

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Stantec

Project Location City of Alexandria, Arlington County, Virginia	Prepared by TPS on 2019-02-27 TR by MMJ on 2019-02-28 IR by BSS on 2019-02-28
Client/Project	203401260

Dominion Energy Virginia
Potomac Yards Undergrounding

Figure No.
2

Title
Architectural Resources and Archaeological Sites Considered within the Stage-I

Page 2.3

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia
3. Historic Resources, Virginia Department of Historic Resources, Virginia Cultural Resource Information System (VCRIS)
4. Orthoimagery © Bing Maps
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3.0 STAGE I PRE-APPLICATION ANALYSIS

3.1 VISUAL EFFECTS METHODOLOGY

Fieldwork for the Potomac Yards Undergrounding project, under the direction of the Stantec's Senior Principal Investigator Ellen M. Brady and Senior Architectural Historian Sandra DeChard, was undertaken by Stantec staff on January 18, 2018. The fieldwork for the assessment entailed photographing the historic architectural resources requiring consideration during the Stage I Pre-Application review process where possible and examined the potential views from the resource towards the proposed undergrounding project ROW. As the fieldwork was conducted prior to a formal SCC application submittal, all photographs were taken from public ROW locations. The Potomac Yards Undergrounding project will result in the removal of six transmission structures and the undergrounding of the existing electrical lines within the project ROW. Glebe GIS Conversion is required to facilitate the undergrounding of overhead Lines #248 and #2023.

Because the existing structures will be removed to place the transmission lines underground and the conversion of the aging equipment at the Glebe GIS Conversion site will not significantly alter the current visual conditions, there will be no negative visual effect to historic resources resulting from this project. However, in a good faith effort to meet the intent of the VDHR's guidance for transmission line structures, the six identified resources meeting the criteria for consideration are discussed in the following sections supplemented with appropriate photographs. The removal of the existing above-ground transmission line structures and replacement with an underground line would create a beneficial effect to the viewshed by reducing the amount of overhead transmission line and structures in the project location. In most cases the existing lines are not visible from these resources.

3.2 NRHP-LISTED RESOURCES AND HISTORIC DISTRICTS CONSIDERED

Four NRHP-listed resources were identified within 1.0 mile of the proposed Potomac Yards Undergrounding project: the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045), the Aurora Highlands Historic District (VDHR #000-9706), the George Washington Memorial Highway (VDHR #029-0218), and the Town of Potomac Historic District (VDHR #100-0136). Two eligible historic districts were identified within 1.0 mile of the proposed Potomac Yards Undergrounding project: the Lynhaven Historic District (VDHR #100-5021) and the Richmond, Fredericksburg and Potomac Railroad Historic District (VDHR #500-0001). These resources were considered pursuant to the guidelines of the VDHR for transmission line projects.

3.2.1 Washington National Airport Terminal and South Hangar Line (VDHR #000-0045)

Washington National Airport encompasses 850 acres along the Potomac River in Arlington County, Virginia. The airport opened in 1941 and is sited primarily on filled land that was the former Gravelly Point inlet of the Potomac. The airport size and site boundary has remained relatively unchanged since the airport opened in 1941. The airport was listed on the NRHP under Criteria A and C in 1997 and was listed in the Virginia Landmarks Register (VLR) in 1995. The airport was found eligible under Criterion A for its significance in American aviation technology within the broader theme of New Deal government initiatives (VDHR Site Form, accessed January 2019). Under Criterion C, the Terminal and the South Hangar Line are significant as an excellent example of a specific property type – the commercial airport – and the construction techniques and technology associated with it.

3.2.1.1 Visual Effects Assessment

Due to security concerns, Stantec staff did not enter airport property. To meet the intent of the VDHR's guidelines, photographs were taken of the existing project ROW from the closest accessible point to the airport property. At its closest point, the airport is approximately 1,886 feet to the northeast of the project. Currently, the existing structures and associated wires are not visible from Photo Location 9, the closest accessible point to the airport property (Figures 3 and 4). The proposed project will remove the existing structures and foundations and replace them with underground lines; therefore, there would be ***No Visual Impact to the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045).***

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA POTOMAC YARDS UNDERGROUNDING, CITY OF ALEXANDRIA AND ARLINGTON COUNTY, VIRGINIA

2/28/2019 12:00:00 AM Stage I Pre-Application Analysis

Figure 3. View from Photo Location 9 (closest point to VDHR #000-0045) (see Figure 4) Looking Southwest towards the Project. Existing Transmission Line is Not Visible.

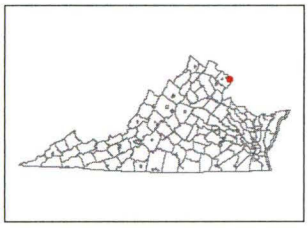

Photo Location
Project Limits
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1-Mile Buffer

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(At original document size of 8.5x11)
1:21,600

N

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Data Sources: Dominion Energy Virginia
3. Orthoimagery© Bing Maps
4. Microsoft Product Screenshot reprinted with permission from Microsoft Corporation

Stantec

Project Location	Prepared by TPS on 2019-02-27
City of Alexandria,	TR by MMJ on 2019-02-28
Arlington County, Virginia	IR by BSS on 2019-02-28
Client/Project	203401260

Dominion Energy Virginia
Potomac Yards Undergrounding

Figure No.
4

Title
Photo Locations for Resources Considered During the Stage I

Page 3.4

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3.2.2 Aurora Highlands Historic District (VDHR #000-9706)

Located within the current corporate limits of the City of Arlington and approximately three miles southwest of Washington, D.C., the Aurora Highlands Historic District comprises 128.77 acres of residential neighborhood surrounded by commercial development to the north and east and residential development to the south and west (VDHR Site Files, accessed February 2019). Platted between 1896 and 1930, the Aurora Highlands Historic District represents the integration of three subdivisions characterized by modest, single-family homes. Common residential styles in the district include Craftsman/Bungalow, Cape Cod, Colonial Revival, American Foursquare, Tudor Revival, and the Modern Movement (National Register Nomination prepared by EHT Traceries 2008). The historic district was found eligible for the National Register of Historic Places and listed on the Register in 2008. The district was found significant as a commuter suburb of Washington, D.C. that grew with the development of commuter railways, the public transit system, and the introduction of automobiles in the early twentieth century. The Historic District was listed on the VLR on March 20, 2008 and on the NRHP on October 22, 2008 under Criterion A for its significance as a commuter community which developed in response to the growth of the suburban population of Washington, D.C. in the early twentieth century. The District is also listed on the NRHP under Criterion C for its collection of early twentieth century architecture reflecting styles popular of the period (National Register Nomination prepared by EHT Traceries 2008).

3.2.2.1 Visual Effect Assessment

The Aurora Highlands Historic District southern boundary at S. Eads Street and 26th Street S is approximately 2,854 feet to the north of the Project. A section of the historic district also extends south of the main portion of the district along S. Arlington Ridge Road and this portion of the district is also approximately 2,850 feet to the west of the Project. As exhibited in a review of aerial imagery, the density of development, both residential and commercial, would preclude any views of the existing structures associated with the Project from the historic district (see Figure 2). The proposed project will remove the existing structures, foundations, and lines and replace them with underground lines; therefore, there would be ***No Visual Impact on the Aurora Highlands Historic District (VDHR #000-9706)***.

3.2.3 George Washington Memorial Parkway/Mount Vernon Memorial Highway (VDHR #029-0218)

The George Washington Memorial Parkway (GWMP) roughly parallels the Potomac River and links the southwestern end of Arlington Memorial Bridge on Columbia Island, Washington, D.C., with Mount Vernon in Fairfax County, Virginia. Within the Potomac Yards Undergrounding study area, the GWMP is coterminous with the Mount Vernon Memorial Highway which was the first federally funded parkway (VDHR Site Files, accessed January 2019). The Mount Vernon Memorial Highway is an 8.5-mile section of the GWMP which constitutes a scenic route designed for recreation. The highway was constructed in 1929. The GWMP and the Mount Vernon Memorial Highway were listed on the NRHP and the VLR in 1981 under Criteria A and C for their significance in community development and transportation. The GWMP portion of the resource was also listed under Criterion Consideration F as a commemorative

property. The Mount Vernon Memorial Highway is significant under Criteria A and C as the first parkway constructed by the U.S. Government and for its architectural elements including stone-faced bridges and landscape.

3.2.3.1 Visual Effects Assessment

To meet the intent of the VDHR's guidelines, photographs were taken of the existing project ROW from the closest accessible points within the GWMP and Mount Vernon Memorial Highway. At its closest point, the GWMP and Mount Vernon Memorial Highway is approximately 624 feet to the east of the project. Currently, the existing structures and associated wires are visible from the resource as observed during fieldwork (Figure 4; Figures 5-6). The proposed project will remove the existing structures, foundations, and lines and replace them with underground lines; therefore, there would be ***No Visual Impact on the George Washington Memorial Parkway/Mount Vernon Memorial Highway (VDHR #029-0218).***

Figure 5. View from Photo Location 12 (VDHR #029-0218; see Figure 4) Looking West towards the Project. Existing Transmission Line is Visible.

Figure 6. View from Photo Location 11 (VDHR #029-0218; see Figure 4) Looking Northwest towards the Project. Existing Transmission Line is Not Visible.

3.2.4 Town of Potomac Historic District (VDHR #100-0136)

Located within the current corporate limits of the City of Alexandria, the Town of Potomac Historic District comprises two subdivisions, St. Elmo and Del Ray, originally platted in 1894 by Wood and Harmon, developers from Ohio (VDHR Site Files, accessed January 2019). In 1908, the two subdivisions were joined to form the incorporated Town of Potomac in order to provide better municipal services to its residents. The Town of Potomac thrived and was annexed by the City of Alexandria in 1930. The Town of Potomac Historic District includes most of the former town and retains a concentration of residential architecture significant to the initial development in the 1890s and continuing through 1941. Common residential styles in the district include the American foursquare, bungalows, and Colonial Revival. Folk Victorian, modified Queen Anne, Tudor Revival and two Mediterranean Revival buildings are also represented in the district. The Historic District was listed on the VLR in 1994 and on the NRHP under Criterion A and C in 1995. The Town of Potomac Historic District is significant as an example of a late-nineteenth and early-twentieth-century suburban development (VDHR Site Files, accessed January 2019).

3.2.4.1 Visual Effect Assessment

To meet the intent of the VDHR's guidelines, photographs were taken from accessible locations within the district and public ROW within 1.0-mile of the Potomac Yards Undergrounding project ROW. At its closest point, the historic district is approximately 2,143 feet to the south of the project. Currently, the existing structures and associated wires are not visible from the resource as observed during fieldwork (Figure 4; Figures 7-11). The proposed project will remove the existing structures, foundations, and lines and replace them with underground lines; therefore, there would be ***No Visual Impact on the Town of Potomac Historic District (VDHR #100-0136).***

3.2.5 Lynhaven Historic District (VDHR #100-5021)

The Lynhaven Historic District is documented in the V-CRIS records as a planned rowhouse community built between 1941 and 1943. No additional information regarding the historic district and its history is included in the site form. The resource was determined eligible in 1998 for its local significance under Criteria A and C (VDHR Site Files, accessed January 2019).

3.2.5.1 Visual Effect Assessment

To meet the intent of the VDHR's guidelines, photographs were taken from accessible locations within the historic district and public ROW within 1.0-mile of the project. At its closest point, the historic district is approximately 840 feet to the north of the project. Currently, the existing structures and associated wires are not visible from most locations; however, the top of one structure was visible as observed during fieldwork (Figure 4; Figures 12-15). The proposed project will remove the existing structures, foundations, and lines and replace them with underground lines; therefore, there would be ***No Visual Impact on the Lynhaven Historic District (VDHR #100-5021).***

Figure 7. View from Photo Location 1 (VDHR #100-0136; see Figure 4) Looking North towards the Proposed Project. Existing Transmission Line is Not Visible.

Figure 8. View from Photo Location 2 (VDHR #100-0136; see Figure 4) Looking Northeast towards the Project. Existing Transmission Line is Not Visible.

Figure 9. View from Photo Location 3 (VDHR #100-0136; see Figure 4) Looking Northeast towards the Project. Existing Transmission Line is Not Visible.

Figure 10. View from Photo Location 4 (VDHR #100-0136; see Figure 4) Looking Northeast towards the Project. Existing Transmission Line is Not Visible.

STAGE I PRE-APPLICATION ANALYSIS FOR THE PROPOSED DOMINION ENERGY VIRGINIA POTOMAC YARDS UNDERGROUNDING, CITY OF ALEXANDRIA AND ARLINGTON COUNTY, VIRGINIA

2/28/2019 12:00:00 AM Stage I Pre-Application Analysis

Figure 11. View from Photo Location 5 (VDHR #100-0136; see Figure 4) Looking North towards the towards the Project. Existing Transmission Lines is Not Visible.

Figure 12. View from Photo Location 6 (VDHR #100-5021; see Figure 4) Looking North towards the Proposed Project. Existing Transmission Line is Not Visible.

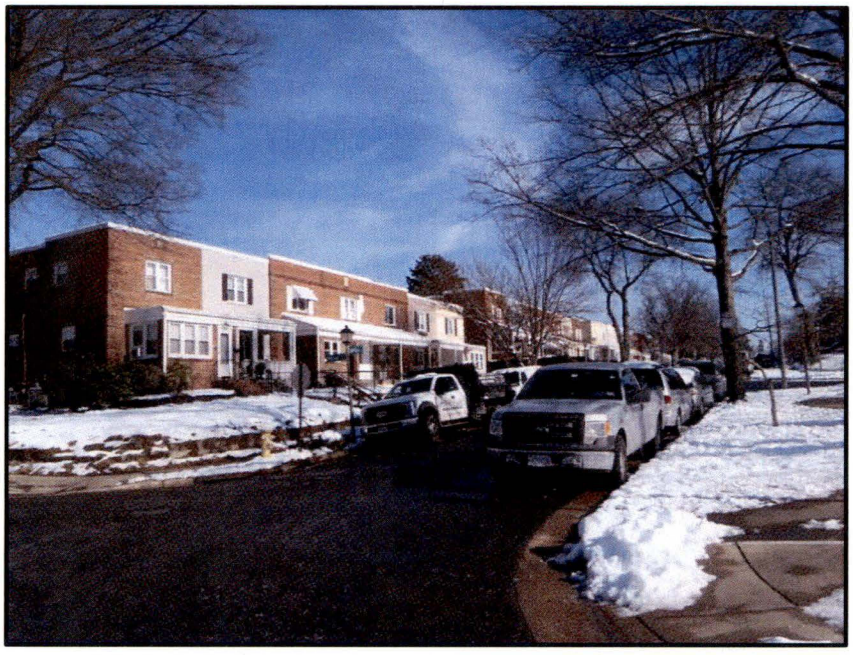

Figure 13. View from Photo Location 7 (VDHR #100-5021; see Figure 4) Looking Northeast towards the Project. Existing Transmission Line is Not Visible.

Figure 14. View from Photo Location 13 (VDHR #100-5021; see Figure 4) Looking North towards the Proposed Project. Existing Transmission Line is Visible.

Figure 15. View from Photo Location 8 (VDHR #100-5021; see Figure 4) Looking North towards the Project. Existing Transmission Line is Not Visible.

3.2.6 Richmond, Fredericksburg and Potomac Railroad Historic District (VDHR #500-0001)

The Richmond, Fredericksburg and Potomac Railroad Historic District is made up of the railroad and a wide variety of associated secondary resources, such as bridges and culverts. The railroad was a privately operated, local railroad that provided rail service between Richmond, Virginia and Washington, D.C., by way of Fredericksburg, Virginia. The railroad was originally chartered in 1834 and was determined eligible under Criterion A (VDHR Site Files 2019).

3.2.6.1 Visual Effect Assessment

To assess the potential visual effects on the Historic District, photographs were taken from the public ROW from accessible points of the resource within 1.0-miles of the project. It was not possible to take pictures from the Railroad; however, the railroad is immediately west of George Washington Memorial Highway for most of its length within the study area. Therefore, pictures from the highway were utilized for this assessment since the photos depict the railroad in the foreground. At its closest point, the railroad is approximately 444 feet to the east of the project. Currently, the existing structures and associated wires are visible from the resource as observed during fieldwork (see Figures 3; 5-6). The proposed project will remove the existing structures and foundations and replace them with underground lines. ***It is recommended that the proposed project would have No Visual Impact on the Richmond, Fredericksburg Potomac Railroad Historic District (VDHR #500-0001).***

3.3 ARCHAEOLOGICAL SITES CONSIDERED

Two previously recorded archaeological resources were identified within the ROW for the Potomac Yards Undergrounding project (see Figure 2). Site 44AX0028 is recorded as the nineteenth century Alexandria Canal. A portion of this canal was investigated and evaluated during cultural resources surveys performed for the DC2RVA high speed rail corridor and determined to be destroyed or significantly altered due to modern development (McCloskey et al. 2016). The portion of the Alexandria Canal in proximity to the Potomac Yards Undergrounding project has not been investigated archaeologically; however, it appears likely that the canal has been destroyed or significantly altered in this location. Site 44AX0207 is a map-projected site dating to the third quarter of the eighteenth century. The site is documented as Campsite No 1 of the American Wagon Train with an assigned date of September 1781. The site has not been archaeologically verified and has not been evaluated. Similar to 44AX0028, this site was reviewed as part of the DC2RVA high speed rail project. The associated reporting notes that the site was not able to be identified in that survey corridor and that it is likely to have been significantly disturbed (McCloskey et al. 2016). Site 44AX0207 is mapped as a large box which covers the entirety of the ROW for the Potomac Yards Undergrounding project.

The proposed underground corridor was not subject systematic survey as part of the Stage I analysis. However, the area was subject to pedestrian survey and photographs of current conditions were taken (Figures 16-17). The area has been disturbed and no surface indications of the archaeological sites were identified. However, because the area of new ROW has not been previously surveyed, archaeological investigation is recommended for those areas planned for ground disturbing activity associated with the Project.

Figure 16. View of the Existing ROW and Vicinity of Site 44AX0207, Facing West.

Figure 17. View of the Existing ROW and Vicinity of Site 44AX0207 and 44AX0028, Facing Northeast.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 OVERVIEW

Stantec was retained by Dominion Energy to conduct a Stage I Pre-Application Analysis for the proposed construction of the Potomac Yards Undergrounding project in the City of Alexandria and Arlington County, Virginia. In order to comply with the expiration of an existing special use permit ("SUP") issued by the City of Alexandria, to improve operational performance, to maintain critical energy infrastructure, and to maximize available land use to accommodate necessary transmission terminations, Dominion Energy proposes to convert the overhead portion of Lines #248 and #2023 located between Glebe Substation located in Arlington County, Virginia, and Potomac Yards Station located in the City of Alexandria, Virginia, to underground lines. Dominion Energy also proposes to convert and rebuild the existing Glebe Substation to a Gas Insulated Substation ("GIS") which will allow for the Potomac Yards Undergrounding to be terminated in the Glebe Substation while also replacing aging infrastructure. The proposed project will remove six transmission line structures and foundations and replace with underground transmission lines.

4.1.1 Recommendations

4.1.1.1 Architectural Resources

Four NRHP-listed resources were identified within 1.0 mile of the Potomac Yards Undergrounding project: the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045), the Aurora Highlands Historic District (VDHR #000-9706), the George Washington Memorial Highway (VDHR #029-0218), and the Town of Potomac Historic District (VDHR #100-0136). Two eligible historic districts were identified within 1.0 mile of the Potomac Yards Undergrounding project: the Lynhaven Historic District (VDHR #100-5021) and the Richmond, Fredericksburg and Potomac Railroad Historic District (VDHR #500-0001).

The proposed project will remove six transmission line structures and foundations and replace with underground transmission lines. The Glebe Substation will be updated but will not result in a significant change in current viewshed conditions. The removal of the existing above-ground transmission line structures and replacement with an underground line would create a beneficial effect to the viewshed by reducing the amount of overhead transmission line and structures in the project location. ***Stantec recommends that the Project would have No Visual Impact to the Washington National Airport Terminal and South Hangar Line (VDHR #000-0045), the Aurora Highlands Historic District (VDHR #000-9706), the George Washington Memorial Highway (VDHR #029-0218), the Town of Potomac Historic District (VDHR #100-0136), the Lynhaven Historic District (VDHR #100-5021) and the Richmond, Fredericksburg and Potomac Railroad Historic District (VDHR #500-0001).***

Table 4. Previously Recorded Architectural Resources Considered				
VDHR #	**Resource Name**	**VDHR/NRHP Status**	**Distance to Nearest Point within Project Area (Feet)**	**Impact**
000-0045	Washington National Airport Terminal and South Hanger Line	NRHP Listed 1997; VLR Listed 1995	1886	None
000-9706	Aurora Highlands Historic District	NRHP Listed 2008; VLR Listed 2008	2854	None
029-0218	George Washington Memorial Highway	NRHP Listed 1981; VLR Listed 1981	624	None
100-0136	Town of Potomac Historic District	NRHP Listed 1995; VLR Listed 1994	2143	None
100-5021	Lynhaven Historic District	Eligible 1998	840	None
500-0001	Richmond, Fredericksburg, and Potomac Railroad Historic District	Eligible 2018	444	None

4.1.1.2 Archaeological Resources

Two previously recorded archaeological resources were identified within the ROW for the Potomac Yards Undergrounding project. Site 44AX0028 is recorded as the nineteenth century Alexandria Canal. The portion of the Alexandria Canal in proximity to the Potomac Yards Undergrounding project has not been investigated archaeologically; however, it appears likely that the canal has been destroyed or significantly altered in this location. Site 44AX0207 is a map-projected site dating to the third quarter of the eighteenth century. The site is documented as Campsite No 1 of the American Wagon Train with an assigned date of September 1781. The site has not been archaeologically verified and has not been evaluated.

The proposed underground corridor was not subject to systematic survey as part of the Stage I analysis. However, the area was subject to pedestrian survey and photographs of current conditions were taken. The area has been disturbed and no surface indications of the archaeological sites were identified. However, because the area of new ROW has not been previously surveyed, archaeological investigation is recommended for those areas planned for ground disturbing activity associated with the Project.

5.0 REFERENCES

Advisory Council for Historic Preservation (ACHP)

2000 *36 CFR 800: Part 800- Protection of Historic and Cultural Properties.* Federal Register, September 2, Washington, D.C.

EHT Traceries, Inc.

2008 *Aurora Highlands Historic District.* National Register Nomination. On file, VDHR, Richmond.

McCloskey, Kevin, Earl Proper, Curtis McCoy, Emily Calhoun, Morgan MacKenzie, and Joseph Blondino

2016 *Phase IB Archaeological Survey for the Washington, D.C. to Richmond, Virginia High Speed Rail Project Rosslyn to Alexandria (ROAF) through Buckingham Branch/Hospital Wye (BBHW) Segments.* Report on file, VDHR.

United States Department of the Interior (Interagency Resources Division)

1981 *Department of the Interior's Regulations, 36 CFR Part 60: National Register of Historic Places.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

1983 *Department of the Interior, Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

1991 How to Apply the National Register Criteria of Evaluation. *National Register Bulletin 15.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

Virginia Department of Historic Resources (VDHR)

2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia.* VDHR, Richmond.

2019 VDHR Archive Files.