McGuireWoods

McGuireWoods LLP Gateway Plaza 800 East Canal Street Richmond, VA 23219-3916 Phone: 804.775.1000 Fax: 804.775.1061 www.mcguirewoods.com Vishwa B. Link Direct: 804.775.4330 vlink@mcguirewoods.com

June 13, 2024

BY ELECTRONIC FILING

Mr. Bernard Logan, Clerk c/o Document Control Center State Corporation Commission 1300 East Main Street Tyler Building – 1st Floor Richmond, Virginia 23219

Application of Virginia Electric and Power Company for approval and certification of electric transmission facilities: Fentress-Yadkin 500 kV Line #588 Rebuild and New 500 kV Fentress-Yadkin Line #5005 <u>Case No. PUR-2024-00105</u>

Dear Mr. Logan:

Please find enclosed for electronic filing in the above-captioned proceeding the application for approval of electric facilities on behalf of Virginia Electric and Power Company (the "Company"). This filing contains the Application, Appendix, Direct Testimony, and DEQ Supplement, including attachments.

As indicated in Section II.A.12.b of the Appendix, an electronic copy of the map of the Virginia Department of Transportation "General Highway Map" for the City of Chesapeake, as well as the digital geographic information system ("GIS") map required by § 56-46.1 of the Code of Virginia, which is Attachment II.A.2 to the Appendix, were provided via an e-room to the Commission's Division of Public Utility Regulation on June 11, 2024.

Please do not hesitate to call if you have any questions regarding the enclosed.

Highest regards,

Unohwa B. Min

Vishwa B. Link

Enclosures

cc: William H. Chambliss, Esq. Mr. David Essah (without enclosures) Mr. Bernard Logan, Clerk June 13, 2024 Page 2

> Mr. Neil Joshipura (without enclosures) Mr. Michael A. Cizenski (without enclosures) David J. DePippo, Esq. Charlotte P. McAfee, Esq. Annie C. Larson, Esq. Jennifer D. Valaika, Esq. Briana M. Jackson, Esq. Sarah B. Nielsen, Esq.



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

Before the State Corporation Commission of Virginia

Fentress-Yadkin 500 kV Line #588 Rebuild and New 500 kV Fentress-Yadkin Line #5005

Application No. 336

Case No. PUR-2024-00105

Filed: June 13, 2024

Volume 1 of 2

COMMONWEALTH OF VIRGINIA BEFORE THE STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION FACILITIES

Fentress-Yadkin 500 kV Line #588 Rebuild and New 500 kV Fentress-Yadkin Line #5005

Application No. 336

Case No. PUR-2024-00105

Filed: June 13, 2024

COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

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VIRGINIA ELECTRIC AND POWER COMPANY

APPLICATION OF

For approval and certification of electric transmission facilities: Fentress-Yadkin 500 kV Line #588 Rebuild and New 500 kV Fentress-Yadkin Line #5005 Case No. PUR-2024-00105

APPLICATION OF VIRGINIA ELECTRIC AND POWER COMPANY FOR APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION FACILITIES: FENTRESS-YADKIN 500 KV LINE #588 REBUILD AND NEW 500 KV FENTRESS-YADKIN LINE #5005

Pursuant to § 56-46.1 of the Code of Virginia ("Va. Code") and the Utility Facilities Act, Va. Code § 56-265.1 *et seq.*, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company"), by counsel, files with the State Corporation Commission of Virginia (the "Commission") this application for approval and certification of electric transmission facilities (the "Application"). In support of its Application, Dominion Energy Virginia respectfully states as follows:

1. Dominion Energy Virginia is a public service corporation organized under the laws of the Commonwealth of Virginia furnishing electric service to the public within its Virginia service territory. The Company also furnishes electric service to the public in portions of North Carolina. Dominion Energy Virginia's electric system—consisting of facilities for the generation, transmission, and distribution of electric energy—is interconnected with the electric systems of neighboring utilities and is a part of the interconnected network of electric systems serving the continental United States. By reason of its operation in two states and its interconnections with other utilities, the Company is engaged in interstate commerce.

2. In order to perform its legal duty to furnish adequate and reliable electric service,

Dominion Energy Virginia must, from time to time, replace existing transmission facilities or construct new transmission facilities in its system. The electric facilities proposed in this Application are necessary so that Dominion Energy Virginia can continue to provide reliable electric service to its customers, consistent with applicable reliability standards.

3. In this Application, in order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, and to help reliably and successfully integrate the Coastal Virginia Offshore Wind Commercial Project ("CVOW project" or "CVOW")¹ with the transmission system as requested by the Company's Generation Construction Group ("Dominion Generation" or the "Customer"),² the Company proposes in the City of Chesapeake, Virginia,

¹ On November 5, 2021, the Company filed an application with the State Corporation Commission ("Commission") requesting approval and certification of the Virginia Facilities component of the CVOW project—a proposed 2,587 megawatt ("MW") (combined nominal capacity) wind generation facility 27 miles off the coast of Virginia Beach, Virginia, and associated interconnection facilities in and around Virginia Beach, Virginia—as well as certain approvals and rider recovery. On August 5, 2022, the Commission issued a certificate of public convenience and necessity ("CPCN") for the Virginia Facilities, which are comprised of the minimal amount of electric transmission facilities initially identified by PJM Interconnection, L.L.C. ("PJM") as required to interconnect the CVOW project reliably with the existing transmission system, including, among other things, a new Harpers Switching Station, about 14 miles of three new overhead 230 kV transmission circuits between the new Harpers Switching Station and the Fentress Substation, the rebuild of about 8 miles of two existing 230 kV overhead lines, and an expansion of the Fentress Substation. Additionally, the approved transmission facilities included network upgrades identified based on the PJM Interconnection Analysis completed in September 2020, when the System Impact Study Reports were issued for AF1-123, AF1-124, and AF1-125 (Dominion Generation's three interconnection queue requests to PJM that comprise the CVOW project), meaning that those upgrades were considered initial and subject to change. Nevertheless, the network upgrades identified in these studies were considered the most up to date and best information at that time. See Application of Virginia Electric and Power Company for the approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind, pursuant to § 56-585.1:11, § 56-46.1, § 56-265.1 et seq., and § 56-585.1 A 6 of the Code of Virginia, Case No. PUR-2021-00142, Final Order (Aug. 5, 2022) (the "CVOW Proceeding"). PJM issued its Phase I Study Results for AF1-123, AF1-124 and AF1-125 on May 20, 2024. See infra, n. 2.

² "Dominion Generation" refers to Dominion Energy Virginia's Generation Construction Group, *i.e.*, the interconnection customer For the CVOW project, Dominion Generation entered into an Interim Interconnection Services Agreement ("ISA") and Interconnection Construction Services Agreement ("ICSA") with Dominion Energy Virginia as the Transmission Owner ("TO" or "Dominion Electric Transmission") and PJM as the Transmission Provider. These initial interim agreements were executed and filed at the Federal Energy Regulatory Commission ("FERC") in June 2023. As the TO, the Company interfaces with generators (such as Dominion Generation and Avangrid, Inc.) and PJM in the Interconnection Process. In this role, the Company as the TO is obligated to act reasonably in preparing the information needed by PJM to undertake any required interconnection studies for a generator to the system. It is the TO's obligation to determine the costs and perform the work on its system to allow

predominantly within existing rights-of-way, to:

- (i) Rebuild the Company's existing overhead single circuit 500 kV Fentress-Yadkin Line #588 to address the condition of Line #588, which is approaching its end of service life. Specifically, as proposed, rebuild the approximately 13.5-mile-long Line #588, which currently is supported primarily by single circuit 500 kV weathering steel (COR-TEN^{®3}) lattice structures, with primarily single circuit 500 kV dulled galvanized steel monopole structures entirely within the existing right-of-way, which is currently maintained at 150 feet wide,⁴ or on Company-owned property. Additionally, replace the existing three-phase twin-bundled 2500 Aluminum Conductor Alloy Reinforced ("ACAR") conductors with three-phase triple-bundled 1351.5 Aluminum Conductor Steel Reinforced ("ACSR") conductors with a summer transfer capability of 4,357 MVA⁵ for the entire 13.5 miles. Collectively, this work is referred to as the Line #588 Rebuild.
- (ii) Construct a new overhead single circuit 500 kV transmission line originating at the Company's existing Fentress Substation and continuing approximately 13.5 miles to terminate at the existing Yadkin Substation, resulting in 500 kV Fentress-Yadkin Line #5005.⁶ Specifically, as proposed, the new Line #5005 will be installed with the rebuilt

⁵ Apparent power, measured in megavolt amperes ("MVA"), is made up of real power (MW) and reactive power (megavolt ampere reactive or "MVAR").

⁶ In order to accommodate termination of proposed Line #5005 into the Yadkin Substation, the Company will shift two spans of existing Line #565 where it exits from the Yadkin Substation before reconnecting with the existing Line #565 right-of-way corridor. Specifically, the Company will replace one existing tower structure with one new 3-pole structure within Company-owned property and will replace one existing tower structure with an Hframe structure within the existing right-of-way corridor. The shifted conductor will be covered by permit within an existing Virginia Department of Transportation ("VDOT") easement. Both of the proposed Line #565 structures are estimated to be within 20% of the existing structure heights. While this work is required by the proposed Project, the Company considers the removal of two existing structures and installation of two new structures (two total structure replacements) entirely within existing Company-owned property or by permit within an existing VDOT easement, to qualify as an "ordinary extension[] or improvement[] in the usual course of business" (*i.e.*, "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. This is consistent with the Commission Staff's July 6, 2017 guidance (available https://scc.virginia.gov/getdoc/7f6ec0f6-7d14-4ca9-bd8aat 9bd2511c5cdb/StaffGuidanceOrdvsNonOrd.pdf), as only two structures are being replaced on Line #565 and the proposed structures are estimated to be within 20% of the existing structure heights. Further, the shift of Line #565 will result in a more perpendicular road crossing, which is favored by VDOT. As this work is required by the proposed Project, the costs associated with this Line #565 work have been included in the total transmission-related conceptual

a generator to interconnect and to treat the generator in a non-discriminatory fashion. It is not the TO's role to select the transmission facilities identified through PJM's Interconnection Process.

³ Registered trademark of the United States Steel Corporation.

⁴ For approximately 5.7 miles from the existing Fentress Substation to Structure #588/223, the existing Line #588 right-of-way is 235 feet wide. For the remaining 7.8 miles to the existing Yadkin Substation, the existing Line #588 right-of-way is 150 feet wide. The entire 13.5-mile existing transmission corridor containing Line #588 currently is cleared and maintained at 150 feet wide. As proposed, the Project is not anticipated to require clearing of any of the additional 85 feet of existing right-of-way for the rebuilt Line #588 or for the proposed new Line #5005, as described herein. *But see*, Section I.F of the Appendix as to a Constraint Design Segment that would utilize the entire 235-foot-wide existing right-of-way for approximately 1.6 miles of the 13.5-mile right-of-way corridor, as defined and discussed therein.

Line #588 entirely within the existing right-of-way, which is currently maintained at 150 feet wide,⁷ or on Company-owned property, supported primarily by single circuit 500 kV dulled galvanized steel monopole structures. Additionally, the proposed Line #5005 will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA. Collectively, this work is referred to as the proposed Line #5005.

(iii) Perform substation-related work at the Company's existing Fentress Substation and Yadkin Substation.

The Line #588 Rebuild, the proposed Fentress-Yadkin Line #5005, and the substation-related work at the Fentress and Yadkin Substations are collectively referred to as the "Project."

4. The proposed Project will address the condition of Line #588, which is approaching its end of service life, by rebuilding existing infrastructure in accordance with mandatory Planning Criteria and will help allow the CVOW project to reliably and successfully integrate with the transmission system, thereby allowing the Company to maintain the overall long-term reliability of the transmission system for its customers.

5. The total length of the existing right-of-way, which is currently maintained at 150 feet in width,⁸ and Company-owned property to be used for the Project, as proposed, is approximately 13.5 miles (the "Proposed Route"). Because the existing right-of-way and Company-owned property are adequate for the proposed Project, no new right-of-way is required. Given the availability of existing right-of-way and the statutory preference given to the use of existing right-of-way, and because additional costs and environmental impacts would be associated with the acquisition of and construction on new right-of-way, the Company did not

costs. Should the Commission determine that a CPCN is required for this Line #565 work as described herein, the Company requests that the Commission grant such CPCN as part of its final order in this proceeding.

⁷ See supra, n. 4; see also Section I.F of the Appendix.

⁸ See supra, n. 4; see also Section I.F of the Appendix. While the approximately 1.6-mile Constraint Design Segment would utilize an additional 85 feet of existing unmaintained right-of-way (235 feet total) in order to install a limited structure design segment option, as defined and discussed in Section I.F of the Appendix, it is important to note that the existing right-of-way in that 1.6-mile segment (235 feet) is adequate.

consider any alternate routes requiring new right-of-way for the Project. Instead, the Company presents the Proposed Route for the Commission's consideration and notice.

6. The total estimated conceptual cost of the proposed Project utilizing the Proposed Route is approximately \$202.2 million, which includes approximately \$167.9 million for transmission-related work and approximately \$34.3 million for substation-related work (2024 dollars).⁹

7. The desired in-service target date for the proposed Project is January 1, 2027. The Company estimates it will take approximately 22 months for detailed engineering, materials procurement, permitting, real estate, 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 March 1, 2025. Should the Commission issue a final order by March 1, 2025, the Company estimates that construction should begin in March 2025 and be completed by January 2027. This schedule is contingent upon obtaining the necessary permits and outages, the latter of which may be particularly challenging due to the amount of new load growth, rebuilds, and new builds scheduled to occur in this load area. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process, as well as the ability to schedule outages, and unpredictable delays due to labor shortages or materials/supply issues. This schedule also is contingent upon the Company's ability to negotiate land rights. In addition, the Company is actively monitoring regulatory changes and requirements associated with the Northern long-eared bat ("NLEB") and how they could potentially impact construction timing associated with time of

⁹ The total Project costs include estimated conceptual costs for the work associated with Line #565 (*see supra*, n. 6).

year restrictions ("TOYRs"). The U.S. Fish and Wildlife Service ("USFWS") previously indicated that it planned to issue final NLEB guidance to replace the interim guidance by April 1, 2024; however, the interim guidance has been extended by USFWS until late summer 2024. The Company actively is tracking updates from the USFWS with respect to the final guidance. Once issued, the Company plans to review and follow the final guidance to the extent it applies to the Company's projects. Until the final guidance is issued, the Company will continue following the interim guidance. For projects that may require additional coordination, the Company will coordinate with the USFWS. The Company is also monitoring potential regulatory changes associated with the potential up-listing of the Tricolored bat ("TCB"). On September 14, 2022, the USFWS published the proposed rule to the Federal Register to list the TCB as endangered under the Endangered Species Act ("ESA"). USFWS recently extended its Final Rule issuance target from September 2023 to September 2024. The Company is actively tracking this ruling and evaluating the effects of potential outcomes on Company projects' permitting, construction, and in-service dates, including electric transmission projects.

8. In conformance with recent submittals and for purposes of judicial economy, the Company requests that the Commission issue a final order approving both the in-service date of January 1, 2027, and CPCN sunset date of January 1, 2028, for the Project.

9. Based on consultations with the Virginia Department of Environmental Quality ("DEQ"), the Company has developed a supplement ("DEQ Supplement") containing information designed to facilitate review and analysis of the proposed facilities by the DEQ and other relevant agencies. The DEQ Supplement is attached to this Application.

10. Based on the Company's experience, the advice of consultants, and a review of published studies by experts in the field, the Company believes that there is no causal link to

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harmful health or safety effects from electric and magnetic fields generated by the Company's existing or proposed facilities. Section IV of the Appendix provides further details on Dominion Energy Virginia's consideration of the health aspects of electric and magnetic fields.

11. Section V of the Appendix provides a proposed route description for public notice purposes and a list of federal, state, and local agencies and officials that the Company has or will notify about the Application.

12. In addition to the information provided in the Appendix and the DEQ Supplement, this Application is supported by the pre-filed direct testimony of Company Witnesses Peter Nedwick, Daniel J. Cabonor, Mohammad M. Othman, and Lane Carr filed with this Application.

13. Finally, Dominion Energy Virginia requests that, to the extent the Commission modifies the deadline for responses to interrogatories and requests for production of documents in 5 VAC 5-20-260, the Commission grant Staff and the parties seven calendar days in order to afford the Company adequate time to provide comprehensive responses to discovery.

WHEREFORE, Dominion Energy Virginia respectfully requests that the Commission:

 (a) direct that notice of this Application be given as required by § 56-46.1 of the Code of Virginia;

(b) approve pursuant to § 56-46.1 of the Code of Virginia the construction of the Project; and,

(c) grant a certificate of public convenience and necessity for the Project under the Utility Facilities Act, § 56-265.1 *et seq.* of the Code of Virginia.

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VIRGINIA ELECTRIC AND POWER COMPANY

By: <u>[s] Vishwa B. Link</u> Counsel for Applicant

David J. DePippo Charlotte P. McAfee Annie C. Larson Dominion Energy Services, Inc. 120 Tredegar Street Richmond, Virginia 23219 (804) 819-2411 (DJD) (804) 771-3708 (CPM) (804) 819-2806 (ACL) david.j.depippo@dominionenergy.com charlotte.p.mcafee@dominionenergy.com Vishwa B. Link Jennifer D. Valaika Briana M. Jackson Sarah B. Nielsen (subject to pro hac vice admission) McGuireWoods LLP Gateway Plaza 800 E. Canal Street Richmond, Virginia 23219 (804) 775-4330 (VBL) (804) 775-1051 (JDV) (804) 775-1323 (BMJ) (803) 251-2306 (SBN) vlink@mcguirewooods.com jvalaika@mcguirewoods.com bmjackson@mcguirewoods.com snielsen@mcguirewoods.com

Counsel for Applicant Virginia Electric and Power Company

June 13, 2024

COMMONWEALTH OF VIRGINIA BEFORE THE STATE CORPORATION COMMISSION

APPLICATION OF

VIRGINIA ELECTRIC AND POWER COMPANY

FOR APPROVAL AND CERTIFICATION OF ELECTRIC TRANSMISSION FACILITIES

Fentress-Yadkin 500 kV Line #588 Rebuild and New 500 kV Fentress-Yadkin Line #5005

Application No. 336

Appendix

Containing Information in Response to "Guidelines for Transmission Line Applications Filed Under Title 56 of the Code of Virginia"

Case No. PUR-2024-00105

Filed: June 13, 2024

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EXECUTIVE SUMMARY

In order to maintain the structural integrity and reliability of its transmission system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, and to help reliably and successfully integrate the Coastal Virginia Offshore Wind Commercial Project ("CVOW project" or "CVOW")¹ with the transmission system as requested by Virginia Electric and Power Company's ("Dominion Energy Virginia" or the "Company") Generation Construction Group ("Dominion Generation" or the "Customer"),² the Company proposes in the City of Chesapeake, Virginia, predominantly within existing rights-of-way, to:

(i) Rebuild the Company's existing overhead single circuit 500 kV Fentress-Yadkin Line #588 to address the condition of Line #588, which is approaching its end of service life. Specifically, as proposed, rebuild the approximately 13.5-mile-long Line #588, which currently is supported primarily by single circuit 500 kV weathering steel (COR-TEN^{®3}) lattice structures, with primarily single circuit 500 kV dulled galvanized steel monopole structures entirely within the existing right-of-way, which is currently

¹ On November 5, 2021, the Company filed an application with the State Corporation Commission ("Commission") requesting approval and certification of the Virginia Facilities component of the CVOW project—a proposed 2,587 megawatt ("MW") (combined nominal capacity) wind generation facility 27 miles off the coast of Virginia Beach, Virginia, and associated interconnection facilities in and around Virginia Beach, Virginia-as well as certain approvals and rider recovery. On August 5, 2022, the Commission issued a certificate of public convenience and necessity ("CPCN") for the Virginia Facilities, which are comprised of the minimal amount of electric transmission facilities initially identified by PJM Interconnection, L.L.C. ("PJM") as required to interconnect the CVOW project reliably with the existing transmission system, including, among other things, a new Harpers Switching Station, about 14 miles of three new overhead 230 kV transmission circuits between the new Harpers Switching Station and the Fentress Substation, the rebuild of about 8 miles of two existing 230 kV overhead lines, and an expansion of the Fentress Substation. Additionally, the approved transmission facilities included network upgrades identified based on the PJM Interconnection Analysis completed in September 2020, when the System Impact Study Reports were issued for AF1-123, AF1-124, and AF1-125 (Dominion Generation's three interconnection queue requests to PJM that comprise the CVOW project), meaning that those upgrades were considered initial and subject to change. Nevertheless, the network upgrades identified in these studies were considered the most up to date and best information at that time. See Application of Virginia Electric and Power Company for the approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind, pursuant to § 56-585.1:11, § 56-46.1, § 56-265.1 et seq., and § 56-585.1 A 6 of the Code of Virginia, Case No. PUR-2021-00142, Final Order (Aug. 5, 2022) (the "CVOW Proceeding"). PJM issued its Phase I Study Results for AF1-123, AF1-124 and AF1-125 on May 20, 2024. See Section I.D; see also infra, n. 2 and n. 15.

² "Dominion Generation" refers to Dominion Energy Virginia's Generation Construction Group, *i.e.*, the interconnection customer. For the CVOW project, Dominion Generation entered into an Interim Interconnection Services Agreement ("ISA") and Interconnection Construction Services Agreement ("ICSA") with Dominion Energy Virginia as the Transmission Owner ("TO" or "Dominion Electric Transmission") and PJM as the Transmission Provider. These initial interim agreements were executed and filed at the Federal Energy Regulatory Commission ("FERC") in June 2023. As the TO, the Company interfaces with generators (such as Dominion Generation and Avangrid, Inc.) and PJM in the Interconnection Process. In this role, the Company as the TO is obligated to act reasonably in preparing the information needed by PJM to undertake any required interconnection studies for a generator to the system. It is the TO's obligation to determine the costs and perform the work on its system to allow a generator to interconnect and to treat the generator in a non-discriminatory fashion. It is not the TO's role to select the transmission facilities identified through PJM's Interconnection Process. *See infra*, n. 15.

³ Registered trademark of the United States Steel Corporation.

maintained at 150 feet wide,⁴ or on Company-owned property. Additionally, replace the existing three-phase twin-bundled 2500 Aluminum Conductor Alloy Reinforced ("ACAR") conductors with three-phase triple-bundled 1351.5 Aluminum Conductor Steel Reinforced ("ACSR") conductors with a summer transfer capability of 4,357 MVA⁵ for the entire 13.5 miles. Collectively, this work is referred to as the Line #588 Rebuild.

- (ii) Construct a new overhead single circuit 500 kV transmission line originating at the Company's existing Fentress Substation and continuing approximately 13.5 miles to terminate at the existing Yadkin Substation, resulting in 500 kV Fentress-Yadkin Line #5005.⁶ Specifically, as proposed, the new Line #5005 will be installed with the rebuilt Line #588 entirely within the existing right-of-way, which is currently maintained at 150 feet wide,⁷ or on Company-owned property, supported primarily by single circuit 500 kV dulled galvanized steel monopole structures. Additionally, the proposed Line #5005 will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA. Collectively, this work is referred to as the proposed Line #5005.
- (iii) Perform substation-related work at the Company's existing Fentress Substation and Yadkin Substation.

⁴ For approximately 5.7 miles from the existing Fentress Substation to Structure #588/223, the existing Line #588 right-of-way is 235 feet wide. For the remaining 7.8 miles to the existing Yadkin Substation, the existing Line #588 right-of-way is 150 feet wide. The entire 13.5-mile existing transmission corridor containing Line #588 currently is cleared and maintained at 150 feet wide. As proposed, the Project is not anticipated to require clearing of any of the additional 85 feet of existing right-of-way for the rebuilt Line #588 or for the proposed new Line #5005, as described herein. *But see*, Section I.F as to a Constraint Design Segment that would utilize the entire 235-foot-wide existing right-of-way for approximately 1.6 miles of the 13.5-mile right-of-way corridor, as defined and discussed therein.

⁵ Apparent power, measured in megavolt amperes ("MVA"), is made up of real power (MW) and reactive power (megavolt ampere reactive or "MVAR").

⁶ In order to accommodate termination of proposed Line #5005 into the Yadkin Substation, the Company will shift two spans of existing Line #565 where it exits from the Yadkin Substation before reconnecting with the existing Line #565 right-of-way corridor. Specifically, the Company will replace one existing tower structure with one new 3-pole structure within Company-owned property and will replace one existing tower structure with an H-frame structure within the existing right-of-way corridor. The shifted conductor will be covered by permit within an existing Virginia Department of Transportation ("VDOT") easement. Both of the proposed Line #565 structures are estimated to be within 20% of the existing structure heights. While this work is required by the proposed Project, the Company considers the removal of two existing structures and installation of two new structures (two total structure replacements) entirely within existing Company-owned property or by permit within an existing VDOT easement, to qualify as an "ordinary extension[] or improvement[] in the usual course of business" (*i.e.*, "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a CPCN from the Commission. This is consistent with the Commission Staff's July 6, 2017 guidance https://scc.virginia.gov/getdoc/7f6ec0f6-7d14-4ca9-bd8a-(available at 9bd2511c5cdb/StaffGuidanceOrdvsNonOrd.pdf), as only two structures are being replaced on Line #565 and the proposed structures are estimated to be within 20% of the existing structure heights. Further, the shift of Line #565 will result in a more perpendicular road crossing, which is favored by VDOT. As this work is required by the proposed Project, the costs associated with this Line #565 work have been included in the total transmission-related conceptual costs. Should the Commission determine that a CPCN is required for this Line #565 work as described herein, the Company requests that the Commission grant such CPCN as part of its final order in this proceeding.

⁷ See supra, n. 4; see also Section I.F.

The Line #588 Rebuild, the proposed Fentress-Yadkin Line #5005, and the substation-related work at the Fentress and Yadkin Substations are collectively referred to as the "Project."

The proposed Project is needed for two primary reasons, which will allow the Company to maintain the overall long-term reliability of the transmission system for its customers.

The first is to replace an existing aging transmission line (*i.e.*, Fentress-Yadkin Line #588), which is approaching the end of its service life, with a newly rebuilt line. The Company regularly replaces infrastructure approaching the end of its service life to maintain the reliability of the transmission system and to comply with the requirements and standards set by NERC. While energy generated by the CVOW project will utilize rebuilt Line #588, this portion of the Project serves the critical and independent purpose of maintaining the reliability of the regional transmission system in the Virginia Beach and Chesapeake areas, among others.

The second is to provide additional transmission infrastructure recently determined to be necessary to remove one of the most limiting system constraints to the CVOW project's deliverability. The Company and PJM, which, as the regional transmission organization ("RTO"), operates the regional transmission system and ensures compliance with NERC system reliability criteria, continue to evaluate the impact of generators seeking interconnection on the regional transmission system, like the CVOW project. Importantly, the evaluation of generators seeking to interconnect to the grid is done in concert with other projects, and, as such, identified network upgrades benefit all such generators, as well as the other users of a reliable grid. PJM's Phase I Study Reports—which are solely load flow results for the generation queue projects included in Transition Cycle #1—were made public on May 20, 2024. PJM's Phase II Study Reports—which will include the results of stability, short circuit and updated load flow analysis—are scheduled to be publicly released in December 2024. Phase III Study Reports—which are updated Phase II Study Reports and provide the final cost estimates for projects—are scheduled to be publicly released in June 2025. Regarding the proposed Project in particular, the Company is proposing to build new Line #5005 to reliably connect the CVOW project to the transmission system.

The total length of the existing right-of-way, which is currently maintained at 150 feet in width,⁸ and Company-owned property to be used for the Project, as proposed, is approximately 13.5 miles (the "Proposed Route"). Because the existing right-of-way and Company-owned property are adequate for the proposed Project, no new right-of-way is required. Given the availability of existing right-of-way and the statutory preference given to the use of existing right-of-way, and because additional costs and environmental impacts would be associated with the acquisition of and construction on new right-of-way, the Company did not consider any alternate routes requiring new right-of-way for the Project. Instead, the Company presents the Proposed Route for the Commission's consideration and notice.

⁸ See supra, n. 4; see also Section I.F. While the approximately 1.6-mile Constraint Design Segment would utilize an additional 85 feet of existing unmaintained right-of-way (235 feet total) in order to install a limited structure design segment option, as defined and discussed in Section I.F, it is important to note that the existing right-of-way in that 1.6-mile segment (235 feet) is adequate.

The total estimated conceptual cost of the proposed Project is approximately \$202.2 million, which includes approximately \$167.9 million for transmission-related work and approximately \$34.3 million for substation-related work (2024 dollars).⁹

The desired in-service target date for the proposed Project is January 1, 2027. The Company estimates it will take approximately 22 months for detailed engineering, materials procurement, permitting, real estate, 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 March 1, 2025. Should the Commission issue a final order by March 1, 2025, the Company estimates that construction should begin in March 2025 and be completed by January 2027. This schedule is contingent upon obtaining the necessary permits and outages, the latter of which may be particularly challenging due to the amount of new load growth, rebuilds, and new builds scheduled to occur in this load area. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process, as well as the ability to schedule outages, and unpredictable delays due to labor shortages or materials/supply issues. This schedule also is contingent upon the Company's ability to negotiate land rights.

In addition, the Company is actively monitoring regulatory changes and requirements associated with the Northern long-eared bat ("NLEB") and how they could potentially impact construction timing associated with time of year restrictions ("TOYRs"). The U.S. Fish and Wildlife Service ("USFWS") previously indicated that it planned to issue final NLEB guidance to replace the interim guidance by April 1, 2024; however, the interim guidance has been extended by USFWS until late summer 2024. The Company actively is tracking updates from the USFWS with respect to the final guidance. Once issued, the Company plans to review and follow the final guidance to the extent it applies to the Company's projects. Until the final guidance is issued, the Company will continue following the interim guidance. For projects that may require additional coordination, the Company will coordinate with the USFWS. The Company is also monitoring potential regulatory changes associated with the potential up-listing of the Tricolored bat ("TCB"). On September 14, 2022, the USFWS published the proposed rule to the Federal Register to list the TCB as endangered under the Endangered Species Act ("ESA"). USFWS recently extended its Final Rule issuance target from September 2023 to September 2024. The Company is actively tracking this ruling and evaluating the effects of potential outcomes on Company projects' permitting, construction, and in-service dates, including electric transmission projects.

In conformance with recent submittals and for purposes of judicial economy, the Company requests that the Commission issue a final order approving both the in-service date of January 1, 2027, and CPCN sunset date of January 1, 2028, for the Project.

⁹ The total Project costs include estimated conceptual costs for the work associated with Line #565 (see supra, n. 6).

I. NECESSITY FOR THE PROPOSED PROJECT

- A. State the primary justification for the proposed project (for example, the most critical contingency violation including the first year and season in which the violation occurs). In addition, identify each transmission planning standard(s) (of the Applicant, regional transmission organization ("RTO"), or North American Electric Reliability Corporation) projected to be violated absent construction of the facility.
- Response: The Project to optimize the existing 13.5-mile transmission corridor is necessary to address the condition of Line #588, which is approaching its end of life, and to help resolve identified NERC Reliability Standard contingency conditions related to CVOW integrating with the transmission system with the addition of new Line #5005, thereby allowing the Company to maintain the structural integrity and reliability of the transmission system. See <u>Attachment I.A.1</u> for an overview map of the overall Project area.

Dominion Energy Virginia's transmission system is responsible for providing transmission service (i) for redelivery to the Company's retail customers; (ii) to Appalachian Power Company, Old Dominion Electric Cooperative, Northern Virginia Electric Cooperative, Central Virginia Electric Cooperative, and Virginia Municipal Electric Association for redelivery to their retail customers in Virginia; and, (iii) to North Carolina Electric Membership Corporation and North Carolina Eastern Municipal Power Agency for redelivery to their customers in North Carolina (collectively, the "DOM Zone"). The Company needs to be able to maintain the overall, long-term reliability of its transmission system to meet its customers' evolving power needs in the future.

Dominion Energy Virginia is part of the PJM RTO, which provides service to a large portion of the eastern United States. PJM is currently responsible for ensuring the reliability and coordinating the movement of electricity through all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. This service area has a population of approximately 65 million and, on August 2, 2006, set a record high of 165,563 MW for summer peak demand, of which Dominion Energy Virginia's load portion was approximately 19,256 MW. On July 28, 2023, the Company set a record high of 21,993 MW for summer peak demand. On December 24, 2022, the Company set a winter and all-time record demand of 22,189 MW. Based on the 2024 PJM Load Forecast, the DOM Zone is expected to grow with average growth rates of 5.6% summer and 5.1% winter over the next 10 years compared to the PJM average of 1.7% and 2.0% over the same period for the summer and winter, respectively.¹⁰

Dominion Energy Virginia is also part of the Eastern Interconnection transmission grid, meaning its transmission system is interconnected, directly or indirectly, with

¹⁰ A copy of the 2024 PJM Load Report is available at the following: <u>https://www.pjm.com/-/media/library/reports-notices/load-forecast/2024-load-report.ashx</u>. *See, in particular,* page 3 (PJM) and 28, 35, 39 (DOM Zone).

all of the other transmission systems in the United States and Canada between the Rocky Mountains and the Atlantic coast, except for Quebec and most of Texas. All of the transmission systems in the Eastern Interconnection are dependent on each other for moving bulk power through the transmission system and for reliability support. Dominion Energy Virginia's service to its customers is extremely reliant on a robust and reliable regional transmission system.

NERC has been designated by the FERC as the electric reliability organization for the United States. Accordingly, NERC requires that the planning authority and transmission planner develop planning criteria to ensure compliance with NERC Reliability Standards. Mandatory NERC Reliability Standards require that a TO develop facility interconnection requirements that identify load and generation interconnection minimum requirements for a TO's transmission system, as well as the TO's reliability criteria.¹¹

Federally mandated NERC Reliability Standards constitute minimum criteria with which all public utilities must comply as components of the interstate electric transmission system. Moreover, the Energy Policy Act of 2005 mandates that electric utilities must follow these NERC Reliability Standards and imposes fines on utilities found to be in noncompliance up to \$1.3 million a day per violation.

PJM's Regional Transmission Expansion Plan ("RTEP") is the culmination of a FERC-approved annual transmission planning process that includes extensive analysis of the electric transmission system to determine any needed improvements.¹² PJM's annual RTEP is based on the effective criteria in place at the time of the analyses, including applicable standards and criteria of NERC, PJM, and local reliability planning criteria, among others.¹³ Projects identified through the RTEP process are developed by the TO in coordination with PJM, and are presented at the Transmission Expansion Advisory Committee ("TEAC") meetings prior to inclusion in the RTEP, which is then presented for approval to the PJM Board of Managers (the "PJM Board").

Outcomes of the RTEP process include three types of transmission system upgrades or projects: (i) baseline upgrades are those that resolve a system reliability criteria violation, which can include planning criteria from NERC, Reliability First, SERC Reliability Corporation, PJM, and TOs; (ii) network upgrades are new or upgraded facilities required primarily to eliminate reliability criteria violations caused by

¹¹ The Company's mandatory electric transmission planning criteria ("Planning Criteria") can be found in Attachment 1 of the Company's Facility Interconnection Requirements ("FIR") document (effective January 1, 2024pursuant to Facility Connection ("FAC") Standard FAC-001-3 (R1, R3), which is available online at <u>https://cdn-dominionenergy-</u> prd-001.azureedge.net/-/media/pdfs/virginia/parallel-generation/facility-connection-

requirements.pdf?la=en&rev=f280781e90cf47f69ea526c944c9c347&hash=82DD2567D0B033C47536134B8C4D5 C5E.

¹² PJM Manual 14B (effective December 20, 2023) focuses on the RTEP process and can be found at <u>https://www.pjm.com/-/media/documents/manuals/m14b.ashx</u>.

¹³ See PJM Manual 14B, Attachment D: PJM Reliability Planning Criteria. See supra, n. 12 for a link to PJM Manual 14B.

proposed generation, merchant transmission, or long-term firm transmission service requests; and (iii) supplemental projects are projects initiated by the TO in order to interconnect new customer load, address degraded equipment performance, improve operational flexibility and efficiency, and increase infrastructure resilience. While supplemental projects are included in the RTEP, and the PJM Board administers stakeholder review of supplemental projects as part of the RTEP process, the PJM Board does not actually approve such projects.

The Line #588 Rebuild is an end-of-life rebuild project that is classified as a PJM baseline project. See Section I.J. Proposed Line #5005 is a network upgrade project that will help integrate the CVOW project with the existing transmission system. A discussion of the need driving the Line #588 Rebuild and proposed Line #5005 is as follows.

NEED FOR THE PROJECT

As outlined in additional detail below, the Project is needed for two primary reasons. The first is to replace an existing aging transmission line, which is approaching the end of its service life, with a newly rebuilt line. The Company regularly replaces infrastructure approaching the end of its service life to maintain the reliability of the transmission system and to comply with the requirements and standards set by NERC. While energy generated by the CVOW project will utilize rebuilt Line #588, this portion of the Project serves the critical and independent purpose of maintaining the reliability of the regional transmission system in the Virginia Beach and Chesapeake areas, among others.

The second is to provide additional transmission infrastructure recently determined to be necessary to remove one of the most limiting system constraints to the CVOW project's deliverability. The Company and PJM, which, as the RTO, operates the regional transmission system and ensures compliance with NERC system reliability criteria, continue to evaluate the impact of generators seeking interconnection on the regional transmission system, like the CVOW project. Importantly, the evaluation of generators seeking to interconnect to the grid is done in concert with other projects, and, as such, identified network upgrades benefit all such generators, as well as the other users of a reliable grid. PJM's Phase I Study Reports-which are solely load flow results for the generation queue projects included in Transition Cycle #1-were made public on May 20, 2024. PJM's Phase II Study Reports—which will include the results of stability and short circuit analysis and updated load flow analysis-are scheduled to be publicly released in December 2024. Phase III Study Reports-which are updated Phase II Study Reports and provide the final cost estimates for projects-are scheduled to be publicly released in June 2025. Regarding the proposed Project in particular, the Company is proposing to build new Line #5005 to reliably connect the CVOW project to the transmission system.

Line #588 Rebuild

The Company has developed a proactive plan to rebuild transmission lines that are comprised of weathering steel (COR-TEN[®]) towers. The proposed Line #588 Rebuild is necessary to address the condition of Line #588, which is approaching its end of service life, by rebuilding approximately 13.5 miles of existing infrastructure, in compliance with the Company's mandatory Planning Criteria, thereby enabling the Company to maintain the overall long-term reliability of its transmission system.

Specifically, the approximately 13.5-mile Line #588 has been identified for rebuild. Line #588 was constructed in 1975—meaning its structures are currently 49 years old and approaching their expected life span—primarily on COR-TEN[®] steel lattice towers. These COR-TEN[®] towers have been identified for rebuild based on the Company's assessment in accordance with the Company's mandatory Planning Criteria, thereby enabling the Company to maintain the overall long-term reliability of its transmission system. The Company hired a third-party company, Quanta Technology, LLC ("Quanta"), to evaluate the condition of its COR-TEN[®] towers, including those supporting Line #588. In its November 1, 2016 report entitled "230kV & 500kV COR-TEN Lines Review" (the "2016 Quanta Report"), Quanta confirmed the need to rebuild the Line #588 COR-TEN[®] towers.

Section C.2.9 of the Planning Criteria addresses electric transmission infrastructure approaching its end of life:¹⁴

Electric transmission infrastructure reaches its end of life as a result of many factors. Some factors such as extreme weather and environmental conditions can *shorten* infrastructure life, while others such as maintenance activities can *lengthen* its life. Once end of life is recognized, in order to ensure continued reliability of the transmission grid, a decision must be made regarding the best way to address this end-of-life asset.

For this criterion, "end of life" is defined as the point at which infrastructure is at risk of failure, and continued maintenance and/or refurbishment of the infrastructure is no longer a valid option to extend the life of the facilities consistent with Good Utility Practice and Dominion Energy Transmission Planning Criteria. The infrastructure to be evaluated under this end-of-life criteria are all regional transmission lines operated at 500 kV and above.

The decision point of this criterion is based on satisfying two metrics:

- 1) Facility is nearing, or has already passed, its end of life, and
- 2) Continued operation risks negatively impacting reliability of the

¹⁴ *See supra*, n. 11.

transmission system.

For facilities that satisfy both of these metrics, this criterion mandates either replacing these facilities with in-kind infrastructure that meets current Dominion Energy standards or employing an alternative solution to ensure the Dominion Energy transmission system satisfies all applicable reliability criteria.

Dominion Energy will determine whether the two metrics are satisfied based on the following assessment:

1. End of Life

Factors that support a determination that a facility has reached its end of life include, but are not limited to,

- <u>Condition</u> of the facility, taking into consideration:
 - Industry recommendations on service life for the particular type of facility
 - The facility's performance history
 - Documented evidence indicating that the facility has reached the end of its useful service life
 - The facility's maintenance and expense history
- <u>Third-party assessment</u> While not required, Dominion Energy has the option of seeking a third-party assessment of a facility to determine if industry specialists agree the facility has reached the end of its useful service life
- 2. <u>Reliability and System Impact</u>

The reliability impact of continued operation of a facility will be determined based on a planning assessment and operational performance considerations. The end-of-life determination for a facility to be tested for reliability impact will be assessed by evaluating the impact on short and long term reliability with and without the facility in service. The existing system with the facility removed will become the base case system for which all reliability tests will be performed.

The primary four (4) reliability tests to be considered are:

- 1. NERC Reliability Standards
- PJM Planning Criteria As documented in PJM Manual 14B
 PJM Region Transmission Planning Process
- 3. Dominion Energy Transmission Planning Criteria contained in this document

 Operational Performance – This test will be based on input from PJM and/or Dominion Energy System Operations as to the impact on reliably operating the system without the facility

Additional factors to be evaluated under system impact may include but not be limited to:

- 1. Market efficiency
- 2. Stage 1A ARR sufficiency
- 3. Public policy
- 4. SERC reliability criteria

Failure of any of these reliability tests, along with the end-of-life assessment discussed herein, will indicate a violation of the End-of-Life Criteria and necessitate replacement as mandated earlier in this document.

After the end of service life and reliability impact of a facility are evaluated and it has been determined that the facility violates the Endof-Life Criteria, a determination will be made as to whether replacement of the facility is the most effective solution for an identified reliability need, or whether an alternative solution should be employed. One or more of the following factors may be considered in determining whether to proceed with facility replacement or with an alternative solution:

- Planning analysis which may include power flow studies
- Operational performance
- System Reliability
- Effectiveness of the alternative as compared to the replacement facility
- Future load growth in the study area
- Future transmission projects or interconnects that impact the study area
- Constructability comparison
- Cost comparison

1) Facility is nearing, or has already passed, its end of life

In regard to the first metric of the Company's Planning Criteria addressing end of life, the structures on Line #588 are primarily COR-TEN[®] steel lattice towers that were erected in 1975, as noted above. COR-TEN[®] steel is now known to be problematic when used for lattice-type structures. Utility companies have been monitoring the material since the 1970s, and the problems are well documented. As noted in the 2016 Quanta's Report, the weathering steel lattice towers supporting Line #588 have design features that enable significant deterioration in the connections of these towers.

2) Continued operation risks negatively impacting reliability of the transmission system

PJM presented at its April 30, 2024 TEAC Meeting (First Read) based on Metric #1 (Facility is already nearing, or has already passed, its useful life) that, if Line #588 were removed from service and not replaced with a rebuilt 500 kV line, it would negatively impact the operation of the transmission system since a third-party assessment had determined the towers were at the end of their useful life and therefore subject to failure. Accordingly, PJM determined there was a need for the baseline project and did not require any additional reliability studies in support of the need for the proposed Line #588 Rebuild. See <u>Attachment I.J.1</u>. The Second Read was presented at the June 4, 2024 TEAC Meeting. See <u>Attachment I.J.2</u>.

Proposed Line #5005

The Company anticipates that PJM's Interconnection Process¹⁵ will identify network upgrades required for the CVOW project and other generation queue projects.¹⁶ As noted by the Company and Staff during the CVOW Proceeding, the identification of network upgrades necessary to reliably interconnect a proposed generation facility like the CVOW project is not unique.¹⁷ Generally, PJM's Interconnection Process identifies three basic components for a generator to successfully interconnect with the transmission system,¹⁸ as described below:

¹⁵ Customers are dependent on the development of generation resources, transmission facilities, and distribution facilities to satisfy their electrical needs. Therefore, it is important that proposed generation facilities be interconnected with the transmission system in accordance with NERC Reliability Criteria, in a manner that promotes overall system reliability. The Company is a member of the PJM RTO and as such, any generator (including Dominion Generation) wishing to construct a new generation facility, or modify an existing generation facility interconnected to the transmission system, must file an interconnection request as part of the PJM generation queue process pursuant to the terms and conditions of PJM's FERC-approved Open Access Transmission Tariff ("OATT"), which can be found at https://www.dominionenergy.com/our-company/moving-energy/electric-transmission-access. Part IV (Sections 212 and 212.6) of the PJM OATT requires that an ISA and ICSA be executed among the interconnection customer, the Company (as the TO), and the RTO (as the Transmission Provider) before the customer can interconnect and energize its generation facilities. The ISA and ICSA generally provide that any actions taken by the TO must comply with its obligations, responsibilities and representations set forth in those agreements, including a duty of the TO to use "reasonable efforts" in good faith to achieve the objectives of the agreements (*i.e.*, getting the generator interconnected with the transmission system subject to PJM's required conditions and actions). *See supra*, n. 2.

¹⁶ See supra, n. 1. As noted in the CVOW Proceeding, the proposed transmission facilities included network upgrades identified based on the PJM Interconnection Analysis completed in September 2020, when the System Impact Study Reports were issued for AF1-123, AF1-124, and AF1-125, meaning that those upgrades were considered initial and subject to change. *See, e.g.*, CVOW Proceeding at Ex. 2, Generation Appendix (Vol. 2) at 161-163; Ex. 20, Curtis Direct (Vol. 3) at 5-6; Ex. 2, Transmission Appendix (Vol. 3) at 2-3.

¹⁷ See CVOW Proceeding at Ex. 2, Generation Appendix (Vol. 2) at 161-163; at Ex. 57, Nedwick Rebuttal at 2-3; see also Ex. 45, Staff Report (Vol. 3, Joshipura) at 7-8.

¹⁸ Terminology as defined by PJM in its Phase I Study Results. *See, e.g.*, <u>https://www.pjm.com/pub/planning/project-queues/TC1/PHASE_1/AF1-123/AF1-123 imp_PHASE_1.htm#general.</u>

<u>Transmission Owner Interconnection Facilities</u>: Facilities that are owned, controlled, operated and maintained by the Transmission Owner on the Transmission Owner's side of the point of change of ownership to the point of interconnection, including any modifications, additions or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the generating facility with the transmission system or interconnected distribution facilities.

<u>Stand Alone Network Upgrades</u>: Network Upgrades, which are not part of an affected system, which a Project Developer may construct without affecting day-to-day operations *(e.g., taking a transmission outage)* of the transmission system during their construction.

<u>Network Upgrades</u>: Modifications or additions to transmission-related facilities that are integrated with and support the Transmission Provider's overall transmission system for the general benefit of all users of such transmission system. Network Upgrades have no impact or potential impact on the transmission system until the final tie-in is complete.

A complete description of the PJM Interconnection Process can be found in PJM Manuals 14A and 14H.¹⁹ Specifically, Manual 14A describes the new services request process, and Manual 14H describes the various components and study process for PJM's New Cluster Study Process. The CVOW project is being studied under PJM's New Cluster Study Process and is included in the Transition Cycle #1 Study Process. In general, proposed generators are evaluated for compliance with NERC P0, P1, P2, P4, P5 and P7 contingencies conditions.²⁰ The outcome of the Interconnection Process is to ensure that the requested capacity component of the generation project can be delivered reliably to the transmission system under normal operational conditions, such that for the NERC Contingency Conditions

¹⁹ Part VI of the OATT (see supra, n. 15) contains the PJM procedures, terms, and conditions governing administration of the New Services Queue, System Impact Studies and Facilities Studies of Interconnection Requests, as well as the agreements related to such studies and Interconnection Service (*i.e.*, ISAs and ICSAs). During the Phase I System Impact Study analysis, PJM studies new customer interconnect requests on a summer peak, winter peak, and light load RTEP base case. PJM also performs load flow analysis during Phase I. The Phase I Study Results of the CVOW project (AF1-123, AF1-124, and AF1-125) were made publicly available on May 20, 2024. See Section I.D. Once the Phase I Study is complete, Phase II System Impact Study begins. During the Phase II System Impact Study, PJM conducts any required voltage analyses and performs short circuit and stability analyses, as required, and retools load flow results from the Phase I Study based on decisions made by the generator. Because the proposed Line #5005 is required for stability reasons as discussed in Sections I.B and I.D, the Company fully expects that proposed Line #5005 will be identified as a network upgrade required by the CVOW project (AF1-123, AF1-124, and AF1-125) in PJM's Phase II Study Results, which the Company anticipates will be available in December 2024. See https://www.pjm.com/-/media/documents/manuals/m14a.ashx for PJM Manual 14A: New Services Request Process (effective July 26, 2023) and https://www.pjm.com/-/media/documents/manuals/archive/m14h/m14hv0-new-servicerequests-cycle-process-07-26-2023.ashx for PJM Manual 14H: New Service Requests Cycle Process (effective July 26, 2023).

²⁰ See the Generator Deliverability Section of PJM Manual 14B, the link to which is provided in n. 12, *supra*.

described above, the generator will remain synchronized with the transmission system and there will be no thermal or voltage violations.

As to the proposed Fentress-Yadkin Line #5005, this new 500 kV line is needed to help integrate the CVOW project reliably with the transmission system. Mitsubishi Electric Power Products, Inc. ("MEPPI")), a third party company with experience in studying offshore wind projects, was hired to support Dominion Electric Transmission's evaluation of the two offshore wind projects in the PJM Generation Queue that are seeking to interconnect to the transmission system in the Virginia Beach vicinity-namely, Avangrid's Kitty Hawk wind project and the Customer's CVOW project. Specifically, MEPPI's scope of work includes providing Owner's Engineering ("OE") support and performing Technical Due Diligence analytical work on behalf of Dominion Electric Transmission, to capture aspects of performance, coordination, and potential interaction beyond that which is presently captured through traditional facility studies. With the novelty, electrical vicinity, and scale of these offshore wind farms for the PJM system, MEPPI proposed these tasks in response to the request to support Dominion Electric Transmission's objective of evaluating the relative projects' impacts on the system to which they interconnect, focused on those aspects not captured in traditional facility studies.

MEPPI and the Company determined that proposed Line #5005 would likely be required by the PJM Interconnection Process to reliably interconnect the CVOW Project with the transmission system.²¹

If not relieved by new Line #5005 and any other upgrades identified in PJM's final interconnection study analysis, the projected reliability violations will severely impact the Company's ability to timely integrate the CVOW project with the transmission system, which will, in turn, restrict the CVOW project's ability to provide reliable capacity and associated energy for the benefit of the Company's customers. For this reason, the Customer has chosen to proceed with funding the construction of Line #5005 and ultimately will be responsible for the cost to construct Line #5005. The Interim ISA and ICSA associated with the CVOW project (AF1-123, 124 and 125) were modified by all parties in April 2024 to include the construction of Line #5005. These Interim Agreements were filed with FERC on May 3, 2024.

As noted above and by the Company during the CVOW Proceeding, it is not unique that network upgrades are required to ensure timely deliverability of the CVOW project.²² Indeed, the scenario is common, and PJM has a process to address it, which, as the process and studies progress, may result in certain network upgrades

²¹ See, e.g., Section D. Transmission Planning, System Stability Criteria of Attachment 1 to the Company's FIR document, the link to which is provided in n. 11, *supra*; the PJM OATT, specifically Part VI Section 205.2.2.3 (Stability and Dynamic Criteria Violations), the link to which is provided in n. 15, *supra*; and PJM Manual 14B, Attachment G: PJM Stability, Short Circuit and Special RTEP Practices and Procedures, the link to which is provided in n. 12, *supra*.

²² *See supra*, n. 17.

changing or no longer being needed, therefore necessitating updates to the costs and cost allocations for the identified network upgrades.²³ As such, it was not unexpected that MEPPI's study of the transmission facilities required to timely, reliably, and successfully integrate the CVOW project with the transmission system resulted in the identification of the need for Line #5005. Ultimately, the results from MEPPI's study will be incorporated into the results of the PJM Interconnection Analysis for the CVOW project and any identified requirements will become part of the mandatory network requirements to reliably integrate the CVOW project with the transmission system.

Existing and Future Transmission System – Fentress Substation

<u>Attachment I.A.2</u> provides a one-line diagram of the Fentress Substation as proposed in the CVOW Proceeding. <u>Attachment I.A.3</u> provides a one-line diagram of the Fentress Substation once the proposed Project is energized. See <u>Attachment I.G.1</u> for an overview map of the existing transmission system, which also includes the proposed Project.

DESCRIPTION OF THE PROJECT

Line #588 Rebuild

As part of the Project, the Company proposes to rebuild the existing overhead single circuit 500 kV Fentress-Yadkin Line #588 to address the condition of Line #588, which is approaching its end of service life. Specifically, as proposed, the Company will rebuild the approximately 13.5-mile-long Line #588, which currently is supported primarily by single circuit 500 kV COR-TEN[®] lattice structures, with primarily single circuit 500 kV dulled galvanized steel monopole structures entirely within the existing right-of-way, which is currently maintained at 150 feet wide,²⁴ or on Company-owned property. Additionally, the Company proposes to replace the existing three-phase twin-bundled 2500 ACAR conductors with three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA for the entire 13.5 miles.

The Company plans to rebuild Line #588 in two phases.

For the first phase of construction, the Company plans to wreck and rebuild approximately 8.4 miles of Line #588 from Structure #588/186A—which is located one span outside of the Company's existing Yadkin Substation—to Structure #588/226. The Company anticipates that the first phase of construction will begin on March 1, 2025, and be completed by December 31, 2025. The Company is

²³ See CVOW Proceeding at Ex. 2, Generation Appendix (Vol. 2) at 161-163; Ex. 20, Curtis Direct (Vol. 3) at 7; Ex. 2, Transmission Appendix (Vol. 3) at 2-3; Ex. 57, Nedwick Rebuttal at 2-3; *see also* Ex. 45, Staff Report (Vol. 3, Joshipura) at 7-8.

²⁴ See supra, n. 4. See also Section I.F as to a Constraint Design Segment that would utilize the entire 235-foot-wide existing right-of-way for approximately 1.6 miles of the 13.5-mile right-of-way corridor, as defined and discussed therein.

planning to construct the proposed Line #5005 simultaneously with the first phase of the Line #588 Rebuild, from Structure #5005/2 to Structure #5005/43.

For the second phase of construction, the Company plans to wreck and rebuild approximately 5.1 miles of Line #588 from Structure #588/226 to Structure #588/254—which is located one span outside of the Fentress Substation. The Company anticipates that the second phase of construction will begin on March 1, 2026, and be completed by December 31, 2026. The Company is planning to construct the proposed Line #5005 simultaneously with the second phase of the Line #588 Rebuild, from Structure #5005/43 to Structure #5005/72.

The total length of the existing right-of-way, which is currently maintained at 150 feet in width,²⁵ and Company-owned property to be used for the Project, as proposed, is approximately 13.5 miles (*i.e.*, the Proposed Route). Because the existing right-of-way and Company-owned property are adequate for the proposed Project, no new right-of-way is required. Given the availability of existing right-of-way and because additional costs and environmental impacts would be associated with the acquisition of and construction on new right-of-way for the Project. Instead, the Company presents the Proposed Route for the Project. Instead, the Company presents the Proposed Route for the Commission's consideration and notice.

Proposed Line #5005

Also as part of the Project, the Company proposes to construct the new overhead single circuit 500 kV Fentress-Yadkin Line #5005 originating at the Company's existing Fentress Substation and continuing approximately 13.5 miles to terminate at the existing Yadkin Substation.²⁶ Specifically, as proposed, the new Line #5005 will be installed with the rebuilt Line #588 entirely within the existing right-of-way, which is currently maintained at 150 feet wide,²⁷ or on Company-owned property, supported primarily by single circuit 500 kV dulled galvanized steel monopole structures. Additionally, the proposed Line #5005 will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA.

The Company is planning to construct proposed Line #5005 simultaneously with the Line #588 Rebuild and along the same Proposed Route, as discussed above.

Substation-Related Work

The Company will perform substation-related work at the Company's existing

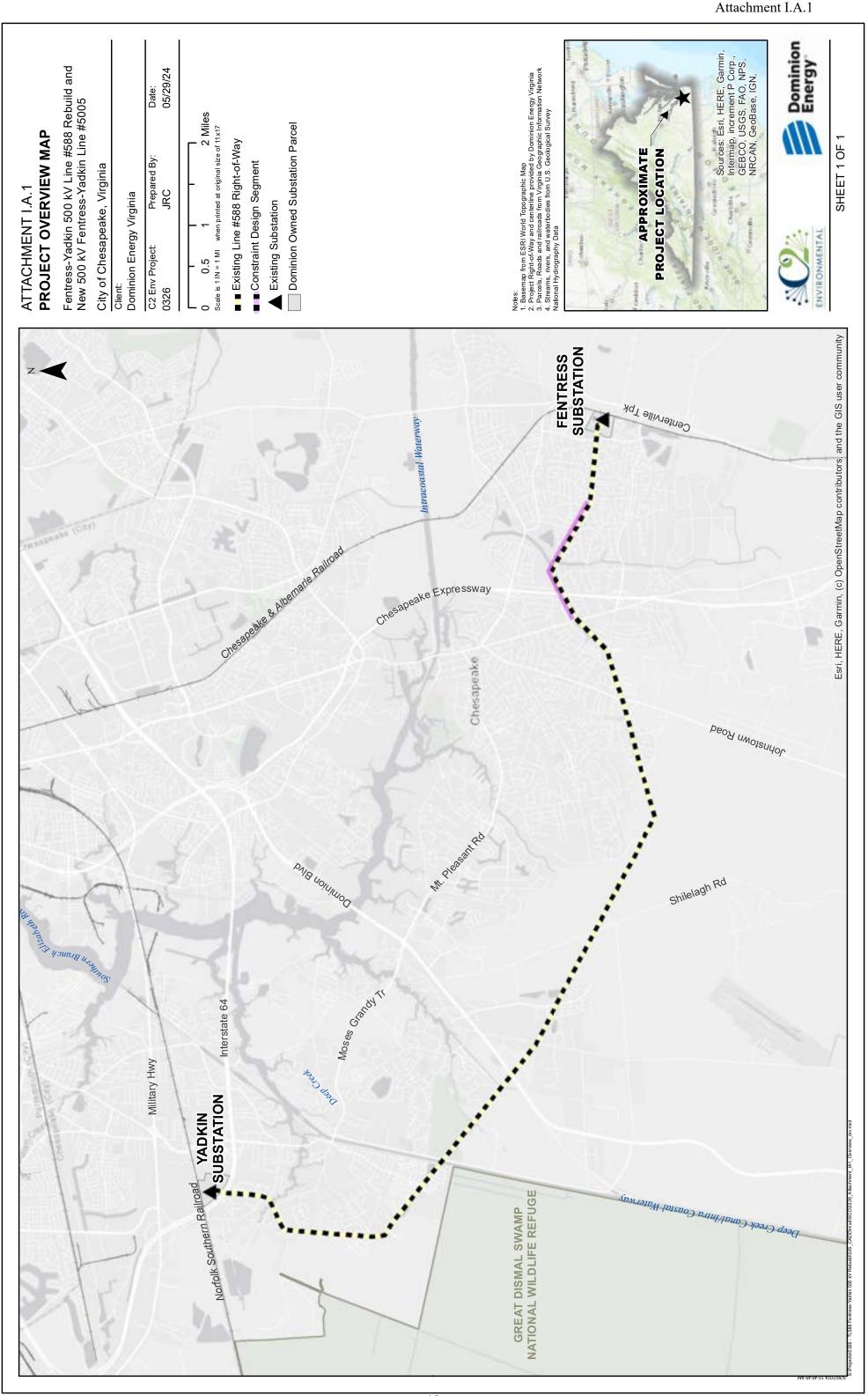
²⁵ See supra, n. 8.

²⁶ See supra, n. 6.

²⁷ See supra, n. 4; see also Section I.F.

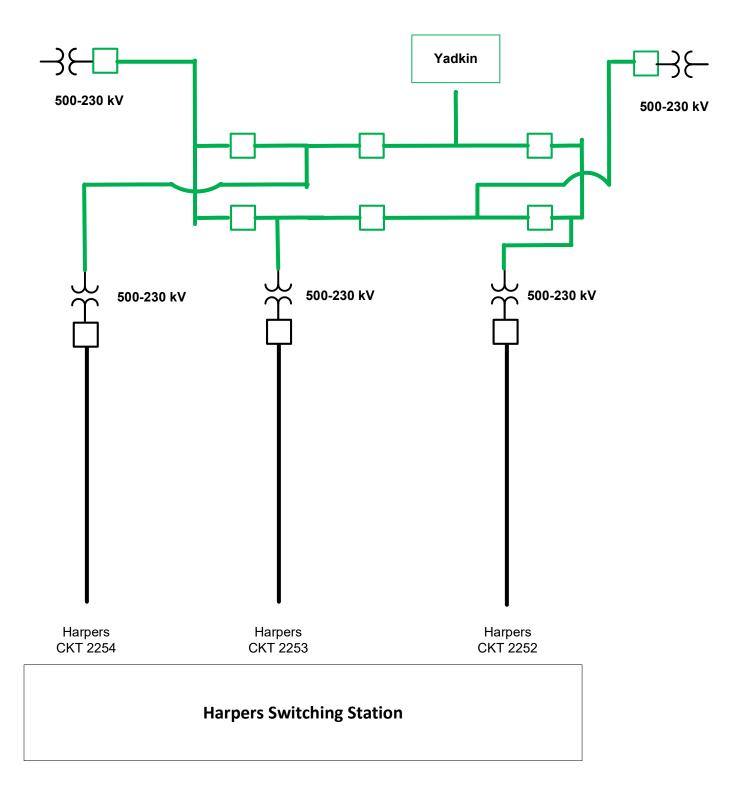
Fentress and Yadkin Substations as described in Section II.C.

In summary, the proposed Project will address the condition of Line #588, which is approaching its end of service life, by rebuilding existing infrastructure in accordance with mandatory Planning Criteria and will help allow the CVOW project to reliably and successfully integrate with the transmission system, thereby allowing the Company to maintain the overall long-term reliability of the transmission system for its customers.



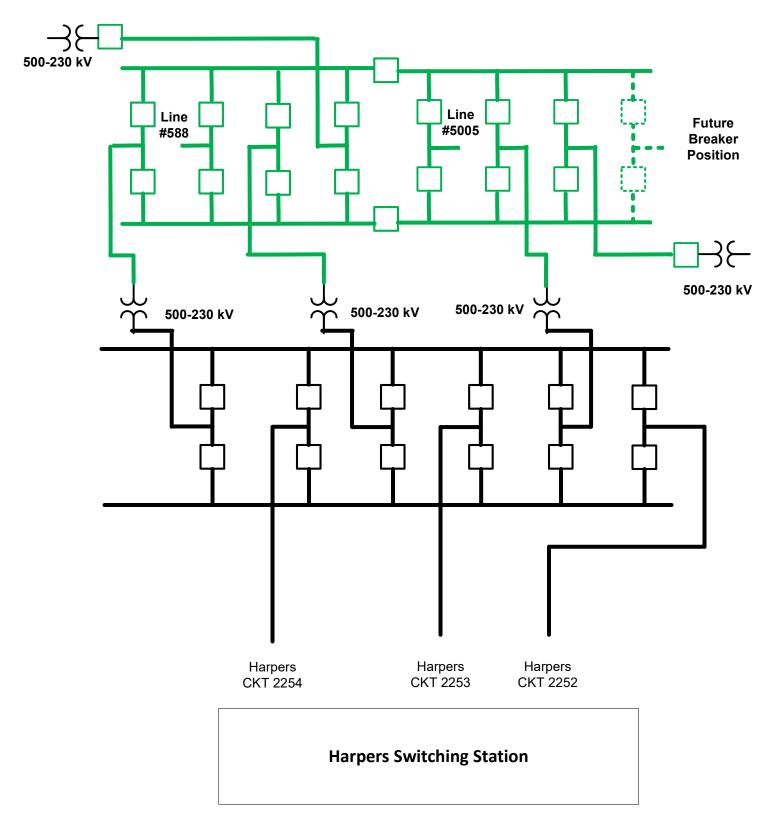
Attachment I.A.2

CVOW Project Fentress Substation (as originally proposed)



Attachment I.A.3

Proposed Project Arrangement Fentress Substation



I. NECESSITY FOR THE PROPOSED PROJECT

B. [1] Detail the engineering justifications for the proposed project (for example, provide narrative to support whether the proposed project is necessary to upgrade or replace an existing facility, to significantly increase system reliability, to connect a new generating station to the Applicant's system, etc.).
[2] Describe any known future project(s), including but not limited to generation, transmission, delivery point or retail customer projects, that require the proposed project to be constructed. [3] Verify that the planning studies used to justify the need for the proposed project considered all other generation and transmission facilities impacting the affected load area, including generation and transmission facilities that have not yet been placed into service. [4] Provide a list of those facilities that are not yet in service.

Response: [1] Engineering Justification for Project

Detail the engineering justifications for the proposed project (for example, provide narrative to support whether the proposed project is necessary to upgrade or replace an existing facility, to significantly increase system reliability, to connect a new generating station to the Applicant's system, etc.).

See Section I.A of the Appendix.

[2] Known Future Projects

Describe any known future project(s), including but not limited to generation, transmission, delivery point or retail customer projects, that require the proposed project to be constructed.

The Project is necessary to address the condition of Line #588 by rebuilding the existing infrastructure, which is approaching its end of life, as well as resolve potential violations of NERC Reliability Standards with the installation of proposed Line #5005, which will help allow the CVOW project to reliably and successfully integrate with the transmission system, as discussed in Section I.A. There are no other future projects that require the proposed Project to be constructed.

[3] Planning Studies

Verify that the planning studies used to justify the need for the proposed project considered all other generation and transmission facilities impacting the affected load area, including generation and transmission facilities that have not yet been placed into service.

As part of any RTEP cycle, PJM along with the member TOs run baseline reliability analysis to identify if any potential violations exist based on projected network topology and loading. A portion of Manual 14B Section 1.4.1.1 describes the process from a high level:

PJM Manual 14B – 1.4.1.1 Baseline reliability analyses

The PJM Transmission System ("PJM System") provides the means for delivering the output of interconnected generators to the load centers in the PJM energy and capacity markets. Baseline reliability analyses ensure the security and adequacy of the Transmission System to serve all existing and projected long term firm transmission use including existing and projected native load growth as well as long term firm transmission service. RTEP baseline analyses include system voltage and thermal analysis, and stability, load deliverability, and generator deliverability testing. These tests variously entail single and multiple contingency testing for violations of established NERC reliability criteria regarding stability, thermal line loadings and voltage limits.²⁸

Any thermal, voltage, or generation deliverability violations will require a baseline network upgrade. Typically, during the RTEP cycle, PJM is focused on a case that is five years out in time. The open window for this Project, which was based on the 2023 RTEP Open Window #2 (01-18-2024) and subsequently tested on the 2023 RTEP 2028 Summer Case, demonstrated that Line #588 is needed to maintain reliable service to the Company's customers.

Additionally, the results of PJM's Transition Cycle #1 Analysis Summer 2027 Light Load, Summer 2027 Light Load Energy, and Summer 2027 Peak Energy Analyses indicate that without Line #588 in service, the following are overloaded: Landstown-Pocaty Line #271, Fentress-Pocaty Line #2240, Fentress-Thrasher Line #2128, Thrasher-Yadkin Line #2105, Fentress 500-230 kV TX #1, Fentress 500-230 kV TX #2, and Elizabeth River-Yadkin Line #2070. See the AF1-123, AF1-124 and AF1-125 Phase I Study Results, which are available at the following:

- AF1-123: <u>https://www.pjm.com/pub/planning/project-</u> queues/TC1/PHASE_1/AF1-123/AF1-123_imp_PHASE_1.htm#general
- AF1-124: <u>https://www.pjm.com/pub/planning/project-</u> queues/TC1/PHASE_1/AF1-124/AF1-124_imp_PHASE_1.htm#
- AF1-125: <u>https://www.pjm.com/pub/planning/project-</u> queues/TC1/PHASE 1/AF1-125/AF1-125 imp PHASE 1.htm#

[4] Facilities List

Provide a list of those facilities that are not yet in service.

The CVOW project is not yet in service.

²⁸ *See supra*, n. 12.

I. NECESSITY FOR THE PROPOSED PROJECT

- C. Describe the present system and detail how the proposed project will effectively satisfy present and projected future electrical load demand requirements. Provide pertinent load growth data (at least five years of historical summer and winter peak demands and ten years of projected summer and winter peak loads where applicable). Provide all assumptions inherent within the projected data and describe why the existing system cannot adequately serve the needs of the Applicant (if that is the case). Indicate the date by which the existing system is projected to be inadequate.
- Response: <u>Attachment I.G.1</u> shows the portion of the transmission system in the area of the proposed Project. The existing Line #588 is part of the Company's 500 kV system, which supports the transfer of bulk power from generating resources to major load centers.

The tables in <u>Attachment I.C.1</u> provide the historic summer and winter loads from 2014-2023 and the projected summer and winter peak loads from 2024-2034 for the DOM Zone.

Line #588 Rebuild

The existing Line #588 cannot continue to adequately serve the needs of the Company and its customers due to the condition of its aging infrastructure, as discussed in Section I.A. The Company has created a proactive plan to rebuild transmission lines that are comprised of weathering steel (COR-TEN[®]) towers, setting target completion dates for end-of-life projects based on the condition of the facilities, the Company's resources, and the need to schedule outages. The inservice date for the proposed Project (January 1, 2027) also supports the conclusions reflected in the 2016 Quanta Report balanced against the timeline for permitting, construction, and obtaining necessary outages.

Completing the proposed Line #588 Rebuild will support Dominion Energy Virginia's ability to continue to provide reliable electric service to retail and wholesale customers and will support the future overall growth and system generation capability in the area. See Section I.A.

Proposed Line #5005

The proposed Fentress-Yadkin Line #5005 is needed to help allow for the successful delivery of energy from the CVOW project to the larger grid in a manner that ensures the reliability of the regional transmission system. Line #5005, however, is not solely to serve the CVOW project—it is a networked transmission line that can be tapped, thus once in-service, all existing and future customers benefit from Line #5005 being placed in-service.

(MM)	
Load	
Historical]	
His	

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Dominion Zone - Summer	18,692	18,980	19,538	18,902	18,924	19,607	20,087	20,409	21,156	21,993
Growth (%)	(0.38%)	1.54%	2.94%	(3.25%)	0.1%	3.6%	2.4%	1.6%	3.6%	3.9%
Date	7/02/2014	7/02/2014 6/23/2015 7/25/2010	7/25/2016	7/14/2017	08/29/2018	07/20/2019	07/20/2020	08/12/2021	08/09/2022	07/28/2023
Dominion Zone - Winter	19,785	21,651	18,948	19,661	21,232	19,930	17,544	17,867	22,189	19,531
Growth (%)	12.27%		9.43% (12.48)%	3.76%	8.0%	(6.1%)	(12.0%)	1.8%	24.1%	(12.0%)
Date	1/30/2014	/30/2014 2/20/2015 1/19/2010	1/19/2016	1/9/2017	1/7/2018	1/31/2019	1/21/2020	129/2021	12/24/2022	2/4/2023

Projected Load (MW)*

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Dominion Zone - Summer	22,781	23,691	25,627	27,487	29,800	31,776	33,472	34,911	36,288	37,673	39,019
Growth (%)	!	4.0%	8.2%	7.3%	8.4%	6.6%	5.3%	4.3%	3.9%	3.8%	3.6%
Dominion Zone - Winter	22,525	23,211	24,627	26,355	28,360	30,176	31,860	33,324	34,676	35,820	36,851
Growth (%)	1	3.0%	6.1.%	7.0%	7.6%	6.4%	5.6%	4.6%	4.1%	3.3%	2.9%

* PJM 2024 Load Forecast (includes losses)

- D. If power flow modeling indicates that the existing system is, or will at some future time be, inadequate under certain contingency situations, provide a list of all these contingencies and the associated violations. Describe the critical contingencies including the affected elements and the year and season when the violation(s) is first noted in the planning studies. Provide the applicable computer screenshots of single-line diagrams from power flow simulations depicting the circuits and substations experiencing thermal overloads and voltage violations during the critical contingencies described above.
- Response: Line #588 Rebuild

Not applicable.

Proposed Line #5005

The table below provides a summary of MEPPI's worst-case stability limits for the CVOW project, as designed, and with the proposed Line #5005 in-service. The table also includes the current estimated incremental conceptual cost estimates. As discussed, earlier stability results will not be included into PJM's reports until the Phase II Study Reports are completed, which currently is estimated to be December 2024. The Customer has chosen to incorporate the currently known stability requirements into its Interim ISA/ICSA with PJM and Dominion Electric Transmission and assume 100% cost responsibility for those requirements. In these agreements, PJM has assigned the proposed Line #5005 with the following Network Upgrade Numbers:

- 1. PJM Network Upgrade #n8492: Construct one overhead 500 kV transmission line that will start at the existing Fentress Substation and terminate at the existing Yadkin Substation.
- 2. PJM Network Upgrade #n8492.1: Add one new 500 kV breaker position and associated equipment at the Fentress 500 kV Substation to terminate the new Fentress-Yadkin 500 kV line (n8492).
- 3. PJM Network Upgrade #n8492.2: Add one new 500 kV breaker position and associated equipment at the Yadkin Substation and relocate existing Suffolk-Yadkin Line #565²⁹ as necessary to accommodate the construction of new Fentress-Yadkin 500 kV Line (n8492).

The Customer has chosen to do this to reliably connect the CVOW project to the transmission system.

²⁹ *See supra*, n. 6.

Option	CVOW Project (as designed)	Proposed Line #5005
Critical Contingency	NERC P4 outage of Line #588 & Fentress 500-230 kV Tx#3 or an outage of Line #588 & Fentress 500-230 kV Tx#4	NERC P1 (N-1) outage of Line #2253 or Line #2254 or Line #2255 or CVOW 500-230 kV TXs
Fentress Substation Cost Estimate (includes n8482.1)	\$154.5 M	\$288.5 M
Yadkin Substation Cost Estimate (n8492.2)	\$0 M	\$16.0 M
Line #5005 Cost Estimate (n8492)	\$0 M	\$82.8 M
Total Cost	\$154.5 M	\$387.3 M
Net Cost Increase	\$0	\$232.8 M

PJM's Phase I Study Results for AF1-123, AF1-124 and AF1-125 became publicly available on May 20, 2024. ³⁰ See Section I.B for links to the results.

Note that PJM's Phase I Study Results only include PJM's load flow analysis results. As previously discussed, PJM's Phase II Study Results also will include stability, short circuit, and updated load flow results. The Company fully expects that proposed Line #5005 will be identified as a network upgrade in PJM's Phase II Study Results, which are anticipated to be publicly available in December 2024.

³⁰ PJM continues to refine the Network Cost Allocation Numbers; however, it is the Company's understanding that PJM is not planning to add them to the previously published Phase I Reports.

E. Describe the feasible project alternatives, if any, considered for meeting the identified need including any associated studies conducted by the Applicant or analysis provided to the RTO. Explain why each alternative was rejected.

Response: <u>Line #588 Rebuild</u>

No feasible electrical alternatives have been submitted to PJM since the driver of the Line #588 Rebuild is the need to replace aging infrastructure approaching the end of its service life in compliance with the Company's mandatory Planning Criteria. See Section I.A. Alternatives that would require acquisition of new right-of-way were not given serious consideration for this Project because the existing corridor is adequate to construct the proposed Line #588 Rebuild. PJM did not require the Company to consider alternatives that would require new right-of-way to be built.

Proposed Line #5005

No feasible electrical alternatives to Line #5005 were identified, as any alternative would require acquisition of new right-of-way and the existing corridor is adequate to construct the proposed Line #5005 with the rebuilt Line #588, as discussed in Section I.A.³¹

Analysis of Demand-Side Resources

Pursuant to the Commission's November 26, 2013, Order entered in Case No. PUE-2012-00029, and its November 1, 2018, Final Order entered in Case No. PUR-2018-00075, the Company is required to provide analysis of demand-side resources ("DSM") incorporated into the Company's planning studies. DSM is the broad term that includes both energy efficiency ("EE") and demand response ("DR"). In this case, PJM and the Company have identified a need to rebuild Line #588 based on aging infrastructure that is at the end of its service life. Further, the Company has determined that proposed Line #5005 is necessary to maintain the overall longterm reliability of the transmission system by allowing the reliable and successful integration of the CVOW project, and to resolve potential violations of Dominion Energy Virginia's Planning Criteria.³² Notwithstanding, when performing an analysis based on PJM's 50/50 load forecast, there is no adjustment in load for DR programs because PJM only dispatches DR when the system is under stress (*i.e.*, a system emergency). Accordingly, while existing DSM is considered to the extent the load forecast accounts for it, DR that has been bid into PJM's capacity market is not a factor in this particular application because of the identified need for the

³¹ See supra, n. 8.

³² While the PJM load forecast does not directly incorporate DR, its load forecast incorporates variables derived from Itron that reflect EE by modeling the stock of end-use equipment and its usages. Further, because PJM's load forecast considers the historical non-coincident peak ("NCP") for each load serving entity ("LSE") within PJM, it reflects the actual load reductions achieved by DSM programs to the extent an LSE has used DSM to reduce its NCPs.

Project. Based on these considerations, the evaluation of the Project demonstrated that despite accounting for DSM consistent with PJM's methods, the Project is necessary.

Incremental DSM also will not eliminate the need for the Project. As noted previously, Line #588 is an end-of-life project and not dependent on future load growth, and proposed Line #5005 is necessary to reliably and successfully integrate the CVOW project with the transmission system.

F. Describe any lines or facilities that will be removed, replaced, or taken out of service upon completion of the proposed project, including the number of circuits and normal and emergency ratings of the facilities.

Response: <u>Proposed Project</u>

For construction of the Line #588 Rebuild and proposed Line #5005, the Company plans to remove all the existing single circuit 500 kV structures supporting Line #588 from Structure #588/186A to Structure #588/254, which are primarily weathering steel (COR-TEN[®]) lattice structures. As proposed in Section I.A, the Company plans to replace the removed structures with two side-by-side single circuit 500 kV structures, which primarily will be dulled galvanized steel monopole structures, in order to support the rebuilt Line #588 and proposed Line #5005 for approximately 13.5 miles entirely within the existing right-of-way, which is currently maintained at 150 feet wide,³³ or on Company-owned property.

Additionally, the Line #588 Rebuild includes replacing the existing three-phase twin-bundled 2500 ACAR conductors with three-phase triple-bundled 1351.5 ACSR conductors. The existing Line #588 2500 ACAR conductors have a normal/emergency transfer capability of 3,426 MVA. The proposed Line #588 1351.5 ACSR conductors have a normal/emergency transfer capability of 4,357 MVA.

Constraint Design Segment

The Company currently is coordinating with landowners along an approximately 1.6-mile segment of the existing Line #588 right-of-way corridor where there are easement constraints limiting the heights of the proposed Line #588 and Line #5005 structures to 150 feet. In the event the Company is unable to successfully remove these constraints, the Company has identified a limited structure design segment option solely for this approximately 1.6-mile segment of the existing transmission right-of-way corridor ("Constraint Design Segment"). Specifically, if necessary, the Company would replace the removed Line #588 structures within the approximately 1.6-mile Constraint Design Segment with two side-by-side single circuit 500 kV dulled galvanized steel monopoles in a delta configuration (*i.e.*, arms on both sides of the structures). The structures within the Constraint Design Segment that would be replaced with monopoles in a delta configuration are existing Structure #588/240 through existing Structure #588/249.³⁴ The same conductors as proposed for the Project would be utilized along this segment.

³³ *See supra*, n. 4.

³⁴ To be clear, the Constraint Design Segment begins mid-span between Structures #588/239 and #588/240 and then ends mid-span between Structures #588/249 and #588/250. However, only Structures #588/240-249 would be replaced with monopoles in a delta configuration under the Constraint Design Segment.

While a delta configuration would maintain the structures heights within the existing easement limitations along this approximately 1.6-mile segment, the Constraint Design Segment will require clearing and utilization of the entire 235-foot-width of the Company's existing right-of-way, which is currently maintained at 150 feet.³⁵ This would require approximately 8.8 acres of additional tree clearing compared to the proposed Project.

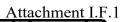
The Constraint Design Segment is in an area characterized by residential development. In order to accommodate the delta configured monopoles, the centerline of the Constraint Design Segment will shift within the existing 235-foot-wide right-of-way approximately 40 feet to the north, bringing proposed Line #588 closer to residences, compared to the Proposed Route, which uses the maintained 150-foot-wide right-of-way. This shift increases the number of dwellings within 500 feet of the centerline by 27, within 250 feet by 22, and within 100 feet by 5.

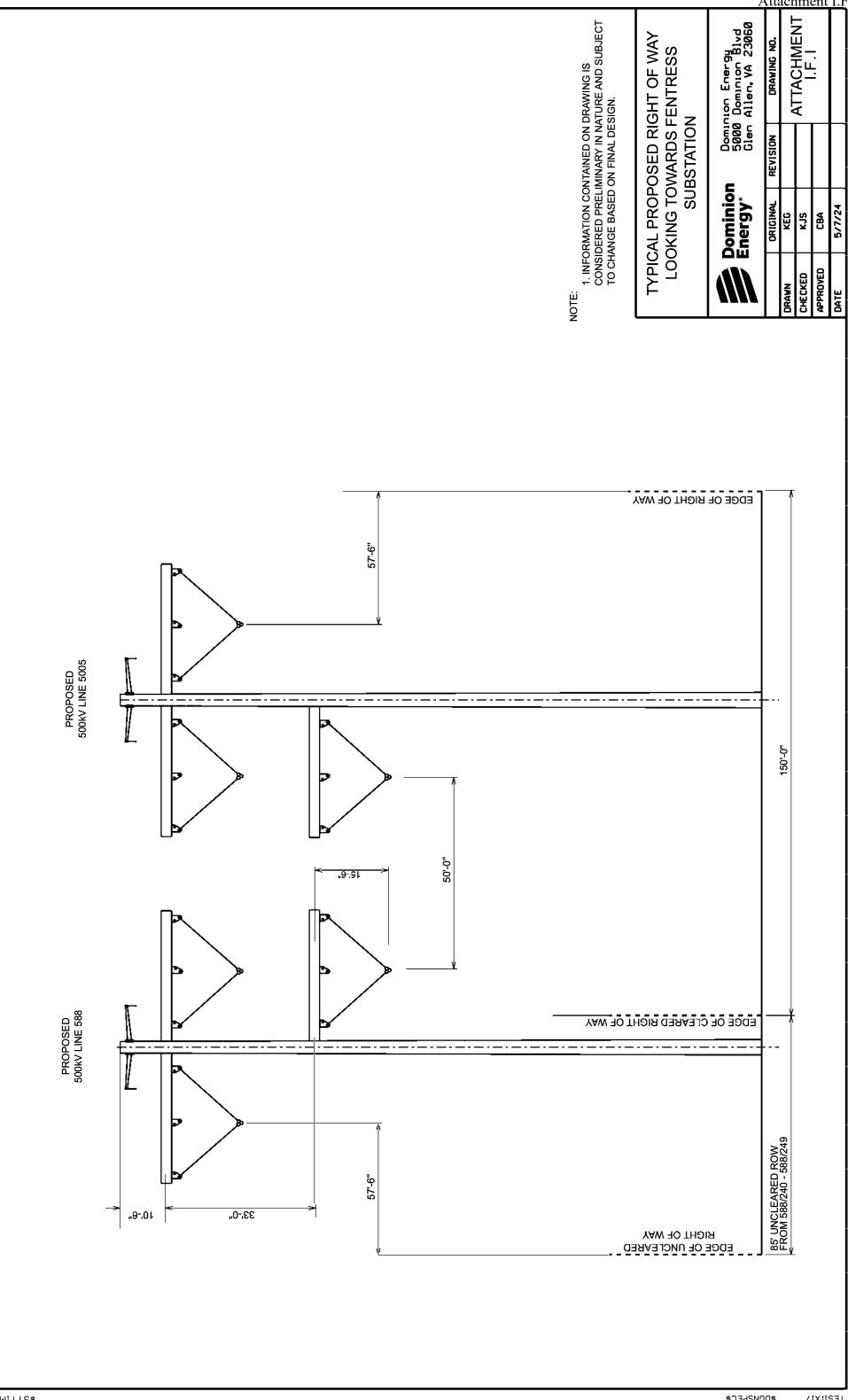
Due to the additional tree clearing and increased proximity to residences that will result from the Constraint Design Segment compared to the proposed Project along the same 1.6-mile segment, the Company supports the Project as proposed, and has identified this design option solely in the event the Company is unable to remove the easement constraints along this segment of the Company's existing right-of-way corridor. To the extent the Company is able to remove the constraints from all or a significant portion of this 1.6-mile segment, the Company will withdraw or submit a revised³⁶ Constraint Design Segment at the appropriate time.

See <u>Attachment I.A.1</u> for a map depicting the location of the Constraint Design Segment; <u>Attachment I.F.1</u> for a typical cross-section drawing of the Constraint Design Segment; <u>Attachment I.F.2</u> and <u>Attachment I.F.3</u> for the structures within the Constraint Design Segment; and <u>Attachment I.F.4</u> and <u>Attachment I.F.5</u> for representative photographs of the structures within the Constraint Design Segment. The Constraint Design Segment structures have a minimum height of 145 feet, a maximum height of 150 feet, and an average height of 147 feet, subject to final engineering design.

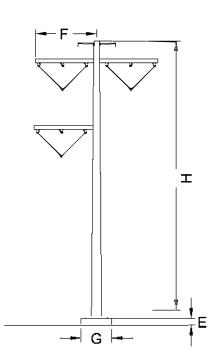
³⁵ As noted previously, for approximately 5.7 miles from the existing Fentress Substation to Structure #588/223, the existing Line #588 right-of-way is 235 feet wide, but is only cleared and maintained at 150 feet. The Constraint Design Segment, which is within the 5.7-mile segment of the Company's existing 235-foot-wide right-of-way, would require clearing of an additional 85 feet of the Company's existing right-of-way for construction, operation, and maintenance of the Constraint Design Segment. To be clear, the Project *as proposed* would not require clearing of the additional 85 feet of existing right-of-way. *See supra*, n. 4.

³⁶ For example, if constraints were removed from a contiguous 1.0-mile portion of the Constraint Design Segment, the Company would submit an updated map similar to <u>Attachment I.A.1</u> that would identify the approximately 0.6-mile Constraint Design Segment.





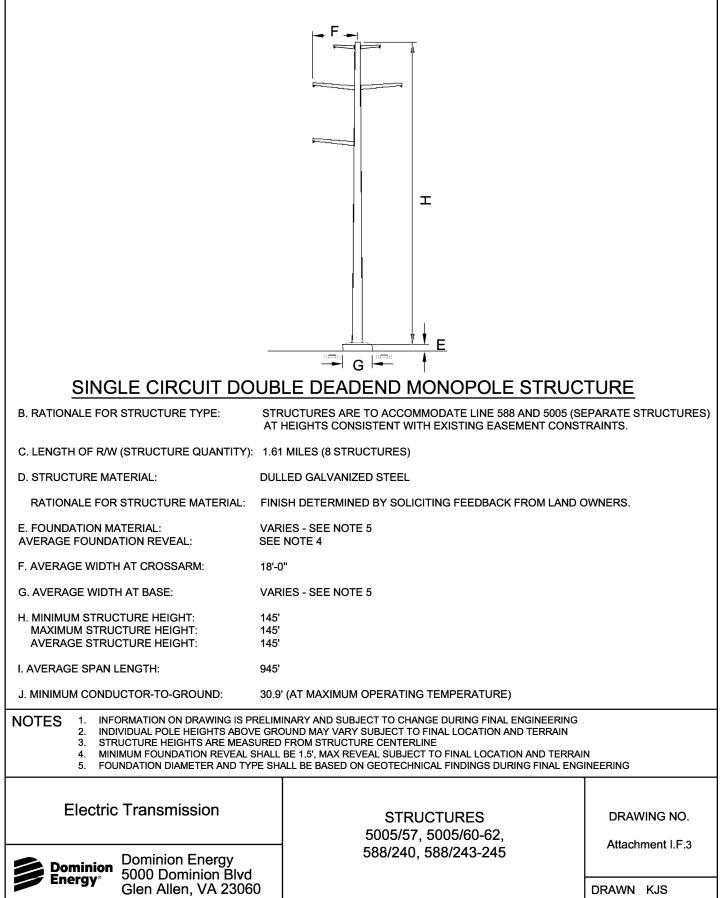
Attachment I.F.2



DOUBLE CIRCUIT SUSPENSION DELTA MONOPOLE STRUCTURE

B. RATIONALE FOR STRUCTURE TYPE:	STRUCTURES ARE TO ACCOMMODATE LINE 588 AND 5005 (SE AT HEIGHTS CONSISTENT WITH EXISTING EASEMENT CONST				
C. LENGTH OF R/W (STRUCTURE QUANTITY):	1.61 MILES (10 STRUCTURES)				
D. STRUCTURE MATERIAL:	DULLED GALVANIZED STEEL				
RATIONALE FOR STRUCTURE MATERIAL:	FINISH DETERMINED BY SOLICITING FEEDBACK FROM LAND O	WNERS.			
E. FOUNDATION MATERIAL: AVERAGE FOUNDATION REVEAL:	VARIES - SEE NOTE 5 SEE NOTE 4				
F. AVERAGE WIDTH AT CROSSARM:	38'-8"				
G. AVERAGE WIDTH AT BASE:	8.5'				
H. MINIMUM STRUCTURE HEIGHT: MAXIMUM STRUCTURE HEIGHT: AVERAGE STRUCTURE HEIGHT:	145' 150' 147'				
I. AVERAGE SPAN LENGTH:	925'				
J. MINIMUM CONDUCTOR-TO-GROUND:	30.9' (AT MAXIMUM OPERATING TEMPERATURE)				
 INFORMATION ON DRAWING IS PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL ENGINEERING INDIVIDUAL POLE HEIGHTS ABOVE GROUND MAY VARY SUBJECT TO FINAL LOCATION AND TERRAIN STRUCTURE HEIGHTS ARE MEASURED FROM STRUCTURE CENTERLINE MINIMUM FOUNDATION REVEAL SHALL BE 1.5', MAX REVEAL SUBJECT TO FINAL LOCATION AND TERRAIN FOUNDATION DIAMETER AND TYPE SHALL BE BASED ON GEOTECHNICAL FINDINGS DURING FINAL ENGINEERING 					
Electric Transmission	STRUCTURES	DRAWING NO. Attachment I.F.2			
Dominion Energy 5000 Dominion Blvd	5005/58-59, 5005/63-65, 588/241-242, 588/246-248				
Glen Allen, VA 23060)	DRAWN KJS			

Attachment I.F.3

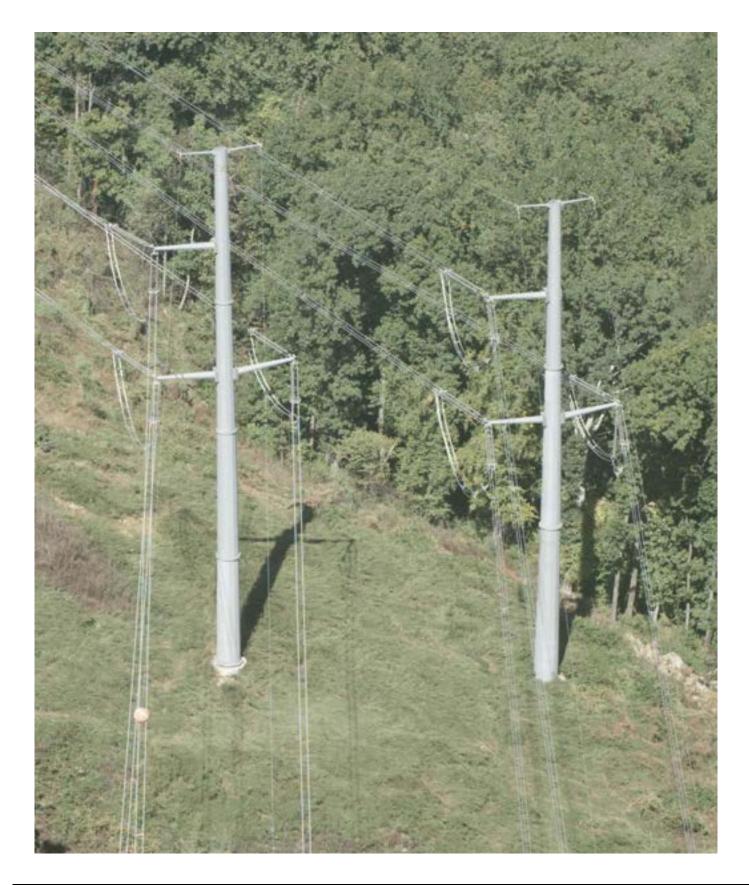




Photograph provided by Dominion Energy



Proposed Structure Type: 500 kV Single Circuit Galvanized Steel Suspension Pole Design Constraint Segment, Delta Configuration *each lower arm would be on the inside of the structure



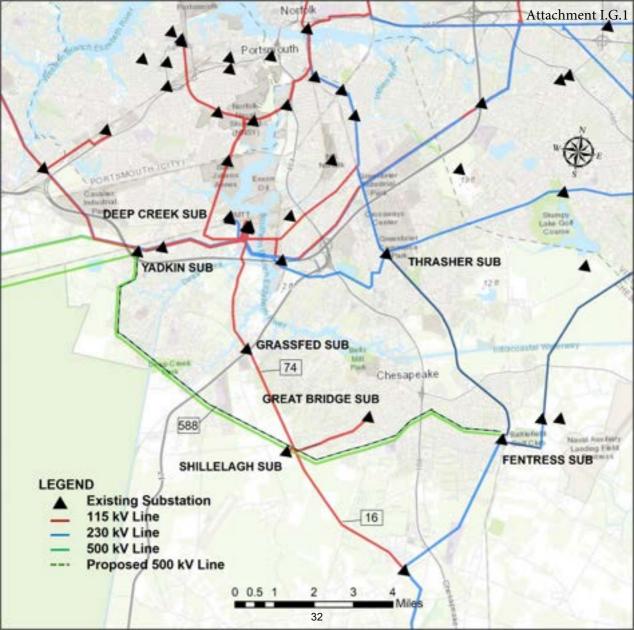
provided by Dominion Energy



Proposed Structure Type: 500 kV Single Circuit Galvanized Steel Double Dead End Pole Design Constraint Segment, Delta Configuration *structure would have two arms on top and one on bottom

G. Provide a system map, in color and of suitable scale, showing the location and voltage of the Applicant's transmission lines, substations, generating facilities, etc., that would affect or be affected by the new transmission line and are relevant to the necessity for the proposed line. Clearly label on this map all points referenced in the necessity statement.

Response: See <u>Attachment I.G.1</u>.



H. Provide the desired in-service date of the proposed project and the estimated construction time.

Response: The desired in-service target date for the proposed Project is January 1, 2027.

The Company estimates it will take approximately 22 months for detailed engineering, materials procurement, permitting, real estate, 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 March 1, 2025. Should the Commission issue a final order by March 1, 2025, the Company estimates that construction should begin in March 2025 and be completed by January 2027. This schedule is contingent upon obtaining the necessary permits and outages, the latter of which may be particularly challenging due to the amount of new load growth, rebuilds, and new builds scheduled to occur in this load area. Dates may need to be adjusted based on permitting delays or design modifications to comply with additional agency requirements identified during the permitting application process, as well as the ability to schedule outages, and unpredictable delays due to labor shortages or materials/supply issues. This schedule also is contingent upon the Company's ability to negotiate land rights.

In addition, the Company is actively monitoring regulatory changes and requirements associated with the NLEB and how they could potentially impact construction timing associated with TOYRs. The USFWS previously indicated that it planned to issue final NLEB guidance to replace the interim guidance by April 1, 2024; the interim guidance has been extended by USFWS until late summer 2024. The Company actively is tracking updates from the USFWS with respect to the final guidance. Once issued, the Company plans to review and follow the final guidance to the extent it applies to the Company's projects. Until the final guidance is issued, the Company will continue following the interim guidance. For projects that may require additional coordination, the Company will coordinate with the USFWS.

The Company is also monitoring potential regulatory changes associated with the potential up-listing of the TCB. On September 14, 2022, the USFWS published the proposed rule to the Federal Register to list the TCB as endangered under the ESA. USFWS recently extended its Final Rule issuance target from September 2023 to September 2024. The Company is actively tracking this ruling and evaluating the effects of potential outcomes on Company projects' permitting, construction, and in-service dates, including electric transmission projects.

In conformance with recent submittals and for purposes of judicial economy, the Company requests that the Commission issue a final order approving both the inservice target date of January 1, 2027, and a CPCN sunset date of January 1, 2028, for the Project.

- I. Provide the estimated total cost of the project as well as total transmissionrelated costs and total substation-related costs. Provide the total estimated cost for each feasible alternative considered. Identify and describe the cost classification (e.g. "conceptual cost," "detailed cost," etc.) for each cost provided.
- Response: The total estimated conceptual cost of the proposed Project along the Proposed Route is approximately \$202.2 million, which includes approximately \$167.9 million for transmission-related work and approximately \$34.3 million for substation-related work (2024 dollars).³⁷

The following is a breakdown of transmission- and substation-related conceptual costs by Project component.

Estimated Transmission-Related Conceptual Costs:

- Line #588 Rebuild: \$85.0 million
- Line #5005: \$82.9 million

Estimated Substation-Related Conceptual Costs:

- Yadkin Substation: \$17.2 million
 - Line #588 Rebuild: \$1.2 million
 - Line #5005: \$16.0 million
- Fentress Substation: \$17.1 million
 - Line #588 Rebuild: \$0.1 million
 - Line #5005: \$17.0 million

³⁷ See supra, n. 9.

J. If the proposed project has been approved by the RTO, provide the line number, regional transmission expansion plan number, cost responsibility assignments, and cost allocation methodology. State whether the proposed project is considered to be a baseline or supplemental project.

Response: Line #588 Rebuild

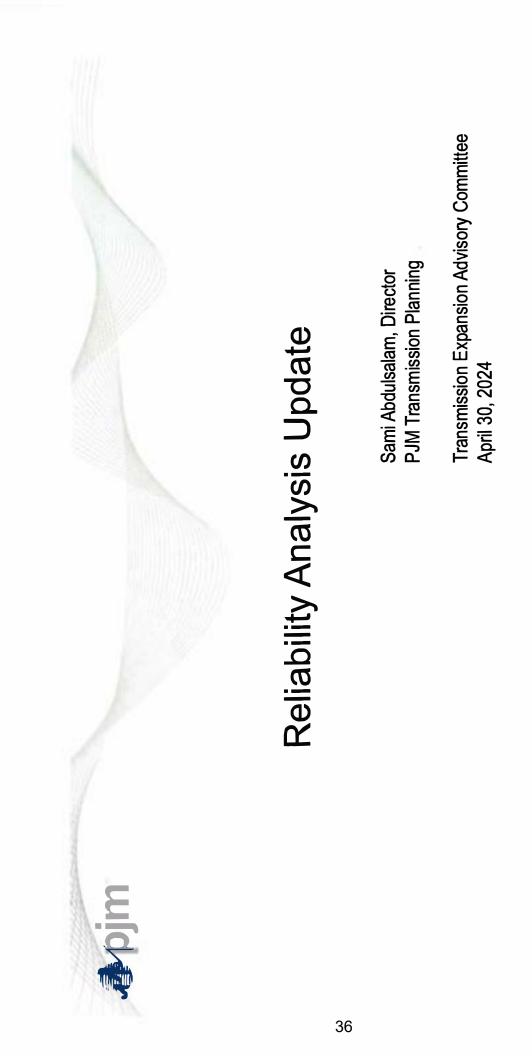
The Line #588 Rebuild was presented to PJM (First Read) as part of the 2023 RTEP Open Window #2 Updates at the April 30, 2024 TEAC Meeting as a baseline reliability project. See <u>Attachment I.J.1</u>. The Second Read was presented at the June 4, 2024 TEAC Meeting. See <u>Attachment I.J.2</u>. PJM has assigned Baseline ID b3850 to the Line #588 Rebuild. The Line #588 Rebuild is presently allocated 100% to the DOM Zone. On August 3, 2018, however, the U.S. Court of Appeals for the District of Columbia held that FERC's approval of PJM's cost allocation method as applied to two other 500 kV rebuild projects, which are similar to the proposed Line #588 Rebuild, was arbitrary and capricious. Specifically, the decision set aside the two FERC orders that approved PJM's cost allocation method and remanded them to FERC for further proceedings. Since PJM's current cost allocation for the proposed Line #588 Rebuild was based on this now set aside allocation method, the Company would expect that the cost allocation for the proposed Line #588 Rebuild likely will change.

Proposed Line #5005

The Company anticipates that PJM will identify additional network upgrades required for the CVOW project, which will include the proposed Line #5005, to successfully integrate the CVOW project with the transmission system.

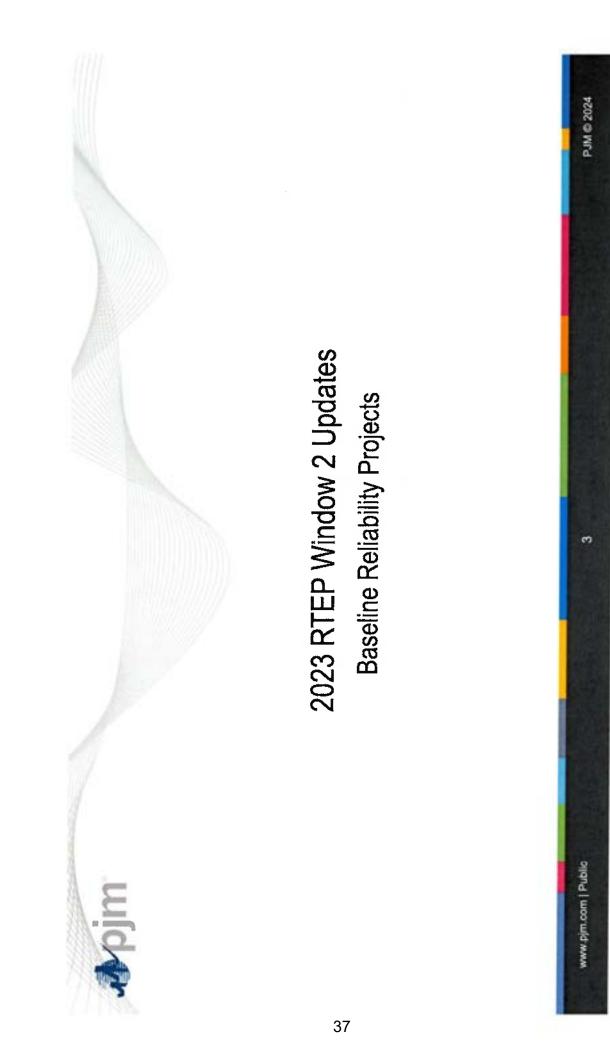
The Customer has requested that Dominion Electric Transmission begin the permitting, engineering and construction of the proposed Line #5005 under an Interim Agreement. By proceeding under the Interim ISA/ICSA, the Customer has agreed to accept 100% Cost Responsibility for the proposed Line #5005, regardless of potential cost allocation possibilities. PJM has assigned Network ID n8492 to Line #5005.

As noted in Section I.A, ultimately, the results from MEPPI's study will be incorporated into the results of the PJM Interconnection Analysis for the CVOW project and any identified requirements will become part of the mandatory network requirements to reliably integrate the CVOW project with the transmission system.



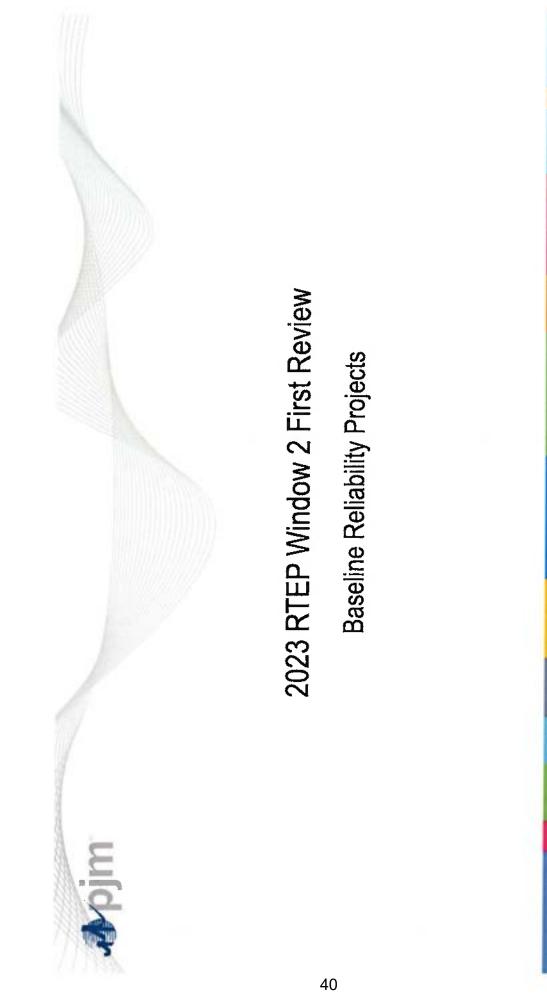
Attachment I.J.1

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2023 RTEP Window 2 – Background ned on March 6 and closed on April 5	g needs:	 500kV line #588 Fentress -Yadkin End of Life (EOL) in Dominion 	ase cases.	PJM © 2024
ned on	Window to address the following needs:	 Thermal issues in PSEG around Hinchmans area 	2022 Window 3 selected solutions are included in the base cases.	4
Jim 2023 Window 2 oper	Winde	 AEP forecasted load growth in the Columbus, Ohio area. 	 2022 Window 3 selected so 	www.pjm.com Public

2023 Window 2 update	n six entities nfield)		Dominion Footprint (EOL): No competing proposals	o \$229.3M	ainment	PJM © 2024
	PJM received 21 proposals from six entities (15 Upgrades and 6 Greenfield)	Three non-incumbents:	PSEG Footprint: 2 x proposing entities	ial costs range from \$0.449M to \$229.3M	Five proposals with cost containment	5
pjm	PJM rece (15		AEP Footprint: 3 x proposing entities	Proposal co	Five	www.pjm.com Public



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Dominion Transmission Zone: Baseline 500kV Line #588 Rebuild (End of Life Criteria)

Process Stage: First Review

Criteria: Dominion's FERC 715 Planning Criteria (C.2.9 – End of Life Criteria) Assumption Reference: FERC 715 Planning Criteria Model Used for Analysis: 2023 Series 2028 RTEP cases

Problem Statement:

- Line #588 is approximately 13.66 miles of 500kV single circuit transmission line from Yadkin to Fentress. It was built on series 5 Corten towers that have been problematic for many years and failen into a pattern where Dominion can expect to return for future maintenance if the line is not rebuilt by the particulation target dates. These structures was installed in
 - rebuilt by the requested target date. These structures were installed in
 1975 and are approaching the end of service life.
- Third party assessment has determined that the towers have corroded to a point where they exhibit pre-mature thinning of structure members and pack-out at joints. If left unaddressed these issues could result in failure of structures and potentially the collapse of the line. (DOM-O1)

Existing Facility Rating: 3397/3426 MVA Summer (Normal/Emergency) 3984/4018 MVA Winter (Normal/Emergency)

Proposed Facility Rating: 4357/4357 MVA Summer (Normal/Emergency) 5155/5155 MVA Winter (Normal/Emergency)

Continued on next slide....

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Dominion Transmission Zone: Baseline 500kV Line #588 Rebuild (End of Life Criteria)

Proposed Solution: Proposal 2023-W2-367:

- Rebuild approximately 13.51 miles of 500 kV line #588 from structure 588/184 inside Yadkin substation to structure 588/254 outside of Fentress substation.
- Line #588 terminal equipment at Yadkin substation will be upgraded to a rating of 5000A. Since the new 500kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated.
 - At Fentress substation, since the new 500kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated.

Estimated Cost: \$79.7 M

Required In-Service: 6/1/2028



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Reliability Analysis Update

Sami Abdulsalam, Director PJM Transmission Planning Transmission Expansion Advisory Committee June 4, 2024 PJM © 2024



2024 RTEP Window 1 Updates Baseline Reliability Projects

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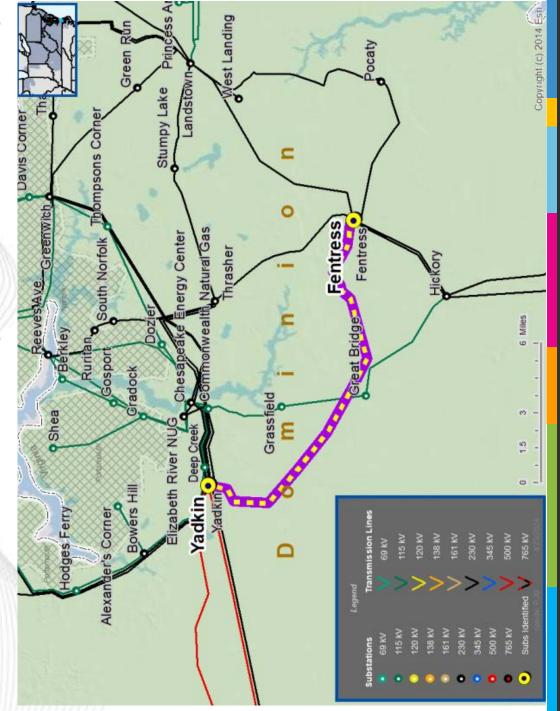


Dominion Transmission Zone: Baseline 500kV Line #588 Rebuild (End of Life Criteria)

Process Stage: First Review

Criteria: Dominion's FERC 715 Planning Criteria (C.2.9 – End of Life Criteria) Assumption Reference: FERC 715 Planning Criteria Model Used for Analysis: 2023 Series 2028 RTEP cases

- Problem Statement:
- Line #588 is approximately 13.66 miles of 500kV single circuit transmission line from Yadkin to Fentress. It was built on series 5 Corten towers that have been problematic for many years and fallen into a pattern where Dominion can expect to return for future maintenance if the line is not rebuilt by the requested target date. These structures were installed in 1975 and are approaching the end of service life.
- Third party assessment has determined that the towers have corroded to a point where they exhibit pre-mature thinning of structure members and pack-out at joints. If left unaddressed these issues could result in failure of structures and potentially the collapse of the line. (DOM-O1)
- Existing Facility Rating: 3397/3426 MVA Summer (Normal/Emergency)
 3984/4018 MVA Winter (Normal/Emergency)
 Proposed Facility Rating: 4357/4357 MVA Summer (Normal/Emergency)
 5155/5155 MVA Winter (Normal/Emergency)
 Continued on next slide....



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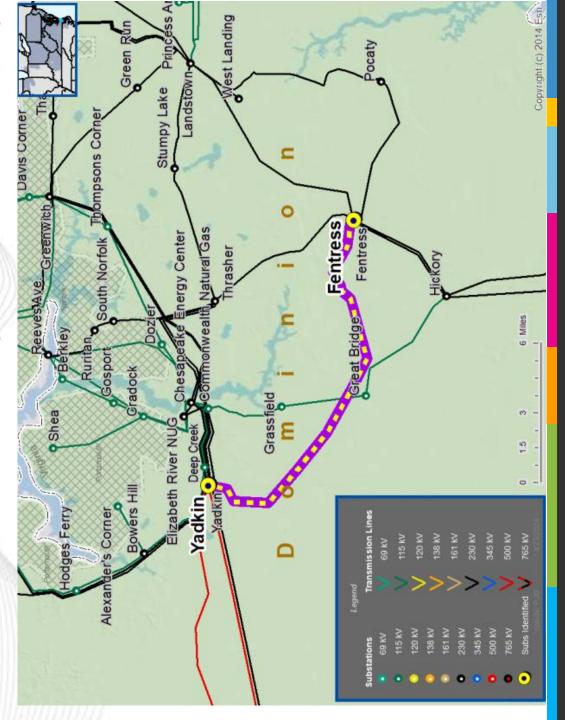
Dominion Transmission Zone: Baseline 500kV Line #588 Rebuild (End of Life Criteria)

PJM Recommended Solution: Proposal 2023-W2-367:

- Rebuild approximately 13.51 miles of 500 kV line #588 from structure 588/184 inside Yadkin substation to structure 588/254 outside of Fentress substation. (b3850.1)
- Line #588 terminal equipment at Yadkin substation will be upgraded to a rating of 5000A. Since the new 500kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated.
 (b3850.2)
- At Fentress substation, since the new 500kV line will be using fiber, the wave trap will be removed and the line protection scheme will be updated. (b3850.3)

Estimated Cost: \$79.7 M

Required In-Service: 6/1/2028



K. If the need for the proposed project is due in part to reliability issues and the proposed project is a rebuild of an existing transmission line(s), provide five years of outage history for the line(s), including for each outage the cause, duration and number of customers affected. Include a summary of the average annual number and duration of outages. Provide the average annual number and duration of outages on all Applicant circuits of the same voltage, as well as the total number of such circuits. In addition to outage history, provide five years of maintenance history on the line(s) to be rebuilt including a description of the work performed as well as the cost to complete the maintenance. Describe any system work already undertaken to address this outage history.

Response: Not applicable. See Section I.A.

- L. If the need for the proposed project is due in part to deterioration of structures and associated equipment, provide representative photographs and inspection records detailing their condition.
- Response: The proposed Line #588 Rebuild will replace aging infrastructure that is approaching the end of its service life. See <u>Attachment I.L.1</u> for an overview of the rebuild, representative pictures of the deterioration of structures supporting Line #588, and non-structural related outstanding notifications. See also <u>Attachment I.L.2</u> for the Transmission Specification Book containing the COR-TEN[®] Tower Monitoring Program for Line #588 Yadkin to Fentress and <u>Attachment I.L.3</u> for Weathering Steel Tower Inspection/Rehabilitation Data Sheets.

Fentress-Yadkin Line #588

TL588 Summary:

Located between Fentress and Yadkin Substations, Line #588 is at its end of service life. Originally constructed in 1975, TL588 was installed on weathering (COR-TEN®) steel lattice towers. Industry guidelines indicate TL588 towers are at its end of serviceable life. Rebuild project 993107 has been initiated to assure Dominion Energy Virginia can maintain and improve reliable electric service to customers served by TL588. The proposed Rebuild Project will remove aging infrastructure, which the Company has determined is no longer cost-effective to continue to repair and replace on an individual basis and replace it with current 500 kV construction standards.

EOL Project:

Currently, rebuild project 993107 is established and has a target completion date of January 1, 2027.

Right-of-ways:

Portions of Line #588 passes through densely populated residential areas and crosses three major roadways. Crossings include: VA State Route 168 (Chesapeake Expressway), Route 17 (George Washington Hwy), and Interstate 64 (Hampton Roads Beltway). Right-of-way width varies from 150 feet to 235 feet in various locations.

<u>TL588</u> ~195' ROW between Strs. 185-197 ~150' ROW between Strs. 197-223 ~235' ROW between Strs. 223-256

Operation History:

Line #588 has experienced 2-line operations in the past 15 yrs. One being avian disturbance and the other being a weather-related event.

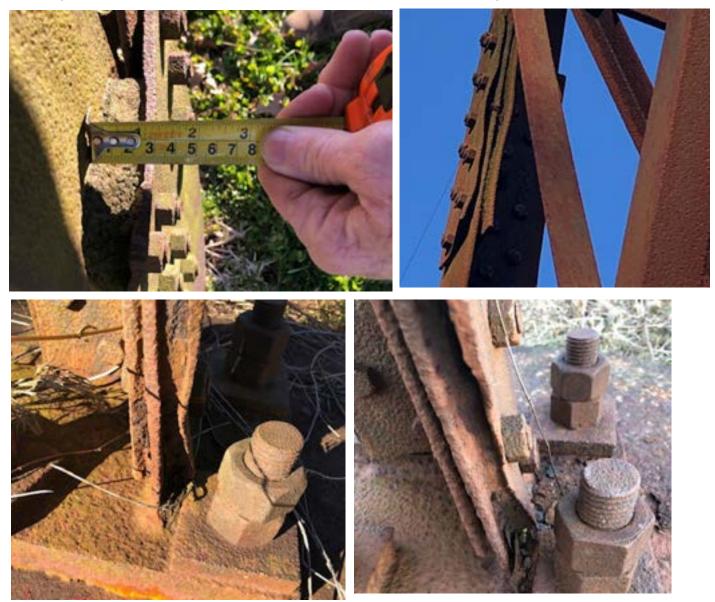
Short Desc.	# Events	Long Desc.
Avian Disturbance	1	Bird Streamer/Bird Contact
Weather	1	1 Lightning

Summary of 15 yr. Operational History

TL588 Maintenance Activity:

Extensive rehab was conducted in 2021 under project 58408v71. Rehabbing COR-TEN® lines on a 12 year cycle. Currently there are a total of twelve (12) structure-related open notifications (approximately %17 of structures).

Severe Packout to Leg Members (Strs. 186, 192, 193, 197, 198, 202, 203, 205, 207, 216, 217, 218, 220, 226)





Bent Members (Strs. 196, 237)





Corrosion and Member Thinning (Strs. 197, 222, 227, 229, 237)







Non Structural Related Outstanding Notifications

	OUTSTANDING NOTIFICATIONS - LINE 588										
LINE/STR	CAUSE GROUP	CAUSE CODE	CAUSE TEXT								
588/185	Insulator Conductor	Cotter Key-BO=Backed Out, M=Mi	BO. 100 ft bucket								
588/204	Insulator Conductor	Cond Insulator- Other=	Chipped on v string								
588/205	Insulator Conductor	Cond Insulator- Other=	Chipped on v string								
588/209	Insulator Conductor	Contaminated	Insulator contamination right								
588/209	Insulator Conductor	Wire Position L,M,R,T,B	R								
588/213	Insulator Static	Broken- L=Leave, R=Replace	Right static chip								
588/213	Insulator Static	Wire Position L,M,R,T,B	R								
588/229	Right of Way	Encroachment:	Trailer under structure								
588/230	Insulator Conductor	Broken- L=Leave, R=Replace	Broken insulator center phase								
588/230	Insulator Conductor	Wire Position L,M,R,T,B	Μ								
588/232	Insulator Conductor	Broken- L=Leave, R=Replace	Chip left								
588/232	Insulator Conductor	Wire Position L,M,R,T,B	L								
588/244	Insulator Static	Flashed	Flash left static								
588/244	Insulator Static	Wire Position L,M,R,T,B	L								
588/253	Structure	Leg Number= 1,2,3,or4	Asset tag incorrect								
588/256	Conductor	Conductor Other =	Bolt possibly missing from connection.								

Attachment I.L.2

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			face B					المراجع	
		fac	е А		Ahea	d Substation:	FENTRESS		
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			ick				03-22-		
			undline Insp						
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	7	<u> </u>	d	312X1	<i>R</i>	ρ			
	8	<u> </u>	Bd	311 X2	K) •			
	9	<u>P</u>	<u> </u>	312XL		R			
	10	. C	<u>d</u>	313 X 1	/	RP			
	11	C	d	315 X 1	1	RP			
	12	C	A	307×1	K K	?P			
	13	<u> </u>	Bd	231 × 2	/	SP		* ·	
	14	C	Bd	231 RX2		?P			
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Leg 4	C	Good	VG	Γ'ρ	foundation		FR	
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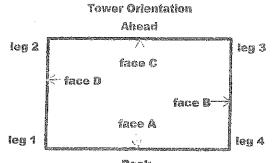
Other

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Date: <u>2/15/21</u> Foreman: <u>GREG ViA</u>

___ Company: LEMYRS



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Structure No:	188	

Structure Type: 577A+25

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Action Code: P: Applied Leg Coating B: Baseshoe Replaced LF: Left as Found In Lieu of Measurements - VG: Visually Inspected - Good

FR: Foundation Repaired

Tower Inspection

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,		ů: Offer		GREG	V. 74 58	LEMYERS		

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2

Line Number: <u>588</u>

Structure No: _____/ 88_____

Page 2 of 2

Tower Inspection

	<u></u>	Damage	Face	Member	Corrective Action	Remark
	1	С	Ba	171122	RP	BP-GW-NB
	2	P	A	1701×1	R	
	3	C	d	13×2×1	RP	
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Dam	age Code	3	Corrective A	ction Code	Remark Code:	/~
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C:	Cracke	d	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM:	Thin Me	ember			NB: New Bolts	FP: Flipped /Straightened Plates
O:): Öther					

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			- ·		inspection/	Rehabilitat	ion Data Si	leet .	
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r			ack						
<u></u>			undline Inspe	ction		Date: 01-19-21			
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I		Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code	
Le	g 1	<u>×</u>	VG	VG_	P	book for	1	FR	
Le	g 2		VG	VG	Ρ	explanation of	1	FR	
Le	g 3		VG	VG	P	foundation	1	FR	
	g 4	V	VG	\sqrt{G}	P.	codes	1	ER	
L		P: Applied 1	in and the second second	the second s	leplaced LF: I	eff as Found		FR: Foundation Repaired	
*****					Inspected - Go				
				-	ower inspectio				
Step B	oit Cli	ps Added:	V.	Yes	No		Quantity:	24	
		Damage	Face	Member	Correctiv			Remark	
1	2	C	ΑD	638X2	PDRP	-NR-GU	<u> </u>	*	
	2		AR	635x2	PD BD	MP C-L1			
		<u> </u>	and down of the second s	1 - 0 / 0	20 20	V0-GU			
[BD	633×2	NF-07-7	VDYGW			
	\$			632X	0000				
	5	<u> </u>	<u> </u>	207X)	KY-BP	NB-(-4/			
. 6	3	<u>P</u>	D	20721	BP-N	B-GW	· · · · · · · · · · · · · · · · · · ·	· · ·	
7	7	CR	ABCD	208RX3	KP-BP	-NB-GW			
8	3	CR	ABCD	208LX4	RP-RP-	NB Gu/			
9	•	\mathcal{O}	BD	142×3		-NB-GW		· · ·	
1	0	CR	AC	12924		VB-GW			
1	-	CR	AC	128X2	RP_RO	NB-GW	·····		
1					DDINA	-BP-GW		aa	
· · · · ·		CR.	A	127×2	DDLM	1 - 1 - 1 - 1			
1		<u>7</u> 	<u> </u>	127x2					
1		<u> </u>	M	126X1	والمستعلم والمستعد والمستحد والم	3-GW	····	- 	
1	5	<u> </u>	ζ	122×2	RP-NB-			*	
1	6	2)	41×1	BP-NB	-GW	i		
1		MB	C.	GGX)	R-NB			· · · · · · · · · · · · · · · · · · ·	
Damag		the second s	Corrective Ad		Remark Code:				
		y Bolt	R: Repaired		G: Grounded			Lower Step Bolts	
B: C: (Bent Cracks	and the second se	RP: Replace LF: Left as		BP: Beat Pack GW: Applied (ger/Aerial/Number Signs Package Per Specs	
		ember			NB: New Bolt			baightened Plates	
	Other	· · · · · · · · · · · · · · · · · · ·							
				المستخدمين			- 	1	
Date:	1-	18-2021	Foreman:	Michae			Company: _	LEMYERS	
					60				

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	Base	2	
Structure No:	189	and the set	•
Line Number:	588		

1 2 3 4 5 6 7 8 9 10 11 12 13	Damage P P MB P MB	Face BD B B D B B	Member 102X2 111X1 118X1 16X1 16X1 140X1 154AX1	BP-1 BP-1	B-GW	Remark
2 3 4 5 6 7 8 9 10 11 12 13	р р mв р	8 8 D 8	111X) 118X 16X 140X	BP-1 BP-N R-NB BP-NB	<u>VB-GU/</u> <u>B-GU/</u> S-GW	
3 4 5 6 7 8 9 10 11 12 13	р mв P	D D B	118X 16X1 140X1	BP-1 BP-N R-NB BP-NB	<u>VB-GU/</u> <u>B-GU/</u> S-GW	
4 5 6 7 8 9 10 11 11 12 13	mb P	D B	16X1 140X1	BP-N R-NB BP-NB	<u>8-G4/</u> 3 1-GW	
5 6 7 8 9 10 11 12 13	ρ		140X1	R-NB BP-NB	3 3-GW	
6 7 8 9 10 11 12 13	р <i>МВ</i>		140X1 154AX1	BP-Ne	B-GW	
7 8 9 10 11 12 13 13 13	<i>m</i> 8		154AX[R-N8		
8 9 10 11 12 13						
9 10 11 12 13						
10 11 12 13						
11 12 13		·				
12 13		· · · · · · · · · · · · · · · · · · ·				
13				1		
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26						
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30						
Damage Code		Corrective A	ction Code	Remark Co	de:	· · · · · · · · · · · · · · · · · · ·
MB: Missing	Bolt	R: Repaired		G: Ground	ed Str	RS: Removed Lower Step Bolts
B: Bent		RP: Replace	d	BP: Beat P	ackout	NS: New Danger/Aerial/Number Signs
C: Cracked		LF: Left as	Found	GW: Applie	d Greywax	IP: Installed Package Per Specs
TM: Thin Mem	ber			NB: New B	olts	FP: Flipped /Straightened Plates
O: Other						

	Wea	thering St	eel Tower i	nspection/f	Rehabilitati	on Data St	leet .
	Tower Or		omplete C			~	
	Ah	xadi 🔍			Line Namber:		
ieg 2		N.	leg 3		Stracture No:		<u> </u>
	fac	e C	Inspe	ction se	nicture Tvie:	5LT+1	20'BE+40'LE
F	face D	.	Triol		k Substation:	VAD	KIN
		face B	1		d Substation:		TRESS
Ton #		e A	leg 4	241420	······································		· · ·
leg 1	and the second	ck					n Inspection
<u> </u>	Gro	undlîne Inspe	ction		Date:	04-27	
Savera	Corrosion		surements		Foremans	Allen	Rundgren
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
l on t		VG	VG	P	book for	T	FR
Leg 1		VG	<u></u>	ρ	explanation	1	FR
Leg 2			VG VG	D	of foundation	1	FR
Leg 3		VG_		<u> </u>	codes	1	FR
Leg 4		1/G	VG				FR: Foundation Rep
Action Code	Pr Applied 1	eg Coating - 1 assurements -	s: Basesnoe k . VG: Visually	Inspected - Go	ođ		
	in Lieu or un			ower isspectio			
	B.d.d.a.d.	1/	Yes	No		Quantity:	66
Step Bolt Ci	1		Member		re Action		Remark
	Damage	Face					
1	MB_	B	63X/	R-NR	Cil		
2	<u> </u>	A	<u>36NEARXI</u>	BP-NB-			
. 3	P	⊢A	3)NEARXI	Kr-NB	<u>-Gu</u>		A
4			37FARX 1	BY-NB	-(-4)	<u> </u>	·
5	<u> </u>		36FARX 1	BP-NB-	<u>(5/1)</u>	 	
6	Ρ		82RX1	BP-NB.			waa
7	<u> </u>	BD_	10x2	RP-NB-			
8	P	BD	1/X2	BP-NB		<u> </u>	
9	P	BD	22222	BP.NB		_	
10	P	AC	219×4	BP-NB			•• •••••••••••••••••••••••••••••••••••
	TM-B	ABCD	220224	RP-BP-N	B-GW	<u></u>	x
12		N.	217×1	RP-8P-A	1B-GW		-
13	Α	A	217×1	BP-NB			
14		R	235X1	RP-BP-N			
15		BD	277×4	BP-NB			
	- F P	AC	274×4	BP-NB		T	
16	1 5		259VI		B-GW		
17 Damage Co		Corrective /		Remark Code			
-	ing Bolt	R: Repaire		G: Grounded		and the second se	ed Lower Step Bolts
B: Ben	the second s	RP: Replac		BP: Beat Pa			anger/Aerial/Number S d Package Per Specs
Ç: Grac		LF: Lefta	s Found	GW: Applied	and the second	1	d Package per Specs /Straightened Plates
	Blowbolt	1		NB: New Bo	115	tere entres	A CARDON CONTRACTOR OF STREET
Thi: Thin O: Other				1	والمتحدثية والمتحدية والمحد		

Line Number:

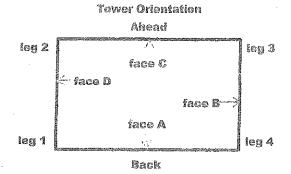
588

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Structure No:

of 2 Page _ 2

				T	ower Inspection	·····		
		Damage	Face	Member	Corrective Action	Remark		
	1	TM	AC	256Rx2	RP.BP. NB-GW	-		
	2	TM	AC	ascixa	RP-BP-NB-GW			
	3	C	B	2CTLX1	RP-BP-NB-GW			
	4	ρ	D	270×1	BP-NB-GW			
	5	ρ	B	273X 1	BP-NB-GW	·		
•••	6	P	BD_	755×4	BP-NB-GW			
	7	P	AC	75224	BP-NB-GW			
	8	P	BD	756X4	BP-NB-GW			
	9	ρ	AC	753X4	BP-IVB-GW			
	10	P.	8D	757×4	BP-NB-GW			
	11	ବ	AL	754×4	BP-NB-GW			
	12	C	Ď	776×1	RP-BP-NB-GW			
	13	ρ	BD	777×2	BP-NB-GW			
	14	Q	A	764×1	BP.NB-GW	·		
	15	C	C	764X1	RP-BP-NB-GW			
	16	C	BO	782X2	RP-BP-NB-GW			
	17	TM	A	279×1	RP-BP-NB-GU			
	18	P	Ċ	279×1	BP-NB-GW			
	19	Ó	A	Leg 4Grour	a G			
·	20	0	ABCD	High Voltage Signas	NS			
	21	0	B	structure	NS			
	22		<u> </u>					
	23							
	24	· · · · · · · · · · · · · · · · · · ·		·				
	25				· · · · · · · · · · · · · · · · · · ·			
	26				· · · · · · · · · · · · · · · · · · ·			
	27	· · · · · · · · · · · · · · · · · · ·				······································		
	28		+	<u> </u>		· · · · · · · · · · · · · · · · · · ·		
	29		1		· · · · · · · · · · · · · · · · · · ·			
	30				· · · · · · · · · · · · · · · · · · ·			
Dam	age Code	L e	Corrective A	ction Code	Remark Code:	la		
MB:		g Boit	R: Repaired		G: Grounded Str	RS: Removed Lower Step Bolts		
B:	Bent	<u> </u>	RP: Replace		BP: Beat Packout	NS: New Danger/Aerial/Number Signs		
 C;	Cracke	ed	LF: Left as		GW: Applied Greywax	IP: Installed Package Per Specs		
TM:					NB: New Bolts	FP: Flipped /Straightened Plates		
0:				<u></u>				
	U LIIGI		<u> </u>		I	L <u></u>		



Line Number 588Structure No: 191

Structure Type: <u>50E+20'</u>

Groundline Inspection Poundation Inspection Foreman: A. Rundquen **Severe Corrosion** Date: 02-03-21 **Steel Measurements** Yes No See spec Reading 1 Reading 2 Action Code Action Code Fnd Code book for Leg 1 P FR 1 explanation Leg 2 ρ 8 mm 2 FR of Leg 3 P 1 foundation FR Leg 4 Good VG 1 -P codes

Action Code: P: Applied Leg Coating B: Baseshoe Replaced LF: Left as Found In Lieu of Measurements - VG: Visually Inspected - Good

FR: Foundation Repaired

, 			and and the second s	andan-ayan gerdennya Antala-ananadadar	Tower Inspection			
Step	Bolt Cli	ips Added:	V	Yes	No	Quantity: 15		
	Contraction of the second s	Damage	Face Member		Corrective Action	Renark		
81-75-262-477-472- 6 2	1	C		118×2	R P	BP - GW - NB		
informitief response	2	ρ	Bd	132 X 3	R			
mballing/420 mproors	3	ρ	L d	134×1	R			
an ann an t-ann an t-	4	C.	C	115×2	R P	anna a fa airstain an ann an ann ann an ann ann an ann an a		
	5	C	I C	//3 X /	R P	(19/2016/20, 09/29), Mainton (19 4), 2012, 2012, 2012, 2014, 2017, 201		
	6	Ρ	Bà	133X2	Received the second	£. daamaa gamaa aanaa ayaana waxaa kaanaa waxaa kaanaa kaanaa kaanaa kaanaa kaanaa kaanaa kaanaa kaanaa kaanaa k		
	7	. <i>C</i>		133×1	L RP			
	8	C	B	134×1	R P	антан жана интернали интернали и кала торото <u>сатор и торото тако</u> и торото тако торото и т		
1	9	C	l & d	527×2	R P			
1	10	C	A	529×1	R P	V) Promoti Service Section (2019) Production (2019) defaultion (2017) Section (2019) Section (201 Section (2019) Section (2		
1	8-9	C	AB	530 x 2	RP			
1	12	С	L_d_	287X1	References and the second states and the second st			
1	13	C	h l	151×1	to <u>potencial de promisional con compositional de propision por conservation de propision de pro</u>			
1	14	Ċ	A	12741	RP	ระสาขานกระบาที่สุด (สาราสสาขาราชาวาทราชสาขสาขาราชาวาทราชาวาทราชาวาทราชาวาทราชาวาทราชาวาทราชาวาทราชาวาทราช ราชา สาขาวทาง		
1	5	C	d	127 × 1	R P	алан са 2017) 2018 ж. Балан тари 2012 года са села села села села села села села		
1	6	C	d	24MX1	R P	nnn fe forsen in fer fan de fernen en in ferfer fen in fan fer fer in fer		
1	7	C	d	19 ^A X 1	references, exception and the second s	אין איז		
1	8	C	à	19× 1	R P	ᲣᲚᲜᲐ ᲐᲡᲐᲗᲐᲣᲐ ᲐᲦᲡ ᲛᲐᲗᲐᲚᲐᲡ ᲐᲜᲐ ᲐᲮᲐᲚᲐᲡ ᲐᲜᲐᲗᲐᲡᲐᲗᲐᲡ ᲐᲜᲐᲗᲐᲡᲐᲗᲐᲡ ᲐᲜᲐᲗᲐᲡ ᲐᲡᲐᲡ ᲐᲜᲐᲡ ᲐᲜ		
amag	jo Code		Corrective	Action Code	Remark Code:	алан байлан алан талан талан талан байлан талан тал Талан талан тала		
B	and a second barrier of the second		R: Repair	ed	G: Grounded Str	RS: Removed Lower Step Bolts		
	Bent		RP: Repla		BP: Beat Packout	NS: New Danger/Acrial/Number Sign		
	Cracker		LF: Loft a	s Found	GW: Applied Greywax	IP: Installed Package Per Specs		
	Thin Me	and the second se	a a succession of the		NB: New Bolts	FP: Flipped /Straightened Plates		
1/12	:koue [21	O: Other		GRÉG	VíA	LEMYERS		

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		Wea	athering St	teel Tower	Inspection/	Rehabilitati	ion Data Sl	heet
		Tower O	rientation					
		Ah	ead			Line Number:	<u></u> 588	3
Ī	eg 2 「	,	<u>Λ</u>	leg 3		Structure No:	192	
		fac	e C					7
	K	- face D			SI	tructure Type:	567+3	5 hE
			face B	<u>``</u> ,	Bac	k Substation:	YAd K.	1
		fac	e A		Ahea	d Substation:	FENTR	ESS
1	eg 1		V	leg 4		£	<u></u>	
		Ba	ick				Foundation	
		Gro	undline Inspe	ection			04-27	
S	evere	Corrosion	Steel Mea	surements		Foreman:	Allen	Rundgien
		Yes No	Reading 1	Reading 2	Action Code		Fnd Code	Action Code
L	eg 1				ρ	book for	1	FR
L	eg 2		T		ρ	explanation	2	FR
L	eg 3				ρ	of foundation	2	FR
L	eg 4		Good	YG	ρ	codes	1	FR
		P: Applied A		iseshoe Repla	ced LE: Lef	t as Found	FP: Foundatio	
				=	Inspected - Ga			n ropaned
				-	ower inspectio		e ser ser ser e	
Ston	Bolt Cl	ips Added:		Yes	No		Quantity:	Ala and the second s
		po Huuou					waancityi	
		Damage	Face	Member	Correctiv	e Action		Remark
	1	Damage					BP -	Remark
		Damage	A	65 × 1	R	P	BP -	Remark Gw - NB
	2	mp P	A Bd	65 x 1 10 x 2	R R	P	BP -	
	2 3	mp P P	A Bd Bd	65 X 1 10 X 2 11 X 2	R	P	BP -	
	2 3 4	mp P P	A Bd Bd A	65 X 1 10 X 2 11 X 2 64 X 1	R R R K	P	BP -	
	2 3 4 5	mβ P P P	A Bd Bd	65 X 1 10 X 2 11 X 2	R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4	mp P P P P	A Bd Bd A	65 X 1 10 X 2 11 X 2 64 X 1	R R R K K	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5	mβ P P P	A Bd Bd A Bd	65 ² 10×2 11×2 64 ² ×1 222×2	R R R K	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6	mp P P P P P P	A Bd Bd A Bd AC	65 X (10 X 2 11 X 2 64 X 1 222 X 2 38 X 4	R R R K K	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7	т <u>в</u> Р Р Р Р	A Bd Bd A Bd Ac Ac Bd	65 x (10 x 2 11 x 2 64 x 1 222 x 2 38 x 4 219 x 4 236 x 4 236 x 4	R R R K K K	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8	mp P P P P P P	A Bd A Bd A A A C B A C B A	65 ² X (10 X Q 11 X Q 64 ⁷ X 1 222 X Q 38 X 4 219 X 4 236 X 4 733 X 4	R R R K K R R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9	mp P P P P P P P	A Bd Bd A Bd AC AC Bd AC Bd	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 219 × 4 236 × 4 733 × 4 733 × 4	R R R R K R R R R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9 10	mb P P P P P P P	A Bd Bd A Bd AC AC Bd AC Bd AC	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 219 × 4 236 × 4 733 × 4 733 × 4 734 × 4 734 × 4 734 × 4	R R R R R R R R R R R R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9 10 11	MB P P P P P P P P P	A Bd Bd A Bd AC AC Bd AC Bd AC Bd	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 219 × 4 236 × 4 733 × 4 733 × 4 734 × 4 734 × 4 734 × 4 704 × 2	R R R R K R R R R R R R R R R		· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9 10 11 12 13	mp P P P P P P P	A Bd Bd A Bd AC AC Bd AC Bd AC	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 219 × 4 236 × 4 733 × 4 733 × 4 733 × 4 734 × 4 734 × 4 734 × 4 704 × 2 704 × 2	R R R R R R R R R R R R R R R R R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9 10 11 12 13 14	MB P P P P P P P P	A Bd Bd A Bd AC AC Bd AC Bd AC Bd AC d	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 238 × 4 236 × 4 236 × 4 733 × 4 733 × 4 734 × 4 704 × 2 704 × 2 704 × 2 704 × 2 704 × 1	R R R R R R R R R R R R R R R R R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9 10 11 12 13 14 15	mp P P P P P P P P P C C C	A Bd Bd A Bd AC Bd AC Bd AC Bd AC A A	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 219 × 4 236 × 4 733 × 4 733 × 4 734 × 4 704 × 2 704 × 2 704 × 2 704 × 1 718 × 2	R R R R R R R R R R R R R R R R R R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	MB P P P P P P P P P C C C C	A Bd Bd A Bd AC AC Bd AC Bd AC Bd AC d	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 238 × 4 238 × 4 238 × 4 236 × 4 733 × 4 733 × 4 733 × 4 734 × 4 704 × 2 707 × 2 712 × 2 718 × 2 714 × 1	R R R R R R R R R R R R R R R R R R	P	· · · · · · · · · · · · · · · · · · ·	
	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	mp P P P P P P P P P C C C P P	A Bd Bd A Bd AC AC Bd AC Bd AC Bd AC A C	65 × 1 10 × 2 11 × 2 64 × 1 222 × 2 38 × 4 238 × 4	R R R R R R R R R R R R R R R R R R R	ρ 	· · · · · · · · · · · · · · · · · · ·	
Dama	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 age Cod	mp P P P P P P P P P C C C C P P	A Bd Bd A Bd AC Bd AC Bd AC Bd AC Bd AC Corrective A	65 ² X (10 X Q 11 X Q 64 ⁷ X 1 222 X Q 38 X 4 238	R R R R R R R R R R R R R R R R R R R	P		Guu - NB
Dama MB:	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 ige Cod Missin	mg P	A Bd Bd A Bd AC AC Bd AC Bd AC Bd AC Bd AC Corrective A R: Repaired	65 X (10 X Q 11 X Q 64 X 1 222 X Q 38 X 4 238 X 4	R R R R R R R R R R R R R R R R R R R	<i>β</i>	RS: Removed	Guu - NB
	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 age Cod	$ \begin{array}{c} m_{\mathcal{B}} \\ P \\ P$	A B B B B A B A C B A C B A C B A C C Corrective A R: Repaired RP: Replace	65_{X} (10_{X} g 11_{X} g 47_{X} (24_{X} (38_{X} 4 38_{X} 4 38_{X} 4 319_{X} 4 336_{X} 4 733_{X} 4 733_{X} 4 704_{X} 9 704_{X} 9 712_{X} 8 724_{X} 1 718_{X} 8 714_{X} 1 713_{X} 1	R R R R R R R R R R R R R R R R R R R	<i>β β</i>	RS: Removed NS: New Dan	Guu - NB
Dama MB: B:	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 16 17 16 17 16 17 16 Eent Crack	$ \begin{array}{c} m_{\mathcal{B}} \\ P \\ P$	A B B B B A B A C B A C B A C B A C C Corrective A R: Repaired RP: Replace	65_{X} (10_{X} a 11_{X} a 47_{X} c 24_{X} c 38_{X} c $38_{$	R R R R R R R R R R R R R R R R R R R	<i>P P P P P P P P P P P P P Str</i> kout Greywax	RS: Removed NS: New Dan IP: Installed	Guu - NB

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Date: $\frac{3/31/21}{21}$ Foreman: $\frac{GRE_{g}}{VA}$

Company: LEMYRES

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Line Number: _____588_____

Structure No: ______

Page <u>2</u> of <u>2</u>

Tower Inspection

1		Damage	Face	Member	Corrective Action	Remark
	1	C	d	729×1	RP	BP - GW - NB
	2	Tim	ABED	220x16	RP	
	3	Tm	d	NS	RP	
	4					
	5					
	6					
	7					
	8					
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	27					
	28					
	29					Climbing Inspection
	30					Climbing Inspection Complete
Dam	age Cod	3	Corrective	Action Code	Remark Code:	/
MB:	Missin	g Bolt	R: Repai	red	G: Grounded Str	RS: Removed Lower Step Bolts
B:	Bent		RP: Repl	aced	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
C;	Cracke	d	LF: Left	as Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM:	Thin M	ember			NB: New Bolts	FP: Flipped /Straightened Plates
0:	Other			ىرىيى بولىغۇ ئىلىرىكى ئىلىغى ئىلى	whitesever	

		Tower O	rientation						
	_	Ah	ead				588		
le	eg 2 🔽		^ œ C	leg 3		Structure No:	193		
	Ę	face D			SI	ructure Type:	51T+ 3	SIE	
			face B					W	
		fac	e A			d Substation:			
le	eg 1		V	leg 4					
,		Ba	ack				Foundation		
		Gro	undline Inspe	ection		Date:	04-27	-21	
S	evere (Corrosion	Steel Mea	surements		Foreman:			
		Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code	
Le	èg 1	V			ρ	book for	1	FR	
Le	≽g 2				P	explanation of	2	FR	
Le	èg 3	č	Y		p	foundation		FR	
Le	eg 4		Good	YG	P	codes		FR	
Actio	n Code:	P: Applied A		seshoe Repla			FP: Foundatio	n Repaired	
	n e di c	In Lieu of Me		-	Inspected - Go	od	a sa sa		
					ower Inspectio				
Step	Bolt Cli	ps Added:		Yes	No		Quantity:	53.	
		Damage	Face	Member	Correctiv	e Action		Remark	
	1	<u> </u>	ABCd	704×4		R	BP - G	W-NB	
	2	ρ	<u> </u>	10x2		R			
	3	ρ	Bd	11x2		R			
	4	P	AC	38X4		R			
	5	P	AC	219×4		R			
	6	<u> </u>	Bd	236×4		R			
	7	· p	Ba	222x2		R			
	8	<u> </u>	Bd	224×2	6	RP			
	9	<u> </u>	d	723X	R	P			
1	10	<i>P</i>	AC	733 X 4	ŕ	ζ			
1	11	P	Bd	734 X 4	K				
1	12	Tm		NS	R	P			
1	13								
1	14								
1	15		<u>_;</u>						
1	16		•				climbin.	INSPECTION	
	7						Compla	JNSpection te	
	ge Code		Corrective A	1. A. 1.	Remark Code;		*		
		n Rolf	R: Repaired		G: Grounded S	Str	RS: Removed	Lower Step Bolts	
	Missin	_	-					S: New Danger/Aerial/Number Signs	
В:	Bent		RP: Replace	d	BP: Beat Pac	cout		ger/Aerial/Number Signs	
B: C:	Bent Cracke	d		d	GW: Applied G	cout Greywax		•	
	Bent	d	RP: Replace	d		cout Breywax	IP: Installed I	ger/Aerial/Number Signs	

Date: 4/1/21 Foreman: GREg ViA Company: LEMYRES

				nspection/f		6	<i>n</i>
		ead	omplete (limbing 1	Line Number:	58	8
ieg 2		Λ.	teg 3		Structure No:		
169 H	fac	eC	leg 3 Inspi	at'as		رسب اشر	US1 E
	K-face D		-MSPE	st	nucture Type:	-5L/7	TRU LE
		face B	->	Bac	k Substation:		<u>IKIN</u>
	fac	e A		Ahea	d Substation:	FENTR	ESS
leg 1	8	<u>v</u>	leg 4		<u> </u>	Foundation	Inspection
		ack	<u></u>			03-02	
-	Gro	undline Inspe			Date:	A11 /	Rundgren
Sever	e Corrosion	Steel Mea	surements		Foreman:		
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1		0.19785	0.16935	BP_	book for explanation		FR.
Leg 2		VG	VG	ρ	explanation of	1	FR
Leg 3		VG	VG	ρ	foundation	1	FR
Leg 4		VG	VG	ρ	codes	1	FR
	de: P: Applied I		I: Baseshoe A	teplaced LF: I	left as Found		FR: Foundation Repa
	In Lieu of W	easurements -	VG: Visually	Inspected - Go	ođ		
			- 1	lower inspection	013		~~~~
Step Boit	Clips Added:		Yes	No		Quantity:	53
-1	Damage	Face	Member	Correctiv	ve Action		Remark
	TM	A	COIXI	RP-BP-A	/B-GW		•
2	- <u>0</u>	AC	601X3	BP-NB-	GW		
3	- <u>'</u>	BD	602X4	RP-1/B-	541		
4		BD BD	624×4	RP-1/P	SG4/		· · · · · · · · · · · · · · · · · · ·
		1	623X4	RPAIR	GW		
5		AC_		RP-BP-NE		1	
6	<u> </u>		235×1	RP-BP-NI			
7	<u> </u>	A	215×1	RP-NB			<u></u>
8		1-12-	233LX2			<u> </u>	
9	<u></u>		233RX1	and the second division of the second divisio	<u>-Gw</u>		·
<u>, 10</u>	<u> </u>	BD	ZZZXZ	BPNB			
. 11	TM-B	ABCD	220x8	IKT-DY-N	BGW	+	
12	Po	AC	219X3	KP-NR	<u>r-Gu/</u>	<u></u>	
13	· P	BD	236×4	BP-M			
14	Р	- <u>A</u>	36NEARX		B-GW_	<u></u>	- -
15	P		37FARX 1	BP-N	B-Gu/		
16	P	A	37NEARX	BP-NA	B-GW	<u> </u>	
17		C.	36FARX1	BP-N	B-Gw		·
Damage	Code	Corrective /	iction Code	Remark Code		-	d I many Cine Halles
L	issing Bolt	R: Repaire	the second s	G: Grounded BP: Beat Pau	and the second		ed Lower Step Bolts Inger/Aerial/Number Si
	ent acked	RP: Replac		BP: Beat Part			i Package Per Specs
G: G		ALC ALCIE OF		E and the second s		FP: Flipped	/Straightened Plates
	in Nember			NB: New Bo		Inc	

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Date: 2-17-2021 Foreman: Michael Davis 68

Company: <u>L,E, MYERS</u>

Line Number:

Structure No: _____

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Page 2 _ of _2

Tower	inspe	ction
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		Damage		Face	Member	Corr	ective Action	Remark
	1	P		C	826×1			
	2	0	AB	CD	High Voltag Sighns	e N	5	
	3							
	4					1		
	5							
	6		1					
	7			*********			-	
	8		1		-	1	•	
	9							
	10					1		
	11							
	12					1		
	13	,						
	14							
	15					1		
	16		1					
	17		1	······				· · · · · · · · · · · · · · · · · · ·
	18							······································
	19							
	20				· · · · · · · · · · · · · · · · · · ·			
	21]					
	22							-
	23					1		
	24							
	25							
	26				·	<u>.</u>		
	27							
	28							
	29					······		
	30				· · · ·			1
Dama	age Code		Corre	ctive Ac	tion Code	Remark C	ode:	·
MB:	Missin	g Bolt	R; f	Repaired		G: Groun	ded Str	RS: Removed Lower Step Bolts
В;	Bent		RP:	Replace	d	BP: Beat		NS: New Danger/Aerial/Number Signs
C:	Cracke	d	LF:	Left as I	Found		ied Greywax	IP: Installed Package Per Specs
TM:	Thin Me	Inber				NB: New	_	FP; Flipped /Straightened Plates
0:	Other				·····			
								1

Be Cra	nt ckad n Member	LF: Leftar	Found	NB: New Bol			Straightened Plates
Be		LF: Left as	Found				
	nt		The second s	GW: Applied	Current and the	IP: Installed	Package Per Specs
(B): Nik		RP: Replac		BP: Beat Pac			nger/Aerial/Number Si
	sing Boit	R: Repairs		G: Grounded		RS: Remove	d Lower Step Bolts
17 amage C		Corrective A	t/// <u>/</u>	Remark Code		L	
16		\underline{BD}	110Xa	BP-NB-			
15			776X2	RP-BP-A			·
		RD	236×4	BP-NB			
		$\frac{1}{1}$	235×1	1 <u> </u>	<u>5 GW</u>		<u> </u>
13	TM-B	ABCD	220×16		B-GN		
12		AC.	2/9×4	50	B-GU/		_
		BD	ZZZXZ	BP-NB	-G(J)		3
10	- p	BD	11x2	BP-N	B-GI		
9	T P	<u>BD</u>	10 X2		B-GW		-
8	MB	· D	63 X /	R-NB	· · · · ·		
7	- 1 p	$\frac{1}{c}$	36 FARX 1	BP-NE	B-GUI		
6	β β	A	37NEARX1	RP-N/F	3-GU/		
 5	q	C	37FARX 1	RP-1/F	3-(-1.)		
4	P	T A	36NEARXI	BP-N	3-G41		· · ·
3	P	1 · C.	39 FARXI	RP-NI	3-GW	-	
2	P	A	40NEARX1	00	1B-GU		
1	MB	C	67LX1	R-NB			- ·
	Damage	Face	Member	Correctin	re Action		Remark
an Rolf	Clips Added:		Yes	No		Quantity:	52
	in Lieu of M	easurements ·		Inspected - Go 'ower Inspection			
ction Co				leplaced LF: L			FR: Foundation Rep:
Leg 4		VG	VG	<i>p</i> .	codes	<u> </u>	FR
Leg 3		↓VĢ_	VG	<u> </u>	foundation		<u>FR</u>
Leg 2		↓VG-	VG	<u>P</u>	of	, <u> </u>	FR
Leg 1		VG-	VG	<u>P</u>	explanation		
	Yes No	Reading 1	Reading 2	Action Code	See spec. book for	Fnd Code	FR
Seven	e Corrosion		surements		Foreman:		Action Code
· · · · · · · · · · · · · · · · · · ·	Gn	oundline Inspe	ction		Date:		Rundacen
		ack				03-04	Inspection
ieg 1		V	leg 4				A contraction of the second
	fo.	ce A			d Substation:	- اروس سار وساطع	RESS .
	1455 0	face B			k Substation:	110 - 11	
	face D	ce C	Ins	pection se	nicture Type:	5LT+40	LE
leg 2		*	· leg 3		Strecture No:		
	Ah	lead (_omplete	Climbing	Line Number:	$\underline{}$	<u>_0</u>
				+ .			
	We	athering St	eel Tower	inspection/l	Rehabilitati	on Data Sh	leet .

} '

Line Number: <u>588</u>

Structure No:

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Tower Inspection

	· · · · ·	Damage	Face	Member	Corre	ctive Action	Remark
	1	ρ	C.	764X1	RP-	NB-GW	
	2	Ċ	A	770X/	RP-RP-	NB-GW	
	3	ρ	AC	752X4	BI	P-NB-GW	
	4	P	AC	753×4	BP-	NB-GL)	
	5	ρ	BD	755X4	BP	NB-GW	
	6	P	ßD	756×4	BP-	NB-GL)	
	7	P	ĂC	754X4	BP.	NB-GW	
ļ	8	p	BD_	757x4	BP-	NB-GW	
İ.,	9	<u> </u>	AC	787×4	BP	NB-GL)	
L	10	ρ	BD	788×4	BP-	NB-GW	
	11	Ó.	A	BROKEN	G		
	12	0	ABCD	HishVoltage	NS	5	
	13						
 i	14						
	15						
. 	16	,					
 	17						
	18						
	19						
	20		· · · · · · · · · · · · · · · · · · ·				
	21						
	22	· · · · · · · · · · · · · · · · · · ·				united by the second seco	
	23						
	24						
	25						
	26						
	27						
	28						
	29						
	30						
Dama	age Cod	e 	Corrective A	ction Code	Remark Co	de:	
MB:	Missin	g Bolt	R: Repaired	I	G: Ground	ed Str	RS: Removed Lower Step Bolts
B:	Bent		RP: Replace	d	BP: Beat P	ackout	NS: New Danger/Aerial/Number Signs
C:	Cracke	ed	LF: Left as	Found	GW: Applie	d Greywax	IP: Installed Package Per Specs
TM:	Thin M	ember			NB: New B	olts	FP: Flipped /Straightened Plates
0:	Other						

	We	athering Sto	el Tower I	nspection/f	lehabilitati o	on Data Sh	
			omplete			588_	
	Al	lead		•	Line Number:	100	
leg 2			teg 3		Structure No:		4
		ce C	Inspe	ction so	nicture Type:	<u>514+15</u>	"LE
	face D	face B			k Substation:		1
	£-	ce A		Ahea	d Substation:	FENTR	RESS
leg 1	X 63	V.	leg 4			Foundation	Bacacetion
	8	ack				03-10	and the second
	Gr	oundline Inspe	ction		Date:		Rundyren
Severe	Corrosion	Steel Mea	surements		Foreman:		Action Con
ų.	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	
Leg 1		VG	VG	P	book for explanation	<u> </u>	<u>FR</u>
Leg 2		VG	VG	P	of	1	<u>FR</u>
Leg 3		VG	VG	P	foundation	1	FR
Leg 4		VG	VG	P	codes		FR
ction Code	: P: Applied	Leg Coating	B: Baseshoe A	leplaced LF:	Left as Found		FR: Foundation
	In Lieu of li	leasurements -					
			- 1	ower inspecti			24
tep Bolt Cl	ips Added:	<u></u>	Yes	No		luantity:	<u></u>
	Damage	Face	Member	Correcti	ve Action		Remark
1	ρ	D	49X1	BP-NE	3-Gh/		
. 2	TM	B	18X1	RP-BP-/	B-GW		
3	TM	B	72LINSX	RP-BP	NB-GU/		
4	TM	B	72RiNSX	RP-BP	NB-GW	<u> </u>	
5	q T	Ω	310×1	BP-NB-	Gl1/		
6	Ċ.	R	310×1	RP-NB	-BP-NB	L	
7	T p	R R	103RFARX	BP-NE	3-Gu/		مور میکنون اور بر این میکنون و این میکنون و این اور ای
	t p	B	VO3LNEARX	1 0010	3-GW	L	
 9	Γ p	B	54×1	BP-N/	3-GW		
		- D- B	55×1	RP-NI	3-GW		
40	+ 5	R	311AX.1	BP-NE	3-GW		
10	1		311AX I	PP. RP_A	/B-GL/		-
11				I / (- I) = 0		T	
11 12	C	T A		RP-RF			
11 12 13		<u> </u>	311 X I	the second s	-NB-GW		-
11 12 13 14		D	311 X 1 313 X 1	BP-N	-NB-GW 3-GW		-
11 12 13 14 15	T C		311 X 1 313 X 1 3/3 X 2	BP-N/ RP-BP-N	-NB-GW 3-GW /B-GU/		
11 12 13 14 15 16		D	311 X 1 313 X 1 3/3 X A 314 X 1	BP-N RP-BP-N BP-NB	-NB-GW 3-GW /B-GU/- -GU/		
11 12 13 14 15 16 17	P C	D B D D	311 X 1 313 X 1 3/3 X 2 314 X 1 315 A X 1	BP-N/ RP-BP-N	<u>-NB-GW</u> 3-GU /B-GU/ -GU/ NB		
11 12 13 14 15 16 17 Damage Ce	P C ode	D B D D	311 X 1 313 X 1 313 X 2 313 X 2 314 X 1 315 A X 1 Action Code	BP-NI RP-BP-N BP-NB Remark Cod G: Grounder	2-NB-GW 3-GU /B-GU/ /B-GU/ NB ex 4 Str		
11 12 13 14 15 16 17 Damage Ce	P P C Date	D B D Corrective R: Repair RP: Replay	311 x 1 313 x 1 3/3 x 2 314 x 1 3/5 A x 1 Action Code ed	BP-N RP-BP-N RP-BP- Remark Cod G: Grounder BP: Beat Pa	2- <u>NB-GW</u> 3-GU / <u>B-GU</u> / <u>B-GU</u> - <u>GU</u> - <u>GU</u> NB ex 4 Str chout	NS: New D	enger/Acrial/Numb
11 12 13 14 15 16 17 Damage Co MB: Miss B: Ben G: Grad	P P C Date	D B D Corrective R: Repair RP: Replay	311 x 1 313 x 1 3/3 x 2 314 x 1 315 A x 1 Action Code	BP-NI RP-BP-N BP-NB Remark Cod G: Grounder	2- <u>NB-GU</u> 3-GU /B-GU/ -GU/ NB ex 4 Str c:kout 1 Greywax	NS: New D IP: Installe	ed Lower Step Bol anger/Acrial/Numb d Package Per Sp /Straightened Pia

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Structure No: ____

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Tower Inspection

		Damage	Face	Member	Corre	ctive Action	Remark
	1	P	BD	335X3	BP-	NB-GL)	
	2	C	BD	333X2	RP-B	P-NB-GW	
	3	P	AC	328×3	BP-A	B-GW	
	4	<u> </u>	AC	341X2	BP-	NB-GUI	
	5	<u> </u>	$\square B$	336X1	BP-1	VB-G4/	
	6	TM	BD	339X2	RP-B1	PNB-GW	
ļ	7	P	BD	657X4	BP-N	B-GW	
	8	P	AC	651X4	BP-/1	B-GW	
	9	<u> </u>	<u>BD</u>	662 X4	BP-1	B-GW	1
L	10	p	AC	656X4	BP-N	B-GW	
L	11	B		650X1	R-NB	GW	Scabed PERENgeneer
	12	P	AC	655x3	BP-N	B-GL/	
	13	<u> </u>	ΒĎ	661X3	BP-N	B-GW	
	14	C	A.	330X1	RP-BP-	WB-GW	· · · · · · · · · · · · · · · · · · ·
	15	0	ABCD	High Voltage Sighns	Λ	15	· · · · · · · · · · · · · · · · · · ·
	16	0	B	Structure Sishn		Vs	
	17						
	18						· · · · · · · · · · · · · · · · · · ·
	19		<i></i>				
	20						
L	21						
	22						
	23						
	24						
	25						
	26						······································
	27						
	28						
	29					l	
	30						
Dama	age Code	•	Corrective Ac	tion Code	Remark Co	de:	· · · · · · · · · · · · · · · · · · ·
MB:	Missin	g Bolt	R: Repaired		G: Ground	ed Str	RS: Removed Lower Step Bolts
B	Bent	<u> </u>	RP: Replaced	I	BP: Beat P	ackout	NS: New Danger/Aerial/Number Signs
C:	Cracke	d	LF: Left as F	ound	GW: Applie	d Greywax	IP: Installed Package Per Specs
TM;	Thin Me	mber			NB: New B	olts	FP: Flipped /Straightened Plates
0:	Other		·····			· · ·	

				nspection/R			
	Tower Of Aha	(omplete (line Number:		
leg 2 🖡		1	leg 3		Structure No:	197	
	fac	e C		ection su		HA	
	face D		Lasp	«слюм э т	k Substation:	VADK	in
		face B ⁻		Bec	d Substation:	FENTR	E55
		e A	leg 4	Anea	(I SUUSLANDIA		
leg 1		v .ck					Inspection
	Gro	undline Inspe	ction		Date:	04-14	4 i i
Saver	Corrosion	and the second data was not set of the second data was not set of the second data with the second data was not set of the second data was not set of the second data was not set of the second data was not second data	surements		Foreman	Allen	Rendyran
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1	K	VG	VG	P	book for	1	FR
Leg 2	$=\overline{7}$	VG-	VG	P	explanation of	1	<u>FR</u>
Leg 3	V	VG	VG	р	foundation	in the second se	<u>EK</u>
Leg 4		VG	VG	P.	codes	(FR
tion Cot	e: P: Applied i	Leg Coating	B: Baseshoe F	leplaced LF:	Left as Found		FR: Foundation Repaired
	In Lieu of M	easurements ·	- VG: Visually	Inspected - Go	юđ		
			· 1	lower inspecti			1/
p Bolt	Clips Added:	<u></u>	Yes	No		Quantity:	Remark
	Damage	Face	Member	Correcti VV 0 D	ve Action		E 1232 100 100
1	C	BD_	112×2	AT DE	-NB-GW		
2	C	B	<u>113x I</u>	Kr-BP-N	Bright		
3	MB	B	40×1	DO NR	BP-GW		
4		<u>R</u>	10×1	and the second	B-BP-GW	<u> </u>	الان الله بينية التربيع - يوسط وي عام الأرامي وي الماريكي ويشر الماريكي و
5	TM	<u> </u>	2721	and the second se	2NB-GW	1	
6	$- \underline{c}$		106×2		B-Gu		
7	P	B	41 X 1	the second se	-GW	+	
8	<u>P</u>	<u> </u>	101X	R-NB	<u> </u>	1	· .
9	MB	<u>+</u>	68RX1		VB-GW	1	
10		<u>C</u>	122×1		3-GU		
11		AC	126×4 128×2	and the second se	$2 \cdot G_4$		-
12	$-\frac{P}{P}$		12724		1-G(1)		
13	- <u> </u>	AC	130×2		NB-GW		
14	P	170	130×2	BP-M	BGW		
15		B	140×1	BP-N	B-GW		
16		1 2	140×1		-Gu		
17 amage		Corrective	Action Code	Remark Cod	le:		A Roman Class Daller
	issing Bolt	R: Repair	ber	G; Grounde		RS: Remo	red Lower Step Bolts langer/Aerial/Number Signs
	ent	RP: Repla		BP: Beat P		Install	ed Package Per Specs
: B	and the second	LF: Left:	as Found	GW: Applie			d /Straightened Plates
	acked			1	- Mar		I CONTRACTOR & ANDRESS
N CI	acked in Member	·····		NB: New B	olts	List Lubbe	a analynessee Frites

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Line Number: <u>588</u>

Structure No: _______

		the second s
Page	_2_	_ of _ <u>2</u>

				T	ower Inspection			
		Damage	Face	Member	Corrective Action	Remark		
	1	q	D	142×1	BP-NB-GLi	· · · · · · · · · · · · · · · · · · ·		
	2	ρ		208RX/	BP-NB-Gal			
	3	P	BD	208LX2	BR-NB-GW			
	4	P	C	206LX1	BP-NB-GU	· · · · · · · · · · · · · · · · · · ·		
	5	ρ	L Č	206RX1	BP-NB-GW			
	6	TM	C	526LX1	RP-BP-NB-GW	····		
	7	TM	BC	S26RX2	RP-BP-NB-GW	· · · · · · · · · · · · · · · · · · ·		
	8	م ا	ABD	S2GLX3	BP-NB-GW			
	9	P	A.D	SZGRXZ	BP-NB-GW			
	10	ρ.	ABCD	213×5	BP-NB-GW			
	11	q q	ABCD	214×16	BP-NB-GW			
	12	P	B	48×1	BP-NE-GLI			
	13	P	B	102X4	BP-NB-GW			
	14	0	B	Structure Hish Voltage Sights	NS	· · · · · · · · · · · · · · · · · · ·		
	15	0	ACBD	Ash Voltage	NS			
	16	TM	AD	213X3	BP-NB-GW	Weilded inside		
	17 TM		BD	10124	BP-NB-GW	Weildedinside Weilded inside		
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<u> </u>	28		1	1		· · · · · · · · · · · · · · · · · · ·		
<u></u>	29		1	1				
	30		1					
Dam	age Cod	e	Corrective /	ction Code	Remark Code:			
MB;		ng Bolt	R: Repaire	d	G: Grounded Str	RS: Removed Lower Step Bolts		
B;	Bent	-	RP: Replac		BP: Beat Packout	NS: New Danger/Aerial/Number Signs		
C;	Crack	ed		Found	GW: Applied Greywax	IP: Installed Package Per Specs		
TM:	Thin M		1	····· *	NB: New Bolts	FP: Flipped /Straightened Plates		
0:	Other		<u> </u>					
	Other		I		L			

North Contraction

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Weathering Steel Tower Inspection/Rehabilitation Data Sheet **Tower Orientation** Line Number: <u>588</u> Ahead leg 2 leg 3 face C Structure Type: $\angle A + 40' \angle E$ 🔄 face D Back Substation: ____YAd Kiw face B Ahead Substation: FENTRESS face A leg 1 leg 4 **Foundation Inspection** Back Date: 05-03-21 **Groundline Inspection** Foreman: Allen Rundy(en **Severe Corrosion Steel Measurements** Yes No Fnd Code **Action Code Reading 1** Reading 2 **Action Code** See spec P book for Leg 1 V FR explanation Leg 2 ı ρ FR of P Leg 3 1 6 FR foundation ρ Leg 4 600d codes [ang FR Action Code: P: Applied A-120 **B: Baseshoe Replaced** LF: Left as Found **FP: Foundation Repaired** In Lieu of Measurements - VG; Visually Inspected - Good **Tower Inspection** . سرا 54 Step Bolt Clips Added: Yes No Quantity: Damage Face Member **Corrective Action** Remark BP -1 883 x 4 Ŕ AC GW-NR \bigcirc 2 884 X 4 Ŕ ΒÅ ρ 3 Ŕ Â 864×1 D R 4 A 854 X I 5 \cap R AC 868 X X A R 6 40 886 x 2 7 332<u>x2</u> R ρ A 8 333X I 9 330X 1 4 \bigcirc 10 A 328×2 \bigcirc 11 333 X 2 \sim 12 311 AX1 Ŕ R 13 312 X 1 R പ്പ 14 30 X RΡ \sim 15 RP C 306×1 Climbing INSpection ßd 16 \mathcal{O} R 68 x 2 17 NS Im oma **Damage Code Corrective Action Code Remark Code:** MB: **Missing Bolt** R: Repaired G: Grounded Str **RS: Removed Lower Step Bolts** B: Bent **RP:** Replaced **BP: Beat Packout** NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found **GW: Applied Greywax** IP: Installed Package Per Specs TM: Thin Member **NB: New Bolts** FP: Flipped /Straightened Plates 0: Other

Date: 4/19/21 Foreman: GREg ViA

Company: LEMYERS

Line Number: <u>588</u> Structure No: 198

Page 2 of _2

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Tower Inspection

	Damage	Face	Member	Corrective Action	Remark
1	TM	AB	85122	LF	Per engineer Per engineer
2	TM	CD	85122	LF	Pel engineel
3					<u> </u>
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30				<u> </u>	
amage Code 1B: Missing Bolt		Corrective /	Action Code	Remark Code:	•
		R: Repaire	ed j	G: Grounded Str	RS: Removed Lower Step Bolts
: Be	ent	RP: Replac	ed	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
	acked		s Found	GW: Applied Greywax	IP: Installed Package Per Specs
	iņ Member			NB: New Bolts	FP: Flipped /Straightened Plates
		1	<u></u>	†	
	her			· · · · · · · · · · · · · · · · · · ·	

	Tower Of		Complete (Climbing	Line Number:	589	×
_	Ah	2614 8			Structure No:	100	
ieg 2	fac	È.	leg 3	1			· _ · · · · · · · · · · · · · · · · · ·
	iac face D	çv	Insp	ection st	nicture Type:	5LT+40	<u>2'LE</u>
	1965 w	face B			k Substation:		KIN
	t	æA			d Substation:		<u>ESS</u>
leg 1			leg 4				
	Ba	ck					Inspection
	Gro	undline Inspa	ction		Date:	05-04	
Severe	Corrosion	Steel Mea	surements		Foreman:		
Ŀ	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Cou
Leg 1	V	0.23687	0,24748	RP	book for	1	FR
Leg 2		VG	VG	P	explanation	1	FR
Leg 3			VG	p	of foundation	1	FR
-		VG VG	VG	0	codes	1	FR
Leg 4			I see the second second	leplaced LF:	eft as Found		FR: Foundation i
Action Code	P: P: Apphou P Discussion of Bu	eg coamig · ·	- VG: Visualiv	Inspected - Go	iod		
	(In Prices on the			ower inspecti			
	lips Added:		Yes	No	·····	Quantity:	56
Steh Dar o	Damage	Face	Member	Correcti	ve Action		Remark
		BD	785×2	RP.BP.	NR-GUI		#-
1	$+ \simeq$		77111	DP_BD.	VB-GU		
2		$\frac{n}{C}$	768X 1	DORD	VB (-1)	· · · · ·	
3				ROND	$-G_{\tau}(J)$		• · · · · · · · · · · · · · · · · · · ·
4		A	763X2	177-11/01	<u></u>	 	
\$	$- P_{-}$	B_{-}	///X1	DP- NO			·····
6		$\underline{\square}$	16dX1	RP-DP-	<u>NB-GW</u>	<u> </u>	
7	P	<u> </u>	255×2	DP-IVD-			
8	<u> </u>	B	756X2	BP-NB.		<u> </u>	
9	ρ	<u>A</u>	752×2	BP-ME		<u> </u>	
10	P	A	753X2	BP-NB			·
11	P	AC	787×4		3-GU	<u> </u>	<u> </u>
12	p	BD	788×3	BP-N	B-GW	ļ	
13	· C.	BD	235X2	RP-BP-	NBGW		·
14	T p	5	236×1	-	GW		-
15		AC	219×4		GW		
	+		233RX 1	the second s	3-GW	T	
16	<u> </u>	A ·	217X1		VR-GW		<u> </u>
17 Damage Co			Action Code	Remark Code			
i vamage G	sing Bolt	R: Repaire		G; Grounded	and the second se	1	ed Lower Step Boli
		RP: Replac		BP: Beat Pa	the strength of the strength o		enger/Aerial/Humb
	and the second	LF: Lefta	s Found	GW: Applied	the second s	6	d Package Per Spe /Straightened Plat
MB; Mis	loed	and the second				A REAL PROPERTY AND ADDRESS OF TAXABLE PROPERTY AND ADDRESS OF TAXABLE PROPERTY ADDRES	A CONTRACTOR OF A DESCRIPTION OF A DESCRIPANTE A DESCRIPANTE A DESCRIPANTE A DESCRIPTION OF A DESCRIPTION OF
MB; Nis B: Ben C; Crac	Nember			NB: New Bo	lts	LL: LUDICO	ioudigina.a.u i na

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588 Line Number:

Structure No: _____

199 $\widehat{\mathcal{Q}}$ Page _ of

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	A C BCD	Member 758×1 210×1 220×16 206×1 220×16 206×1 220×16 206×1 220×16 206×1 30×2 11×2 39FAR×2 39FAR×2 39FAR×2 39FAR×2 39FAR×2 30×6AR×1 40×6AR×1 36FAR×1 40×6AR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1 36FAR×1	Corrective Action RP-BP-NB-GW BP-NB-GW RP-BP-NB-GW BP-NB-GW BP-NB-GW BP-NB-GW BP-NB-GW BP-NB-GW BP-NB-GW BP-NB-GW RP-BP-NB-GW RP-BP-NB-GW RP-BP-NB-GW RP-BP-NB-GW	Remark	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	C BD BD AC RD A A A C BCD	210×1 220×16 200×16 206×1 220×16 206×1 221×1 10×2 11×2 39FAR×2 39FAR×2 30NEAR×1 30NEAR×1 36FAR×1 Hghvatase 776×2 784×2	BP-NB-GU BP-NB-GU RP-BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU RP-BP-NB-GU RP-BP-NB-GU	Les was peeling Wext To Hell outside	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	C BD BD AC RD A A A C BCD	220 X16 206 X 1 221 X 1 10 X 2 11 X 2 39 FARX2 40 NEARX2 36 NEARX1 36 FARX1 36 FARX1 Hgh Voltage 776 X 2 784 X 2	BP-NB-GU RP-BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU BP-NB-GU RP-BP-NB-GU RP-BP-NB-GU	Les was peeling Wext To Hell outside Ground Off Deeling Rest To Hell outside	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	C BD BD AC RD A A A C BCD	220 X16 206 X 1 221 X 1 10 X 2 11 X 2 39 FARX2 40 NEARX2 36 NEARX1 36 FARX1 36 FARX1 Hgh Voltage 776 X 2 784 X 2	RP-BP-NR-GL/	Les was peeling Wext To Hell outside	
5 ρ 6 ρ 7 ρ 8 ρ 9 ρ 10 ρ 11 ρ 12 ρ 13 ρ 14 O 15 C 16 C 17 O 18 1 19 20 21 2 23 2 24 2 25 2 26 2 27 2	C BD BD AC RD A A A C BCD	206×1 221×1 10×2 39FAR×2 40NEAR×2 36NEAR×1 37NEAR×1 36FAR×1 494V04492 776×2 784×2	RP-BP-NR-GL/	Les was peeling Wext To Hell outside Ground Off Deeling Revind	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	BD AC BD A A C BCD IC	221×1 10×2 39FARX2 40NEARX2 36NEARX1 36FARX1 36FARX1 434V014950 776×2 784×2	RP-BP-NR-GL/	Les was peeling Wext To Hell outside Ground Off Desting Rept to Lawred	
7 \hat{P} 8 \hat{P} 9 \hat{P} 10 \hat{P} 10 \hat{P} 11 \hat{P} 12 \hat{P} 13 \hat{P} 14 \hat{O} 15 \hat{C} 16 \hat{C} 17 \hat{O} 18 \hat{I} 19 \hat{I} 20 \hat{I} 21 \hat{I} 22 \hat{I} 23 \hat{I} 24 \hat{I} 25 \hat{I}	BD AC BD A A C BCD IC	10x2 39FARX2 40NEARX2 36NEARX1 37NEARX1 36FARX1 494V014950 776×2 784X2	RP-BP-NR-GL/	Les was peeling Wext To Hell outside Ground Off Deeling Revit a la have	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	BD AC BD A A C BCD IC	11×2 39FARXZ 40NEARXZ 36NEARXI 37NEARXI 36FARXI 494Voltase 776×2 784XZ	RP-BP-NR-GL/	Les was peeling Next To Hell outside Ground Off Deeling Rept 10 Hell outside	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	AC BD A A C BCD	39 FARXZ HONEARXZ 36 NEARXI 37 NEARXI 36 FARXI Hghvatase 776×2 784×2	RP-BP-NR-GL/	Leg was peeling Wext To Hell outside Ground Off Deeling Rept at 1940	
3 p 10 p 11 p 12 p 13 p 13 p 14 O p A 15 C 16 C_{A} 17 O 18 A 19 20 21 22 23 24 25 26 27 27	RD A A C BCD	HONEARXA 36NEARXI 37NEARXI 36FARXI Hahveltage 776X D 784X D	RP-BP-NR-GL/	Les was peeling Next To Hell outside Ground Off Deeling Rept 10 Hell outside	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	A A C BCD	36NEARX1 37NEARX1 36FARX1 Hahveltase 776x2 784X2	RP-BP-NR-GL/	Les was peering Next To Hell outside Ground Off Deeling Rep Int. In Vind	
12 p 13 p 13 p 14 \bigcirc 15 \bigcirc 16 \bigcirc 17 \bigcirc 18 19 20 21 21 22 23 24 25 26 27 27	A C BCD IC	37NEARXI 36FARXI Hahvatase 776x2 784X2	RP-BP-NR-GL/	Leg was peeling Next To Hell outside Ground Off Deeling Rep Flat in Vind	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	A C BCD IC	37NEARXI 36FARXI Hahvatase 776x2 784X2	RP-BP-NR-GL/	Leg was peeling Next To Heel outside Ground Off Deeling Rep Flat in Vind	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	C BCD IC	36FARXI Hahveltage 776x2 784X2	RP-BP-NR-GL/	Leg was peeling Next To Hell outside Ground Off Deeling FRE La La Vad	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IC.	High Valtage 770×2 784×2	RP-BP-NR-GL/	Leg was peeling Next To Hell outsia Ground Off Deeling ROF Later Vad	
15 C A 16 C 1 17 O 1 18 1 19 1 20 1 21 1 22 1 23 1 24 1 25 1 26 1 27 1	IC.	776×2 784×2	RP-BP-NR-GL/	Leg was peering Next To Heel outsid	
17 Image: Constraint of the second	BD C		RP-BP-NR-GL/	Les was peeting Nex To Hell outsid	
18 19 20 21 22 23 24 25 26 27	<u>C</u>		R-GW	Leg was peeling Next To Hell outsin	
19 20 21 22 23 24 25 26 27					
20 21 21 22 23 24 25 26 27 27					
21 22 23 24 25 26 27			· · · · · · · · · · · · · · · · · · ·		
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Damage Code Cor	Code Corrective Action Code Remark Code:		Remark Code:	······································	
M8: Missing Bolt R:	rrective Ac		G: Grounded Str	RS: Removed Lower Step Bolts	
B: Bent RP:		d	BP: Beat Packout	NS: New Danger/Aerial/Number Signs	
C: Cracked LF:					
FM: Thin Member	Repaired Replace	Found	GW: Applied Greywax	IP: Installed Package Per Specs	
D: Other	Repaired Replace	· [GW: Applied Greywax NB: New Bolts	IP: Installed Package Per Specs FP: Flipped /Straightened Plates	

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	Wes	thering St	eel Tower l	inspection/f	Rehabilitati	on Data Si	leet
	Tower Or		smplete C			588	
	Ah	ad 🗸			Line Nomber:	200	
leg 2			- leg 3		Stracture No:		·
	țac - face D	eC	Insf	pection su	nicture Type:	<u>5LT+3</u>	5'LE
	lace D	face B			k Substation:	1/001	
	Far	e A		Abea	d Substation:	FENTR	FSS
leg 1			ieg 4			·	A
- 4	Ba	ck					Inspection
	Gro	undline Inspe	ction		Date:	02-02	
Severe	Corrosion	Steel Mea	surements		Foreman:	Allen	Rundyren
ĩ	Yes No	Reading 1	Reading 2	Action Code	See spec.	Fnd Code	Action Code
Leg 1		VG	VG	P	book for	1	FR
Leg 2		VG	VG	P	explanation of		FR
Leg 3		VG	VG	ρ	foundation	1	FR
Leg 4		VG	VG	P-	codes		FR
ction Code	: P: Applied I	eg Coating	B: Baseshoe A	leplaced LF: I	ett as Found		FR: Foundation Repa
	In Lieu of M	easurements		Inspected - Go			
			· · 7	ower Inspection			51
tep Bolt C	lips Added:	<u> </u>	Yes	No		Quantity:	
	Damage	Face	Member	L	re Action	· · · · · · · · · · · · · · · · · · ·	Remark
1	TM	A	217×1		B-GW		
2	<u> </u>	AC	21924		3-GW		<u>,</u>
3	P	BD	236X4	The second s	B-GW		1:
4	0	<u>A</u>	215×1	R-NB-C		instille	lin WRONG Place to
5	TM-R	ABCD	290×16			······································	·····
6	<u> </u>	<u> </u>	233X1	BP-NB-C			
7	C	<u> </u>	730X1		NB-GW		
8	C.	B	725K1		NB-GW	ļ	
9	C	B	728X1		NBGW		
10	P	D	724×1	BP-NB.	-GW	<u> </u>	
11	Ρ	AC	733X.4	BP-NB		<u> </u>	
12	ρ	R D	734×4	BP-N	B-GW		
13	τ· ρ	BD	706 X4	B.P-N	B.GW	<u> </u>	
14	P	AC	703×4	BP-N	B-GW	-	
	φ -	1 B D	IOXA	BP-N	B-GW		·
16	1 p	BD	11X2	RP-1/	B~GIN		
17		A.	HJLNEARXI	RP-N	B-GW		
17 Damage Ci	<u> </u>	Corrective /		Remark Code		······································	
	sing Bolt	R: Repairs	and the second	G: Grounded	and the second		ed Lower Step Bolts
B: Ben		RP: Replac		BP: Beat Par GW: AppBed			anger/Aerial/Number S d Package Per Specs
	Nombar	LF: Left a	5 FOUND	NB: New Bol		1	/Straightened Plates
TM: Thin O: Othe	Nember	<u>`</u>	<u> </u>	1			
	-					Company:	······································

	Page	æ	of	a
Structure No:	200			
Line Number:	588	· · · · ·		

			т	ower inspe	wer Inspection			
	Damage	Face	Member]ł	ctive Action	Remark		
1	P	A	43RNEAR+1	BP-N	3.GW			
2	P	C	43LFARXI	BP-N	B-GW B-GW			
3	Ρ	A	3GNEARX L	BP-N	B-GN			
4	ρ	A	37NEARX 1	BP-M	3~GW			
5	p	С	36FARX I	BP-N	B-GUI			
6	р	B	235×1	BP-N	18-GW			
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28								
29								
30				· · · · · · · · · · · · · · · · · · ·				
Damage Co	de	Corrective A	ction Code	Remark Co	de:			
MB: Miss	ing Bolt	R: Repaired	1	G: Ground	ed Str	RS: Removed Lower Step Bolts		
B: Ben		RP: Replace	d	BP: Beat P	ackout	NS: New Danger/Aerial/Number Signs		
C: Crac	ked	LF: Left as	Found .	GW: Applie	d Greywax	IP: Installed Package Per Specs		
TM: Thin	Member			NB: New E	olts	FP: Flipped /Straightened Plates		
O: Other		1			<u> </u>			
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	Wea	thering Sta	eel Tower I	nspection/f	Rehabilitati	on Data Sh	leet .
	Tower On		ompleteC			5.88	
	Ahe	adi (smplere		Line Number: .		· · · · · · · · · · · · · · · · · · ·
leg 2			leg 3	. 4	Stracture No:	dQ	
	fac	e C	Inspe	ation of		517+21	O'BE+30'LE
	face D		inge			VAN	KIN
		face B			k Substation:	$\Gamma \Gamma N \tau$	RESS
	fac			Ahea	d Substation:	$\underline{-}\underline{-}\underline{-}\underline{-}\underline{-}\underline{-}\underline{-}\underline{-}\underline{-}\underline{-}$	
leg 1	L		leg 4			Foundation	Inspection
······································		ack]	Date:	02-02	~ 21
		undline Inspection			-		Rundaren
Severe	Corrosion		surements		Foreman	Fnd Code	Action Code
	Yes No	Reading 1	Reading 2	Action Code	See spec. book for	1	ER
Leg 1	<u>_</u>	1/G	VG_		explanation	(
Leg 2	K	VG	VG	<u>P</u>	of	/	FR
Leg 3		V/G	VG	Þ	foundation	1	FR
Leg 4		VG.	VG	P.	codes	1	FR
ction Code	e: P: Applied L	eg Coating I	B: Baseshoe R	eplaced LF:]	eft as Found		FR: Foundation Repaired
	In Lieu of Me	asurements -	VG: Visually	inspected - Go	ođ		. •
		•	- 1	ower inspecti	on		
tep Boit G	lips Added:	V	Ves	No	(Quantity:	58
	Damage	Face	Wember	Correcti	e Action		Remark
1	Ρ	A	HONEARXZ	BP-N	B-GU		• •
2	q	Ć	39 FARX 1	BP-NF	B-GI17		
3	MB	A	90X1	RP-RP	-NB-GW	-	
4		Â	GIVI	RP BI	D-NB-C-11		•
	<u>MB</u>	<u> </u>	222X1	RP-RD	-N/B-GLI		
5	<u> </u>			POR	P-N/B-CUT		
6	MB	<u> </u>	81RX	RP. BP	NRCIN		
7	MB_		208X				
8	P	AC_	219×4	Sector Se	B-Gul		
9	TM	A	2/7X1		NB-G-W		• ••••••••••••••••••••••••••••••••••••
10	TM-B	ABCD	220×16	RP-BP-	<u>NB-GW</u>	<u> </u>	· · · · · · · · · · · · · · · · · · ·
. 11	<u> </u>	RD	235x2	And the second difference of the second differ	NB-GW		
12	P	A	256LX2	والمسائمة عنييتهم وينبي ويسرار	<u>-Gul</u>	 	-
13	· C	C	256RXI	RP-B	P-NB-GW		·
14	P	A	256RX)	BP-N	/B-GW_		-
15	T D	AC.	274×4	BP-1	B.GW		•
16		BD	271X4	BP-NA			·
			26211	R-NB	<u></u>		· · ·
17 Damage C	<u>mB</u>	Corrective /	Lotion Gode	Remark Code	2		
	sing Bolt	R: Repaire		G: Grounded	Str		ed Lower Step Bolts
B: Ber	and the second	RP: Replac		BP: Beat Pa			anger/Aerial/Number Signs d Package Per Specs
	cled	LF: Left a	s Found	GW: Applied			/Straightened Plates
TH: This	n Nember	<u> </u>		NB: New Bo		Lise subleq	Indiguested Filles
0: Othe)T	1				<u> </u>	
Date:]	-12-2021	Foremani	Micha	iel Dai	115	Company	LEMYERS
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Line Number:	588
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Structure No:	201

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	Tower Inspection						
		Damage	Face	Member	Corre	ctive Action	Remark
	1	<u> </u>	D	233RX)	BP	NB-GW	
	2	C	A	258×1	RP-B	P-NB-GW	
	3	<u> </u>	A	259X1	BP-	NB-GW	
	4	'p	<u> </u>	270×1	BP	-NB-GW	
	5	<u> </u>	AC	673X2	BP	-NB-GW	
	6	<u>p</u>	BD	674 x2	BP	NB-GW	
	7	p	BD	236×4	BP-/	VB-GW	
	8	Ö	B	667X1	RP-NE	I-GW	Piece was Missing
	9	MB	A	3GNEARX	R-N	3	
	10	mß	A	37NEARX	R-NE	3	
	11	mB	C	37FARXI	R-NP		
	12	MB	С	36FARX1	R-MB		
	13	MB	A	207X1	R-NB		· · · · · · · · · · · · · · · · · · ·
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Dam	age Cod	L e	Corrective /	Action Code	Remark Co	de:	
MB:		g Bolt	R: Repaire		G: Ground		RS: Removed Lower Step Bolts
B:	Bent		RP: Replac		BP: Beat P	4	NS: New Danger/Aerial/Number Signs
C:	Cracke	ed		Found	·	d Greywax	IP: Installed Package Per Specs
TM:	Thin M				NB: New E		· · · · · · · · · · · · · · · · · · ·
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	W	eathering S	teel Towe	r Inspection	Rehabilita	tion Data S	heet	
	Tower	Orientation		-				
	A	head			Line Number	58	3	
leg 2		<i>1</i> ,	leg 3		Structure No	lo:		
1	fa	ace C					<u></u>	
	face D			S	tructure Type:	527+35	LETYO'BE	
		face E	<u>-</u>		. –		1	
	fa	се А				FENTRE		
leg 1			leg 4	Alice	id Substation:	1210/112		
5 1	E	Back				Foundation	Inspection	
	Gi	oundline inspe	ection		Date:	A. 12 AI		
Severe	Corrosion	· _ · · · · · · · · · · · · · · · · · ·	surements	1	1		Rundysen	
	Yes N		Reading 2	Action Code	Foreman:			
Leg 1	V				See spec	Fnd Code	Action Code	
Leg 2		0,247	0.2.79	BP	explanation		FR	
	<i>bur_</i>	Good	VG.	<u> </u>	of	1	FR	
Leg 3	<u> </u>	0.236	0.2135	BP	foundation	1	FR	
Leg 4		Good	VG-	P	codes	1	FR	
Action Code			seshoe Repl		t as Found	FP: Foundatio		
	In Lieu of M	leasurements -	VG: Visually	Inspected - Go	od		• • • • • • •	
	· · ·		•	Tower Inspection	n i			
Step Bolt Cl	ips Added:	- Comment	Yes _	No	· · · · · · · · · · · · · · · · · · ·	Quantity:	78	
	Damage	Face	Member	Correctiv			Remark	
1	C	AC	718x2	1	2P	BP -	GW - NB	
2	P	AC	718X2	1	R	<u> </u>	<u></u>	
3	С	d	730×2		»p			
4	P	B	930x2		0			
5	Im	ABCd		R	P	···		
6	ρ		220x24	<u>A</u>	$\frac{P}{2}$			
7	P	AC	713×4	······	<u> </u>			
	<u> </u>	Bd	725×4	/				
8	<u> </u>	Bd	724 x 3	R	Ρ			
9	<u> </u>	B	706×1	Ŕ				
10	ρ	AC	712×2	ŀ				
11	P	AC	321 × 4	1	2			
12	C	AC	312 ×2		P			
13	C	AC	312Rx2	<u>^</u>				
14	ρ				2			
15	ρ		319×4					
16	P		341×4	<i>k</i>				
	P		<u>330 x 1</u>	<i>R</i>		····		
17	P		219×4	<i>R</i>		······································		
)amage Code //B: Missin		Corrective Ac		Remark Code:			•	
ib: Missin I: Bent	y BOIT	R: Repaired RP: Replaced		G: Grounded S			Lower Step Bolts	
: Cracke	d	RP: Replaced		BP: Beat Pack			er/Aerial/Number Signs	
M: Thin Me				GW: Applied G NB: New Bolts	·		ackage Per Specs	
: Other				Hew Bolls	F	r: Flipped /St	raightened Plates	
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Date: <u>3/4/21</u> Foreman: <u>GREq V'A</u>

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Company: <u>LEMYRES</u>

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Line Number: <u>588</u>

Structure No: 203

Page $\underline{\mathcal{A}}$ of $\underline{\mathcal{A}}$

J					Tower Inspection			
	Damage		Face Member		Corrective Action	Remark		
L	1	ρ	Ba	336 X4	I R	BAP-GW-NB		
L	2	P	Ba	10×2	R			
	3	P	Bd	11x2	R			
	ą	ρ	Bd	222xa				
	5	P	AC	38 x 4	R			
	6	Tm	d	NS	RP			
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	29					Climbing INSPECTION		
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Vama WB:	a a fair an		Corrective Action Code		Remark Code:			
968297 3:			R: Repaired		G: Grounded Str	RS: Removed Lower Step Bolts		
			RP: Replaced		BP: Beat Packout	NS: New Danger/Aerial/Number Signs		
			LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs		
	<u></u>			ana ganda da mana da manga sa	NB: New Bolts	FP: Flipped /Straightened Plates		
): 1	Other		1		ł			

Wo al Taur z

		Towe	r Orientation	Steel TOWE	er inspection	Renabilita	tion Data S	heet	
			Ahead			1 in - 11 1	×	0	
	leg 2						• <u> </u>	the second se	
			face C	leg 3		Structure No	20	4	
	÷	- face D			•		KIT. SI	LE 30' BE	
			face	B					
								in	
	leg 1		face A	leg 4	Ahe	ad Substation;	FEN	TRESS	
			Back	189 4			Kernelatio	Inspection	
			Groundline Ins	Nortion			A-2 42	_	
	Severe	Corrosion		easurements		Date:			
• • • •			lo Reading			Foreman:	T	Rundgeen	
	Leg 1			Reading 2	Action Code		Fnd Code	Action Code	
	-		=/		<u> </u>	book for	1	FR	
	Leg 2		=		ρ_{\perp}	explanation of	1	FR	
	Leg 3	6r	- V-		P	foundation	1	FR	
	Leg 4		- Good	VG	p	codes		FR	
let	ion Code:	: P: Applied	I A-120 B; I	Baseshoe Rep		t as Found	FP: Foundatio	n Repaired	
		In Lieu of	Measurement	s - VG: Visuall	y Inspected - Go	od			
			·		Tower Inspection	'n			
ťej	p Bolt Cli	ps Added:		_Yes _	No	No Quantity:7_8		T 8	
		Damage	Face	Member	Corrective Action		Remark		
	1 P		A	669×1	R	· · · · · · · · · · · · · · · · · · ·	BP - G	in all	
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	3	6	AC	256 x 2		P			
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	7	P	AC	275×4	R		<u> </u>	·	
_		/	Bd	275 × 4	K	·			
	8	P	AC	219 x 4	R				
	9	<u>P</u>	Ba	236×4	R				
	10	<u> </u>	B	235 X (R	٥			
	11	<u> </u>	С	208 X 1	R				
	12	C	С	ZIOXI	R				
	13	P	Ba	222×3					
	14	P	AC	38×4	R	·····	······································		
	15	P	Ba	10×2	R				
<u></u>	16	P	Ba	1					
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amage Code									
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	Cracke			RP: Replaced LF: Left as Found		3 and the state of			
fi:	Thin Me			·	GW: Applied G NB: New Bolts				
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Date: <u>3/25/21</u> Foreman: <u>GREG ViA</u>

Company: LEMYERS

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Line Number: <u>588</u>

Structure No: _______ 204_____ Page ______ of ____

Tower Inspection

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	Damage	Face Member		Corrective Action	Remark		
1	P	Bd	734×4	R			
2	Tim	d	NS	RP			
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)amage		Corrective A		Remark Code:	·		
NB: Missing Bolt		R: Repaired		G: Grounded Str	RS: Removed Lower Step Bolts		
: Bent		RP: Replaced		BP: Beat Packout	NS: New Danger/Aerial/Number Signs		
····	acked	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs		
	n Member	a a construction of the statement of the		NB: New Bolts	FP: Flipped /Straightened Plates		
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			teel Tower	·Inspection/	Rehabilitat	ion Data S	heet	
		Drientation						
G	Ahead			Line Number:		<u> </u>		
leg 2	face C		leg 3	ì	Structure No:	205	·	
				St	ructure Type:	5LT+ 3	70 LE	
		face B						
	fa	ce A			d Substation:			
leg 1		Ŷ.	leg 4					
	B	ack			Inspection			
	Gre	oundline Inspe	ection		Date:	<u>_0'3-1</u>	1-21	
Severe	Corrosion	Steel Mea	surements		Foreman:	Aller	Rundyren	
Ц	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code	
Leg 1	<u> </u>	0,356	0.194	P	book for	1	FR	
Leg 2				P	explanation	1	FR	
Leg 3			1 ×	ρ	of foundation	1	FR	
Leg 4	V	Good	VG	p	codes	1	FR	
Action Code	: P: Applied /	A-120 B: Ba	seshoe Repla	iced LF: Left	as Found	FP: Foundatio	n Repaired	
	In Lieu of M	easurements •	VG: Visually	inspected - Go			•	
	· .	· .	1	ower Inspectio	'n		·	
Step Bolt C	ips Added:	Yes		No		Quantity: 48		
	Damage	Face	Member	Corrective Action			Remark	
1	P	AC	673×4	R		BP - 0	SW - NB	
2	<u>P.</u>	Ba	674×4	R		· · · · · · · · · · · · · · · · · · ·		
3	P	ß	672X1	R				
4	ρ	β	GTIXI		2			
5	ρ	d	670×1		R			
6	P	d	664 X 1		R	······		
7	P	A	654×1		R			
8	<u> </u>	Bd	335 X 2				······································	
9	<u> </u>	d	233RKI	RP				
10	P	B	233 ⁴ X1		R			
11	ρ	ĤC.	219×4		R			
12	<u> </u>	Bà	236×4	ſ.	Ś			
13	C	B	227×1	ŕ	RP			
14	ρ	β	233 ^R X1		R	· · · · · · · · · · · · ·		
15	P	Bd	IUXQ		R			
16	ρ	BJ	11XQ		२			
17	P		222 x 2		2 1			
Damage Cod		Corrective Action Code		Remark Code:	ođe;			
	ng Bolt	R: Repaired		G: Grounded S	I	RS: Removed	Lower Step Bolts	
: Bent		RP: Replaced		BP: Beat Pack	· · · · · · · · · · · · · · · · · · ·		jer/Aerial/Number Signs	
2 Cracked		LF: Left as Found		GW: Applied Greywax IP: Installed Package				
	lember			NB: New Bolts	·I	FP: Flipped /Straightened Pl:		
0: `Other								

Date

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Company:

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Line Number: <u>588</u>

Structure No: ______205

Page _____ of ___

Tower Inspection

DamageFaceMemberCorrective ActionRemark1 P AC $3 \le 4'$ R BP $G = -0.00$ 2 P C $7^{0} \le 1^{-1}$ R I 3 Tm A $N \le R$ R I 4 A $N \le R$ R I 5 I I R I 6 I I I I 7 I I I I 8 I I I I 9 I I I I 10 I I I I 11 I I I I 12 I I I I 13 I I I I 14 I I I I 15 I I I I 16 I I I I 18 I I I I 20 I I I I 21 I I I I 22 I I I I 23 I I I I 24 I I I I 25 I I I I 26 I I I I 27 I I I I 28 I I I I 29 I I I I 29 I		tower inspection								
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Damage Code Corrective Action Code Remark Code: MB: Missing Bolt R: Repaired G: Grounded Str RS: Removed Lower Step Bolts B: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs TM: Thin Member NB: New Bolts FP: Flipped /Straightened Plates	30					Complete				
B: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs TM: Thin Member NB: New Bolts FP: Flipped /Straightened Plates	Damage	e Code	Corrective A	tion Code:	Remark Code:	for a second stand for the second stand				
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C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs TM: Thin Member NB: New Bolts FP: Flipped /Straightened Plates	B: B	lent			BP: Beat Packout					
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		fac	ce A		Ahe	Ahead Substation:		RE55	
leg	1			leg 4		•			
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		Gro	oundline Insp	ection		Date	03-01-	- <u>21</u>	
Sev	ere Corro	sion	Steel Me	asurements		Foreman	Allen	Rundyren	
	Yes	No	Reading 1	Reading 2	Action Code		Fnd Code	Action Code	
Leg	1				P	book for	1	FR	
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					Inspected - Go		FP: Foundatio	on Kepaired	
			· ,	-	fower Inspectio				
Step Bol	t Clips Add	ied:	- V	Yes	No		Quantity:	48	
		mage	Face	Member	Correctiv	e Action	wuantity:	Remark	
1	1		AC	219×4	R		QD. C.		
2		0	Bd	1	/	7	BP-GU	<u> </u>	
3		~~~		236×4	<i>K</i>	20		i	
		$\frac{1}{2}$	\underline{B}	235×1		<u>ęp</u>			
·		ρ Ο	Bd	233 × 2			· · · · · · · · · · · · · · · · · · ·		
5	1	D	<u> </u>	215×1		R			
6	<u> </u>	/	d	671x1	<u> </u>	R			
7		0	<u> </u>	10 x 2	1	2			
8			Bd	11 x 2	R				
9	(A	96XI	ĥ	°P	<u> </u>	··· / ····	
10	/	0	Ba	222x2	f.	The second s	······	····	
11	1	2	AC	673X4	Ŕ				
12		0	Ba	674×4	j×			·····	
13	-7	'n	d	NS	R			<u> </u>	
14		· ·	<u> </u>			<u>/</u>			
15	·····			<u>†</u>				······································	
16							11.1.		
17			<u> </u>	1		·	<u>Chmbing</u>	Inspection	
Damage	Code	·	Corrective A	ction Code	Remark Code:		Somple	<u>/</u>	
			Corrective Action Code R: Repaired		G: Grounded Str		RS: Romanned	Lowor Ston Polts	
	the second se		RP: Replace				RS: Removed Lower Step Bolts		
			LF: Left as Found		GW: Applied Greywax		NS: New Danger/Aerial/Number Signs IP: Installed Package Per Specs		
rM: Thi	M: Thin Member							traightened Plates	
o: Oth	er			· · · · · · · · · · · · · · · · · · ·					

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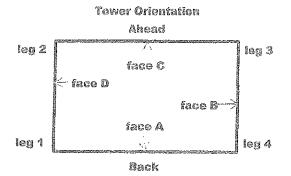
Date: 1/23/21 Foreman: <u>GREG Via</u> Company: <u>LEMYERS</u>

	We	athering S	teel Towe	r Inspection	Rehabilita	tion Nata S	hoof
	Tower C	Drientation					
	A	head			Line Number	•న్న	7 9
leg 2	an a	75	leg 3				Ζ
<u> </u>	fa	ce C			Structure No		<u>L</u>
	🗧 face D			S	tructure Two	LT+ 3	$\alpha' l =$
		face B				YAd K	
							· · · · · · · · · · · · · · · · · · ·
leg 1		ce A	lon 4	Ahei	ad Substation;	FENTRE	55
109 1		leg 4 Back					
[Inspection		
ļ		oundline Inspe	ection		Date;		the second se
Severe	Corrosion	Steel Mea	surements		Foreman:	Allen	Rundyren
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1		Good	VG	ρ	book for	· · · · · · · · · · · · · · · · · · ·	FR
Leg 2	Em	0.169	0,214	BP	explanation		
Leg 3			1	P	of		FR
-		Good	VG		foundation		FR
Leg 4		Good	VG	P	codes	1	FR
Action Code	· · · · · · · · · · · · · · · · · ·		sestice Repla		t as Found	FP: Foundatio	m Repaired
	In Lieu of M	easurements ·	VG: Visually	Inspected - Go	od		
/ 				Fower Inspection	n		· .
Step Bolt C	lips Added:		Yes	No		Quantity:	50
	Damage	Face	Member	Correctiv	e Action		Remark
1	ρ	вд	10×2		R	BP-G.	SUNB
2	P	Bà	11×2		R		
3	P	Ac	673 x 4		R	····	
4	P	Bà	674×4		R		
5	P	d	663 X 1		R	·······	
6	P	À	675×1		R		
7	P	d	67121		R	<u> </u>	
8	ρ	A	660×1		R		
9	P	0	219×4		R	······································	
10	P	Bà	236×4	/	ę –		
11	Tim		220 K 8	R			
12	C		222 X I	R	P		
13	P		222×1	ŕ	रं ।	·	
14	ρ	AC	\$8x4	, k	2		
15	C	A	96X j	K	P		t
16	C	C	95 × ida	K	the second se		
17	TM	d	NS	R	0	Climbia.	Inspection
Damage Cod		Corrective Ac	tion Code	Remark Code:		Com plan	Le .
		R: Repaired		G: Grounded S	tr		Lower Step Bolts
B: Bent		RP: Replaced		BP: Beat Pack	out		jer/Aerial/Number Signs
C: Crack		LF: Left as F	ound	GW: Applied G	reywax i		ackage Per Specs
TM: Thin M	ember	·····		NB: New Bolts		FP: Flipped /S	traightened Plates
0: 'Other							

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Date: 2/17/21 Foreman: GREG VIA Company: LEMYRS



Line Numberr _____583 Structure No: <u>209</u>

Structure Type: <u>5LT+ 40</u>

		Gro	undline Inspe	ction		Foundation	- Inspection	
Severe (Severe Corrosion Steel Measurements				Foreman: A_	The second s	Date: 02-01-21	
	Yes	No	Reading 1	Reading 2	Action Code	a substanting of the substanting of the substanting of the substantion	Fnd Code	Action Code
Leg 1			0,185	0,211	BP	book for	, and the second se	FR
Leg 2			Good	1/ G	P	explanation	an and a state of the second state of the second state stronger	
Leg 3			Good	VG	P	or foundation	alah ang	ana
Leg 4	- <u>k</u>	L	0,153	0,106	BP	codes	1	FR

Action Code: P: Applied Leg Coating B: Baseshoe Replaced LF: Left as Found In Lieu of Measurements - VG: Visually Inspected - Good

FR: Foundation Repaired

Step Bolt Clips Added:		·	Yes	No	Quantity: <u>53</u>	
- Anima and Johnson		Damage	Face	Member	Corrective Action	Remark
	4	P	AC	787×4	A and a second	BP-GW~NB
	2	P	Ba	788×4	Reconstruction of the second	
	3	C	AC	770 % 3	RP	
	Ą.	-C	Ba	784×3	R P	ан сама мандала, или ули или или ули ули самата ули ули самата сама ули самата сама сама сама сама сама сама с
A STATISTICS	5	C	B	780× 1	R P	алтан саранан калан к
	6	Tm	ABCd	220×16		
	vių B	P	BA	757×4	an fan weer weer weer weer weer weer weer wee	
	8	: P	AC	754 × 4		Annu and and an
	9	P	AC	219×4	R R R R R R R R R R R R R R R R R R R	2 20 January 19 Carl Carl Andrew Control of Statistics of the Control of Statistics of Market Control of Contr
	10	P	BD	236×4	Production and the second s	988 - Carlo Martin M
and the second	41	P	B	222 x 1	n for me and the providence of	⋒⋣⋬⋎⋳⋍⋑⋎⋰∊∊⋩⋵⋳∊⋎⋵⋺⋎⋳⋨⋳∊⋵⋬∊⋹⋬⋳⋒∊⋳⋨⋳⋳⋺⋳⋨⋬∊⋳∊⋽⋶⋎⋸∊∊∊⋹⋽⋶⋳∊⋳⋼⋳∊⋳∊⋵∊⋳∊⋞⋼∊⋵⋼⋵⋳⋼∊⋏⋼∊⋳∊⋹∊⋳∊⋳∊⋳∊⋳∊⋳∊⋳∊⋳∊⋳∊⋳∊⋳∊
	12	P	Ba	10×2	n and de antier and an	
	13	P	1 BJ	11 x 2	Contraction of the second	
	14	C.	9	776 X 1	RP	₽₩₩₽₩₽₩₽₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩
	15	C	A	7551		
1000000000	16	O	4	CARTER	KEL MISSING SING	ALEIS Starl
,	17		, , , , , , , , , , , , , , , , , , , ,		Static Shae	Chan the same Telephone and the second
P	18			a filos hinnes - angen trainer an ann an	REPAIREA	NEW Sign Climbing Enspection Complete
ama	ge Code	2	Corrective A	ction Code	Remark Code:	an and a second a second and a second a
iB;	Missing	3 Bolt	R: Repaired	Cantaran pagan waxaya a 1997. Gi	G: Grounded Str	RS: Removed Lower Step Bolts
	Sent	aven in a constant of the constant over	RP: Replace		BP: Beat Packout	NS: New Danger/Aerial/Number Signs
а <i>а</i> имптирато	Cracke		LFi Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
M: Thin Member		mher			NB: New Bolts	FP: Flipped /Straightened Plates

Tower Inspection

1/21/21

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	We	athering St	eel Tower	Inspection/I	Rehabilitati	on Data Sh	leet .
	Tower	Drientation	omplete (Line Number:	~~	
	A	a an an an an	,	_	Line Number: Stracture No:	260	
leg 2		Ce C	leg 3 Ensp	<i>L</i> .			
	Face D		tusp	ection st	nucture Type:	5LT+2	10'LE
		face B		Bac	k Substation:	<u> YADk</u>	IN
		ice A		Ahea	ad Substation:	FENT	RESS .
leg 1		V	leg 4	-	·		Inspection
	E	lack					-21
	Gi	oundline Inspe	ction		Date:	<u>-01-21</u> Allen	Rundgien
Sever	e Corrosion	Steel Mea	surements		Foreman:		
	Yes N	D Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Cod
Leg 1		0.17630	0.20130	BP	book for explanation	1	FR
Leg 2		VG	VG	P	of		<u> </u>
Leg 3		0.18880		BP	foundation	1	FR
Leg 4		0.21695		BP	codes		FR
ction Co		Leg Coating I					FR: Foundation R
	In Lieu of I	Aeasurements -		inspected - Go 'ower inspectio			
						Quantity:	40
tep Bolt	Clips Added:		Yes	No	re Action	quanty:	Remark
	Damage	Face	Member				Kendik
1	<u> </u>	AC	576x3	<u>BP-NB-</u>			
2	<u> </u>	A	576X1		NB-GW	-	
3	<u> </u>	BD	57724	RP-NB	<u>-60</u>		· · ·
4	<u> </u>	AC	594X4	104-1VE	<u>14511</u>		
5	TM	<u>A</u>	217×1	RP-BP-A	<u>/B-GW</u>		·····
6	P	AC	219×4	BP-NB	-GW	l	
7	MB		<u>552X1</u>	RNB	2011		······································
8	<u> </u>	<u>BD</u>	IOXA	BP-NE		<u> </u>	
9	P	<u> </u>	IXZ	BP-NB			
<u>,</u> 10	P	<u> </u>	40NEARX			<u> </u>	
11	P	<u> </u>	39FARX1	BP-NE		 	
12	<u> </u>	<u> </u>	36NEARX1		B-GW	 	-
13	<u>·</u> ρ	C	37FARX 1		IB-GU		
14	P	<u> </u>	ZZAXI		B-GW	 	-
15	B	<u> </u>	111X1		PNB-GU	Į	
16	P	<u> </u>	227X1	RP-NB		 	<u></u>
17	P	<u>A</u> .	37NEARX		VB-GW	<u>L</u>	
Damage	and the second se	Corrective A		Remark Code G: Grounded		RS: Remove	d Lower Step Bolt
	ssing Bolt	RP: Replac	والمتحد والمتحد والمتحد والمتحد والمتحد والمتحد	BP: Beat Pac		NS: New Da	nger/Aerial/Numbe
	cied	LF: Left as		GW: Applied	Greywax	I	l Package Per Spec
TM: Th	in Member			NB: New Bol		FP: Flipped	Straightened Plate
						1 ·	

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Line Number:

588

209

Structure No: ___

Page _ 2 _ of _ A

· · · · ·			Ť	ower Inspe	ction	
	Damage	Face	Member	Correc	tive Action	Remark
1	P	C,	36FARX1	BP-N	B-GW	
2	MB	C	412×1 stracture SISAA 595×4	R-NB		
3	0	B	Stracture	Λ	5	
4	q I	BD	595X4	N BP-N	B-GIN/	······································
5	0	B	Leg 3	G		·····
6						· · · · · · · · · · · · · · · · · · ·
7						
8						
9						
10						
11					······	······································
12						
13						· · · · · · · · · · · · · · · · · · ·
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23		· · · · · · · · · · · · · · · · · · ·				
24					····	
25		· ····				
26						
27						
28						-
29					······································	
30						
amage Cod	e	Corrective A	Action Code	Remark Co	de:	
·····	ıg Bolt	R: Repaire		G: Grounde		RS: Removed Lower Step Bolts
: Bent		RP: Replac		BP: Beat P		NS: New Danger/Aerial/Number Signs
: Crack	ed	{	s Found	GW: Applie	d Greywax	IP: Installed Package Per Specs
M: Thin M	ember			NB: New B		FP: Flipped /Straightened Plates
: Other	····	1				

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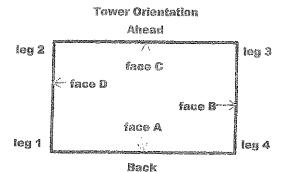
		rientation	omplete	Climbins	Line Namber: .	588	3
6	and the second	ead 🗸	leg 3		Strecture No:	~ 0	
leg 2		eC	1 -				-1, -
k	face D		Inspe	ction st	nucture Type:		
		face B ⁻		Bac	k Substation:		
	fac	æA		Ahea	d Substation:	FENT	PESS
leg 1		V	leg 4			Foundation	Inspection
		acik			Date:	01-20.	
		undline laspe			Foreman Allen Rundgren		
Severe	Corrosion		surements			Fnd Code	Action Code
	Yes No	Reading 1	Reading 2	Action Code	See spec. book for	Find Gode	FR
Leg 1		VG	VG	P	explanation	[FR
Leg 2		VG_	VG	P	of		
Leg 3		VG	VG	<u>р</u>	foundation		
Leg 4		VG	<u>VG</u>	ρ.	COGES	1	<u>FR</u>
ion Code	e: P: Applied I	leg Coating · I	B: Baseshoe R	eplaced LF:	Left as Found		FR: Foundation Repaire
	in Lieu of M	easurements -		inspected - or ower inspecti			
			Yes	No		Quantity:	51
p Bolt C	Tips Added:	Face	Member	1	ve Action		Remark
	Damage		730x.3	DD BD	-N/R-C-1.1		- -
1	- C	DB		RRM	R-GAI		
2			718X 704X4	EP-1	B.G.I		
3		HC AC		ZD-K	B-GU		•
4		AC	702X4	RP A	IR-C/1		
5		AC	703X4	BP-N	\mathcal{R}	·	
6	<u> </u>		726X1	DO RD	MB-GU	· · ·	<u></u>
7			724×1	BP-NE			
	<u> </u>	AC	219x3				
8			an and	1 10 20	MR.C.I.I	1	
9	TM-B	ABCD	220X16		NB-GW		
9 10	TM-C	ABCU	217XI	RP-BP-			
9 10 11	TM-C MB	A 0	217X 234X1	RP-BP- R-NP	NB-GW		
9 10 11 12	TM-C MB P	А D В.D	217X 234X 236X	RP-BP- R-NP			
9 10 11 12 13	TM-C MB P	А П В. В. В. В. С	217X 234X1 236X 222X2	RP-BP- R-NP	NB-GW VB-GW B-GW		
9 10 11 12 13 14	TM-C MB P · P	A D BD BD BD	217X 234X 236X 222X2 10X2	RP-BP- R-NP	NB-GW		
9 10 11 12 13 14 15	TM-C MB P P P P	А П В. В. В. В. С	217X 234X1 236X 222X2 10X2 11X2	RP-BP- R-NP BP-N BP-N BP-N BP-N	NB-GW VB-GW B-GW		
9 10 11 12 13 14	TM-C MB P P P P P MB	A D BD BD BD	217X 234X1 236X 222X2 10X2 11X2 64LX1	RP-BP- R-NP BP-N BP-N BP-N R-NP	NB-GW VB-GW VB-GW B-GW		
9 10 11 12 13 14 15 16 17	<u>Тм-с</u> <u>МВ</u> <u>Р</u> <u>Р</u> <u>Р</u> <u>Р</u> <u>МВ</u> <u>Р</u>	A D BD BD BD BD C	217X 234X 236X 222X2 10X2 11X2 64LX HONEARX	RP-BP- R-NP BP-N BP-N BP-N R-NP BP-NB	NB-GW B-GW VB-GW B-GW		
9 10 11 12 13 14 15 16 17 17 mage C	TM-C MB P P P P MB P	A D BD BD BD BD C C Corrective A	217 X 234 X 1 236 X 1 222 X 2 10 X 2 11 X 2 64 L X 1 HONEARX Action Code	RP-BP- R-NP BP-N BP-N BP-N R-NP	NB-GW VB-GW VB-GW B-GW B-GW		ed Lower Step Bolts
9 10 11 12 13 14 15 16 17 17 mage C	TM-C MB P P P P MB P ote sing Bolt	A BD BD BD BD C Corrective A R: Replace	2/7 X 234 X 236 X 222 X 2 10 X 2 10 X 2 10 X 2 11 X 2 64 L X 1 HONEARX Action Code	RP-BP- R-MP BP-M BP-M BP-M R-MB BP-M8 Remark Cod G: Grounder BP: Beat Pa	NB-GW VB-GW B-GW B-GW B-GW B-GW Str ckout	NS: New Da	unger/Aerial/Number Signs
9 10 11 12 13 14 15 16 17 image C B, Mis Ber	TM-C MB P P P P MB P ote sing Bolt	A BD BD BD BD C Corrective / R: Repaire	2/7 X 234 X 236 X 222 X 2 10 X 2 10 X 2 10 X 2 11 X 2 64 L X 1 HONEARX Action Code	RP-BP- R-NP BP-N BP-N BP-N R-NB BP-NB Remark Cod G: Grounder	NB-GW VB-GW B-GW B-GW B-GW Istr ckout Greywax	NS: New Da IP: Installer	

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Line Number:	588	
Structure No:	210	

					Page 2_ of 2
	·		1	ower Inspection	<u>.</u>
	Damage	Face	Member	Corrective Action	Remark
1	P	A	39FARX1	BP-NB-GW	
2	ρ P	A	3GNEARX I	BP-NB-GW	
3	P	A	37FARX 1	BP-NB-GW	
4	Ċ	B	728×1	RP-BP-NB-GW	
5	P	C	733X 1	BP-NB-GW	
6	þ	ת	734X1	BP-NB-GW	
7	0	B	Sighn	- N.5	· · · · · · · · · · · · · · · · · · ·
8			1		
9					
10	1				
11	1				
12		· · · · ·			
13					
14				· · · · · · · · · · · · · · · · · · ·	
15	1		1	······	
16					
17		1		· · · · · · · · · · · · · · · · · · ·	
18					
19			· ·		
20					
21					
22					
23			· .		
24					
25					
26					
27			·		
28					
29					
30					
Damage Cod	e	Corrective A	ction Code	Remark Code:	-
MB: Missir	ıg Bolt	R: Repaire	đ	G: Grounded Str	RS: Removed Lower Step Bolts
B: Bent		RP: Replace	ed	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
C: Crack	ed	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM: Thin M	ember			NB: New Bolts	FP: Flipped /Straightened Plates
0; Other); Other				



Line Number:	688
Structure No:	211

Structure Type: <u>LA + 35</u>

Groundline Inspection Foundation Inspection Severe Corrosion **Steel Measurements** Foreman: A. Rundaren Date: 01-27-21 Yes Reading 2 No Reading 1 See spec Action Code Fnd Code Action Code Ener book for Leg 1 ĺ FR explanation Leg 2 b D 1 FR of Leg 3 1. Fĸ foundation Leg 4 Good \mathcal{O} cades G FR Ì

Action Code: P: Applied Leg Coating B: Baseshoe Replaced LF: Left as Found In Lieu of Measurements - VG: Visually Inspected - Good

FR: Foundation Repaired

Step Bolt Clips Added: Yes No 48 Quantity; _ Damage Face Member **Corrective** Action Remark V. 1 H C R 815 X 4 BP - GW - NB P Bd 2 829×4 R 3 АC 813×2 RP ą ρ R Ĉ 813× 1 BA 5 C 827 x 2 R P 6 RÀ 827x3 R Ŕ 7 ρ Ar 804× 4 8 Bo R 818 X 4 Ω_{i} AC 341 X 2 R 10 OAC 332 x à R 嘴角 BJ 343×2 Ŕ 12 R Вċ 339x 2 13 \mathcal{B}_{c} 333X Z 14 326×1 K Ĉ BJ 45 314 X 2 Ŕ 16 a 311×1 RP 17 Ċ R P đ 312 X 1 18 313 X 1 \mathcal{C}^{*} $\rho \rho$ Damage Code Corrective Action Code Remark Code: MB **Missing Bolt** R: Repaired **G:** Grounded Str **RS: Removed Lower Step Bolts** R: Bent **RP:** Replaced **BP: Best Packout** NS: New Danger/Aerial/Number Signs C: Cracked e Fi Left as Found **GW:** Applied Greywax **IP: Installed Package Per Specs** The Thin Member NB: New Bolts FP: Flipped /Stralghtened Plates P: Packout O: Other! GREG V.'A

Tower Inspection

1/13/21

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Line Number: <u>583</u>

Structure No: <u>211</u> Page <u>2</u> of <u>2</u>

Tower Inspection

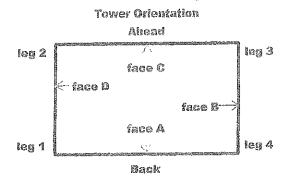
	Damage	Face	Member	Tower Inspection Corrective Action	Remark
1		A	307×1		BP-GW-NB
2	P.	B	311×1	R	INF GW IVB
3	P	B	312 X 1	R R	
4	P	B	313 X (R	
5	C	B	817×1	RP	
6	Tm	b	NS	RP	
7	C	B	231×1	RP	
8	C	B	23PX 1	RP	
9	C	B	241×1	RP	
10	LC_	B	241×1	RP	
11	To	d	NS	RP	
12				and and a second s	
13					
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20					
21				nen binden 1979 einen Bieldinselen yn yw en orthyfer a gef genom oegor y Pillender oan ak o fry mannen o	
22					
23					
24	· · · · · · · · · · · · · · · · · · ·				······································
25			······································		
26		······································	a		
27					
28				· · · · · · · · · · · · · · · · · · ·	
29					dialis T - dis
30		+ +2 00000000000000000000000000000000000			Climbing INSpection Complete
amage C	code .	Corrective A	ction Code	Remark Code:	<u>607 fltETE</u>
B: Mie	ssing Bolt	R: Repaîre	1	G: Grounded Str	RS: Removed Lower Step Bolts
Be	nt	RP: Replace	ed	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
Cra	cked	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
/i: Thir	1 Member			NB: New Bolts	FP: Flipped /Straightened Plates
Othe	27			a na mana manju ka manju i sina ya kunya kunya mangana na mana mangana mana mangana mana m	

		eathering S Orientation	teel Tower	Inspection/			
	А	head			Line Number;	<u> </u>	<u> </u>
ieg 2		1	leg 3		Structure No:	212	· · · · · · · · · · · · · · · · · · ·
	face D	acè C		¢.	tructure Type:	5174	201 -
		face B					
	_						N
leg 1	te	ace A	leg 4	Ahea	ad Substation:	Tear,	<u>ezs</u>
- 1	E	Back				Foundation	Inspection
	Gı	roundline Inspe	ection		Date:	05-05	- 21
Severe	Corrosion	Steel Mea	asurements		Foreman:	Allen	Rundgren
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1		Good	VG	ρ	book for	1	FK
Leg 2		0,203	0,225	BP	explanation of	i	FR
Leg 3	<u> </u>	0.238	0,245	BP	or foundation	1	FR
Leg 4	V	Good	VG	P	codes	1	FR
Action Cod	e: P: Applied		seshoe Repla	iced LF: Lef	t as Found	FP: Foundatio	
	In Lieu of N	leasurements	- VG: Visually	Inspected - Go			-
			1	ower Inspection	DN		
Step Bolt C	lips Added:		Yes	No		Quantity:	43
······	Damage	Face	Member	Correctiv	ve Action		Remark
1	<u>ρ</u>	AC	673×4.		R	BP-0	SW-NB
2	. P	Bd	674×4		R		
3	P	Ac	219×4		R		
4	P	Bd	2.36×4		R		
5	P	d	233×1		R		
6	P	A	235 X 1		R		
7	P	A	237×1	· · · · · · · · · · · · · · · · · · ·	R	· · · · · · · · · · · · · · · · · · ·	
8	P	Ba	222X2		R		
9	IP	AC	96x2		Ŕ		
10	P	AC	95×2		R		
11	P	AC	38 X 4		R		
12	P	Ba	10×2		R		
13	P	Bà	11 x 2		2	··· ··· ······························	-
14	Tm	ABCd	220x8	R	and the second se		
15	Tm	d	NS NS		P	•• ••••••••••••••••••••	
16						chink ".	t and the second
17					-	0	In spection
amage Co	de	Corrective Ad	ction Code	Remark Code:		Complet	*
IB: Missi	ing Bolt	R: Repaired		G: Grounded S		RS: Removed	Lower Step Bolts
: Bent		RP: Replace		BP: Beat Pack	cout	NS: New Dan	ger/Aerial/Number Signs
: Crack		LF: Left as		GW: Applied G			Package Per Specs
M: Thin M : Other	/lember	<u> </u>		NB: New Bolt	s	FP: Flipped/S	traightened Plates
, vner		1			1		

Date: <u>4/21/21</u>

Foreman: <u>GREg V.A</u>

Company: <u>LEmyERS</u>



Line Numberr	588
Structure No:	213

51T+ 35 Structure Ty

ype:	 Er.	1	1	\sim	~	
A Ko can	 ~~~	C			-970-1973.es	'

Foundation Inspection **Groundline Inspection** Foreman: A. RV alycen Date: 01-27-21 **Steel Measurements** Severe Corrosion Ye Leg 1 Leg 2 l

	/ 43° F 6						Siller was To Wat and Siller was a strengthered and the second strengthere	
'es	No	Reading 1	Reading 2	Action Code	1	Fnd Code	Action Code	
	i	Good	VG.	P	book for	1	FR	
Comments of the second s		0.186	0.2015	βP	explanation of		Financial data and the second se	
1949-94 LLC01+		6002	VG	p	foundation	1	FR	
6		02011	N1475	вP	codes	1	FR	

Action Code: P: Applied Leg Coating B: Baseshoe Replaced LF: Left as Found In Lieu of Measurements - VG: Visually Inspected - Good

FR: Foundation Repaired

Tower Inspection

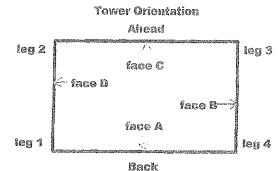
Step Bolt Cl	ips Added:	<u> </u>	_Yes	No	Quantity: 51
	Damage	Face	Member	Corrective Action	Remark
a na manana na sa ka na manana na sa ka na sa na sa	Γρ	1 Ba	11 x 2	R	BP-GW-NB
2	Γρ	Ba	10x2	R	
3	P	AC	219×4	R	
Ą	Γρ	Ba	236×4	R	
5	P	Bd	222 X 2	R	
6	P.	AC	733x4	R	
1	P	Ba	734×4		
8	P	d	233×1	R	
9	Im	d	NS	RP	
10	0	Ld	COHER	Pin missing in	
11			ngerijssense au som i mensekan av som Mittiger.	STATIC ShOE	
12			in case of the star particularly growing and house of	REPLACED	
13				and a second	
14			-	and the second	
15					
16			angena meneranaki darata katikatiwa	nggraamaa, were aanaa waranna da maannara aa wanaamaan iyo muu iyo da di dawa da Coonna ah Coonna ah	climbing Inspection
17			Quegosia chanda / villa de la composición	alandahinan manana danakadi di cindan Takata (Parti Changtor)	Climbing Inspection Complete
18			and a strange of the state of the		
Damage Cod	6	Corrective A	stion Code	Remark Code:	
MB: Missln	ig Bolt	R: Repaired		G: Grounded Str	RS: Removed Lower Step Bolts
B: Bent		RP: Replace		BP: Reat Packout	NS: New Danger/Aerial/Number Signs
C: Cracke		LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TW: Thin M			1000-1000-100 market and a state of the stat	NB: New Bolts	FP: Flipped /Straightened Plates
: Packout	O: Other			1	 Complete Complete Comple Complete Complete C

1/18/21.

Leg 3 Leg 4

GREG VA 100

LEMYERS



Line Number:	533
Structure No:	214

Structure Type: <u>547+25</u>

1	and blockstein strational and Abb services an		an albigan ann an ann an an an an an an an an an		ويوم محرور والم المراسم والمحاصر والمراجع المراجع		Barawaran and and and an an an and an and a state of the	0-7	
J			Gro	undline (nspe	ection			Foundation	Inspection
Contraction of the local division of the loc	Severe (Corros	ion	Steel Mea	surements	an an Anna an A	Foreman: A,	Bundyen	Date: 01-26-21
	**************************************	Yes	No	Reading 1	Reading 2	Action Code	A CONTRACTOR OF THE PARTY OF CONTRACTOR	Fnd Code	Action Code
	Leg 1	V(3,0	-K	Good	VG-	ρ	book for	anna Canadar an an Canadar an an Saidhean an Saidhean an Saidhean an Saidhean an Saidhean an Saidhean an Saidh	talanananguteraa aanaanaa kandalaanaa paratakeraananan meraaana kandanananan E
	Leg 2	i	60,000,000,000,000,000	0.201	6.172	RP	explanation		ER
and the second second	Leg 3			Good	V G.	p	of Ioundation	1	БИ
	Leg 4	<u>.</u>	**************************************	0,20%	0,113	BP	codes		FR

Action Code: P: Applied Leg Coating B: Baseshoe Replaced LF: Left as Found In Lieu of Measurements - VG: Visually Inspected - Good

FR: Foundation Repaired

Tower Inspection

Step Bolt C	llps Added:		Yes	No	Quantity: 43
**************************************	Damage	Face	Member	Corrective Action	Remark
nî B	P	Bd	10×2	R	BP - G W - N B
2	P	BA	1122	R	малин алууна байлагын байлагын алаан таушаастаа бай булган таалагын бүй бүй алууна тааларуу байлууну болоонун б Таала
	P	AC	219×4		
4	P	Bà	236 x 4	R	De la menuntri en primer en en primer primer en primer en primer primer primer en de un primer de la companya d De la menuntri en primer en primer primer en primer
5	C	L_d	227 X 1	RP	
6	C	Ba	23582	need the beam and the beam and the second	
7	P	AC	623×4	na sense se s	
	P	82	624×4	R	αποιη η αποτροφού στη ματική τη δεξοληγια ματική την του του της του διατική παρο η αργοτική του του πορο του Παιοιη
9 	P	Ba	222X2	R	אין איז ער איז
10	Tm	d	NS	Re d	The second se
41				and for many of a second se	՟ֈՠ֎՟ՠՠՠ֎ֈՠ֎՟֎ՠՠ֎ֈՠ֎ֈՠՠՠ֎ֈՠ֎ՠՠՠ֎ֈՠՠ֎ֈՠ֎ֈՠ֎ֈՠ֎ֈՠ֎ֈՠ֎ֈՠ
12					
13				and the second	ĸŦ₩ŶĊĔĨŎĊŎĬĊĊŢĊĸŶĊŎĸŎŎĸĸĔĊŀĸŢĸĊĸĸŎĸŎĸĔĊĬĊĬĊŎĊŎŎĬĬŎĬĊŢĊĬĊŎŎĸŎĸŦĸŦĸŢĸĬĬĬŢŎĊĊŎĸŎŎĊŎŎĸŎĊŎĹŎŔĸŎĊĔĹŎĬĬŎĸŎĬĔŎĬŢŎĬŢŎĬŢŎ
14			-	ირ ლერანის რომი კარები, როგ კარები კარე კარები კარები br>კარები კარები	՟՟ՠ՟ՠ՟֎՟ՙՠՠ՟՟՟ՠ֎֎ՠ֎ՠՠՠՠՠ֎ՠ֎ֈ֎ՠՠՠՠ֎ֈՠ֍֍ֈֈֈֈֈֈֈֈֈֈֈ
15		an a	an a	「「「「」」」「「」」」」「「」」」」「「」」」」」」」」」」」」」」」	ĨĸĹĸĹġġĸŦĸŢĊŎŦŎĸĊĸĊĸĊĸŎĊŎĊŎĊĊŎĊŎĊŎĊŎĊŎĊŎĊŎĊŎŎĊŎŎŎĊŎ
16				n an fair an san an a	ሳም የኤላሙአትፓንሶ የሚሰብዝው መድረ አይርባን ሕልመጠዋ የዚህ የጀመጀመቸው መሪካ በጀመሪ የብ አውድር የሆኑ የሚሰው የሚሰው የሚሰው የሚሰው የሚሰው የሚሰው የሚሰው የሚሰው
17				an an an ann ann a ann a' ann ann a' ann	Clima bias Tales a Socialista
18				арадыйшан танулат Альд Вал-Алиата Адарст Вастания сала на унородном на котору (одну	Climbing INSpection Complete
ımage Codi	3	Corrective A	ction Code	Remark Code:	ntrattattaristen jaar teris en fannar konstand se binnen van genere en ander som som en ander som en andere som
8: Missin	g Bolt	R: Repaired		G: Grounded Str	RS: Removed Lower Step Bolts
Bent	[RP: Replace		BP: Beat Packout	NS: New Danger/Aerial/Number Signs
Cracke	1	LF: Leftas	Found	GW: Applied Greywax	IP: Installed Package Per Specs
h: Thin Me Packout	ember O: Other	Automatical and a second s	46-2milyanna, 1999-012/49-71-0-4-10-519-0-24-00-11	NB: New Bolts	FP: Flipped /Straightened Plates

1/18/21

GREZ V.A

LEMYERS

Weathering Steel Tower Inspection/Pohabilitati

		Orientation		mapection			
	A	head				<u> </u>	·····
leg 2		*	leg 3		Structure No	215	
	face D	ace C		St	tructure Type	547+3	5
		face E		Bac	k Substation:	VAdKin	
· ·	fa	ice A				FENTRE	
leg 1	Defenses in the second second	<u>1</u>	leg 4				
	E	Back				Foundation	Inspection
	Gi	roundline Inspe	ection		Date		
Severe	Corrosion	Steel Mea	surements		Foreman	Allen	Rundgren
	Yes N	P Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1		0,236	0.198	BP	book for	1	FR
Leg 2		Good	VG	P	explanation	<u> </u>	FR
Leg 3	L .	0.238	0.1505	RP	of		FR
Leg 4	in the second se	0.341	0,2785	RP	foundation codes		
Action Cod	e; P: Applied	and the second	sestice Repla	<u>U2 </u>	as Found	FP: Foundatio	<u>F R</u>
			_	Inspected - Go		iri roundatit	n Kepaired
		• •	-	Tower Inspectio			
Step Bolt C	lips Added:	Ensemble	Yes	No		Quantity:	- 4.yl 24
	Damage	Face	Member	Correctiv	e Action		Remark
1	P	AC	704 X H		R	00 0	
2	ρ	AC	707 X 4	-	ρ	Dr = G	W-NB.
3	C	B	730x 1		<u>,</u> ρ		· · · · · · · · · · · · · · · · · · ·
¢,	μ	Ba	10x2	<u>├/`</u>	2	<u> </u>	/
	P	Ba		·} ·· · · · · · · · · · · · · · · · · ·	2		
6		B	11 X Q 235 X 1	<i>K</i>	the second s		
7	P	Bà			7- ?	······	
8	ρ	AC	236 X 3		2		
 9		B	219×4		0	······································	
10	Tim	<u> </u>	236×1	<u> </u>	<u> </u>		
11	Tm	<u> </u>	NS.	<u>K</u>	<u></u> .	<u> </u>	······································
12	+	<u> </u>		· · · · · · · · · · · · · · · · · · ·	·····		
12	-			<u> </u>			
13						······································	
•••••							
15		······				Climbing.	INSpection
16	<u> </u>		·			Complex	for for the second s
17	 						
Damage Coo MB: Missi	ie ng Bolt	Corrective Ac		Remark Code:			
B: Bent		R: Repaired RP: Replace		G: Grounded S BP: Beat Pack			Lower Step Bolts
C: Crack	ed	LF: Left as l		GW: Applied G			ger/Aerial/Number Signs Package Per Specs
· · · · · · · · · · · · · · · · · · ·	lember			NB: New Bolts		·····	traightened Plates
0: `Other							

Date: <u>2/3/21</u> Foreman: <u>GREq VIA</u>

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Company: LEMYERS

Weathering Steel Tower Inspection/Rehabilitation Data Sheet **Tower Orientation** Ahead Line Number: <u>588</u> 7 Structure No: _______ leg 2 leg 3 face C Structure Type: <u>5LT+ 30 LE</u> face D face B Back Substation: ______/Ad Kin face A leg 1 1 leg 4 **Back Foundation Inspection** Date: 04-20-21 **Groundline Inspection Severe Corrosion** Foreman; Allen Rundysen **Steel Measurements** Yes No **Reading 1** Reading 2 **Action Code** See spec Fnd Code **Action Code** Leg 1 į. book for 0.289 1 FR ß 705 explanation Leg 2 1 ρ 0,2082 0.10.85 Ŕ Fĸ of Leg 3 0,1275 ρ Ì FR 8 foundation Leg 4 0.1025 P codes 17. 124 FR Action Code: P: Applied A-120 **B: Baseshoe Replaced** LF: Left as Found **FP: Foundation Repaired** In Lieu of Measurements - VG: Visually Inspected - Good **Tower Inspection Step Bolt Clips Added:** á. Yes No 48 Quantity: _ Damage Face Member **Corrective Action** Remark ρ 1 Ć 660×1 R BP-GW-NB 2 R À 670×1 ٠ Ø 3 233×1 Ŕ d ρ 4 ß R 233 1 Ď 5 AC Ŕ 219×4 ρ 6 Bà 236x 2 Ŕ 7 ŔŶ $C^{>}$ 210×1 8 ß 224×1 RP 9 A 210x i RP ρ 10 C208x 1 R P 11 R Ĉ 205×1 ρ 12 BA Ŕ 222x2 13 $\beta_{\rm c}$ R 10x2 14 ßr R 11 X Q 15 Ĥ R 38 X I R 16 236×1 75 × 1 Ø 17 A Damage Code **Corrective Action Code Remark Code:** MB: **Missing Bolt** R: Repaired G: Grounded Str **RS: Removed Lower Step Bolts** 8 Bent **RP:** Replaced **BP: Beat Packout** NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found **GW: Applied Greywax IP: Installed Package Per Specs** TM: **Thin Member NB: New Bolts FP:** Flipped /Straightened Plates O: Other

Date: <u>3/9/21</u>

Foreman: GREG VA

Company: LEMYRES

Line Number: 588

Structure No: 216Page <u>2</u> of <u>2</u>

Tower Inspection

79 <u>8-11-11459999999999999</u> 0	Damage	Face	Member	Corrective Action	Remark
1	$\Box o$	1E93	GROUN	à BROKE REPAIRE	a
2	Tm	ď	NS	RP /	· · · · · · · · · · · · · · · · · · ·
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
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21	anned rokalistic or the community of the				
22					
23					
24					
25					
26					
27					
28					Climbing Inspection Complete
29					Completé
30					
Damage Code	2	Corrective A	ction Code	Remark Code:	
MB: Missin	g Bolt	R: Repaired	ş	G: Grounded Str	RS: Removed Lower Step Bolts
B; Bent	-	RP: Replace	2d	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
C: Cracke	ed	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM: Thin Me	ember			NB: New Bolts	FP: Flipped /Straightened Plates
O: Other					

	Ah	lead			Line Number	58	8
leg 2		<i>*</i>	leg 3		Structure No:	217	·
	fac	ce C					
	- face D			S	tructure Type:	SLT+	35'LE
		face B	-	Bac	k Substation:	YAONK.	W.
	faç	≽e A		Ahea	d Substation;	FENTR	255
leg 1		<u>)</u>	leg 4				·····
	Ba	ack					Inspection
		undline inspe	ection			04-20.	
Severe	Corrosion	Steel Mea	surements		Foreman:	Alleni	Rendyren
	Yes No	Reading 1	Reading 2	Action Code		Fnd Code	Action Code
Leg 1	<u> </u>	0.324	0.155 5	BP	book for	1	FR
Leg 2		0.241	0.307	BP	explanation	1	FR
Leg 3		Good	VG	ρ	foundation	2	FR
Leg 4		0.1795	0.188	BP	codes		FR
ction Code:	ومعافد فيتركب والمستعد متركبته والمتكاف		iseshoe Repla	ليهيد بسينب بالمحمد المحمد	t as Found	FP: Foundatio	
	In Lieu of Me	easurements ·	VG: Visually	inspected - Go			in stallan og
	. •	• •	T	ower Inspectio	'n		
ep Bolt Cli	ips Added:	·····	Yes	No		Quantity:	······
····	Damage	Face	Member	Correctiv			Remark
1	ρ	B		 	2	00 0	
2		`··	TOTEL			B1 G	W-NB
3		Bd Bd	723×2	K	<u>P</u>		
	I F I	1 mil					
			236 X4	<u>^</u>		<u>_</u>	
4	ρ	AC	219×4	K K		· · · · · · · · · · · · · · · · · · ·	
4, 5	r P	Ac C		ĸ	2	· · · · · · · · · · · · · · · · · · ·	
	<u> </u>	AC	219×4		2		
5	r P	Ac C	219×4 233×1	K	2		
5	r P	AC C Bd	219×4 233×1 222×2 38×4	ĸ	2		
5 6 7	P P P	AC C Bd AC A	219×4 233×1 222×2 38×4 205×1	K K K	2		
5 6 7 8	 Р	AC C Bd AC A Bd	219×4 233×1 222×2 38×4 205×1 10×2	K K K K			
5 6 7 8 9	 	AC C Bd AC A Bd Bd	219×4 233×1 222×2 38×4 205×1 10×2 11×2	K K K K	, ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?		
5 6 7 8 9 10	Г Р Р Р Р Р	AC C Bd AC A Bd Bd AC	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3	K 	, ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?		
5 6 7 8 9 10 11	P P P P P P P Tm	AC C Bd AC A Bd Bd AC A	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3 733×1	K 	р 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
5 6 7 8 9 10 11 12	P P P P P P P Tm P	AC C Bd AC A Bd Bd AC A Bd	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3 733×1 734×4	K 	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?		
5 6 7 8 9 10 11 12 13 14	P P P P P P P Tm	AC C Bd AC A Bd Bd AC A	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3 733×1	K 	р 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
5 6 7 8 9 10 11 12 13 14 14 15	P P P P P P P Tm P	AC C Bd AC A Bd Bd AC A Bd	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3 733×1 734×4	K 	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?		
5 6 7 8 9 10 11 12 13 14 15 16	P P P P P P P Tm P	AC C Bd AC A Bd Bd AC A Bd	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3 733×1 734×4	K 	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?		
5 6 7 8 9 10 11 12 13 14 15 16 17	Г Р Р Р Р Р Г М Т М	AC C Bd AC A Bd Bd AC A Bd d	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3 733×1 734×4 NS	K 	? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?		
5 6 7 8 9 10 11 12 13 14 15 16 17 17 Image Code	Г Р Р Р Р Р Р Р Г М Г М	AC C Bd AC A Bd Bd AC A Bd d Corrective Ac	$\begin{array}{c} 319 \times 4 \\ 233 \times 1 \\ 322 \times 2 \\ 38 \times 4 \\ 205 \times 1 \\ 10 \times 2 \\ 11 \times 2 \\ 733 \times 3 \\ 733 \times 1 \\ 734 \times 4 \\ N \\ S \end{array}$	K K K K K K K K K K K K	р 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
5 6 7 8 9 10 11 12 13 14 15 16 17 17 mage Code	P P P P P P P T M P T M S Bolt	AC C Bd AC A Bd Bd AC A Bd C Corrective Ac R: Repaired	219 x 4 233 x 1 222 X 2 38 x 4 205 X 1 10 x 2 11 X 2 733 X 1 733 X 1 734 X 4 NS	K K K K K K K K K K K K K K K K K K K	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Lower Step Bolts
5 6 7 8 9 10 11 12 13 14 15 16 17 16 17 amage Code B: Missin Bent	$ \begin{array}{c} P \\ T \\ m	AC C Bd AC A Bd Bd AC A Bd d Corrective Ac	219×4 233×1 222×2 38×4 205×1 10×2 11×2 733×3 733×1 734×4 NS	K K K K K K K K K K K K K K K K K K K	2 2 2 2 2 2 2 2 2 2 2 2 2 2	NS: New Dan	ger/Aerial/Number Sig
5 6 7 8 9 10 11 12 13 14 15 16 17 amage Code B: Missin Bent	P P P P P P Tm P Tm r	AC C Bd AC A Bd AC A Bd AC A Bd Corrective Ac R: Repaired RP: Replace	319×4 333×1 322×2 38×4 205×1 10×2 11×2 733×1 734×4 $N \le 1$ tion Code d Found	K K K K K K K K K K K K K K K K K K K	P R R R P P P Str cout ireywax	NS: New Dan IP: Installed	

leg 2 leg 1	face D face D	}	leg 3		Line Number: Structure No;		
leg 1	face D face D	e C					
leg 1	fac	face B					
		face B		St	ructure Type:	SLIF 3	30° LF
				Bac	k Substation:	YAdK!	N
		e A		Ahea	d Substation:	FENTRE	Śs
Severe C		V	leg 4		·····		
Severe C	Ba	ck					n Inspection
Severe C	Gro	undline inspe	ection		Date:		
	orrosion	Steel Mea	surements		Foreman:	Allen	Bundysen
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1		Good	Ve	Ρ	book for	1	FR
Leg 2	L.	0,165	0,2165	BP	explanation	1	FR
Leg 3	burn	Good	VE	P	of foundation	1	FR
Leg 4			VG	p	codes	1	FR
	P: Applied A	6.00d	iseshoe Repla		t as Found	FP: Foundati	
Action coder			-	Inspected - Go	ođ		-
				ower Inspectio	on	e i ser en en	
Step Bolt Clip		Transmin	Yes	No			48
areh pour out	Damage	Face	Member	T	e Action		Remark
1	P	4 c			R	RP -	GW - NB
2	P		673×4		R	<u>* مما *</u>	
	*	Bd	674×4		- A		
3	1m	ABCO	220×8	//	<u> <u></u></u>		
4		AC	219×4	<i>l</i>	<u> </u>		<u> </u>
5	<u> </u>	Bà	236×4		<u>R</u>		
6	P	<u> </u>	211 X 1		R		
7	ρ	<u> </u>	210×1		R		
8	ρ	C	657X		<u>R</u>		
9	P	C	658X1		R		
10	P	A	661×1		R		
11	ρ	AC	38 X 4		R		
12	P	Bd	10×2		R	I.	
13	ρ	Bd	11x 2		R		
14	P	B	215×2		<u>R</u>	· · · · · · · · · · · · · · · · · · ·	
15	Im	\overline{a}	NS		RP		
16	<u>, , , , (</u>		1000	<u> </u> ′		club 1	the The estim
17							ng Inspectio
Damage Code		Corrective A	ction Code	Remark Code		Compla	ETE
-	ig Bolt	R: Repaire	A	G: Grounded		RS: Remove	d Lower Step Bolts
B: Bent		RP: Replace		BP: Beat Pac		NS: New Da	nger/Aerial/Number S
C: Cracke	ed	LF: Left as	Found	GW: Applied			Package Per Specs
TM: Thin Me	ember			NB: New Bol	ts	FP: Flipped	/Straightened Plates
0: Other		l	· · · · · · · · · · · · · · · · · · ·				
Date: <u>3/1</u>	clai	Former	GRÉq	VA		Company	LEMYRES

leg							a marine and a marine	
leg		Ane	ead			Line Number:	588	
	2		N	leg 3		Structure No:	219	
		fac face D	e C		St	ructure Type:	SLT+ :	35LE
			face B					/
		fac				ad Substation:		
leg			e a	leg 4	Allez	a substation.		
	' · L_	Ba	ck			[Foundation	Inspection
	<u>,</u>	Gro	undline Inspe	ection		Date:	03-21	+- 21
Sev	vere C	Corrosion		surements			,	Rundyren
		Yes No	Reading 1	Reading 2	Action Code	 A state of a state o	Fnd Code	Action Code
Leg	• 1				p	book for	1	FR
-	-				p	explanation		
Leg				<u> </u>	· _ · · · · · · · · · · · · · · · · · ·	- of	1	<u> </u>
Leg	-		V	<u> </u>	P	foundation	/	FR
Leg	g 4	<u>K</u>	Good	VG_	ρ	codes	1	FR
ction	Code:	P: Applied A	-120 B; Ba	seshoe Repla	aced LF: Lef	t as Found	FP: Foundation	on Repaired
		In Lieu of Me		-	Inspected - Go	bod		
					Fower Inspection	on		
tep B	olt Clij	ps Added:	V	Yes	No		Quantity:	49
		Damage	Face	Member	Correctiv	ve Action		Remark
1		ρ	Ba	236×4	R)	BP-0	FW-NB
2	2	P	Ac.	219×4	Ŕ)		
3			A	JOYXI	R			
4		Tim	ABCD	220×16	~		·····	
5	;	ρ	AG	733X4	K			
6	;	P	Ba	734 X 4	R			
7	,	ρ	C	704X1	R	<u> </u>		
8	5	P	Bd	732X3	R)) 		
9)	P	d	723X 1	R	>		
10	0	C	<u>C</u>	70321	ß	P		
11	1	Ρ	<u> </u>	10xa		R		
12	2	ρ	Bd	NX2		<u>R</u>		
13	3	P	AC	38x4		3		
14	4	Tm	d	NS	R	ρ		
15	5							
16	6	·····					climbin	g INSpection te
17							Comple	te
1 1 1 T	je Codi	5. f	Corrective A	<u>, , , , , , , , , , , , , , , , , , , </u>	Remark Code	· · · · · · · · · · · · · · · · · · ·		<u> </u>
		ig Bolt	R: Repaire		G: Grounded			d Lower Step Bolts
	Bent Cracke		RP: Replace		BP: Beat Pac GW: Applied			nger/Aerial/Number Sign: Package Per Specs
	······································	ember	LT: Lett as		NB: New Bol			Straightened Plates
		emper			HOL NEW BOIL		Fer rupped /	analymeneu riates
'M: T)ther							

C

Tower Orientation Line Number: <u>58</u>8 Ahead Structure No; 220 leg 2 leg 3 face C Structure Type: <u>SLT+20LE</u> 🗁 face D Back Substation: YAA Kiw face B⁻ Ahead Substation: FENTRESS face A leg 1 J. leg 4 **Foundation Inspection** Back 03-30-21 **Groundline Inspection** Date: Rundycen Allen Severe Corrosion **Steel Measurements** Foreman: Yes No Reading 1 Reading 2 **Action Code** See spec Fnd Code **Action Code** book for đ. Leg 1 ρ B R 0.1525 1 0.268 explanation Leg 2 0.2205 R ρ J 0.191 -K of Leg 3 p Good VG. =R foundation Leg 4 0.176 0.184 P codes FR Action Code: P: Applied A-120 **B:** Baseshoe Replaced LF: Left as Found **FP: Foundation Repaired** In Lieu of Measurements - VG; Visually Inspected - Good ξ÷. **Tower Inspection** 39 Step Bolt Clips Added: 10 Yes No Quantity: Damage Face Member **Corrective Action** Remark 1 Tim 220×8 BP-GW-NB ABCd $\rho \rho$ ρ 2 Ŕ 219×4 AC Ø 3 β_{d} R 236 X 3 TM 4 B RP 236X1 \mathcal{P} 5 Bd 10x2 R 6 0 BA R IIX2 Ŕ 7 38×4 AC ρ 231 XI 8 B R 9 \wp R AC 594×4 \bigcirc 10 Вd 595 X 4 \mathcal{P} 11 Bd 577X2 Ŕ O12 34 222x2 67 × 1 13 A Ŕ m) R RP 14 NS ഷ് Im 15 Climbing Juspection 16

Weathering Steel Tower Inspection/Rehabilitation Data Sheet

Other

17

Damage Code

Bent

Cracked

Missing Bolt

Thin Member

MB:

В:

C:

0:

TM:

(; · ·

Date: <u>3/22/21</u> Foreman: <u>GREq ViA</u>

R: Repaired

RP: Replaced

LF: Left as Found

Corrective Action Code

Company: LEMYRES

RS: Removed Lower Step Bolts

IP: Installed Package Per Specs

FP: Flipped /Straightened Plates

NS: New Danger/Aerial/Number Signs

108

Remark Code:

G: Grounded Str

NB: New Bolts

BP: Beat Packout

GW: Applied Greywax

				nspection/F			
	Tower Or	ientation	smolete	Climbing	ing Number	58	38
-	the state of the s			~~~~~	Structure No:	221	
leg 2			· leg 3		20467016 140*		
	fac	ec	Inspe	ction su	nucture Type:	<u>_5LT</u>	
ľ	face D				k Substation:	1/A D	KIN
		face B			d Substation:	T76 A 1-5	RESS .
		e A	leg 4	Alles	a Stranda	#f!	- <u>·</u> ···
leg 1		v ck				Foundation	Inspection
		undline Inspe	rtion		Date:	02-23	- 21
		and the second se			Foreman:	Allen	Rundgren
Severe	Corrosion		surements	Action Code	See spec	Fnd Code	Action Code
	Yes No	Reading 1	Reading 2		book for		FR
Leg 1	<u>/</u>	VG	VG	P	explanation		· · · · · · · · · · · · · · · · · · ·
Leg 2		VG_{-}	VG-	P	of	<u>,</u>	FR
Leg 3		VG	VG	P	foundation	/	FR
Leg 4		VG	VG	p.	codes		FR
ction Cod	e: P: Applied I	eg Coating	B: Baseshoe R	leplaced LF: I	left as Found		FR: Foundation Re
	In Lieu of M	easurements	- VG: Visually	Inspected - Go	bod		•
				ower inspecti			
ion Rolt C	lips Added:	V	Yes	No		Quantity:	_5/
cop orde	Damage	Face	Member	Correcti	ve Action		Remark
	Ð	A	36NEARX1	BP-NB-G	(1)	1	-
1		A	a second and the second se	BP-NB-C	1	1	
2		╉━━┷┷╼━━	37NEARXI		1	· · ·	
3	<u> </u>	L.C.	STFARX I		<u>GW</u>		4
4	ρ		36FARXI		GIN	<u>_</u>	
5	P	A	HONEARXI	BP-NB	,	<u></u>	· · · · · · · · · · · · · · · · · · ·
6	ρ		39 FARXI	BP-NB			······
7	q p	BD_	222X2	BP-NE	Glal	<u></u>	
8	P	AC	219×4	BP-NB-	GW		
9	1 p	AC	704X3	BP-NB-	GUL	1	
10	- ρ	BD	707X2	BP-NB			
		BD	706×4	BP-NB	· •		••••••••••••••••••••••••••••••••••••••
11	1 5		703X4	BP-NE			-
12		AC			3-GU/	1	
13	<u>· P</u>	BD_	734X4				<u></u>
14	<u> </u>	AC	7 <u>33X4</u>	BP-NE		+	
15	0	B	Structure	<u>IVS</u>		+	
16							
17						<u> </u>	
Damage C			Action Code	Remark Cod	and the second sec	Inc. Dame	ed Lower Step Bolts
	sing Bolt	R: Repair		G: Grounded BP: Beat Pa			ed Linver Step Bona enger/Aerial/Number
The Mar	nt	RP: Repla	ced is Found	HP: Beat Pa - GW: Applied			d Package Per Spec
	cked	LF: Left a			and the second se		Straightened Plate
C: Cra	. III			INE: New Bo		1	
C: Cra	n Member	•		NB: New Bo			

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	Tower Or	ientation Co	malata C.	limbing		588		
	Aho	ad Co	mprere S		Line Number:	222		
leg 2		λ	leg 3		Stracture No:	_ dod	·······	
	fac	e C	Insp	ection	nicture Type:	5LT+	20'LE	
i i i i i i i i i i i i i i i i i i i	face D				k Substation:		KiN	
		face B	1				RESS	
		e A	leg 4	Апер	d Substation:	<u>F-/ V/</u>		
leg 1		v icik				and the second	Inspection	
		undline Inspe	ction		Date:	02-23	-21	
	Corrosion		surements		Foreman:	Alten R	undgren	
<u> 364616</u>	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code	
1				BP	book for	l	FR	
Leg 1		0,15085		BP	explanation	1	FR	
Leg 2	<u> </u>		0.16580	BP BP	of	1	FR	
Leg 3		the second s	0.19905		foundation codes	1	FR	
Leg 4			0.17125	BP			FR: Foundation Repair	
ction Cod				epiaced LF: I Inspected - Go			LU2 LOUIDATION SCHOOL	
	In Lieu of Wi	aswenents -		ower inspectio				
				No		Quantity:	40	
tep Bolt C	lips Added: Damage	1	Yes		re Action		Remark	
	Panage	Face		BP-NB				
1			39FARX2	22.10				
2		<u>A</u>	40NEARX!		-Gw			
3	<u> </u>	BD	10x2	BP-NB			•	
4	P	BD	IIX2		3-GW	<u>,</u>		
5	MB	AC	82LX2	R-NB	1			
6	MB	A	210X1	R-NB			-	
7	<u> </u>	AC	219X4	BP-MB-				
8	ρ	C	215×1	BP-NB				
9	P	D	233RX1	BP-NI	3-GW			
10	P	8D	2331 X2		3-GW			
11		D	235×1	RP-BP-/				
12		1					-	
13	-	1	[
14		-		<u> </u>				
		1	1	1			<u> </u>	
		<u> </u>				[·····		
15	ł		1				**************************************	
16		1 ·	i ction Code	Remark Code	X	1		
16 17		Corrective A					d Lower Step Bolts	
16 17 Damage C	and the second secon			G: Grounded Str BP: Beat Packout		NS: New Danger/Aerial/Number Sign		
16 17 Damage C	sing Bolt		đ	BP: Beat Par	skout-			
16 17 Damage C MB: Niss B: Ben	sing Bolt	R: Repaire	d ed Found	BP: Beat Par GW: Applied	ikout Greywax	IP: Installet	Package Per Specs	
16 17 Damage C MB: Mis B: Ben C: Crac	sing Bolt It	R: Repairs RP: Replac	đ eđ	BP: Beat Par	ikout Greywax	IP: Installet		

<u>(</u>_____,

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Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs 'M: Thin Member NB: New Bolts FP: Flipped /Straightened Plates			W Tower	eathering { Orientation	Steel Towe	r Inspection	/Rehabilita	tion Data S	Sheet	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $							Line Number		Q.	
face 0Structure Type: $5474.26^3E + 36^3E$ BackBackTorundille InspectionDrundille InspectionDrundille InspectionSevere CorrossionSteel MeasurementsYesNo Reading 1Reading 2Action GodeSevere CorrossionSteel MeasurementsYesNo Reading 1Reading 2Action GodeLeg 3YesNo Reading 1Reading 2Action GodeYesNo Conduction InspectionData Artigo Colspan="2">Correction CodeLeg 3YesNoDuantity:See part for CodeLeg 4YesNo Reading Measurements - VB: Visually Inspected - GoodTower InspectionStep Bolf Clips Added:YesNoDuantity:Step Bolf Clips Added:YesNo Reading MeasurementsStep Bolf Clips Added:YesNoDuantity:Step Bolf Clips Added:YesNoDuantity:Ste		leg 2		<i>b</i> .	leg 3					· · ··································
Interference of the product of type			fa	ncè C	,		Structure No	• <u></u>	<u></u>	<u> </u>
Face BBack Substation:Ad_K_r.d.Ise AAntend Substation:Ad_K_r.d.Ise AAntend Substation:Rate(ssAd_K_r.d.BackFace ABackFace ASevere CorrosionSteel MessurementsVes NoReceding 2Action CodeSevere CorrosionData Reading 2Action CodeSee SpecFace Not CodeLeg 3/Leg 3/CorrosionFace Not CodeData Stop Bolf Clips Added:Yes NoGuantity: 54Corrective ActionRemark4/		i.	face D			S	tructure Type	547+20	BEY3A	LE
Tace AAread Substation:TexTRACCBackFoundation inspectionGroundline InspectionDate: $0.5 \cdot 0.5 - 0.1$ Severe CorrosionSteel MeasurementsFoundation inspectionDate: $0.5 \cdot 0.5 - 0.1$ Ves No Reading 1 Realing 2 Action CodeDok forLeg 1Note: $0.5 \cdot 0.5 - 0.1$ Leg 3Leg 4Leg 4Corrective Colspan="2">Corrective Colspan="2">Corrective Colspan="2">Corrective Action CodeLeg 4Corrective ActionRemarkCorrective ActionRemarkToke Meaburg PaceMemberCorrective ActionRemarkToke Meaburg PaceMemberCorrective ActionRemarkToke Meaburg PaceMemberCorrective ActionRemarkToke Meaburg PaceCorrective ActionRemarkToke Meaburg PaceMemberCorrective ActionRemarkToke Meaburg PaceToke Meaburg PaceIntermediation InspectionStep Bolt Cilps Added:Toke Meaburg PaceToke Meaburg PaceToke Meaburg Pace <th< th=""><th></th><th></th><th></th><th>face</th><th>8</th><th></th><th></th><th></th><th></th><th>· · · · · · · · · · · · · · · · · · ·</th></th<>				face	8					· · · · · · · · · · · · · · · · · · ·
Ing 4 Total substitution Total substitution Groundline inspection Back Foundation inspection Date: $05^{\circ} 05^{\circ} All Severe Correction Steel Measurements Ves No Reading 1 Reading 2 Action Code See spec Ford Code Action Code Leg 1 X / X / X / LE Leg 3 Y / X / LE Foundation Code Leg 3 Y / X / LE Foundation Code Leg 3 Y / X / LE Foundation Repaired Leg 4 Code Y / LE Leg 3 Y / X / X / X / X / X / X / X / X / X / $			fa	ice Á	ł		,	r		
Foundation inspectionGroundline inspectionGroundline inspectionSevere CorrosionSteel MeasurementsYes No Reading 1 Reading 2 Action CodeLeg 1Poil CodeAction CodeLeg 1Poil CodeAction CodeLeg 2Poil CodeAction CodeLeg 3YYPoil CodeAction CodeLeg 3YYPoil CodeAction CodeLeg 3YYFor Compatibility of Colspan="2">CodeLeg 3YYYFor Compatibility of Colspan="2">CodeLeg 4Code of Colspan="2">CodeCodeLefTopic InformationFor Compatibility of Colspan="2">Compatibility of Colspan="2">CodeCode YGYGDaningeFaceMemberCorrective ActionRemark9A Good YGYGDaningeFaceMemberCorrective ActionCorrective ActionCorrective ActionCorrective ActionCorrective Ac		leg 1			leg 4	Allei	a substation	$-\frac{1}{2N}$	255	
Groundline InspectionSevere CorrosionSteel MeasurementsYesNoReading 1Reading 2Leg 1 \checkmark Leg 2 \checkmark Leg 3 \checkmark YesNoReading 1Reading 2Action CodeSee speeSee speeSee speeSee speeSee speeLeg 3 \checkmark YesNoLeg 4 \checkmark YesNoLeg 3 \checkmark YesNoLeg 4 \checkmark YesNoLeg 5 \checkmark Leg 4 \checkmark YesNoCodes \checkmark Leg 4 \checkmark YesNoGalaritySee speeNoMeasurementsVisually Impacted - GoodTower InspectionStep Boit Clips Added:YesYesNoQuantity:StepDamageFaceMemberCorrective ActionRemark1PA 64% XiRBPSCAC 25% XiR3PB 273% HR3PB 273% HR4CAC 25% XiR3PB 273% HR9B9B9B9 </th <th></th> <th>i.</th> <th>E</th> <th>Back</th> <th></th> <th></th> <th></th> <th>Foundatio</th> <th>n Inspection</th> <th></th>		i.	E	Back				Foundatio	n Inspection	
Severe CorrosionSteel MeasurementsYesNoReading 1Reading 2Action CodeLeg 1 $\hforegatharpoints\hforegatharpoints\hforegatharpointsFnd CodeAction CodeLeg 2\hforegatharpoints\hforegatharpoints\hforegatharpoints\hforegatharpointsSee end 24 (LF)Leg 3\hforegatharpoints\hforegatharpoints\hforegatharpoints\hforegatharpointsLFLeg 4\hforegatharpoints\hforegatharpoints\hforegatharpointsLFLeg 4\hforegatharpoints\hforegatharpointsLF\hforegatharpointsLeg 4\hforegatharpoints\hforegatharpointsLF\hforegatharpointsLeg 4\hforegatharpoints\hforegatharpointsLF\hforegatharpointsAction CodeP: Applied A.120B: Baseshoe ReplacedLF: Left as FoundFP: Foundation RepairedIn Lieu of Measurements - VG: Visually Inspected - GoodCorrective ActionRemark1\hforegatharpoints\hforegatharpoints\hforegatharpoints2\hforegatharpoints\hforegatharpointsR\hforegatharpoints3\hforegatharpoints\hforegatharpointsR\hforegatharpoints3\hforegatharpoints\hforegatharpointsR\hforegatharpoints4C\hforegatharpoints\hforegatharpointsR\hforegatharpoints5C\hforegatharpoints\hforegatharpointsR\hforegatharpoints$			Gi	oundline Insp	ection		Date			·
YesNoReading 1Reading 2Action CodeLeg 1ImageImage $X \leq e \leq L \in$ hook forLeg 2ImageImage $N = 1 \leq L \in$ Leg 3ImageImage $N = 1 \leq L \in$ Leg 4ImageImage $N = 1 \leq L \in$ Leg 4ImageImage $N = 1 \leq L \in$ Leg 4ImageImage $N = 1 \leq L \in$ Action CodeImageImageImageLeg 4ImageImageImageLeg 4ImageImageImageAction CodeImag		Severe	····	······································		1				· · · · · · · · · · · · · · · · · · ·
Leg 1 To the set of the s	 -		1					······································		
Leg 2 \checkmark \land <th< th=""><th>U</th><th>0 1</th><th></th><th>i neading i</th><th>Reading 2</th><th></th><th>4</th><th></th><th><u>````````````````````````````````</u></th><th></th></th<>	U	0 1		i neading i	Reading 2		4		<u>````````````````````````````````</u>	
Leg 3 \checkmark \checkmark \downarrow <th< th=""><th>1</th><th>-</th><th></th><th></th><th></th><th>~ yeeLF</th><th></th><th>X</th><th>See no</th><th>te LF</th></th<>	1	-				~ yeeLF		X	See no	te LF
Leg 3 $ -$ <th< th=""><th>1</th><th>-</th><th></th><th>4</th><th></th><th>notelt</th><th>I</th><th></th><th>1 1</th><th>LE</th></th<>	1	-		4		notelt	I		1 1	LE
Leg 4 \checkmark \bigcirc \lor \lor \lor \lor \lor \lor \lor \vdash <th< th=""><th></th><th>Leg 3</th><th></th><th>V</th><th>V.</th><th>LE</th><th>1 1</th><th></th><th></th><th></th></th<>		Leg 3		V	V.	LE	1 1			
Action Code: P: Applied A-120 B: Baseshoe Replaced LF: Left as Found In Lieu of Measurements - VG: Visually Inspected - Good PP: Foundation Repaired Step Bolt Clips Added: Yes No Quantity: SE 1 P A $644 Y_K$ R BP GW $Remark$ 1 P A $644 Y_K$ R BP GW $Remark$ 2 P Bd $A80 \times A$ R R R R 3 P Bd $A80 \times A$ R R R R 3 P Bd $A73 \times I$ R R R R 4 C AC $A56 \times A$ RP R R R 5 C AC $A56 \times A$ RP RP R	L I	_eg 4		Good	· YG		1	<u> </u>	<u>†</u> ······ <i>f</i>	
In Lieu of Measurements - VG: Visually Inspected - Good Tower Inspection Step Bolt Clips Added: Yes No Quantity: 36 1 P A 664% K1 R BP GW $Remark$ 1 P A 664% K1 R BP GW NB 2 P A 664% K1 R BP GW NB 2 P B 273% L R BP GW NB 3 P B 273% L R BP GW NB 4 C AC 256% R RP RP RP 5 C AC 256% R RP RP RP 5 C AC 256% R RP RP RP RP 6 Tm AC 256% R RP RP RP RP 10 Tm AC 246% R RP RP RP RP 11 P	Acti	ion Code	: P: Applied			and the second	t as Found	FP: Foundati	on Repaired	<u> </u>
Step Bolt Clips Added:YesNoQuantity: 56 DamageFaceMemberCorrective ActionRemark1 P A $644K1$ R BP GW 2 P Bd $ABex 2$ R BP GW 3 P B $ABex 2$ R BP GW 3 P B $ABex 2$ R BP GW 4 C AC $ABex 2$ RP I 4 C AC $ABex 2$ RP I 5 C AC $ABex 2$ RP I 6 Im AC $A2FX4$ RP I 8 O B $Abeq x$ RP I 9 O B $Abeq x$ RP I 10 Im $ABdc$ $BAex 8$ RP I 11 P AC $AIex 4$ R I 12 P Bd $2A2XX2$ R I 13 P Bd $2A2XX2$ R I 14 Im A NS RP I 15 $VIUVE$ $Iine + Lonviek foundationCim plifts2amage CodeCorrective Action CodeRemark Code:RS: Removed Lower Step Bolts8:BentRP:RelacedBP: Beat PackoutNS: New Danger/Aerial/Number Signs8:BentRP: ReplacedBP: Beat PackoutNS: New Danger/Aerial/Number Sig$			In Lieu of N						on Repaired	
Step Bolt Clips Added:YesNoQuantity:56DamageFaceMemberCorrective ActionRemark1 P A 644×1 R BP G 2 P Bd $ASex A$ R BP G 3 P B $ASex A$ R BP G 4 C AC $ASex A$ RP RP 5 C AC $ASex A$ RP RP 6 Tm AC $ASex A$ RP RP 7 Tm Bd $A75^{*}_{-}44$ RP RP 8 O B $Abeq R \downarrow$ RP RP 9 O B $Abeq X \downarrow$ RP RP 10 Tm $Acdc$ $BAex \chi$ RP RP 11 P $Acdc$ $Baex \chi$ RP 12 P Bd 234×4 R 13 P Bd 234×4 R 14 Tm A NS RP 15 $Carrective Action Code$ $Carmark Code:$ $Rs:$ Missing Bolt $R:$ Repaired $G:$ Grounded Str $R:$ Repaired $G:$ Grounded StrRS: Removed Lower Step Bolts8:BentRP:RPi ReplacedBP: Beat PackoutNS: New Danger/Aerial/Number SignsIP: Installed Package Per SpeesW: Thin MemberNes How BoltsIP: Infeated Straithead Proces	•			• •		Tower Inspectio	'n			
1 P A 644×1 R BP $Gummark$ 2 P BA 280×2 R BP $Gummark$ 3 P B 273×1 R R 4 C AC $285^{L}\times 2$ RP 5 C AC $285^{L}\times 2$ RP 6 Tm AC 275×4 RP 7 Tm Bd 275×4 RP 8 O B $245^{T}\times 4$ RP 9 O B $245^{T}\times 4$ RP 10 Tm $A6dc$ $R20\times 8$ RP 11 P Acc $A^{T}\times 4^{T}$ R 12 P Bd 236×4^{T} R 13 P Bd 238×2 RP 15 IT IT $Construct Found aftionClim bing To spection16Y(Uurl 1) The FLine XConsplit CConsplit CDamage CodeCorrective Action CodeRemark Code:Rs: Removed Lower Step BoltsR:RepairedG: Grounded StrR: Removed Lower Step BoltsR:RepairedG: Grounded StrR: Installed Package Per SpectM: Thin MemberNS: New Danger/Astrainfuture of Speces$	Ster	p Bolt Cli	ips Added:				<u></u>	Quantity:	56	<u> </u>
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<u>.</u>		Damage	Face	Member	Correctiv	e Action	ſ <u></u>	Remark	
2 P Bd $28ex A$ R 3 P B $273 \times I$ R 4 C Ac 236×2 RP 5 C Ac 236×2 RP 6 Tm Ac 275×4 RP 7 Tm Bd 275×4 RP 8 O B 246×2 RP 9 O B 246×2 RP 10 Tm $ABdc$ 230×8 RP 11 P Ac 319×4 R 12 P Bd 234×4 R 13 P Bd 234×2 RP 15 R^2 RP R^2 16 $Y(40m)$ $Iine + Lonuckk$ foundation17 $Loneck$ $Completic18Rising BoltRiReplaced8Ris Removed Lower Step Bolts8Ris ReplacedRis New Bolts17Loft as FoundGit Mappied Greywax18Rein ReplacedRis New Bolts19Installed Package Per Spaces10Ris New BoltsFrice Installed Package Per Spaces$		1	P	A	66481	R		BA	×	-10
3PB 273×1 R4CAC 256×2 RP5CAC 256×2 RP6ImAC 275×4 RP7ImBd 275×4 RP8OB 269×2 RP9OB 364×1 RP10ImABdc 249×3 RP10ImABdc 230×3 RP11PAC 219×4 R12PBd 236×4 R13PBd 238×4 R14ImANSRP15ImA 233×2 R16Y (1000) [line + Loncick foundationCline bing for spectrum17Could With Line XCompleteDamage CodeCorrective Action CodeRemark Code:BentR: ReplacedBP: Bet PackoutNS: New Danger/Arial/Number Signs2:CrackedLift as FoundGW Applied GroyvoxxIP: Installed Package Per SpecsMi: Thin MemberNB: New BoltsFF: Flipped Straightened Plates		2	P	64			······································		<u> () ()))))))))))))))) </u>	NB
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6 TM AC 225×4 RP 7 TM Bd 275×4 RP 80 B $249^{R} \times 4$ RP 90 B 364×4 RP 10 TM $ABdc$ 326×8 RP 10 TM $ABdc$ 326×8 RP 11 P Acc $a19 \times 4$ R 12 P Bd 236×4 R 13 P Bd 236×4 R 14 TM d NS RP 15 R $Clabing$ $Tw spectical16Y glovelIne + Lonviek foundationClabingTw spectical17LoneXCom pletcCom pletcNamage CodeCorrective Action CodeRemark Code:NS: New Danger/Aerial/Number SignsRs:Missing BoltR: RepairedG: Grounded StrNS: New Danger/Aerial/Number SignsS:CrackedLF: Left as FoundGW: Applied GregowaxP: Installed Package Per SpecsM:Thin MemberNB: New BoltsF: Flipped /Straightened Plates$			<u> </u>		1	<u> </u>	<u>P</u>	······		·····
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80B $269^{\circ}x1$ R PMissing wever Installed90B $364x1$ RPMissing wever Installed1070ABdc $326x41$ RP11PAc $319x4$ R12PB $336x44$ R13PB $232x2$ R1470 A VS RP15 R $Climbing$ $Trespection$ 16 $Ygund$ $linet$ $Loncrefe$ foundation17 $Londed$ $With$ $Linet$ $Completic$ 20amage CodeCorrective Action CodeRemark Code:MB:Missing BoltR:RepairedG:2:BentRP:ReplacedBP:Beat PackoutNS: New Danger/Aerial/Number Signs2:CrackedLF:Left as FoundGW: Applied GreywaxIP:Installed Package Per SpecsM:Thin MemberNB: New BoltsFF:Flipped (Straightened Plates)		7	Tra	Ba	275×4	R	ρ			
9 0 B 364x1 RP 10 10 10 ABdc 820x8 RP 11 P Ac 819x4 R 12 P Bd 236x4 R 13 P Bd 236x4 R 13 P Bd 232xx2 R 14 10 A NS RP 15		8		B		R	P	m reiner		-T al 11-1
10 Tm ABdc Bax 8 RP 11 P Ac aligxy R 12 P Ba aligxy R 12 P Ba aligxy R 12 P Ba aligxy R 13 P Ba aligxy R 13 P Ba aligxy R 14 Im A NS RP 15 Im A NS RP 15 Im A NS RP 16 Yourd line + Loncrete foundation Clinbing Inspection 17 Couted With LineX Complete Damage Code Corrective Action Code Remark Code: MB: Missing Boit R: Repaired 8: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs 2: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs "M: Thin Member NB: New Boits FP: Flipped /Straightened Plates		9	0		·	R		11:32:NG	NEVER	LNSTALLED
11 P AC 2/9×4 R 12 P Bd 2/9×4 R 13 P Bd 2/9×4 R 13 P Bd 2/9×4 R 14 Im A 2/9×4 R 14 Im A NS RP 15 If If If NS RP 15 If If Contrek Foundation Climbing Inspection 16 Y (Und line + Lontrek Contrek Complete Complete 17 Loute With LineX Complete Complete Damage Code Corrective Action Code Remark Code: RS: Removed Lower Step Bolts RB: Missing Bolt R: Repaired G: Grounded Str RS: New Danger/Aerial/Number Signs 2: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs 2: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs "M: Thin Member NB: New Bolts FP:		10	Tim	1			in the second			
12 P B.d. 336x4 R 13 P B.d. 336x4 R 13 P B.d. 222xx2 R 14 Im A NS RP 15 Ine Foundation Climbing Inspection 15 Ine LineX Complete 17 Coated With LineX Complete Damage Code Corrective Action Code Remark Code: MB: Missing Bolt R: Repaired 8: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs 2: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs M: Thin Member NB: New Bolts FP: Flipped /Straightened Plates		11								····
13 P Bd 222 x a R 14 Im A NS RP 15 If If NS RP 15 If If If If 16 Y (dund line + Lonurek foundation Climbing Inspection 17 Louted With LineX Complete Damage Code Corrective Action Code Remark Code: AB: Missing Bolt R: Repaired 8: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs :: Cracked LF: Left as Found W: Thin Member NB: New Bolts FP:	•		·	}	1					
14 Im A NS RP 15 15 16 Y (UVM line + Lonurele foundation Climbing Inspection 16 Y (UVM line + Lonurele foundation Climbing Inspection 17 Louted With LineX Complete Damage Code Corrective Action Code Remark Code: MB: Missing Bolt R: Repaired 3: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found MB: NB: New Bolts FP: Flipped / Straightened Plates	·				l	1		-,		· · · · · · · · · · · ·
15 15 Repaired Remark Code: 16 A ground line + Lonviele foundation Climbing Inspection 17 Loute, with LineX Complete Damage Code Corrective Action Code Remark Code: MB: Missing Bolt R: Repaired G: Grounded Str RS: Removed Lower Step Bolts 3: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs 2: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs MB: Thin Member NB: NB: NB: FP: FIlpped /Straightened Plates			<u> </u>	Ba	222 X 2					
16 Yellow line + Loncrek foundation Climbing Inspection 17 Couted With LineX Complete Damage Code Corrective Action Code Remark Code: MB: Missing Bolt R: Repaired G: Grounded Str RS: Removed Lower Step Bolts 3: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs MB: NB: NB: NB: NB: NB: NB: NB:		14		<u></u>	NS	RI	0			
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17 Loute With LineX Complete Damage Code Corrective Action Code Remark Code: Complete MB: Missing Bolt R: Repaired G: Grounded Str RS: Removed Lower Step Bolts 3: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs M: Thin Member NB: New Bolts FP: FIlpped /Straightened Plates		16	A yound	line +	Loncrete	foundation	10	Ci bi		- 1 - 1
Damage Code Corrective Action Code ` Remark Code: MB: Missing Bolt R: Repaired G: Grounded Str RS: Removed Lower Step Bolts B: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs M: Thin Member NB: New Bolts FP: Flipped /Straightened Plates			······						*	CCTION .
MB: Missing Bolt R: Repaired G: Grounded Str RS: Removed Lower Step Bolts 3: Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs 2: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs 1M: Thin Member NB: New Bolts FP: FIpped /Straightened Plates)am:	age Code)))	Corrective A	ction Code	Remark Code:		Comple	TE	
Bent RP: Replaced BP: Beat Packout NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs W: Thin Member NB: New Bolts FP: Flipped /Straightened Plates	WB:	Missin	g Bolt			· · · · · · · · · · · · · · · · · · ·	tr	RS: Removed	Lower Sten	Bolts
C: Cracked LF: Left as Found GW: Applied Greywax IP: Installed Package Per Specs 'M: Thin Member NB: New Bolts FP: Flipped /Straightened Plates	3:	Bent	-							
"M: Thin Member NB: New Bolts FP: Flipped /Straightened Plates	:	Cracke	d			· · · · ·				
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);	' Other				· · · · ·				

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Date: 2/8/21 Foreman: GREG Vite Company: LEMYRS

	We	athering S	teel Towe	r Inspection	/Rehabilita	tion Data S	heat
	Tower (Prientation					
	A	iead			Line Number	583	3
leg 2		<i>\</i> ?	leg 3			. 2.24	
		cè C					· · · · · · · · · · · · · · · · · · ·
÷	- face D			S	tructure Type	: SLTA	15'
		face B		Ba	ck Substation	-YAAK	n/
	fa	ce Ă		Ahea	ad Substation	FENTRE	<u></u>
leg 1		ý.	leg 4		<u></u>		
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		undline Inspe	ection		Date		
Severe	Corrosion	Steel Mea	surements		Foreman	Allen	Rundgren
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1				P	book for	1	FR
Leg 2				ρ	explanation	1	FR
Leg 3		V	V	ρ	of foundation	1	FR
Leg 4		Good	VG	ρ	codes		FR FR
ction Code:	P: Applied A		seshoe Repla	iced LF: Left	t as Found	FP: Foundatio	
	In Lieu of Me	asurements -	VG: Visually	Inspected - Go	od		m Kepatiea
		· ·		ower Inspectio) n		
tep Bolt Cli	ps Added:	6	Yes	No	<u>_</u>	Quantity:	38
	Damage	Face	Member	Correctiv	e Action		Remark
1	C	à	525X1	R	P	RP -	-w-NB
2	ρ	BA	10×2		R	<u> </u>	<u>-u - wa</u>
3	P	BA	11 x 2		R		<u>`</u>
4	ρ		39NEAR	· /	R		
5	6	<u>d</u>	222 x 1		RP	·	
6	P		222x (R		····
7	Tm	01					
8			236x 3		<u>P</u>		
9			235 X I	/	RP		
10	Tm	\underline{a}	NS	<i>k</i>	<u> ? P</u>		
10						••••••••••••••••••••••••••••••••••••••	
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12							
13							
14							······································
15		·····				climbin.	5 INSOFT
16						Comoles	g INSpection
17							
mage Code		Corrective Act		Remark Code:	f.	······	· · · · · · · · · · · · · · · · · · ·
B: Missing Bolt Bent		Repaired		G: Grounded S		and the second se	Lower Step Bolts
Bent Cracked		P: Replaced		BP: Beat Pack			er/Aerial/Number Signs
Cracked 1: Thin Me		-i Lett as Fi		SW: Applied G NB: New Bolts		the second se	ackage Per Specs
Other				voi new Bolts		P: Flipped /St	raightened Plates
'Other ate: <u>2/9/</u>	2/F	oreman: _	GREq 1	(, A	(Company:	emyrs

Weathering Steel Tower Inspection/Rehabilitation Data Sheet **Tower Orientation** Ahead 588 Line Number; 7 Structure No: _________ leg 2 leg 3 face C Structure Type: <u>5LT+ 30 LE</u> - face D face B~ FENTRESS face A Ahead Substation; ____ leg 1 .ì. leg 4 Back Foundation Inspection 05-11-21 **Groundline Inspection** Date: Severe Corrosion **Steel Measurements** Allen Rundgren Foreman: Yes No **Reading 1** Reading 2 **Action Code** See spec **Fnd Code** Action Code C.r Leg 1 ρ book for FR explanation Leg 2 E.M. P FR of Leg 3 ρ FK foundation Leg 4 D Good VGcodes FR Action Code: **B: Baseshoe Replaced** P: Applied A-120 LF: Left as Found **FP: Foundation Repaired** In Lieu of Measurements - VG: Visually Inspected - Good **Tower Inspection** Step Bolt Clips Added: 2... Yes No 39 Quantity: Damage Face Member **Corrective Action** Remark ρ 1 AC 595 x 4 BP NB - GW 0 2 BJ R 594×4 3 220 × 8 TM ABC RP ¢, 233 X I R 5 A 219x 4 ſ \cap 6 B d236 x 4 7 236× 1 n R P 8 ß 23641 RP N 9 RΡ \mathbf{C} 222X 1 10 B 222 x 1 R ریم ا 11 OBa 10×2 12 βd Ŕ 11 x 2 Ŕ 13 A C 38X4 14 NS RP 1m 15 INSpection 16 17 Damage Code **Corrective Action Code Remark Code:** MB: **Missing Bolt** R: Repaired G: Grounded Str **RS: Removed Lower Step Bolts** 8: Bent RP: Replaced **BP: Beat Packout** NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found **GW: Applied Greywax** IP: Installed Package Per Specs Thin Member TM: **NB: New Bolts** FP: Flipped /Straightened Plates Ø: Other

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Date: 4/26/21 Foreman: GREq ViA

Combany LEMYER'S

	Tower C	rientation						
	A	nead				<u>588</u>	<u>}</u>	
leg 2		1	leg 3		Structure No:	226	<u> </u>	
	fa face D	ce C				HA+3	T'LE	
		face B				YADK		
leg 1	fa	ce A	leg 4			FENTRE		
	В	ack				Foundation Inspection		
	Gr	oundline Inspe	ection		05-19-21			
Severe	Corrosion	Steel Mea	surements		Foreman	Allen K	Rundgien	
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action C	
Leg 1			- verifier - sea	P	book for	1	FR	
Leg 2	Enter			P	explanation	1	FR	
Leg 3	_ V			ρ	of foundation	2	FR	
Leg 4		Good	VG	ρ	codes		FR	
Action Code		A-120 B; Ba	seshoe Repla VG: Visually	iced LF: Lef Inspected - Go Tower Inspectio		FP: Foundatio		
Step Bolt Cl	ips Added:	6	Yes	No	·····	Quantity:	4	
	Damage	Face	Member	Correctiv	e Action		Remark	

Step	Bolt Clips Add	ed:	te	_Yes _	No	Quantity:		
	Dan	iage	Face	Member	Corrective Action	Remark		
	1 m	B	C	78 × 1	RP	BP-NB-GW		
	2 17.	B		79Rx 1	RP			
	3 <u>C</u>		AC	106 x 3	RP			
	4 To	n	A	501×1	RP			
	5 Tn	2	dB	501 x 2	RP			
	6 To	1	dB	501 × 2	RP			
	7 (β	112×1	RP			
	8 P		d	112×1	R			
	9 P	>	AC	101×2	R			
	10 (-	C	130 X 1	RP			
	11 /	2	A	130 X 1	R			
	12 f	, ,	A	129× 1	R			
	13		ÄC	128×2	RP			
	14 P	:	A	126×2	R			
	15 P		AC	123×2	R			
	16 P		Bd	140×2	R			
	17 P		Bà	141 × 2	R			
Damage Code				Action Code	Remark Code:	······································		
MB:	Missing Bolt		R: Repaire	ed	G: Grounded Str	RS: Removed Lower Step Bolts		
B:	Bent		RP: Replac		BP: Beat Packout	NS: New Danger/Aerial/Number Signs		
C:	Cracked		LF: Left a	s Found	GW: Applied Greywax	IP: Installed Package Per Specs		
TM:	Thin Member				NB: New Bolts	FP: Flipped /Straightened Plates		
0;	Other				· · · · · · · · · · · · · · · · · · ·			

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Date: <u>5/2/21</u> Foreman: <u>GREG V.A</u>

Company: LEMYRS

Action Code

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Line Number: <u>58</u>8

Structure No: 226

Page 2 of 2

Tower	Inspection
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		Damage	Face	Member	Corrective Action	Remark
	1	P	Bd	142×2		BP - NB - GW
:	2	C	B	143×1	RP	
	3	Tm	d	NS	RP	
	4					
(5					-
(6					
	7					
	В					
!	9					
1	0					
1	1	·				
1	2					
1	3					
1	4					
1	5		1			
1	6		<u> </u>			
1	7					
1	8					
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2	4		<u> </u>			
2			<u></u>			
2			<u> </u>			
2	7					
2		<u></u>	·			
29	9					Climbing INSpection Complete
3(·····					Complete
	Damage Code Corrective Action			Remark Code:	,	
	Missing B	olt	R: Repaired	· · · · · · · · · · · · · · · · · · ·	G: Grounded Str	RS: Removed Lower Step Bolts
	Bent		RP: Replace	d	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
	Cracked		LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
rm: 1	Thin Memb	er		, 	NB: New Bolts	FP: Flipped /Straightened Plates
0: 0): Other					

				nspection/l			1
	Tower On Alte		ompleteC	Timbing	Line Number:	58	
leg 2	7	a star and an an analysis of the second strength and a second second second second second second second second	leg 3	Stracture No:		228	×
	fac	e C		ection se	_	51T+1	291F
F	face D		Insp			110511	<u>in</u>
		face B			k Substation:	TENT	RESS
	fac		leg 4	Ahea	d Substation:		NEOO
leg 1 📜		ack leg 4				Foundation	Inspection
	Gro	undline Inspe	ction		Date:	05-19-	
Sources	Corrosion	Steel Measurements			Foremans	Allen Rundgren	
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1		NG	VG	ρ	book for	í	FR
Leg 2		VG	VG	ρ	explanation of	1	FR
Leg 3	\overline{V}	021725	0.16220	BP	or foundation	1	FR
Leg 4			0.21255	RP	codes	1	ER
Log	P: Applied L			eplaced LF:	Left as Found		FR: Foundation Rep
	In Lieu of Me	asurements -	VG: Visually	Inspected - Go	юđ		
			· 1	ower inspecti	00	<u></u>	· · · · ·
tep Bolt Cli	ps Added:		Yes	<u>No</u>	(Quantity:	_5/
	Damage	Face	Member	Correcti	ve Action	<u>`</u>	Remark
1	P	AC	38X3	BP-NB-	Gh)		<u> </u>
2	P	A	36NEARX	1 BP-NB-	GW		
3	P	· C	37FARX1	BP-NB-	Ghl		····
4	P	BD	IOXZ	BP-NB-	Gu/		· · · · · · · · · · · · · · · · · · ·
5	P	BD	1122	BPNB-C			
6	B	D	111121	RP-BP-N	B-GW	L	
7	P	BD	222 X 2	BRNB			
8	P	AC	219x3	BP-NB		ļ	
9	P	B	236×1	BP-NR			
10	P	AC	217×2	BP-NB	-Gr/	<u> </u>	, <u></u>
11	ρ	AC.	221X2	BP-NA	3-GW		3
12	P	BD	235X2	BP-N#	-Gu/		-
13	P	ם	232X1	BPNR			
14	C.	D	233LX1	RP.BP-	NB-GW	<u> </u>	
15	P	B	233RX1	BP-NE	B-GW	<u></u>	
16	φ	BD	705×4	BP-NE	}	<u> </u>	
17	T P	BD.	706×4	BP-NB.	the state of the second st	<u> </u>	
Damage Co	de	Corrective /	Action Code	Remark Cod		Inc. Reason	ed Lower Step Bolts
	ing Bolt	R: Repairs	and the second	G: Grounded BP: Beat Pa	the second s		a Linver Step poils inger/Aerial/Number
		RP: Replac		GW: Applied			d Package Per Specs
B: Bent						EP. Flinned	Straightened Plates
C: Crac	Nember			NB: New Bo	aus .	THE TOPPED	

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Company: LEMYERS

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-... 4:

Line Number:

588 2 28

Structure No:

Page _ d of _ d

			1	·· • • • • • • • • • • • • • • • • • •	Tower Inspection	
		Damage	Face	Member	Corrective Action	Remark
•	1	<u>P</u>	BD	707×4	BP-NB-GW	
	2	<u>P</u>	AC	762×3	BP-NB-GW	
:	3	P	AC	703×3	BP-NB-GG/	
	4	<u>P</u>	AC	704×3	BP-NB-GW	
5	5	P		209×1	BP-NR-GU	
	6		B	730X2	RP-BP-NB-GD	
7	7	p	D	730x2	BP-NB-G-41	
8	8	P	<u> </u>	7/8X1	BP-NB-GUI	
9	9	P	AC	733x2	BP-NB-GW	
1	0	<u> </u>	B.D	734x2		
1	1					
1:	2					
1:	3					
14	4					
1	5					· · · · · · · · · · · · · · · · · · ·
10	6					
17	7					
18	8					
19	9					
20	D	······································		1		
21	1	·····			· · · · · · · · · · · · · · · · · · ·	
22	2	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		
23	3				· · · ·	
24	\$					
25	5			1	· · · · · · · · · · · · · · · · · · ·	
26	5					
27			·····	<u> </u>	· · · · ·	
28						
29				· · · ·		
30					· · · · · · · · · · · · · · · · · · ·	
	e Code	· · · · ·	Corrective A	ction Code	Remark Code:	<u>. </u>
	Missing	Bolt	R: Repaired		G: Grounded Str	RS: Removed Lower Step Bolts
; ; E	Sent		RP: Replace		BP: Beat Packout	NS: New Danger/Aerial/Number Sign
: C	racked		LF: Left as		GW: Applied Greywax	IP: Installed Package Per Specs
M: TI	hin Men	ıber		•	NB: New Boits	FP: Flipped /Straightened Plates
: Ot	ther		······			
				····	L	

_	Weathering Steel Tower Inspection/Rehabilitation Data Sheet										
		Tower Or		mplete		Line Number: ,	58				
	. (the second s				Structure No:	229	<u>}</u>			
leg 2			÷C	1.5	section			t. n			
		iace D	N (20)21			nucțure Type: ,	51++:	<u>357E</u>			
			face B		Bac	k Substation:	YADH	(IN			
			 #A		Ahea	d Substation:	FEN	TRESS			
leg 1	3 4		l	leg 4							
	<u> </u>	and the second	<u>×</u> ck					Inspection			
5		Gra	undline Inspe	ction		Date:	05-20-	-21			
Sour		orrosion	F	surements		Foremans	Allen	Rundyson			
		Yes No		Reading 2	Action Code	See spec	Fnd Code	Action Code			
ų					BP	book for	1	ER			
Leg	1		0.15715	0,10195	and the second se	explanation	t	<u> </u>			
Leg	2 [¥	0.22940	0,22,28		of		r_{R}			
Leg	3	<u> </u>	0.21230	0,26605	BP	foundation		FR			
Leg	4	\mathcal{L} —	0.15155	0.22680	the second s	codes	1	<u>FR</u>			
Action C	iede:				eplaced LFt l			FR: Foundation Repaired			
		in Lieu of Wa	easurements -		Inspected - Go			. •			
				- 1	ower inspecti	310	<u></u>				
Step Bo	it Clip	s Added:	/	Yes	No		Quantity:	52			
	ļ	Damage	Face	Member	Correcti	re Action		Remark			
1	{	ρ	AC	718X2	BP-NB	-Gul					
2	<u> </u>	0	AC	717×2	RP-NA	-G12		فسنفسك مسيور ويستبدون فلفي ويغطف الففلي عور معدوس			
		<u> </u>	·BD	730x3	$\mathcal{D}\mathcal{D}\mathcal{A}/\mathcal{B}$	SID					
3		<u> </u>		<u>+-×- / / /</u>	DD DD NI	2-CLI		······			
4				730X/	$\frac{\Lambda f^{2}Of^{2}}{2}$						
5]	<u> </u>	BD	12423	<u>DT-NO-</u>	GU					
. 6		<u> </u>	<u> </u>	706X1	KP-BP-NK-GL/						
7		ρ	BD_	706X3	BP-NB-	GW					
8		р	BD	703X4	BP-NB	-Gly/					
9		ρ	BD	704X4	BP-NE	3-GW	<u> </u>				
10		P	AC	706X4	RP-NA	3-GW		·			
11		P	AC	705X4	RP-1/	3-6-1.1					
42		ρ	AC	707X4	RP-1/P	S-GUI	·				
		- 5	B	<u></u>	DD. 1/2	-C11					
13			- <u>B</u>	726X1		2 C I I					
14		1		725X2		$\frac{5-G(J)}{P(C(J))}$					
15)	<u> </u>	AC	7/3X3	<u>- 75-1</u>	B-GW	<u>.</u>				
16		<u> </u>	<u> </u>	723X1	<u>BK-M</u>	5-6W	<u> </u>				
17		<u> </u>	<u>B</u> .	721X1		B-GW	<u> </u>	·····			
Damag			Corrective A		Remark Code		Ips Panar	d Lower Step Bolts			
1		ng Boit	R: Repaire		G: Grounded BP: Beat Pau		٩	ngeriAerial/Number Signs			
	Bent Stacio		RP: Replac		GW: Applied			Package Per Specs			
-		iember		-	NB: New Bol		R	Straightened Plates			
1	ther				1						
1	5.	11-2021	Foreman	Michae	Davie		Company:	LEMYERS			

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588 Line Number: 229

Structure No:

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Tower Inspection

		Damage	Face	Member	Corrective Action	Remark
	1	P	C	709X1	BP-NB-GW	
	2	ρ	AC	217×2	BP-NB-GW	1
	3	P	AC	219×4	BP-NB-G4)	
	4	ρ	. 8	232/X1	BP-NB-GW	
	5	P	B	233RX1	BR-NB-GW	· · · · · · · · · · · · · · · · · · ·
-	6	P	BD	222×2	BP-NB-GW	
	7	P	BD	IOXZ	BPNB-GW	
	8	p	BD	IIX2	BP-NB-GL)	
	9	P	<u> </u>	(SRX)	BP-NB-GW	
	10	P	A	GGLXI	BP-NB-G/1	
	11	P	L C	39FARX1	BP-NB-GW	
	12	P	A	40NEARX1	BP-NB-Gh/	
	13	ρ	A	37NEARX 1	BP-NB-GU	
<u> </u>	14	P	D	82LX1	BP-NB-GW	-
	15	MB	A	822X1	R-NB	· · · · · · · · · · · · · · · · · · ·
<u> </u>	16	TM-B	ABCD	220×8	RP-BP-NB-GL	,
	17	P	BD	734x2	BP-NB-GW	
<u> </u>	18	TM	BD	734X2	RP-BP-NB-GW	
<u> </u>	19	TM	AC	733 X a	RP-BP-NB-GW	
	20	P	AC	733x2	BP-NB-GL	
	21	<u> </u>		724×1	RP-BP-NB-GW	
	22	0	ABCD	HighVoltage	NS	
	23				· · · · · · · · · · · · · · · · · · ·	
	24			-		
	25	·····	-			7
<u> </u>	26					
	27					
	28	· · · · · · · · · · · · · · · · · · ·				
	29					
	30	t				
Dama	ige Code	•	Corrective A	tion Code	Remark Code:	
MB:	Missin	g Bolt	R: Repaired	l	G: Grounded Str	RS: Removed Lower Step Bolts
B:	Bent		RP: Replace	d	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
C;	Cracke	d	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM:	Thin Me	mber			NB: New Bolts	FP: Flipped /Straightened Plates
0:	Other					

		Woa	thering Sh	el Tower i	nspection/i	tehabilitati	on Data Sh	eet .
		Tower On						
		Ahe		omplete C	Jimbing :	Line Number:	588	۲
I.	g 2 🗍		1	leg 3		Structure No:	230	
* ~		fac	• C	Inspe	tion		·	
		iace D		Inspe	St St	nicture Type:	<u>5LA+</u>	
			face B		Bac	k Substation:	<u>YADKı</u>	<u>=N</u>
		fac	₽A		Abes	d Substation:	FENT	RESS
le	g 1	J		leg 4				
		Ba	ck	- Contraction				Inspection
		Grow	undlime Inspe	ction		Date:	<u>05-25</u>	-21
Severe Corrosion			Steel Mea	surements		Foremans	Allen	Rundyren
	, I	Yes No	Reading 1	Reading 2	Action Code	See spec	Fad Code	Action Code
	g1				D	book for	1	FR
1			VG	VG	P	explanation	1	FR
[92		VG-	VG	<u> </u>	of		
Le	g 3		VG	VG	<u>P</u>	foundation	l	<u>rr</u>
3	94	<u>_</u>	VG	VG_	ρ	codes		L ER
Actici	n Codei				eplaced LF: L			FR: Foundation Repaired
		In Lieu of Hie	essurements -		Inspected – Go			· •
				- "	over inspection	<u> </u>		37
Step I	Bolt City	s Added:	-V	Yes	No		Quantity:	36
		Damage	Face	Member	Correctin	re Action		Rewark
	1	Ð	Rin	1-1.2×4	RP-NR-	Grad 1		· ·
	2		AC	V 51 V 4	RD_1/R.	$-G_{-}$		
		Γ	40	CEIV/	BD NR	Cil		
	3		$\frac{1}{2}$	1711V7	DD DD A	IR-CII		· · · · · · · · · · · · · · · · · · ·
	Ę		BD	031570		UP CIA		
	5			231KX2	Kr-Br-1	VD-GL/		
<u> </u>	6	<u> </u>	<u>BD</u>	45LX2	KP-BP-	NR-C-(N		· · · · · · · · · · · · · · · · · · ·
	7			4SRX2	KH-RH-V	1K-(-u)		
ļ	8	<u>P</u>	A	38RNEARX	1 BP-NB	-Gr		·
	9	P	C	138LFAR	BP-NB	GW	<u> </u>	
	10	ρ	A	136WEARX1	RP-N/B	-Gir/		·
<u> </u>	44	p	C:	36L FARX 1	RP-NR	-(-1)		
<u> </u>	12	P	ÂC	8X2	RPIN	3-6-61		
<u> </u>	13	R	 B	205×1	PP-RD-1	B.G.I		
├ ───		<u> </u> − }	BD		BP-NB-G			
 	14		A constraint of the Constraint of the	310×2		GN		•
ļ	15		<u> </u>	224X1				
ļ	16	P_{-}	<u> </u>	BIAXI	BP-NB-C		<u> </u>	
	17		<u>B</u> .	<u>1314 X 1</u>		-NB-GW	L	
	age Cod		Corrective A R: Repaire		Remark Code	فتسخف الالاطلاق الجيزيا ويستعقب	IS: Remove	d Lower Step Bolts
MB:	Bent	ng Bolt	R: Repaire RP: Replac		BP: Beat Pac		5	nger/AesialNumber Signs
8: C:	Grack	edi	LF: Leftas		GW: Applied			Package Per Specs
TWL		lember .	1		NB: New Bol	المتورك المراكنة بسنب ويعت المحدود فيتورج ويجهده	FP: Flipped	Straightened Plates
0:	Other		1					
L	 	1 - 401		-h1.1	1.0			LEMYERS
Date	<u>^C</u> #	4-202	Foreman	Illichae	1 Vav, 5	<u> </u>	Companya	LIMULLA
		r			120			

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Structure No: _

Page <u>2</u> (of _2
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·	-			Fower Inspection	
	Damage	Face	Member	Corrective Action	Remark
1		AC	30722	RP-BP-NB-GU/	/
2	P	BD	337X3	BP-NB-GL	
3	P	AC	328X3	BP-NB-GW	
4	ρ	B	333X1	BP-NB-GLI	
5	P	C	330X1	BP-NB-GL	· · · · · · · · · · · · · · · · · · ·
6	MB	\square	54×1	R-NB	
7	MB	D	55 X /	R-NB	
8	TM	A	326X1	RP-BP-NB-GW	
9	0	ABCD	Hish Voltage Sighns	NS	
10					
11					
12					
13					
- 14					·
15					· · ·
16					
17					, , , , , , , , , , , , , , , , , , ,
18				-	·····
19					
20					
21					
22					
23				<u>1</u>	
24			-		
25					ş
26					
27					
28					
29					
30					
Damage Code	2	Corrective Ac	ction Code	Remark Code:	*
MB: Missin	g Bolt	R : Repaired		G: Grounded Str	RS: Removed Lower Step Bolts
B: Bent		RP : Replac e	đ	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
Ci Gracke	đ	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
M: Thin Mc	ember			NB: New Bolts	FP: Flipped /Straightened Plates
D: Other					
an a					

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		الأبوا المشتجين	•			
Wei	athering Si	teel Towor	Increation	D - b -		_
Tower O	rientation		mspection	Renapilitat	ion Data S	heef
				Line Number:	58	8
		leg 3		Structure No:	231	
face D	_	-	S	tructure Type:	5LT+	25LE
	face B		Bac	k Substation:	YACKin	V
fac	e A					
		leg 4				
Ba	ck				Foundation	Inspection
Gro	undline Inspe	ction		Date:	25-25	-21
Corrosion	Steel Mea	surements				and the second
Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
			P	book for	1	
			P	explanation	/	<u>FR</u>
-			P	of	1	_ <u>FR</u>
	Good	VG	P	· · · ·	<i>l</i>	<u> </u>
	Tower On Ahu fac face D fac Ba Gron Corrosion Yes No	Tower Orientation Ahead face C face D face A <u>y</u> Back Groundline Inspe Corrosion Steel Mea	Tower Orientation Ahead Ieg 3 Face C Face D Face B Face A Ieg 4 Back Groundline Inspection Corrosion Steel Measurements Yes No Reading 1 Reading 2	Tower Orientation Ahead Ieg 3 Face C Face D Face B Face A Ieg 4 Back Groundline Inspection Corrosion Steel Measurements Yes No Reading 1 Reading 2 Action Code F F F F F F F F F F F F F F F F F F F	Tower Orientation Line Number: Ahead Line Number: face C face C face D Structure No: face D Structure Type: face A Back Substation: face A Ahead Substation: leg 4 Back Groundline Inspection Date: Corrosion Steel Measurements Foreman: Yes No Reading 1 Reading 2 Action Code See spec book for explanation of of of of	Ahead Line Number: 58 face C face C Structure No: 231 face D face B Structure Type: 5474 face A Back Substation: Made Kin face A Ieg 4 Ahead Substation: Foundation Groundline Inspection Date: 95-25 Corrosion Steel Measurements Foreman: Allen I Yes No Reading 1 Reading 2 Action Code See spec Fnd Code Dook for I P of I I I

Ste	p Bolt Cl	ips Added:						
ļ		_	Yes		No	Quantity: 43		
		Damage	Face	Member	Corrective Action	Remark		
	1	Ρ	AC	219×4	R	BP-NB-GW		
	2	ρ	Bd	236 × 4	R	NO GW		
	3	P	Rd	10x2x	R			
	4	P	Bd	11×2	, R			
	5	P	AC	38x 4	Ŕ			
	6	P	Bd	222×2	R			
	7	To	AC	601 x 4	RP			
	8	P	AC	623×4	R			
	9	ρ	Bà	624×4	R			
	10	Tm	d	NS	RP			
	11							
	12							
	13							
	14							
	15							
	16					alter bin strengthing		
-	17		1	1		Climbing INSPECTION Complete		
	age Code	B	Corrective A	ction Code	Remark Code:	Lomplette		
MB:	Missin	g Bolt	R: Repaire	cf	G: Grounded Str	RS: Removed Lower Step Bolts		
B:	Bent		RP: Replace		BP: Beat Packout	NS: New Danger/Aerial/Number Signs		
C:	Cracke		LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs		
TM; D;	Thin Me	ember			NB: New Bolts	FP: Flipped /Straightened Plates		
	Other		l					

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Date: 4/22/21 Foreman: <u>GREG ViA</u>

Company: LEMYERS

			eel Tower	inspection/	Kenapikca ti	on data si	
		rientation	Consolit	Chend	Line Nomber:	5	588
	An	ead ``			Structure No:	232	
leg 2	fac	÷C	109.0	ction s			a dete
k	face D		Inspe	ction s	tructure Type:		
		face B		1	ck Substation:	YAD	
	fat	æ A		Abea	ad Substation:	FEN	TRESS
leg 1	and the second secon	↓ ack	leg 4			Foundation	Inspection
					Date:	05-20	
0	Grasion	endline Inspe	surements		Foreman:		RUNUSIEr
Severe	Yes No	{	Reading 2	Action Code		Fnd Code	Action Co
logi	res no			D	book for	1	FR
Leg 1		VG	VG	ρ	explanation	1	FR
Leg 2		VG	VG	p	of	1	FR
Leg 3		VG_	VG		foundation	1 1	
Leg 4		L VG	VG	P	codes		FR: Foundation
iction Code			B: Baseshoe R - VG: Viscally				FRE FORMATION
	all thick of my	-	-	ower inspecti			
tep Bolt Cli	ns Added:	-1-	Yes	No		Quantity:	36
	Damage	Face	Member	Correctiv	ve Action		Remark
1	ρ	A	36NEARXL	RP-N	B.G.J		••••••••••••••••••••••••••••••••••••••
2	ρ	A	STNEAR XI	RD.N/	B~C211		·····
3	0		37 FARXI	RP-1	B-GI		<u> </u>
4	0		36-FARX/	D.R.A	IR-CAL		•
				22.1	D-(FU)		
		<u> </u>	40NEARX		D-CI.I		<u></u>
5	P D		39FARXI				
7	<u> </u>	BD	VOX2		B-GW	· · · · · · · · · · · · · · · · · · ·	
8	P	BD	MX2		B-GW		
9	·ρ	BD	222X2	<u>15P-17</u>	B-GW	·	
10	<u> </u>		235 X /	RI-BP	-NB-GW		
11	<u> </u>	BD	236×2	BP-NR	3-GW		
12	ρ	A	565×1	BP-N	B-GW		
13	·ρ	R	566x1	BP-N	B-G-61		
14	Ó	ABCD	Itigh Voita Sinh No	e NS	•		_
15			0				
16	· · · · · · · · · · · · · · · · · · ·	1					
17		<u> </u>	1				
Damage Cot	le	Corrective A	iction Code	Remark Code	*	•	
	ng Roit	R: Repaire	d	G: Grounded	and the second		d Lower Step Bot
8: Bent		RP: Replac		BP: Beat Pac			nger/Aerial/Numb
R Crack	·····	LF: Leftas	Found	GW: Applied NB: New Bol			Package Per Spe Straightened Piet
Thin B D: Other	lember	1				and a sufficient t	
		a]		f	

		athering St rientation	teel Tower	Inspection/	Rehabilitat	ion Data SI	heet
		ead			Line Number:	588	ζ
leg 2		e C	leg 3		Structure No:		
	- face D			51	ructure Type:	1020	KIF
		face B					al and a second second
	fac	e A		•	d Substation:		
leg 1	140	V	leg 4	Alled	u oubstation;	ENUL	<u>RE 25</u>
	Ba	ick			· · · · · · · · · · · · · · · · · · ·	Foundation	Inspection
	Gra	undline Inspe	ection		Date:	05-12-	21
Severe	Corrosion	Steel Mea	surements		Foreman:	Allen	Bundgren
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1	<u>/</u>			Ρ	book for	1	FR
Leg 2				P	explanation of	1	FR
Leg 3				ρ	foundation	1	FR
Leg 4		Good	VG	ρ	codes		FR
on Balt Cli			T	Inspected - Go ower Inspectic			
	ps Added:	£	_Yes	ower Inspectic	n	Quantity:	34
ep Bolt Cli	ps Added: Damage	Face	T 	ower Inspectio	n	Quantity:	34 Remark
ep Bolt Cli 1	ps Added: Damage	Face C	Yes Member	ower Inspectic No Correctiv	od n e Action <i>R</i>	Quantity:	34
ep Bolt Cli 1 2	ps Added: Damage	Face C A C	Yes Member 651 x 1 656 x 4	ower Inspectic No Correctiv	od n e Action R R	Quantity:	34 Remark
ep Bolt Cli 1 2 3	ps Added: Damage	Face C AC Bd	Yes	ower Inspectic No Correctiv	od n e Action R R R	Quantity:	34 Remark
ep Bolt Cli 1 2	ps Added: Damage	Face C A C B d A C	Yes Member 651 x 1 656 x 4 662 x 4 532 x 2	ower Inspectic No Correctiv	od n e Action R R R R R	Quantity:	34 Remark
ep Bolt Cli 1 2 3 4	ps Added: Damage P P P P	Face C AC BA AC C	Yes	ower Inspectic	od n e Action R R R R R R R	Quantity:	34 Remark
ep Bolt Cli 1 2 3 4 5	ps Added: Damage P P P P P	Face C A C B A A C C A	Yes Member 651 x 1 656 x 4 662 x 4 532 x 2 327 x 1 329 x 1	over Inspectic	od n e Action R R R R R R R R R	Quantity:	34 Remark
ep Bolt Cli 1 2 3 4 5 6	ps Added: Damage P P P P P P P	Face C AC BA AC C	Yes	ovver Inspectio	od n e Action R R R R R R R	Quantity:	34 Remark
 P Bolt Cli 1 2 3 4 5 6 7 	ps Added: Damage P P P P P P P P	Face C AC BA AC C A d	Yes	over Inspectic	od m R R R R R R R R R	Quantity:	34 Remark
2 Bolt Cli 1 2 3 4 5 6 7 8 9 10	ps Added: Damage P P P P P P P P P P P P P	Face Face C A C B A A C C A B B	Yes Member 651 x 1 656 x 4 662 x 4 532 x 2 327 x 1 329 x 1 329 x 1 322 x 1	over Inspectic	od m e Action R R R R R R R R R R R R	Quantity:	34 Remark
2 Bolt Cli 1 2 3 4 5 6 7 8 9 10 11	ps Added: Damage P P P P P P P P P P C	Face Face C AC BA AC C A C A B B B BA BA BA	Yes	over Inspectic	od m e Action R R R R R R R R R R R R R R R R R R R	Quantity:	34 Remark
2 Bolt Cli 1 2 3 4 5 6 7 8 9 10 11 12	ps Added: Damage P P P P P P P P P P C C P	Face Face C AC B A C A C A B B B B B B B B B B B B B	Yes Member 651 x 1 656 x 4 662 x 4 532 x 2 327 x 1 327 x 1 327 x 1 327 x 1 328 x 1 315 x 1 313 x 2	over Inspectic	e Action R<	Quantity:	34 Remark
P Bolt Cli 1 2 3 4 5 6 7 8 9 10 11 12 13	ps Added: Damage P P P P P P P P P C C P P	Face Face C AC BA AC C A C A B B B B B B B B B B B B B	Yes Member 651 x 1 656 x 4 662 x 4 532 x 2 327 x 1 329 x 1 329 x 1 329 x 1 329 x 1 329 x 1 323 x 1 315 x 1 315 x 1 313 x 2 312 x 2	over Inspectic	e Action R R R R R R R R R R R R R P R P R P R P R P R P R	Quantity:	34 Remark
 P Bolt Cli 1 2 3 4 5 6 7 8 9 10 11 12 	ps Added: Damage P P P P P P P P P P C C P	Face Face C AC B A C A C A B B B B B B B B B B B B B	Yes Member 651 x 1 656 x 4 662 x 4 532 x 2 327 x 1 327 x 1 327 x 1 327 x 1 328 x 1 315 x 1 313 x 2 312 x 2 311 x 1	over Inspectio	e Action R<	Quantity:	34 Remark

-	16	C	C	307X 1	RP			
	17	C	Ba	45 x 2	RP			
Dama	age Code		Corrective	Action Code	Remark Code:			
MB:	Missing Bolt		R: Repair	ed	G: Grounded Str	RS: Removed Lower Step Bolts		
B:	Bent		ent RP: Replaced		BP: Beat Packout	NS: New Danger/Aerial/Number Signs		
C:	Cracked		racked LF: Left as Found		GW: Applied Greywax	IP: Installed Package Per Specs		
TM:	Thin Men	nber			NB: New Bolts	FP: Flipped /Straightened Plates		
D;	Other				· · · · · · · · · · · · · · · · · · ·			

Date: <u>#/7/21</u>____

Foreman: <u>GREg Via</u>

Company: LEMYERS

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Line Number: _____588

Page _ 2__ of _2___

Tower Inspection

		Damage	F	ace	Member	Corrective Action	Remark
	1	С	B	ł	45 K 2	RP	BP-NB-GW
	2	P	B		68x2	R	
	3	P	B.	d	67 x 2	R	
	4	C	B	9	asixa	R P	
	5	C	B	-)	231 Rx2	RP	
	6	Tm	6	l)	NS	RP	
	7						
	8						
	9						
	10						
	11						· ·
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	22						
	23						
	24	- 4144					
	25						
	26						
	27						
	28						
	29						Climbing INSAECTION
	30		-				Climbing Inspection Complete
Dama	ige Code)	Correc	tive Ac	tion Code	Remark Code:	
MB:	Missinę	g Bolt	R: R	epaired		G: Grounded Str	RS: Removed Lower Step Bolts
B:	Bent		RP: R	eplace	d	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
C:	Cracke	d	LF: L	eft as l	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM:	Thin Me	ember				NB: New Bolts	FP: Flipped /Straightened Plates
0:	Other						

	Tower O	rientation		-		\$	
	Ah	ead			Line Number:	58	8
leg 2	ſ	<u>۸</u>	leg 3		Structure No:		
		ce C				7.00 ⁴⁷	· · · · · · · · · · · · · · · · · · ·
	🔄 face D			St	ructure Type;	5LT+ 1.	5'LE
		face E			-		ind
	E.	ce A				• • • • • • • • • • • • • • • • • • • •	/ <u>Ess</u>
leg 1		Je a	leg 4	Апез	a substation:	IENIK	<u>~>></u>
		ack	·°•, -			Foundation	Inspection
		oundline Inspe			Date:	05-11-2	<u> </u>
Sovor	e Corrosion		asurements				Rundgren
364614			1		an tanàna mandri dia 1975. An		
	Yes No	Reading 1	Reading 2	Action Code	See spec book for	Fnd Code	Action Code
Leg 1					explanation	(FR
Leg 2				P	of		FR
Leg 3				P	foundation		FR
Leg 4		Good	I/G	Ρ	codes	1	FR
ction Coc	le: P: Applied /		aseshoe Repla	aced LF: Lef	t as Found	FP: Foundatio	on Repaired
	In Lieu of Mo	easurements	- VG: Visually	Inspected - Go	od		
				lower inspectio) m	n sen an Sent	
en Bolt (Clips Added:	burner and	Yes	No			37_
	Damage	Face	 Member	Correctiv			Remark
1	mB	A	215×1.		RP	RON	GW - NB
2	P				R	Dr	$\frac{GW - ND}{I}$
3	P	AC	2/9×4		R	<u></u>	
4	P	Bd	236×4		R		
5	P	Bd	235x2		R	·····	
6			237x 2	· · ·	R		
7		Bd.	Иχ		R		
	<u> </u>	Bd	10×2			·	
8	P	d	224×1		R		
9	<u> </u>	Ba	222X2		R		
10	P	AC	38 X 4		R		
11	ρ	A.C.	18×4		R		
			1 1 1		2 1		
12	P		· ·		R		
<u>12</u> 13	<u>Р</u> Р	B	577X1		R		
	P	B Ac	577×1 565×4		Q		
13	P P	B Ac Ba	577X1 565X4 566X4		R		
13 14 15	P	B Ac	577×1 565×4		Р Р Р р		
13 14 15 16	P P	B Ac Ba	577X1 565X4 566X4		Р Р Р р	climbin	g Inspection
13 14 15 16 17	P P Tm	B Ac Ba a	577X1 565X4 566X4 NS	K	ς R γρ	climbin Complet	g Inspection
13 14 15 16 17 amage Co	P P Tm	B AC Ba A Corrective A	577X 565X4 NS	Remark Code;	R R > ρ		A second s
13 14 15 16 17 amage Co B: Miss	P P M M Ddé Sing Bolt	B AC B A A Corrective A R: Repaire	577X1 565X4 566X4 NS	Remark Code: G: Grounded S	R	RS: Removed	Lower Step Bolts
13 14 15 16 17 amage Co	P P M M D D D D D D D D D D D D D D D D	B A C B A A Corrective A R: Repaire RP: Replace	577X1 565X4 566X4 NS ction Code	Remark Code; G: Grounded ; BP: Beat Paci	R R P Str Str	RS: Removed NS: New Dan	l Lower Step Bolts ger/Aerial/Number Signs
13 14 15 16 17 amage Co B: Miss Ben Crac	P P M M D D D D D D D D D D D D D D D D	B A C B A A Corrective A R: Repaire RP: Replace	577X1 565X4 566X4 NS ction Code	Remark Code: G: Grounded S BP: Beat Pac GW: Applied (R R P Str Cout Breywax	RS: Removed NS: New Dan IP: Installed	l Lower Step Bolts ger/Aerial/Number Signs Package Per Specs
13 14 15 16 17 amage Co B: Miss Ben Crac	P P M M D D D D D D D D D D D D D D D D	B A C B A A Corrective A R: Repaire RP: Replace	577X1 565X4 566X4 NS ction Code	Remark Code; G: Grounded ; BP: Beat Paci	R R P Str Cout Breywax	RS: Removed NS: New Dan IP: Installed	ger/Aerial/Number Signs

	Wea	thering St	eel Tower I	nspection/i	lehabilit ation	AIT MATTER AND	
	Tower Or		meletel	limbins	Line Number:	58	8
. . r	Aho				Structure No:	235	
leg 2	fac	eC	Tue				
¥	face D		41151	31	nucture Type:		
		face B			k Substation:		
		eA		Ahea	d Substation:		·
leg 1		v ck	leg 4				Inspection
	Gro	undline Inspe	ction			04-28	
Severe	Corrosion		surements		Foreman	Allen	Rundysen
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1		VG	VG	P	book for	1	FR
Leg 2		VG	VG	P	explanation of	1	<u>FR</u>
Leg 3		1/G_	VG	р	foundation	1	<u> </u>
Leg 4		VG	VG	ρ.	codes	1	FR
ction Code	e: P: Applied I	eg Coating	B: Baseshoe R	leplaced LF:	eft as Found		FR: Foundation R
	In Lieu of M	easurements ·		Inspected - Go 'ower Inspecti			
		/				luantity:	56
itep Bolt C	lips Added:	1	Yes	<u>No</u>	ve Action		Remark
	Damage D	BD		RD.	N/B-GW	·	*
1	$\frac{P}{P}$		70x2	RU A	$R_{-}(-1)$		
2	<u> </u>	BD BD	11x2	BP-N	$R_{-C_{1}}$	-	
3		DU	222X2	RP.I	R-GU		• .
4	<u>Р</u> р	BD	205×1	RP.N	B. G.		
5	$-\frac{r}{D}$	AC	236×4 219×4	BP.NI	B-GW		
<u> </u>	TM	A	217X1	المراجعة المراجل مستحصات	NB-GW	· · ·	
		B	2334X1	1 - 14 R.P.	1B-GW		
9	- p	1 17	231LX1	BP-1	VB-GW		- -
10	p		763 X I	BP-1	B-GW		
		AC:	754X3	BP-N	B-GW		<u></u>
12	p	A	770×1	BP-N	/R-Gw		-
13	· C	1 B	776×1	RP-BP	-NB-Gul		
14	P	T D	757X1		BrGW	-	
15	C.	T Č	768X1	RP-BP	NB-GW	<u> </u>	
16	C	D	782×2	RP-BP-	NB-GW	<u> </u>	
17	TM	D	78421	RP-BP-N		<u> </u>	· · · · · · · · · · · · · · · · · · ·
Damage C	ode		Action Code	Remark Cod	1	IPS Remov	ed Lower Step Bolt
	sing Bolt	R: Repaire		G: Grounded BP: Beat Pa	and the second	NS: New D	anger/Aerial/Numbe
B: Bei C: Cra	nt cited		s Found	GW: Applied		IP: Installe	d Package Per Spec
All and and				NB: New Bo	lts	FP: Flipped	/Straightened Plate
	Hember	<u>`</u>					

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Line Number:	588
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Structure No: _____235

Page 2 of

			-	1	ower Inspection	
		Damage	Face	Member	Corrective Action	Remark
	1	P	BD	788X4	BP-NB-GW	-
	2	р р	AC	787×4	BP-NB-GW BP-NB-GW	
	3	٥	B	Structure	NS	
	4	0	ABCD	structure Sigher High Voltage Signer	NS	
	5			- 0		
	6					
	7					
	8					
	9					
	10					
	11					
	12					
	13					
	14					· ·
	15					· · · · · ·
	16					
	17					
	18					
	19					
	20					······································
	21				· · · · · · · · · · · · · · · · · · ·	
	22				· · · · · · · · · · · · · · · · · · ·	
	23					
	24					
	25					я
	26					
	27				· · · · · · · · · · · · · · · · · · ·	
	28	······				
	29					
	30	_				
Dama	age Code)	Corrective A	ction Code	Remark Code:	•
MB:	Missin	g Bolt	R: Repaired		G: Grounded Str	RS: Removed Lower Step Bolts
B:	Bent		RP: Replace	ed .	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
C;	Cracke	đ	LF: Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM:	Thin Me	ember			NB: New Bolts	FP: Flipped /Straightened Plates
0:	Other				· · · · · · · · · · · · · · · · · · ·	

					<u>tehabilitati</u>	on Data Sh	eet
	Tower Ori	Ľ	omplete C	limbing	Line Number: .	588	
g==	Ahe		ton 2		Structure No:	236	a
ieg 2	fac		leg 3	1.		_	
	iace D	ş v	Inspe	ction st	nucture Type:	<u>5LT+4</u>	OLE
	iace w	face 6		Bac	k Substation:	YADK	<u>n</u>
	.				d Substation:	م م مسر	TRESS
leg 1	fac	ea 7	leg 4				
reg i L	Ba						Inspection
· · · · · ·	Gno	undline Inspe	ction		Date:	04-28	- 3.1
Souce	Corrosion		surements		Foreman:	Allent	Rundycen
Jeverer	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
		110	VG	Ρ	book for	Î	FK
Leg 1		1/5		p	explanation	i	FR
Leg 2		VG		P	of		EV
Leg 3		<u> /G</u>	VG		foundation		60
Leg 4		\(G	VG	ρ.	codes	/	FR: Foundation Repaire
tion Code	P: Applied L	eg Coating I	3: Baseshoe A	eplaced LFt	left as Found		LK: Longation repairs
	in Lieu of Mc	asurements -		Inspected - Go			
			• T	ower inspecti			50
ep Bolt Cl	ips Added:		Yes	No		Quantity:	
	Damage	Face	Member	Correcti	ve Action		Remark
1	P	C	39 FARXI	BP-NB	GW		• •
2	C I	C.	37 FARX 1	BRNB	G(1/		
3	a l	· A	36 NEARX I	RP-NR	GUL	-	
4		R	113X1	DP. RP.	NB-GUI		•
	1		3	DUNR	C_{1}		
5	<u> </u>	BD_	10x2	PO NG			
6	<u> </u>	<u>RD</u>	11x2	KP-NE		<u> </u>	
7	P	<u>BD</u>	222X2	BP-NB			
8	<u> </u>	<u> </u>	230X1	RP-BP-1		<u> </u>	
9	P	<u>BD</u>	236×4	BP-NB		Į	
10	G	D	2334×1	RP-BP-	NB-GW		
11	P	R	233LX1	BP-NR	-Gtal		
12	+ p	D	233RX 1	RP.NR	-GW		
13	· p	AC	219×3	RP-11	B-Gul		
		$\frac{1}{c}$	2/9×1	RP.RP-A/	B-GII		•
14	TM	$+ \geq -$	215X1	DD DD-AI	R-GJ	1	· · · ·
15		<u>+ </u>		00.20	B-GW		
16		$\frac{1}{C}$	214×1	NF DF7			······································
17		$\frac{1}{1}$	23 XI	Remark Cod	<u>IBGW</u>	L	
amage Co	and the second		Action Code	G: Grounder	the second se	RS Remov	ed Lower Step Bolts
	sing Bolt	R: Repaire RP: Replac		BP: Beat Pa	a second a second and a second a	NS: New Da	enger/Aerial/Number Sign
l: Ben 2: Grac	and the second	LF: Lefta		GW: Applied		IP: Installe	d Package Per Specs
	Member	1		NB: New Bo	the second s	FP: Flipped	Straightened Plates
); Othe						· ·	
				100		.	LEMVERS
Date: 4	-27-2021	Foreman:	Nichae	<u> S David</u> 129	<u> </u>	Company:	LEMYERS

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Line Number: ____

Structure No: _____23

588

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Tower Inspection

		Damage	1			Tower Inspection									
			Face	Member	Corrective Action	Remark									
1		<u> </u>	C ·	217×2		-									
2	2	P		759×1											
3		<u> </u>	<u>C</u>	758X1											
4	6	<u> </u>	AC	762×3											
5			A	763X1											
6		C	C	768×1											
7	,	_ C	A	769×1											
8	;	C	A	770X.1											
9)	C	B	783×1											
10	D	Ç	B	784X1											
11	1	P	D	784X1											
12	2	C	B	782X1											
13	3	TM-B	ABCO	220X4											
14	4	P	Bn	755XQ											
15	5	P	BD	756x2											
16	à	P	BD	757X2											
17	r	q	A	221×1	••••••••••••••••••••••••••••••••••••••										
18	3	Ċ	B	776×1											
19	•	<u>A</u>	C.	39 FARX 2											
20)	0	B	structure sight High Voltage Sighns	NS										
21		0	ABCD	High Vottage	N/S	· · · · · · · · · · · · · · · · · · ·									
22	2					······································									
23	3				2										
24						······································									
25	;					1									
26			· · · · · · · · · · · · · · · · · · ·	1	· · · · · · · · · · · · · · · · · · ·										
						····									
28				<u> </u>	· · · · · · · · · · · · · · · · · · ·										
29	·														
30															
)amage			Corrective A	ction Code	Remark Code:	- L									
	Wissing		R: Repaired	·	G: Grounded Str	RS: Removed Lower Step Bolts									
NT	Bent	· · ·	RP: Replace		BP: Beat Packout	NS: New Danger/Aerial/Number Signs									
	racked	1	LF: Left as		GW: Applied Greywax	IP; Installed Package Per Specs									
	hin Me				NB: New Bolts	FP: Flipped /Straightened Plates									
	ther					F									

	n Member er						
	n Member			1			
		<u> </u>		NB: New Bolt			Straightened Plates
	icked	LF: Left as		GW: Applied C			Package Per Specs
B: MR Be	ssing Bolt	R: Repaire RP: Replace		BP: Beat Pac			ger/Aerial/Number Signs
amage (B: Mi	- 44 - 14 - 14 - 14 - 14 - 14 - 14 - 14	Corrective A		Remark Code: G: Grounded		DC. Domester	Lower Step Bolts
17						Com plé	te
16			<u> </u>	_		climbing	INSPECTION te
15			<u> </u>				·····
14			<u> </u>	<u> </u>			
13	Tm		NS	<u> </u>	<u>ب</u>		<u>.</u>
	<u> </u>	B	235×1				
12	100	i		RI			
11	mB	A A	236 X4 67 ² X 1	R	ρ		
10		Bd	591×1	R			-
9	P .	d		2		<u> </u>	
8	Ton	B	220×2	RI			
7	Tm	AC	220×2	RI	0		
6	ρ	Ba	10x2	R			
5	P	Bd	10x2	R			
4	P	AC	38×4	R			· · · · · · · · · · · · · · · · · · ·
3	ß	A	581X 1	R			1
2	P	Ba	595 X 2	6		<u> </u>	
1	P	AC	594×2	R		BP-G	W-NB
	Damage	Face	Member	Correctiv			Remark
ep Bolt	Clips Added:			No		Quantity:	<u> </u>
, taka e	In Lieu of Me			Inspected - Go Fower Inspectic	od		Le later d'al terret.
	de: P: Applied A		aseshoe Repla	aced LF: Left	t as Found	FP: Foundatio	
Leg 4		Good	VG	P	codes	1	FR
Leg 3				P	of foundation	1	FR
Leg 2				P	explanation	1	FR
Leg 1				P	book for	1	FR
	Yes No		Reading 2	Action Gode	See spec	Fnd Code	Action Code
Sever	evere Corrosion Steel Measureme			1		Allen Rundacen	
		oundline Inspe	ection		Date:	4 6 0 7	1-21
leg 1		v ack	leg 4			Foundation	Inspection
		e A		Ahea	d Substation:	FERSTR	ESS
	1	face B	→			•	in
	🔄 face D			St	ructure Type:	5LT+ 21	O'LE
leg 2		e C	ley 5		Sudcule No;		······································
1		企业	leg 3		Structure No:		
		rientation ead			Line Number:	585	3
	HE						

Weathering Steel Tower Inspection/Rehabilitation Data Sheet **Tower Orientation** Ahead Line Number: <u>588</u> 7 leg 2 Structure No: ______239 leg 3 face C Structure Type: 547+354E " face D Back Substation: Yad Kin face B-Ahead Substation: FENTRESS face A leg 1 à. leg 4 Back Foundation Inspection 06-02-21 **Groundline Inspection** Date: Allen Rundquen **Severe Corrosion Steel Measurements** Foreman: Yes No **Reading 1** Reading 2 **Action Code** Fnd Code **Action Code** See spec Leg₁ book for р 1 FR explanation Leg 2 p FR of Leg 3 ρ Good VG FK foundation Leg 4 0.209 P 225 В codes m FR Action Code: P: Applied A-120 **B: Baseshoe Replaced** LF: Left as Found **FP: Foundation Repaired** In Lieu of Measurements - VG: Visually Inspected - Good **Tower Inspection** Step Bolt Clips Added: Ł Yės 51 No Quantity: Damage Face Member **Corrective Action** Remark 1 AC 73382 ĸ BP - NB -GW $^{\circ}$ 2 Ŕ 734×2 Ŕ 3 730x 2 Вd \mathcal{O} 4 B. Ŕ 729x2 5 R 726x 2 Δ 6 Ŕ B 703 x 2 0 \mathcal{O} 7 Ĥ 219×4 8 236×4 Ŕ 9 222 × 1 R 10 222 K 1 RΡ 11 ΒĴ Ŕ IOXQ

R

RP

R

Remark Code:

NB: New Bolts

G: Grounded Str

BP: Beat Packout

GW: Applied Greywax

RP

بالجرأ استنصيتها وا

Date: 4/29/21

12

13

14

15

16

17

Damage Code

Bent

Other

Cracked

Missing Bolt

Thin Member

MB:

B:

C.

O:

TM:

R

 ρ

Im

m B BA

A

AC

Corrective Action Code

Repaired

LF: Left as Found

RP: Replaced

 \sim

Foreman: <u>GREq ViA</u>

11×2

82 5× 1

38 X 4

NS

Combany: LEMYERS

° o m

climbing Inspection

NS: New Danger/Aerial/Number Signs

RS: Removed Lower Step Bolts

IP: Installed Package Per Specs

FP: Flipped /Straightened Plates

	Tower (Drientation					
	A	head					8
leg 2		<i>h</i>	leg 3		Structure No:	240	0
		cè C				1	,
	🚝 face D		1	S	tructure Type;	5MA+20	BE+30'LE
		face	B	Bac	ck Substation;	YAd Kin	/
	fa	се А		Ahea	ad Substation:	FENTR	<u> </u>
leg 1		<u>i</u> l	leg 4		••••••		
	B	ack				Foundatio	n Inspection
	Gr	oundline Insp	ection		Date:	03-24	- àl
Severe	Corrosion	Steel Me	asurements		Foreman: Allen Rundyler		
······	Yes No	Reading 1	Reading 2	Action Code	1	Fnd Code	Action Code
Leg 1		Good	VG	P	book for		FR
Leg 2		<u>1 2 00 00</u>	1	P	explanation	<u> </u>	
Leg 3					of		<u> </u>
-				P	foundation		FR
Leg 4			Y	P	codes		FR
ction Cod	e: P: Applied		aseshoe Repla		t as Found	FP: Foundati	on Repaired
	in Lieu of M		-	Inspected - Go			
				Fower Inspection	D n		·
ep Bolt C	lips Added:	<u> </u>	_Yes	No		Quantity:	61
· · · · · · · · · · · · · · · · · · ·	Damage	Face	Member	Correctiv	e Action		Remark
1	P	AC	423×4		R	BP -	SW -NB
2	P	AC	409 X2		R		
3	P	AC	409×2		R		
4	C	A	404 × 1	1	R P	· · · · · · · · · · · · · · · · · · ·	
				1	R		
		AC	404×2	}			
<u> </u>	$-\frac{\zeta}{\rho}$	<u> </u>	409×1		RP	·····	
7	<u> </u>	Ba	436 X 3		R		
8	P	Bà	439× 2		Ŕ		
9	C	d	315X1		RP		
10	C	à	1313 X 1		RP		
11	C	C)	1312X1		RP	······································	······
12	P	Bà		1	R	, <u> </u>	
13		1	311 X 2		R		
	r	A	1306×1		<u>л</u>		
14	$-\frac{P}{2}$	ßd	1238x2		<u>R</u>	·····	
15		<u> </u>	1310 x 2		R		
16	P	Bà	1770 x 4		K		
17	P	A C	1760×4	/	2	. —-	
mage Co		Corrective A	ction Code	Remark Code:		······	•
	ing Bolt	R: Repaire	and the second	G: Grounded S			d Lower Step Bolts
Bent		RP: Replac		BP: Beat Pac			ıger/Aerial/Number Sign
Cracl		LF: Left as	Found	GW: Applied C			Package Per Specs
E	wenner			NB: New Bolt	5 (FP: Flipped #	Straightened Plates
i: Thin i Other			·····				
i: Thin i Other							· · · · · · · · · · · · · · · · · · ·

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Line Number: <u>588</u>

Structure No: <u>240</u> Page <u>2</u> of <u>2</u>

Tower Inspection

		Damage		Face	Member	Corrective Action	Remark
	1	Tm		d	NS	RP	
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						
	11						
	12					and a second	
	13						
	14						
	15						
	16					in the set of the se	
	17			- Verdina - Verdena		· · · · · · · · · · · · · · · · · · ·	
	18						
	19						an a far a ga an
	20					αι το σο στο το τ	
	21						
	22						
	23				·	ΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥΥ	
	24						
	25						
	26						
	27					, , , , , , , , , , , , , , , , , , ,	
	28						Climbing Juspertian
;	29						Climbing Inspection Complete
4	30						
Dama	ge Code	2	Corr	ective A	ction Code	Remark Code:	ala hayanna darana dala ya da ya ya na
MB:	Missin	g Bolt	R:	Repaired	1	G: Grounded Str	RS: Removed Lower Step Bolts
8:	Bent		RP:	Replace	d	BP: Beat Packout	NS: New Danger/Aerial/Number Signs
C:	Cracke	d	LF:	Left as	Found	GW: Applied Greywax	IP: Installed Package Per Specs
TM:	Thin Me	ember				NB: New Bolts	FP: Flipped /Straightened Plates
0:	Other				anan an		

Str Str Back Ahead	Structure No: ucture Type:		88	
Str Back Ahead	ucture Type:			
Back Ahead		547+		
Ahead	- Substation		35 LE	
Ahead	r oanstation,	YAdK	N	
			55	
_			······································	
Ē	Foundation Inspection			
	Date:	03-24-2		
5	Foreman:			
J 2 Action Code	See spec	Fnd Code	Action Code	
BP	book for	1	FR	
	explanation	1	FR	
			FR	
			FR	
Tower Inspection	Ĵ.		52	
	- ·	wuantity:		
	Action	0.0	Remark	
<u> </u>		BP - GI	$\omega - NB$	
<u> </u>				
0				
<i>ti</i>		·····		
	0		···	
·····				
<u> </u>				
		<u> </u>		
<u> </u>				
<u> </u>				
		Climbiae	INSPECTION	
		Climbing Completion	INSPECTION te	
Remark Code:			INSPECTION te	
Remark Code: G: Grounded St	tr	RS: Removed	Lower Step Boits	
Remark Code: G: Grounded St BP: Beat Packo	tr out	RS: Removed NS: New Dan	Lower Step Bolts ger/Aerial/Number Sign	
Remark Code: G: Grounded St	tr Dut reywax	RS: Removed NS: New Dan IP: Installed F		
	2 Action Code B P P P No R R R R R R R R R R R R R R R R R R R R R R R R R R R R R R	s Foreman: 2 Action Code See spec B P book for P P of P foundation P codes eplaced LF: Left as Found ally Inspected - Good Tower Inspection No r Corrective Action R	2 Action Code See spec Fnd Code B P book for I P explanation I P foundation I P foundation I P foundation I P codes I P $Codes$ I P $Codes$ I P $Codes$ I P P P P R I R <	

	ad C face B S A	iomipletes leg 3 Inspect	tion Sta	Structure No: _	240	<u>x</u>
face D face Bac Grow	€ C face B € A	leg 3	tion Sta	Structure No: . nuclture Type: .	240	<u>x</u>
face D face Baa Grou	≥ C face B ≥ A	Inspect	tion Sta	ucture Type:		YLE
ace D fact Bat	face B e A			ucture Type: k Substation:	5 <u>LT-30</u> VADI	YLE
face Ban Grou	e A /			wcture Type: k Substation:	VADY	
Bai	e A /			k Substation:	9/11/X	
Bai	/	leg 4	Ahea			
Bar Grou	Constraint in the second s	leg 4		d Substation:	FEN IK	ESS
Grou	cik		1	<u>.</u>	Foundation	Increction
	indline Inspe	ction		Date:	02-10-	· · · · · · · · · · · · · · · · · · ·
mosion	Steel Mea	surements		Foremans	Allen	Rundgren
res No	Reading 1	Reading 2	Action Code	See spec.	Fnd Code	Action Code
V	1/6	VG	P	book for		FR
V	VG	VG	P		1	FR
		NG	P	1	1	FR
	15	YG	P.	codes	/	FR
		N Recession R	enlaced LF:L	eft as Found		FR: Foundation Repaire
its an che an firm						
- örided .	V.		No		Quantity:	51
Damage	Face	Member	Correction	re Action		Remark
P	A	36NEARXI	BP-NB	-GW		- -
Ð	C	37FARX1	BP-NI	3-GW		
D	· (,	3/FARXI	RP-NI	3-GU		
D	RD	$\overline{a}\overline{a}\overline{a}\overline{a}\overline{x}\overline{z}$	BP-M	3-6-47		•
		111/2	DP-DD-1	$B_{-}G_{-}$		
and the second se	├ <u></u> ┟─	11 AA	01.20	NP-CII		
	<u> </u>		$n \sim 0^{p}$	$\frac{VD}{D}$		
<u>B</u> _	<u> </u>		RP-DP-	VB-GU		
TM	<u> </u>					
<u></u>	D	and the second se				۰
B-TM	ABCD	and the second				
TM	C	221×1				
\overline{p}	AC	219XI	BP-NB-	<u>GW</u>		_
· C.	A					<u></u>
$\overline{\tilde{\alpha}}$			NŠ			
$- \frac{1}{2}$		HishVollage	A second s			<u> </u>
<u> </u>		Sighn's	<u> </u>	<u></u>	[
	<u> </u>					
	Corrective A	ction Code	Remark Code		<u> </u>	······································
the second s	· · · · · · · · · · · · · · · · · · ·			the second s		ed Lower Step Bolts
	RP: Replac	eđ				nger/Aerial/Number Sign:
đ			1	and the second		l Package Per Specs
ember			NB: New Bol	ls		Straightened Plates
	1		<u> </u>			
3-701	.	mila	of Dr.1	Ś	Commann	LE.MYERS
	Added: Damage P P P P P B T M P B-T M P B-T M P C C C C C C C C C C C C C	In Lieu of Measurements - Added: Damage Face P A P C P C P C P BD B D B D B D B D B D B D B D	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	L VG VG P	VG VG P explanation of foundation codes VG VG P foundation codes P: Applied Leg Coating Baseshoe Replaced LF: Left as Found not lieu of Measurements - VG: Visually Inspected - Good Tower inspection Tower inspection Added: Ves No P A 36NEARXI BP-NB - GW P A 36NEARXI BP-NB - GW P A 36NEARXI BP-NB - GW P C 37MRXI BP-NB - GW P B D 11X2 BP-NB - GW B D 11X2 RP-BP-NB - GW B D 112X2 RP-BP-NB - GW B D 113X2 RP-BP-NB - GW FM B ABCD 220X3 RP-BP-NB - GW P D 233LXI RP-NB - GW P D 233LXI RP-NB - GW P ABCD 220X3 RP-BP-NB - GW C RAXI BP-NB - GW S C RAXI RP-NB - MB - GW <td< th=""><th>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</th></td<>	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

	···					····	
				nspection/l	lehabilitati	on Data Sh	
		rientation	omplete (<i>limbing</i>	Line Namber:	588	}
		ead A	teg 3		Stracture No:	01	3
leg 2		æC	Ins	pection			
	K face D	-		st St	nucture Type:		
		face B		Bac	k Substation:		
	fac	æA		Ahea	d Substation:	FENT	RESS
leg 1		V	leg 4			Foundation	Inspection
<u></u>		xindline Inspe	ction]	Date:	02-10	~ 21
Courte	e Corrosion		surements		Foreman:	Allen	Rundigren
Jever	Yes No		Reading 2	Action Code	See spec	Fnd Code	Action Code
Leg 1			0.24790	BP	book for	1	FK .
Leg 2		VG	VG	$-\overline{\rho}$	explanation	1	FR
Leg 3		0.22885	0.25505	R	of foundation	1	FR
Leg 4		VG	VG	Þ	codes	1	FR
	de: P: Applied I			eplaced LF: I	eft as Found		FR: Foundation Repair
				inspected - Go			÷ •
			· T	ower inspecti	201		
ep Bolt	Clips Added:		Yes	No		loantity:	
	Damage	Face	Member	Correctin	re Action	· · · · · · · · · · · · · · · · · · ·	Remark
1	P	AC	40NEARXA	BP-NB	-GW		· · ·
2	р	AC	39FARX2	BP-NB	-GW		· · · · · · · · · · · · · · · · · · ·
3	ρ	·A .	36NEARXI	BP-NB	-Gh)		
4	- Ρ	A	37NEARXI	BP-NR	3-Gli/		
5	P	<u> </u>	36FARXI	BP-NI	3-G4/		
6	p	<u> </u>	37FARX)	BPAR	-Gh/		· · · · · · · · · · · · · · · · · · ·
7	P	<u>BD</u>	10×2	BP-NA	3-Gil		
8	P	BD	IIXA	<u>BP-NB</u>	-Gul		
9	Ċ	Ď	DJJZX/	KP-BP-	NB-GW	<u>. </u>	• •
. 10	TM	AC	219X4	KP-BH-	NB-GW		• • • • • • • • • • • • • • • • • • •
. 11	TM	BD	236×4	KY-BP-/	VB-GW		<u> </u>
12	TM		<u>235×1</u>	KK- RK-V	18-G//	<u> </u>	
	T: p	AC	501×2		VB-G4/		
13					* · × /	-	
13 14	Þ	BD	50222	BPNB	Gu		-
		BD AC	502X2 Hish Voltage	NS	· G-[1/		
14	P 0	BD	502X2 Hist Voltoge Stockne Structure	NS NS			
14 15 16 17	Р 0 ТМ	BD AC B C	502X2 NishVeitase Structure Structure 503X1	- NS NS RP-BP-1	VB-GW		
14 15 16 17	P O TM Code	BD AC B C	502X2 Nish Veltase Stants Structure 3501 503X1 ction Code	NS NS	VR-Gial	RS: Remove	d Lower Step Bolts
14 15 16 17 amage 18: M	Р 0 ТМ	BD AC B C	502X2 NishValtase Stachts Stracture Sight 503X1 Intion Code d	NS NS RP-BP-J Remark Code	V B-G(1) Str	NS: New Da	nger/Aerial/Number Sign
14 15 16 17 amage (18; Mi 3; Be	P O O T M Code ssing Bolt	BD AC B C Corrective A R: Repaire	502X2 Nish Valtase Stahns Structure Sishn 503X1 Intion Code di edi	NS NS RP-RP-) Remark Code G: Grounded BP: Beat Par GW: Applied	V R - G(_) S Str kout Greywax	NS: New Da IP: Installed	nger/Aerial/Number Sign Package Per Specs
14 15 16 17 annage 18: Ni 8: Bo	P O TM Code ssing Bolt acked in Member	BD AC B C Corrective A R: Repaire RP: Replac	502X2 Nish Valtase Stahns Structure Sishn 503X1 Intion Code di edi	NS NS RP-BP-J Remark Code G; Grounded BP: Beat Par	V R - G(_) S Str kout Greywax	NS: New Da IP: Installed	nger/Aerial/Number Sign

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Company: LEMYERS

Line Number: ____588

Structure No:

243

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Page	_d	of	2

Tower Inspection

		Damage		Face	Member	Согте	ctive Action	Remark
	1	TM		в	504X1	RP-BP-	NB-GW	
	2					·		
	3							
	4							
	5							
	6							
	7					1		
	8							
	9							
	10							-
	11							
	12				1	-		
	13						· · · · · · · · · · · · · · · · · · ·	
	14							
	15			· · · · · ·		1		
	16		1					
	17							
	18							
	19					1		-
	20							
	21							
	22						· · · · · · · · · · · · · · · · · · ·	
	23							
	24	· · · · · · · · · · · · · · · · · · ·		******				
	25			·				
	26							
	27							
	28	······································		········				
;	29							
	30						·	
ama	nge Code	•	Corr	ective A	ction Code	Remark Co	de:	I.,
1 B :	Missing	g Bolt	R:	Repaired	l	G: Grounde	ed Str	RS: Removed Lower Step Bolts
:	Bent		RP;	Replace	d	BP: Beat P	ackout	NS: New Danger/Aerial/Number Signs
	Cracked						IP: Installed Package Per Specs	
	Glacke		1					
- ,	Thin Me			······		NB: New B	<u></u>	FP: Flipped /Straightened Plates

والهبوا المشتحين

	1	fower O	rientation		· mspeetion/	Neitannita	tion Data S	neer	
			lead			Line Number	58	3 S	
leg	2		<i>/</i> ,	leg 3		Structure No	240	>	
			e C						
	face face	D				tructure Type			
			face E			k Substation:			
P	1		e A		Ahea	d Substation;	FENT	RESS	
leg	1). ack	leg 4					
<u> </u>						Inspection			
Sev	ere Corros	······	Steel West	surements			Date: 06-02-21 Dreman: Allen Rundyce		
	Yes	No	·····	Reading 2					
Leg			NEAUNIG 1	Reauing Z	Action Code	See spec	Fnd Code	Action Code	
Leg				<u> </u>	P	explanation		FR	
Leg			<u> </u>	<u> </u>		of		<u>FR</u>	
-			Y.	L.V.	P	foundation	1	FR	
Leg Action (Good	<u>LYG</u>	P	codes		FR	
MUCKOUSIA 4		pplied A		seshoe Repl	aced LF: Lefi / Inspected - Go	t as Found	FP: Foundation	on Repaired	
	510 B-1 5		asurements ·		Tower Inspectio				
Stop Ro	It Clips Add			Yes					
orep 00		nage	V	1	No		Quantity:	54	
1)	Face	Member	Correctiv	e Action	0	Remark	
	<u>F</u>	5	<u> </u>	1010 x2		<u>K</u>	BP-G	W-NB	
2	<i>[[</i>		<u> </u>	1011×2		ĸ			
3	<u> </u>		<u> </u>	1240× 1		R P			
4			B	1240x 1	. K	2P			
5		· ·	Ba	1222×2		ς ρ			
6		···	<u>B</u>	1229 × 1		<u>RP</u>			
7	-f)	<u> </u>	1227×1	× ×	7			
8		~	B	1226×1	R	P			
9		~	B	1225×1	Ŕ	P			
10	/		ß	1223X1	R		· · · ·		
11		ρ	d	1227x1	R				
12	0		d	1226×1	R	ρ			
13	<i>f</i>	C	d	1225×1	R		•	·····	
14	P)	d	1240×1	R				
15	F	>	d	1240×1	Ŕ				
16	P		Ba	1236×4	R				
17	ρ		AC	217x2	R				
Damage			Corrective Ac	tion Code	Remark Code;		······································	·····	
	issing Bolt		R: Repaired		G: Grounded S	1		Lower Step Bolts	
	ent acked		RP: Replace		BP: Beat Pack			ger/Aerial/Number Signs	
· · · · · · · · · · · · · · · · · · ·	acken in Member	╶────┤╸	.F: Left as I	ound	GW: Applied G			ackage Per Specs	
0: 00					NB: New Bolts		P: Flipped /S	traightened Plates	

Weathering Steel Tower Inspection/Robabilitation D _ .

Date: 5/5/21 Foreman: GREG V.A

Commonia LEMYRES

Line Number: <u>588</u>

Structure No: _____245

Page $\underline{\mathcal{A}}$ of $\underline{\mathcal{A}}$

		ba.	1		lower inspection				
		Damage	Face	Member	Corrective Action	Remark			
	1	ρ	AC	1219×4	R	BP-GW-NB			
	2	ρ	AC	1210×2	R				
	3	P	Ac	1208×2					
	4	<u> </u>	Bd	1236×4	R				
	5	P	Ba	1787×4					
	6	P	Bd	1788 x 4	R				
	7	P	A	759×1	R				
	8	P	<u>d</u>	733×1	<i>R</i>				
······	9	P	A	760 x 1	R				
ļ	10	ρ	d	444/ X 1	R				
	11	P	AC	76 £ x 2	R				
	12	P	A	754×1	R				
	13	P	d	757 XI	R				
	14	Tim	L à	NS	RP				
	15								
	16								
	17								
	18								
	19								
	20								
	21				A for the second s				
	22								
	23					1999 - 199			
	24	· ·							
	25								
	26			· · · · · · · · · · · · · · · · · · ·					
0-900-9428.00009-000	27	ال ان من ان <u>ا</u> رتم مناطقا ان منه رس منهم مناطقا ان منه الم							
	28								
	29		**************************************		ан түүхэлтонуулаан ан даа оосоон нэхээ байн хаасаа ан а	Climbing Transfind			
	30		2000,000,000,000,000,000,000,000,000,00			Climbing INSpection Complete			
Dama	ige Code	2	Corrective A	, ction Code	Remark Code:	NUMPIPIPI			
MB:	Missin	g Bolt	R: Repaire	d	G: Grounded Str	RS: Removed Lower Step Bolts			
B;	Bent	<u>, , , , , , , , , , , , , , , , , , , </u>	RP: Replace		BP: Beat Packout	NS: New Danger/Aerial/Number Signs			
G:	Cracke	d	LF: Left as		GW: Applied Greywax	IP: Installed Package Per Specs			
TM:	Thin Me	ember			NB: New Bolts	FP: Flipped /Straightened Plates			
0:	Other								
			1						

		athering S rientation	teel Tower	Inspection/	Rehabilitat	ion Data S	heet	
	Ah	ead			Line Number	588	·	
leg 2		1	leg 3	Structure No:		246		
		ce C				ent a renorm		
	🗧 face D		·		tructure Type:			
		face	3>				in	
		e A		Ahea	ad Substation:	FENT	RESS	
leg 1		y ack	leg 4			Foundation	n Inspection	
[-	06-02	-	
Sover		oundline Insp					Rundgren	
Severe			asurements			1	· · · · · · · · · · · · · · · · · · ·	
	Yes No	Reading 1	Reading 2	Action Code	See spec book for	Fnd Code	Action Code	
Leg 1				<u> </u>	explanation	<u>/</u>	FR	
Leg 2				P	of	2	FR	
Leg 3		V		P	foundation	<u> </u>	FR	
Leg 4		Good	VG	P	codes	1	FR	
Action Cod	e: P: Applied #		aseshoe Repla		t as Found	FP: Foundati	on Repaired	
an the concern	in Lieu of Me		•	Inspected - Go		1		
Г			1	ower Inspectio	n			
Step Bolt C	lips Added:		_Yes	No		Quantity:	43	
	Damage	Face	Member	Correctiv	e Action		Remark	
1	<u>P</u>	AC	673 × 4		R	BP-6	FW-NB	
2	ρ	Bà	674×4		R			
3	C	AC	217× 2	k k	P			
4	P	A	221 × 1		Ŝ			
5	P	AC.	219 X 4	Á	2			
6	P	Bd	236 x 4	ļ.			-	
7	ρ	d	boaxi	K				
8	Tm	ABCD	220×3		P			
9	P	AC	38×4		2			
10	P	Bd	10 x 2	, K				
11	T p	Bà	11×2	. K				
12	ρ	Ba	222 × 2		R			
13		AC	43Rx 2	1	2			
14	0		73 X X	/				
15		AC	434×2			·		
13 16	-7m	d	NS	<i>R</i>	<u>r</u>	. I		
							9 IN SPECTION	
17 Dámáge Co		Corrective A	L Code	Remark Code:		Comple	ΤĔ	
	ing Bolt	R: Repaire	the state of the s	G: Grounded		RS: Removed	Lower Step Bolts	
B: Bent		RP: Replac		BP; Beat Paci		RS: Removed Lower Step Bolts NS: New Danger/Aerial/Number Sig		

C:

0;

TM:

 $\left(\right)$

Other

Cracked

Thin Member

LF: Left as Found

Date: <u>4/12/21</u> Foreman: <u>GREG V:A</u>

Company: LEMYERS

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IP: Installed Package Per Specs

FP: Flipped /Straightened Plates

GW: Applied Greywax

NB: New Bolts

		Tower O	rientation		•			
		Ah	ead			Line Number:	59	38
1	eg 2	······································	Â	leg 3		Structure No:	24	7
		fac	e C					J.
		face D						30 LE
			face B	>				in
		fac	e A		Ahea	d Substation:	FENT	RESS
j,	eg 1		V	leg 4				
		Ba	ick			·	·····	Inspection
		Gra	undline Inspe	ection		Date;	<u>De-08</u>	-21
S	evere (Corrosion	Steel Mea	surements		Foreman:	Allen	Rundgren
		Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code
L	eg 1		L		P	book for	1	FR
L	eg 2		Good	VG	P	explanation	1	FR
	eg 3	V	0,225		BP	of		FR
	eg 4	3/		0,232	BP	foundation codes	\vdash	
	-	P: Applied A	0,242	0,228	iced LF; Lef	and a split of the second s	FP: Foundati	<u>FR</u>
				-	Inspected - Go		i i i i ounuali	
							and the second	
est v					ower Inspectio			
Step	Bolt Cli	ps Added:		_Yes	No		Quantity:	43
							1	
	<u></u>	Damage	Face	Member	Correctiv			Remark
	1	Damage P	Face AC	Member 673 x 4	Correctiv		BP -	Remark Gw-NB
	1 2	Damage P P				\sim	BP -	
		P	AC AC	673×4 219×4	K	2	BP -	
	2	P P P	AC AC Bd	673×4 219×4 674×4	A 	2 ? ?	BP -	
	2 3	P P P Tm	AC AC Bd ABCd	673X4 219X4 674X4 220X8	A 	2	BP -	
	2 3 4 5	P P P	AC AC Bd	673X4 219X4 674X4 220X8 236X4	K K K	2 ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?	<u>BP</u> -	
	2 3 4 5 6	P P P Tm P	AC AC Bd ABCd	673×4 219×4 674×4 220×8 236×4 217×1	k f k k	2 2 2 7 7 8 8	<u>B</u> P -	
	2 3 4 5 6 7	P P P Tm P	AC AC Bd ABCd	673×4 219×4 674×4 220×8 236×4 217×1 217×1	K K K K	2 2 2 7 8 8 9	<u>B</u> P -	
	2 3 4 5 6 7 8	P P Tm P P P P	AC AC Bd ABCd Bd C C	673X4 219X4 674X4 220X8 236X4 217X1 217X1 210X1 207X1	K K K K K	R R R R	BP -	
	2 3 4 5 6 7 8 9	P P Tm P P P P	AC AC Bd ABCd Bd C C Bd	673×4 219×4 674×4 220×8 236×4 217×1 217×1	R R R R R	2 2 7 7 8 8 8	BP -	
	2 3 4 5 6 7 8	P P Tm P P P P P	AC AC Bd ABCd Bd C C	673X4 219X4 674X4 220X8 236X4 217X1 217X1 210X1 207X1	K K K K K K	R R R R	<u>BP</u> -	
	2 3 4 5 6 7 8 9	P P Tm P P P P P P	AC AC Bd ABCd Bd C C Bd	673×4 219×4 674×4 220×8 236×4 217×1 217×1 210×1 207×1 207×1 222×2	A A A A A A A A A	2 2 7 7 8 8 8 8 8	BP -	
	2 3 4 5 6 7 8 9 10	P P Tm P P P P P P	AC AC Bd ABCd Bd C C C Bd AC	673×4 219×4 674×4 220×8 236×4 217×1 217×1 207×1 207×1 222×2 38×4	A A A A A A A A A	R R R R	<u>B</u> P -	
	2 3 4 5 6 7 8 9 10 11	P P Tm P P P P P P	AC AC Bd ABCd Bd C C C Bd AC Bd	673×4 219×4 674×4 220×8 236×4 217×1 217×1 207×1 207×1 207×1 222×2 38×4 10×2	R R R R R R R R R R	2 2 7 7 8 8 8 8 8	<u>B</u> P -	
····	2 3 4 5 6 7 8 9 10 11 12	P P Tm P P P P P P	AC AC Bd ABCd Bd C C C Bd AC Bd AC AC AC A A	673×4 219×4 674×4 220×8 236×4 217×1 205×2 1 207×1 205×2 1 207×1 207×1 205×2 1 207×1 205×2 1 207×1 205×2 1 207×1 205×2 1 207×1 205×2 1 205×2 1 207×1 205×2 1 205×2 1 205×2 1 205×2 1 205×2 200×2 200000000	K K K K K K K K K K K K K K K K K K K	2 2 7 7 8 8 9 9 9 9 9 9 9 9 9 9 9 9	<u>B</u> P -	
····	2 3 4 5 6 7 8 9 10 11 12 13	P P Tm P P P P P P P P	AC AC Bd ABC Bd C C C C Bd AC Bd Bd AC AC AC	673×4 219×4 674×4 220×8 236×4 217×1 210×1 207×1 207×1 222×2 38×4 10×2 10×2 11×2 65 ⁺ ×1 43 ⁺ ×2	A A A A A A A A A A A A A A A A A A A	2 2 7 7 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	<u>B</u> P -	
····	2 3 4 5 6 7 8 9 10 11 12 13 14	P P Tm P P P P P P P P P P P P	AC AC Bd ABCd Bd C C C Bd AC AC AC AC	673×4 219×4 674×4 220×8 236×4 217×1 210×1 207×1 207×1 222×2 38×4 10×2 10×2 11×2 65 ⁺ ×1 43 ^k ×2	K K K K K K K K K	2 2 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1		
	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	P P Tm P P P P P P P P P P	AC AC Bd ABC Bd C C C C Bd AC Bd Bd AC AC AC	673×4 219×4 674×4 220×8 236×4 217×1 210×1 207×1 207×1 222×2 38×4 10×2 10×2 11×2 65 ⁺ ×1 43 ⁺ ×2	K K K K K K K K K K	2 2 7 7 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		
	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	P P P P P P P P P P P P Tm	AC AC Bd ABCd Bd C C C Bd AC AC AC d	673×4 219×4 674×4 220×8 236×4 217×1 217×1 207×1 207×1 207×1 222×2 10×2 10×2 10×2 11×2 65 ⁵ ×1 43 ⁶ ×2 13 ⁸ ×2 NS	K K K K K K K K K K	2 2 7 7 8 8 8 8 8 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9		
Dama	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 age Code	P P P P P P P P P P P T M	AC AC Bd ABCd Bd C C C Bd AC AC AC d Corrective A	673×4 219×4 674×4 220×8 236×4 217×1 210×1 207×1 207×1 222×2 38×4 10×2 10×2 11×2 $65^{+} \times 1$ $43^{R} \times 2$ $N \leq 1$ $N \leq$	Remark Code:	2 2 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8	climbin Comple	GW-NB
Dama MB:	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 age Code Missin	P P P P P P P P P P P P Tm	AC AC Bd ABC Bd C C C Bd AC Bd AC AC AC d Corrective A R: Repaired	673×4 219×4 277×4 220×8 236×4 217×1 207×2 107×2	Remark Code: G: Grounded	2 2 7 7 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	<u>Clim bi</u> <u>Comple</u> RS: Removed	GW-NB GW-NB Vg Inspectien ta d Lower Step Bolts
Dama	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 age Code	P P P Tm P P P P P P P P Tm Tm	AC AC BA ABCA BA C C C BA AC AC AC AC AC AC AC AC AC AC AC AC AC	673×4 219×4 219×4 220×8 236×4 217×1 207×2 107×2	Remark Codes G: Grounded S BP: Beat Pac	β β	<u>climbin</u> <u>Comple</u> RS: Removed NS: New Dar	Gw - NB
Dama WB: B:	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 age Codd Missin Bent	P P P Tm P P P P P P P P P P Tm Tm	AC AC BA ABCA BA C C C BA AC AC AC AC AC AC AC AC AC AC AC AC AC	673×4 219×4 219×4 220×8 236×4 217×1 207×2 107×2	Remark Code: G: Grounded	R P R <t< th=""><th>Climbin Comple RS: Removed NS: New Dar IP: Installed</th><th>GW-NB GW-NB Vg Inspectien ta d Lower Step Bolts</th></t<>	Climbin Comple RS: Removed NS: New Dar IP: Installed	GW-NB GW-NB Vg Inspectien ta d Lower Step Bolts

(

Date: 4/14/21____ Foreman: GREG ViA_____ Company: LEMY RE's_____

	Wea	athering St	teel Tower	Inspection/	Rehabilitat	ion Data S	heet	
	Tower O	rientation						
	Ah	ead			Line Number:	588	۲ ۶	
leg 2	······	Ύ	leg 3		Structure No:	248		
	fac	e C					<i>,</i>	
and the second se	face D			SI	ructure Type:	5LT+ 1	5 LE	
		face B		Bac	k Substation: YAd Kin		N	
		e A		Ahea	d Substation:	FENTR	ESS	
leg 1		V	leg 4					
	Ba	ack			n Inspection			
	Gra	undline Inspe	ection			06-04		
Severe (Corrosion	Steel Mea	surements		Foreman:	Allen Rundgeen		
	Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code	
Leg 1				ρ	book for	l	Fκ	
Leg 2	<i></i>	(ρ	explanation of	1	FR	
Leg 3		V	Y	P	foundation	1	FR	
Leg 4		Good	VG	P	codes	1	FR	
Action Code:	P: Applied A	-120 B: Ba	iseshoe Repla	ced LF: Lef	t as Found	FP: Foundatio	on Repaired	
	In Lieu of Me	easurements ·	VG; Visually	Inspected - Go	od			
				ower inspectio	>n			
Step Bolt Cli	ps Added:		Yes	No		Quantity:	38	
	Damage	Face	Member	Correctiv	e Action		Remark	
1	M	d	27×1	RP		BP -	GW-NB	
2	P	AC	38×4	R				
3	P	BJ	1172	R				
4	ρ	Bd	IDX2	R				
5	P	Bd	222 x 2	R				
6	P	AC	219×4	R				
7	P	Bd	236×4	R				
8	P	d	593X1	R			· · · · · · · · · · · · · · · · · · ·	
9	P	A	565×1	· R				
10	ρ	ð	566×1	R				
11	P	<u> </u>	235 X 1	Ŕ				
12	Tim	d ,	NS	R I	2		1	
13	17.1	<u> </u>					······	
14	· · · · · ·	<u>.</u>					a and a second design of the s	
15			·	·			,,,,,,	
16								
17							<u></u>	
Damage Code	e I	Corrective A	tion Code	Remark Code:				
<u> </u>		R: Repaired		G: Grounded S		RS: Removed	Lower Step Bolts	
B: Bent		RP: Replace		BP: Beat Paci			ger/Aerial/Number Signs	
C: Cracke				GW: Applied G			Package Per Specs	

0;

TM: Thin Member

Other

Date: 3/22/21 Foreman: GREQ V.A

Company: LEMYRES

FP: Flipped /Straightened Plates

NB: New Bolts

			Drientation				<i>x</i> <	•		
	_	AI	head	_	·		<u> </u>			
k	leg 2		ce C	leg 3			249			
	<	- face D			St	tructure Type:	MAta	5 LE		
			face E		Bac	k Substation:	YAd K.	n		
		fa	ce A		Ahead Substation:					
10	leg 1		V	leg 4						
	-		ack			Inspection				
		Gr	oundline Inspe	ection		Date: 06-14-21				
Severe Corrosion			Steel Measurements					in Rundgren		
		Yes No	Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code		
L	eg 1	V			P	book for	1	FR		
L	eg 2				P	explanation	1	FK		
L	eg 3				Q	of foundation		FR		
Le	eg 4		Good	VG	Γ.	codes	1	FR		
		P: Applied /		aseshoe Repla		t as Found	FP: Foundatio			
			easurements		Inspected - Go Tower Inspectio			4/2		
ep	Bolt Ci	ps Added:	· · · · · · · · · · · · · · · · · · ·	_Yes	No		Quantity:			
		Damage	Face	Member	Correctiv	e Action	r.	Remark		
	1	ρ	Bd	1310×2	<i>R</i>		BP -	GW-NB		
	2	P	A	1232 R X 1	R					
	3	P	A	1189×1	R	· · · ·				
	4	P	A	1005 × 1	R					
	5	P	À	1261 X)	R					
	6	P	AC	1028 X 2	Ŕ					
	7	P	Bà	123822	R					
	8	ρ		1						
		1	Ba	1239×2	R			****		
	9	Tm		1		ρ	<u></u>			
	9 10	Tm	Ba	1711 × 2	R	ρ				
				1711 × 2 1304 × 2						
	10	P	Bd AC	1711 X A 1304 X B 1314 X 1	R P R P					
-	10 11	P C	Bd AC B	1711 X Q 1304 X Q 1314 X 1 1312 X 1	R R					
-	10 11 12	P C	B AC B B B	1711 X 2 1304 X 3 1314 X 1 1312 X 1 311 X 1	R R R R R R					
	10 11 12 13	P C P P	Ba Ac B B	1711 X 2 1304 X 2 1314 X 1 1312 X 1 311 X 1 1306 X 2	R R R R R R R					
	10 11 12 13 14	P C P P	BA AC B B B AC	1711 X 2 1304 X 3 1314 X 1 1312 X 1 311 X 1	R R R R R R R		Climbin	g INSPECTION		
	10 11 12 13 14 15	P C P P P	BA AC B B B AC AC	1711 × 2 1304 × 3 1314 × 1 1312 × 1 311 × 1 1306 × 2 1309 × 2	R R R R R R R R		Climbin Comple	q INSPECTION to		
	10 11 12 13 14 15 16	P C P P P P Tm	BA AC B B B AC AC	1711 × 2 1304 × 2 1314 × 1 1312 × 1 311 × 1 1306 × 2 1309 × 2 1710 × 4 N S	R R R R R R R R R	>	Climbin Comple	ig Inspection te		
ama B:	10 11 12 13 14 15 16 17 age Code Missin	P C P P P P Tm	B A C B B A C A C Corrective A R: Repaired	1711 X 2 1304 X 2 1314 X 1 1312 X 1 1304 X 2 1304 X 2 1304 X 2 1307 X 2 1307 X 2 1710 X 4 N S ction Code	R R R R R R R R R R R R Code: G: Grounded S) Str	RS: Removed	Lower Step Bolts		
ama B:	10 11 12 13 14 15 16 17 age Codd Missin Bent	P C P P P P T M e g Bolt	B A C B A C A C Corrective A R: Replace	1711 X 2 1304 X 2 1314 X 1 1312 X 1 311 X 1 1306 X 2 1309 X 2 1309 X 2 1710 X 4 N S ction Code d	R R R R R R R R R R R R R R R R R R R) Str Kout	RS: Removed NS: New Dan	l Lower Step Bolts ger/Aerial/Number Signs		
a ina a	10 11 12 13 14 15 16 17 age Code Missin Bent Cracke	P C P P P P P T M e s g Bolt	B A C B B A C A C Corrective A R: Repaired	1711 X 2 1304 X 2 1314 X 1 1312 X 1 311 X 1 1306 X 2 1309 X 2 1309 X 2 1710 X 4 N S ction Code d	R R R R R R R R R R R R R R R R R R R	Str Kout Breywax	RS: Removed NS: New Dan IP: Installed	ger/Aerial/Number Signs Package Per Specs		
анаа В: Л:	10 11 12 13 14 15 16 17 age Codd Missin Bent	P C P P P P P T M e s g Bolt	B A C B A C A C Corrective A R: Replace	1711 X 2 1304 X 2 1314 X 1 1312 X 1 311 X 1 1306 X 2 1309 X 2 1309 X 2 1710 X 4 N S ction Code d	R R R R R R R R R R R R R R R R R R R	Str Kout Breywax	RS: Removed NS: New Dan IP: Installed	l Lower Step Bolts ger/Aerial/Number Signs		

Weathering Steel Tower Inspection/Rehabilitation Data Sheet **Tower Orientation** Ahead Line Number; 588 7. Structure No: 250 leg 2 leg 3 face C Structure Type: $5 \cancel{7} + 3 \cancel{2} \cancel{2} \cancel{2}$ face D face B-Back Substation: ____YA & KIN Ahead Substation: ____FENTRESS face A leg 1 З. leg 4 Back Foundation Inspection 06-09-21 **Groundline Inspection** Date: **Severe Corrosion Steel Measurements** Allen Kundaren Foreman; Yes No **Reading 1 Action Code** Reading 2 Action Code See spec **Fnd Code** Leg 1 Ém 5 book for explanation Leg 2 6 P Î R of Leg 3 i ρ İ foundation Leg 4 Gond V G Δ codes Action Code: P: Applied A-120 **B: Baseshoe Replaced** LF: Left as Found **FP: Foundation Repaired** In Lieu of Measurements - VG: Visually Inspected - Good **Tower Inspection** ~ Step Bolt Clips Added: Yes No 47 Quantity: ___ Damage Face Member **Corrective Action** Remark Þ 1 Bd 10x2 BP GW - NB 2 B_A 11 x 2 ρ ρ 3 AC R 38x4 4 \bigcirc R АC 219×4 $^{\circ}$ 5 Bd 236×4 Ŕ 6 ρ d235 X 1 R 7 ß 235×1 ₽₽ P 8 AC 673×4 9 BA 674 X4 10 ρ 1m NS R 11 12 13 14 15 limbing INSpection 16 17 Damage Code **Corrective Action Code Remark Code:** MB: **Missing Bolt** R: Repaired G: Grounded Str **RS: Removed Lower Step Bolts** B: Bent **RP:** Replaced **BP: Beat Packout** NS: New Danger/Aerial/Number Signs C: Cracked LF: Left as Found **GW: Applied Greywax** IP: Installed Package Per Specs TM: **Thin Member NB: New Bolts FP:** Flipped /Straightened Plates Other 0:

والجيها وسلينس وردو

Date: 5/3/21

Commany: LEMYERS

Foreman: <u>GREq</u> ViA

والجيها استلابه وروار

		Orientation				don pata a	
1	A	head	i in the second second second second second second second second second second second second second second seco			<u> </u>	
ieg 2	f	A acè C	leg 3		Structure No	* <u>251</u>	·
	- face D			S	tructure Type	5LT+ .	20 LF
		face E	3				n de la companya de
	fa	ace A				FENTRE	
leg 1		ý.	leg 4				
		Back					Inspection
	G Corrosion	roundline Insp			Date		
	Yes N	- 	asurements			······	Rundyren
Leg 1	1.65	O Reading 1	Reading 2	Action Code		Fnd Code	Action Code
Leg 2			<u> </u>		book for explanation	<u> </u>	FR
-			····	₹	of	1	FR
Leg 3				P	foundation		FR
Leg 4	e: P: Applied	Good	VG aseshoe Repla	P	codes	. (FR
	In Lieu of N		- VG: Visually	Inspected - Go Tower Inspectio		FP: Foundatio	n Kepaired
ep Bolt C	lips Added:		Yes	No		Quantity:	40
	Damage	Face	Member	Correctiv	e Action		Remark
1	P	AC	594 X 2		R	BP -	GW ~NB
2	P	Bd	595x2		R		
3	_ ρ	d	235× 1		R		
	I P	d	237 x 1	-	R		
4							
4 5	P	d	233 × X1		R		/
5	P	AC	233-×1 219×4		R		
5	1 1		1				
5	P	AC Bd AC	219 x 4		R		
5 6 7 8 9	P P P P	AC Bd AC Bd	219 x 4 236 x 4	/	R R R		
5 6 7 8 9 10	Р Р Р Р	AC Bd AC	219 <u>х 4</u> 236 х4 38 х 4	/	R R R		
5 6 7 8 9 10 11	P P P P B	AC Bd AC Bd	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 114 x 1	I	R R R		
5 6 7 8 9 10 11 12	Р Р Р Р	AC Bd AC Bd Bd	219 <u>x 4</u> 236 x 4 38 x 4 10 x 2 11 x 2		R R R R		
5 6 7 8 9 10 11 11 12 13	P P P P B	AC Bd AC Bd Bd A	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 114 x 1	I	R R R R		
5 6 7 8 9 10 11 12 13 14	P P P P B	AC Bd AC Bd Bd A	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 114 x 1	I	R R R R		
5 6 7 8 9 10 11 42 13 14 15	P P P P B	AC Bd AC Bd Bd A	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 114 x 1	I	R R R R	climbin	My INSpectic
5 6 7 8 9 10 11 12 13 14 15 16	P P P P B	AC Bd AC Bd Bd A	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 114 x 1	I	R R R R	climbin Comple	My INSpectic HE
5 6 7 8 9 10 11 42 13 14 15 16 17	P P P P B Tm	AC Bd AC Bd Bd A d	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 11 y x 1 N 5	R R	R R R R	climbri Comple	My INSpectic FE
5 6 7 8 9 10 11 12 13 14 15 16 17 17 mage Cod	P P P P B Tm	A C Bd AC Bd A A d Corrective Ac	$\frac{219 \times 4}{236 \times 4}$ $\frac{38 \times 4}{10 \times 2}$ $\frac{10 \times 2}{117 \times 1}$ $\frac{117 \times 1}{5}$ $\frac{117 \times 1}{5}$	Remark Code:	R R R P P	······································	
5 6 7 8 9 10 11 42 13 14 15 16 17 17 Image Cod	P P P P P B Tm	A C Bd AC Bd A A A C Corrective AC R: Repaired	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 11 x 1 N 5	Remark Code: G: Grounded S	R R R P P r	RS: Removed	Lower Step Bolts
5 6 7 8 9 10 11 12 13 14 15 16 17 image Cod 8: Missin	P P P P P P P P P P P P P P P P P P P	A C Bd AC Bd Bd A d Corrective Ac R: Repaired	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 11 x 1 N	Remark Code: G: Grounded S BP: Beat Packe	R R R P P P tr	RS: Removed NS: New Dang	Lower Step Bolts jer/Aerial/Number Signs
5 6 7 8 9 10 11 12 13 14 15 16 17 16 17 16 17 16 25 16 17 18 8 9 14 15 16 17 16 17 16 17 16 17 16 17 17	P P P P P P P P P P P P P P P P P P P	A C Bd AC Bd Bd A d Corrective Ac R: Repaired RP: Replace	219 x 4 236 x 4 38 x 4 10 x 2 11 x 2 11 y x 1 N 5 stion Code	Remark Code: G: Grounded S	R R R P P P r r out	RS: Removed NS: New Dang IP: Installed P	Ang INSpectic Ans Ans Ans Lower Step Bolts Jer/Aerial/Number Signs ackage Per Specs traightened Plates

Weathering Steel Tower Inspection/Rehabilitation Data Sheet

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بيصب مريح ويحام

يواقبوا المقاصيون

	V	Veathering S	Steel Towe	r Inspection	Rehabilita	tion Data S	haat
	Towe	r Orientation		-			/ / E V C L.
		Ahead			Line Number	n57	88
leg 2		ħ.	leg 3			»: ス5	
-		facè C				_	
jî.	face D					54T+	
		face	8				Ed
		face A		Ahea	d Substation	FENT	RESS
leg 1		Back	leg 4				
							Inspection
Severe	Corrosion	Sroundline Insp			Date		
Gevere			asurements			Allen	Rindyren
Leg 1	· · · · · · · · · · · · · · · · · · ·	NO Reading 1	Reading 2		COS SPEC	Fnd Code	Action Code
-		=		P	book for		FR
Leg 2				ρ	explanation of	1	FR
Leg 3	<u>~</u>		L V	ρ	foundation	1	FR
Leg 4	<u> </u>	Good	VG	P	codes	1	FR
ction Code			aseshoe Repla		as Found	FP: Foundatio	
	In Lieu of	Measurements		Inspected - Go			•
·····				Tower Inspectio	n		۰ ,
tep Bolt Cl	ips Added:		Yes	No		Quantity:	51
	Damage	Face	Member	Correctiv	e Action	T	Remark
1	P	Bd	10×2		R	BP -	GW -NB
2	P	Bd	11×2		R		DW NB
3	ρ	Ac	38 x 4		R		
4	ρ	AC	219×4		Λ		
5	ρ	01	1	· · · ·	<u>R</u>	·	
6	C C	d d	236×4 222×1		<u>к</u> ? Р	·	
7	- hum			1 8			
	P		}	<u> </u>	<u>}</u>		
Q.		в	222×1		R		
8	P	B Bd	222×1 734×4		R R		
9	P	B Bd AC	222 × 1 734 × 4 733 × 4		R R R		
9 10	P P P	B B A C A C	222×1 734×4		R R R R		
9 10 11	P P P	B Bd AC	222 × 1 734 × 4 733 × 4		R R R		
9 10	P P P	B B A C A C	222 × 1 734 × 4 733 × 4 704 × 2		R R R R		
9 10 11	P P P	B B A C A C B	222 × 1 734 × 4 733 × 4 704 × 2 707 × 1		R R R R		
9 10 11 12	P P P P	B B A C A C B d	222 × 1 734 × 4 733 × 4 704 × 2 707 × 1 722 × 1		R R R R R R		
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9 10 11 12 13 14	P P P P	B B A C A C B d	222 × 1 734 × 4 733 × 4 704 × 2 707 × 1 722 × 1		R R R R R R R P		
9 10 11 12 13 14 15	P P P P	B B A C A C B d	222 × 1 734 × 4 733 × 4 704 × 2 707 × 1 722 × 1		R R R R R R R P	<u>climbia</u>	g. INSpectic
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9 10 11 12 13 14 15 16 17 umage Code 3: Missin Bent	P P P P I M M	B B A C A C B d d C Corrective A C R: Repaired RP: Replace	222 × 1 734 × 4 733 × 4 704 × 2 707 × 1 722 × 1 NS	Remark Code: G: Grounded Si BP: Beat Packo	R R R R R R R R R R R R R R	RS: Removed	Lower Step Bolts
9 10 11 12 13 14 15 16 17 16 17 17 17 17 17 17 17 18 16 27 27 27 27 27 27 27 27 27 27 27 27 27	P P P P I M M	B B A C A C B d d Corrective A Corrective A Corrective A	222 × 1 734 × 4 733 × 4 704 × 2 707 × 1 722 × 1 NS tion Code d Found	Remark Code: G: Grounded St BP: Beat Packo GW: Applied Gr	R R R R R R R R R R R R R R	RS: Removed NS: New Dang	Lower Step Bolts
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	W	eathering St	eel Tower l	inspection/l	Rehabilitati	on Data Sh	leet	
		Orientation (Complete C	limbing	Line Number:	589	8	
			leg 3		Stracture No:	253		
leg 2	e e e e e e e e e e e e e e e e e e e	ace C		1.				
	face D		Inspe	retion st	nuciure Type:	<u>5LT+</u>	20'LE	
		face B		Bac	k Substation:	Substation: YADYIN		
		ace A		Abez	d Substation:	سرد و سوسور	RESS	
leg 1	ц Ц Ц	J.	leg 4					
		Back		,		Foundation Inspection		
	6	roundline Inspe	ection		Date:	02-08-3	<u><u><u></u></u></u>	
Seven	e Corrosion	Steel Mea	esurements		Foreman:	Allen Ru	indyien	
· · · · · ·	Yes N	o Reading 1	Reading 2	Action Code	See spec	Fnd Code	Action Code	
Leg 1	Ÿ	VG	VG	P	book for	ł	FR	
Leg 2	ν	VG	VG	P	explanation	2	FR.	
Leg 3			VG	P	of foundation	3. 1	FR	
Leg 4			VG	D.	codes	1	FR	
	المستنب المتعيل	Leg Coating		lenlared LFt1	eft as Found		FR: Foundation Reput	
ction Col		l Leg Contaig Neasurements						
	tit fiten af			ower Inspectio				
ton Bolt (Clips Added:		Yes	No		Quantity:	40	
	Damage	Face	Member	Correcti	ve Action		Remark	
1	ρ	C.	37FARXI	BP-NR	-Gul		*	
	ρ	BD	10x2	RP.NB	-G(J)			
3		BD	11×2	RP-1/F	Gal	-		
4	- D	AC	219×4	RPNE	PrGdal		· · · · · · · · · · · · · · · · · · ·	
 5		BD	236×3	RP_M	B~C-1.4			
		B B	-	D. BR.A	IR-C-L			
6	TM		236X1	DD 20	<u>D</u> GN			
7	TM-B	ABCD	<u>990x8</u>		VBGh/			
8	- P		17/1		B-GW			
9	$-\frac{p}{p}$	BD	595X3	BP-NE	3-GW	[·	
10	- p	AC	594X3		3-G4/	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
. 11	<u>p</u>	AC	576X3	and the second se	B-Gw		B	
12	P	BD	577×3	BP-NR	5-GW			
13	· 0	AC	Hish Voltase Sighns Structure	NS			<u>,</u>	
14	0	B	Structure	NS			-	
15						<u></u>	·	
16	-							
17			1				· · · ·	
Damage (ode	Corrective /	Action Code	Remark Code				
	ssing Bolt	R: Repaire		G: Grounded			d Lower Step Bolts	
3: Be		RP: Replac		BP: Beat Par GW: Applied			nger/Aerial/Number Sig Package Per Specs	
	cked	LF: Lefta	5 FOUND	NB: New Bol		A	Straightened Plates	
	n Member	<u> </u>		1.454 1454 200	, apar 			
FM: Thi D: Oth			Mey -			1 - 1		

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	We	eathering S	teel Towe	r Inspection	Rehahilita	tion Data C	hant	
	Tower (Orientation		F		tion bata 3	neet	
	A	head			Line Number	58		
leg 2 🛙		2) 	leg 3			254	and the second second second second second second second second second second second second second second second	
	fa	ice C			Structure No			
	face D			S	tructure Type	5HE+	20'LF	
		face B				station: YAd kind		
1	fa	ce A				FENTRES		
leg 1		<i>A</i> .	leg 4	Allei	a substation;	<u> </u>	5 <u>5</u>	
	B	ack			Inspection			
	Gr	oundline Inspe	ction		Date:			
Severe	Corrosion	1	surements	1			Rundgren	
	Yes No		Reading 2		1	T		
Leg 1			reading 2	Action Code	See spec	Fnd Code	Action Code	
-				P	book for explanation	1	FR	
Leg 2	<u>⊨</u> –	1		P	of	え	FR	
Leg 3				P	foundation	2	FR	
Leg 4		Good	VG	P	codes	1	FR	
Action Code	P: Applied /		seshoe Repli		as Found	FP: Foundatio		
	in Lieu of M	easurements -	VG: Visually	Inspected - Go	bd		······································	
	· · ·	· · · · · · · · · · · · · · · · · · ·		Fower Inspection	'n			
Step Bolt Cl	ips Added:		Yes	No		Quantity:	14	
	Damage	Face	Member	Correctiv				
1	C	ABCd	529x5	R¥)	BP - GL	N - AIR	
2	C	ACA	530x3	RP				
3	C	ACd	531 X 3	2 I	0	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
4	ρ	Ba	132×2	P P			····	
5	C	d	128 ^A × 1	RI				
6	67				P			
7	ρ		128x (<u>/</u>	<u>/</u>			
8			128 × 1	£		· · · · · · · · · · · · · · · · · · ·		
	P C		113 X 1		ρ			
9		<u> </u>	113X	LR				
10	Tm	d	N.S.	R	Δ			
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15						-1 I		
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17						Complete	and Andres Andres	
amage Code	<u> </u>	Corrective Act	tion Code	Pomark Profes			······································	
B: Missin		R: Repaired		Remark Code: G: Grounded S				
: Bent		RP: Replaced		BP: Beat Pack			Lower Step Bolts	
: Cracke		LF: Left as F		GW: Applied G			er/Aerial/Number Signs ackage Per Specs	
M: Thin Me				NB: New Bolts			ackage Per Specs raightened Plates	
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Date: 2/2/21___ Foreman: GREG VIA____ Company: LEny ERS_

Attachment I.L.3



Transmission **Specification Book**

TRANSMISSION PROJECTS

701 E Cary street, Richmond, VA 23219

CORTEN TOWER MONITORING PROGRAM

> **LINE 588** YADKIN TO FENTRESS

PROJECT ENGINEER: CHRIS N. HOULIHAN (804) 771-6742 (804) 761-4491

ALTERNATE CONTACT: MARK WILSON (804) 771-4408 (804) 370-4678

DESIGN VERIFICATION	DESIGN	VERIFICATION
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(PROJECT ENGINEEŔ)

DATE 1/26/17

(STRUCTURAL ENGINEER)

<u>Work Summary</u> <u>Corten Lattice Monitoring Program</u> <u>Line 588</u>

The purpose of this work is to monitor the overall condition of, and record the thickness of, specified corten transmission tower members of Line 588 in Chesapeake, Virginia. Four structures on this transmission line have been pre-selected for observations. Refer to the included structure location sheets for the selected structures.

The specification for this work will be the *Corten Study & Analysis Process Specification,* included herein. The crews performing the work shall be thoroughly familiar with the specification. Any questions regarding the processes described herein should be directed to Chris Houlihan (804-771-6742) or Mark Wilson (804-771-4408) in the Electric Transmission Engineering Department.

Upon completion of the work, all recording sheets and checklists shall be submitted back to Dominion Transmission Engineering for analysis and record keeping.

CORTEN STUDY & ANALYSIS PROCESS SPECIFICATION

1.0 Scope of Work

- 1.1 This specification includes the general specifications for measuring the thickness of corten transmission tower structural members, as well as conducting a visual evaluation of the tower.
- 1.2 It is the intent of this specification to cover the entire process related to measuring the thickness of select structural members to determine current corrosion level and rate of corrosion over time.
- 1.3 The location of the specific work is identified on the included structure location sheet.
- 1.4 Items necessary to perform the task:
 - 1.4.1 Worksheets for recording measurements and specifications describing the work.
 - 1.4.2 Brass tags for marking measured members (Stock Item #76751000), and galvanized wire for attaching
 - 1.4.3 Ultrasonic Thickness Gage (NDT Systems)
 - 1.4.4 Digital Calipers
 - 1.4.5 Wire brush

2.0 Measuring Process

- 2.1 The equipment used for measuring the thickness of members shall be an Ultrasonic Thickness Gage. Refer to the operating manual for usage details, and note the following:
 - 2.1.1 The gage shall be zeroed at the start of each working day in accordance with the manufacturer directions.
 - 2.1.2 After zeroing, the gage shall be calibrated at least once per day. Calibration shall be completed by using the *Calibration by Thickness Scrolling* method detailed in the operating manual. The "material of known thickness" for this method shall be a section of corten steel that has been measured using a digital caliper. This calibration process may need to be completed more frequently if there are significant changes in the weather conditions over the course of the day.
- 2.2 Refer to the structure location sheets for specific structures to be measured. Structures shown in bold are the specified structures for this monitoring program.

Structures should not be skipped or substituted without consulting the Transmission Engineer: see name on front of specification book.

- 2.3 Each designated structure has eight (8) members that have been pre-selected for measuring as indicated on the associated drawings. Of these members, measurements are only to be conducted if the identified members have not been previously replaced or otherwise rehabilitated. Rehabilitated members should be readily identifiable against original structural members by noting some of the following:
 - 2.3.1 Rehabilitated members may show a lesser degree of patina, or less pitting than original members.
 - 2.3.2 All rehabilitated members would have had "greywax" placed between the rehabilitated member and the original member, at the connections.

If a member is identified as having been previously rehabilitated, write "REHABBED" on the measurement recording sheet and otherwise leave blank.

- 2.4 Members to be measured shall be lightly wire brushed to remove any debris or loose rust that may interfere with the measuring process. Do not grind away any patina.
- 2.5 Conduct measurements in accordance with directions provided in the operating manual for the Ultrasonic Thickness Gage, and record the results on the measurement sheets provided in the specification book.
- 2.6 Using brass tags, mark measured members to aid in identifying the measured members in the future, for re-measuring.
- 3.0 <u>Visual Evaluation</u>
 - 3.1 Included with the measurement sheets is a coversheet with a visual evaluation checklist. This checklist is intended to be used by the crews for a subjective evaluation of the tower. The crews should record the degree of any issues by circling what they feel is the appropriate number, and making additional notes as they feel is appropriate.
- 4.0 <u>Record Keeping</u>
 - 4.1 All measurement and visual evaluation sheets shall be submitted back to the Transmission Engineer for analysis and record-keeping.

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	Noton	SAION																									÷														Line 579 - Yadkin to Fentress Pare 1 of 2	
	Structure	Height				111'																									111'											4
	Tower	Type	ation	Backbone	5LA + 30'LE	5LT + 25'LE	5MA + 25'LE	5HA + 30'LE	5LT + 20'BE + 40'LE	5DE + 20'LE -	5LT + 35'LE	5LT + 35'LE	5LT + 25'LE	5LT + 40'LE	5LA + 15'LE	5HA + 10'LE	5LA + 40'LE	5LT+40'LE	5LT + 35'LE	5LT + 20'BE + 30'LE	5LT + 40'BE + 35'LE	5LT + 40'BE + 35'LE	5LT + 20'BE + 30'LE	5LT + 30'LE	5LT + 30'LE	5LT + 30'LE	5LT + 40'LE	5LT + 20'LE	5LT + 35'LE	5LA + 35'LE	5LT + 25'LE	5LT + 35'LE	5LT + 25'LE	5LT + 35'LE	5LT + 30'LE	5LT + 35'LE	5LT + 30'LE	5LT + 35'LE	5LT+20'LE	5LT + 35'LE		
))	Structure	Number			186 58812	7	-		588/6	588/7	588/8	588/9	588/10	588/11	588/12	588/13	588/14	588/15	588/16	588/17		^{288/16}		588/21	588/22	588/23	588/24	588/25	588/26	588/27	× 77 588/28	588/29	Need to confect 588730	OWNEL . TOWER'S 538/31	588/32				1 - 1 - St arra 1 - 588/36	(1 m m m m m m m m m m m m m m m m m m		

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Stu	Structure	Tower	Structure	
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588,	588/38 ·	5LT + 20'LE		
588,	588/39	5LT + 20'BE + 30'LE		
588,	588/40	5LT + 15'LE		
588,	588/41 .	5LT + 20'LE		
588	588/42 .	5HA + 5'LE		
588	588/43 ·	5LT+35'LE		
588,	588/44	5LT + 35'LE		
588	588/45 ·	5LT + 35'LE		
588	588/46 ·	5LA + 15TLE		
5, 2, 1 588,	588/47	5LT + 25'LE	111'	
	588/48	5LT + 15TE		
588	588/49	5LA + 15'LE		
585	588/50	5LT + 15'LE		
588	588/51	5LT + 40'LE		
585	588/52	5LT + 40'LE		
588	588/53	5MA + 20'LE		
588	588/54	5LT + 15'LE		
588	588/55	5LT + 35'LE		
588	588/56	5MA + 20'BE + 30'LE		
588	588/57	5LT + 35'LE	· · · · · · · · · · · · · · · · · · ·	
588	3/58	5LT + 30'LE		
588	588/59	5LT + 5'LE		
588	588/60	5DE + 15'LE		
588	588/61	5MT + 40'LE		
588	588/62	5LT + 25'LE		
7 U 7 588.	588/63	5LT + 25'LE	III,	
	588/64	5LT + 15'LE		
588	588/65	5MA + 20'LE		
588	588/66	5LT + 30'LE		
588	588/67	5LT + 20'LE		
583	588/68	5LT + 35'LE		
588	588/69	5LT + 20'LE		
588	588/70	5DE + 20'LE		
588	588/71	H-frame		
25 6 588	588/72	Backbone		
	Fentress Substation	ion		
				Line 579 - Yadkin to Fentress
				rage 2 of 2

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re t	here m	issing b	oolts, o	r bolts wh	ere the bolt head has popped off?
)	2	3	4	5	(1 = None, 5 = Many Missing/Damaged Bolts)
.re t	here lo	ose me	mbers	/members	with play in the bolted connections?
)			4		(1 = None, 5 = Significant # of Loose Members)
re t					ing structural members?
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the					(1 = None, 5 = Severe Packout)
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			·*		FACE 1 BACK 2 TO 2	
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3. ALL MEASUREMENTS ARE TO BE RECORDED IN FOR ARCHIVING AND SCHEDULING OF FOLLOW-U			MONIT			CSHEET
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						EG3 FACE 2	FACE 1	
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Section A-A	
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STR NO. 588/3187 FACE	DE NO
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THICKNESS , 2 , 1 , 2 , 1 , 2	22 1384 1,25 1,24 1,298
MEASUREMENT GUIDELINES:	KEN AT THE POINTS INDICATED ON SELECTED MEMBERS (SEE FIGURE 1).
2. MEASUREMENTS SHALL BE CONDUCTED UTIL	VE ANY LOOSE DEBRIS FROM THE MEASUREMENT SITES PRIOR TO MEASUREING.
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o'NSPEC\$	3. ALL MEASUREM FOR ARCHIVING AI	ENTS ARE TO	D BE RECOF	rded in th Low-up M	E TABLE /	AND SUBM MENTS.	ITTED TO D	ominion tr	ANSMISSION	ENGINEERI	NG
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.960 .993 .91	5 $328$ $453$ $474$ $452$ $481$	9 10
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A WIRE BRUSH SHALL BE UTILIZED TO REMOVE A	AT THE POINTS INDICATED ON SELECTED MEMBERS (SEE	
INCLUDED IN THIS SPECIFICATION.	ZING AN ULTRASONIC THICKNESS GAGE PER THE PROJEC	
3. ALL MEASUREMENTS ARE TO BE RECORDED IN FOR ARCHIVING AND SCHEDULING OF FOLLOW-U	N THE TABLE AND SUBMITTED TO DOMINION TRANSMISSIO JP MEASUREMENTS.	n Engineering
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Dominion 701 E. Cary Street Richmond VA 23219	ORIGINAL	CHECKED APPROVED	DATE	DRAWING NO.
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DENOTES TO MEASURE ON THE "FRONT FACE"     DENOTES TO MEASURE ON THE "FRONT FACE"     DENOTES TO MEASURE ON THE "BACKSIDE"     STR NO. 599/402.13 FACE NO     DENOTES TO MEASURE ON THE "BACKSIDE"     STR NO. 129 ORIG THICK 14" + 250 LEG NO. 2. <u>0.5 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 230 + 218 + 247 + 270 + 281     </u> <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 230 + 245 + 245 + 245 + 245 + 245 + 245 + 245     </u> <u>105 + 245 + 252 + 230 + 218 + 247 + 270 + 281     <u>105 + 245 + 230 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245     </u> <u>105 + 245 + 252 + 230 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 + 245 </u></u></u></u></u></u></u></u></u></u></u>			J.			FACE 2	FACE 3	E 4 Ban
STR NO. <u>599/2023</u> FACE NO. <u>1</u> MARK NO <u>219</u> ORIG THICK <u>4", 250</u> LEG NO. <u>7</u> <u>105, 245, 252, 330, 218, 247, 2710, 2851</u> <u>105, 245, 252, 330, 218, 247, 2710, 2851</u> <u>112, 34, 56, 78</u> <u>105, 245, 252, 330, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 245, 252, 330, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 245, 252, 330, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 245, 252, 330, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 245, 252, 350, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 244, 243, 252, 350, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 245, 252, 330, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 245, 252, 330, 218, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 244, 243, 244, 252, 350, 248, 247, 2710, 2851     <u>116KNESS</u> <u>2006, 244, 244, 252, 350, 248, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 244, 244, 252, 350, 248, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 244, 244, 252, 350, 248, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 244, 244, 254, 350, 248, 247, 2710, 2851</u> <u>116KNESS</u> <u>2006, 244, 244, 244, 244, 244, 244, 244, 24</u></u>		МК 219		1				
STR NO.       500/102 N3       FACE NO.					DENOT	ES TO ME	ASURE ON T	HE "FRONT FACE"
MARK NO       219       ORIG THICK       1/4", 250       LEG NO.       2         QOS       245       252       320       218       247       210       281         MEASUREMENT       1       2       3       4       5       6       7       8         THICKNESS       280       27       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24       24		598/ 1-2-2	. 1	D	DENOT	ES TO ME	ASURE ON T	THE "BACKSIDE"
1. THICKNESS MEASUREMENTS SHALL BE TAKEN AT THE POINTS INDICATED ON SELECTED MEMBERS (SEE FIGURE 1). A WIRE BRUSH SHALL BE UTILIZED TO REMOVE ANY LOOSE DEBRIS FROM THE MEASUREMENT SITES PRIOR TO MEASUREING.         2. MEASUREMENTS SHALL BE CONDUCTED UTILIZING AN ULTRASONIC THICKNESS GAGE PER THE PROJECT SPECIFICATIONS INCLUDED IN THIS SPECIFICATION.         3. ALL MEASUREMENTS ARE TO BE RECORDED IN THE TABLE AND SUBMITTED TO DOMINION TRANSMISSION ENGINEERING FOR ARCHIVING AND SCHEDULING OF FOLLOW-UP MEASUREMENTS.         Transmission Construction         ORTEN MONITORING WORKSHEET         Dominion 701 E. Cary Street Richmond, VA 23219         ORTEN MONITORING LARED AND, CHECKED APPROVED DATE		MARK NO 219 ORIG 7 ,265,245,25 MEASUREMENT 1 2 3 MEASUREMENT 1 2 3	гніск <u>2, 23</u>	<u>81219</u>	6	7	0,285	2
INCLUDED IN THIS SPECIFICATION. 3. ALL MEASUREMENTS ARE TO BE RECORDED IN THE TABLE AND SUBMITTED TO DOMINION TRANSMISSION ENGINEERING FOR ARCHIVING AND SCHEDULING OF FOLLOW-UP MEASUREMENTS. Transmission Construction CORTEN MONITORING WORKSHEET Dominion 701 E. Cary Street Richmond, VA 23219 Revision No.	1	1. THICKNESS MEASUREMENTS SHALL BE TAKEN A WIRE BRUSH SHALL BE UTILIZED TO REMOVE A	NY LOOSE DE	EBRIS FROM	A THE MEAS	UREMENT	SHESPRIUR	IU MEASUREING.
FOR ARCHIVING AND SCHEDULING OF FOLLOW-UP MEASUREMENTS.		INCLUDED IN THIS SPECIFICATION.						
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Section A-A A MK 236 MK 236 A A A A A A A A A A A A A	
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DENOTES TO MEASURE ON THE "FRONT FACE	"
STR NO. 508/28213 FACE NO. 2	
MARK NO 236 ORIG THICK 14", 260 LEG NO. 3 .263, 266, 214, 297, 246, 270, 305, 278	
MEASUREMENT 1 2 3 4 5 6 7 8	, ,
THICKNESS . 155. 242. 162. 171 .158. 208. 150 .172	
MEASUREMENT GUIDELINES: 1. THICKNESS MEASUREMENTS SHALL BE TAKEN AT THE POINTS INDICATED ON SELECTED MEMBERS (SEE FIGURE 1). A WIRE BRUSH SHALL BE UTILIZED TO REMOVE ANY LOOSE DEBRIS FROM THE MEASUREMENT SITES PRIOR TO MEASUREING.	
2. MEASUREMENTS SHALL BE CONDUCTED UTILIZING AN ULTRASONIC THICKNESS GAGE PER THE PROJECT SPECIFICATIONS INCLUDED IN THIS SPECIFICATION.	
3. ALL MEASUREMENTS ARE TO BE RECORDED IN THE TABLE AND SUBMITTED TO DOMINION TRANSMISSION ENGINEERING FOR ARCHIVING AND SCHEDULING OF FOLLOW-UP MEASUREMENTS.	
Transmission Construction CORTEN MONITORING WORKSHEET	
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### I. NECESSITY FOR THE PROPOSED PROJECT

- M. In addition to the other information required by these guidelines, applications for approval to construct facilities and transmission lines interconnecting a Non-Utility Generator ("NUG") and a utility shall include the following information:
  - 1. The full name of the NUG as it appears in its contract with the utility and the dates of initial contract and any amendments;
  - 2. A description of the arrangements for financing the facilities, including information on the allocation of costs between the utility and the NUG;
  - 3. a. For Qualifying Facilities ("QFs") certificated by Federal Energy Regulatory Commission ("FERC") order, provide the QF or docket number, the dates of all certification or recertification orders, and the citation to FERC Reports, if available;
    - b. For self-certificated QFs, provide a copy of the notice filed with FERC;
  - 4. Provide the project number and project name used by FERC in licensing hydroelectric projects; also provide the dates of all orders and citations to FERC Reports, if available; and
  - 5. If the name provided in 1 above differs from the name provided in 3 above, give a full explanation.

Response: Not applicable.

# I. NECESSITY FOR THE PROPOSED PROJECT

N. Describe 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.

Response: Not applicable.

# II. DESCRIPTION OF THE PROPOSED PROJECT

# A. Right-of-way ("ROW")

#### 1. Provide the length of the proposed corridor and viable alternatives.

Response: The Proposed Route for the Project includes the approximately 13.5-milelong existing right-of-way corridor currently maintained at 150 feet in width for rebuilt Line #588 and proposed Line #5005.³⁸ No alternative routes are proposed for the Project. See Section II.A.9.

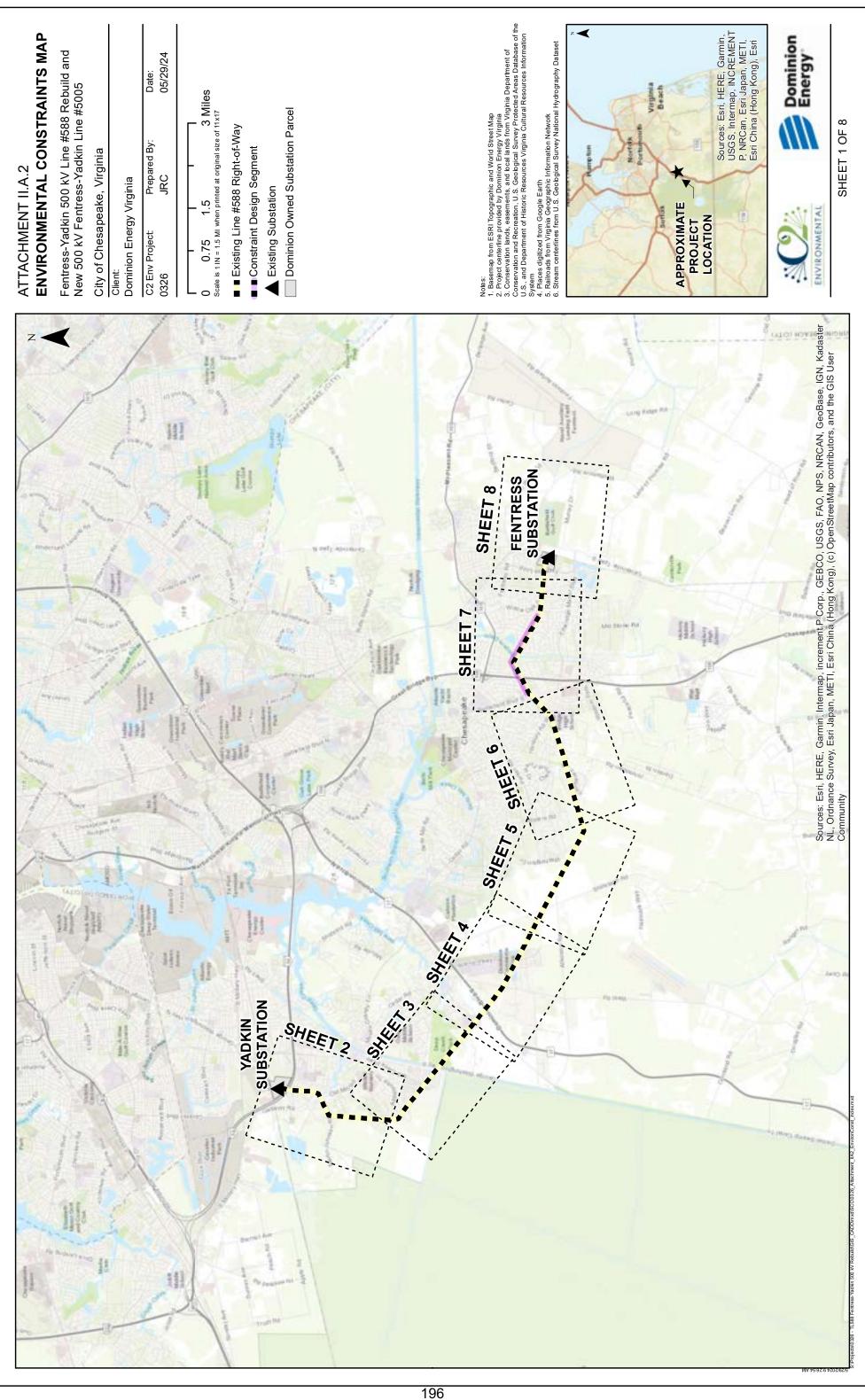
³⁸ Note that the Proposed Route is 13.5 miles long located entirely within existing right-of-way or on Company-owned property, regardless of whether the Project is constructed as proposed, or utilizing the 1.6-mile Constraint Design Segment.

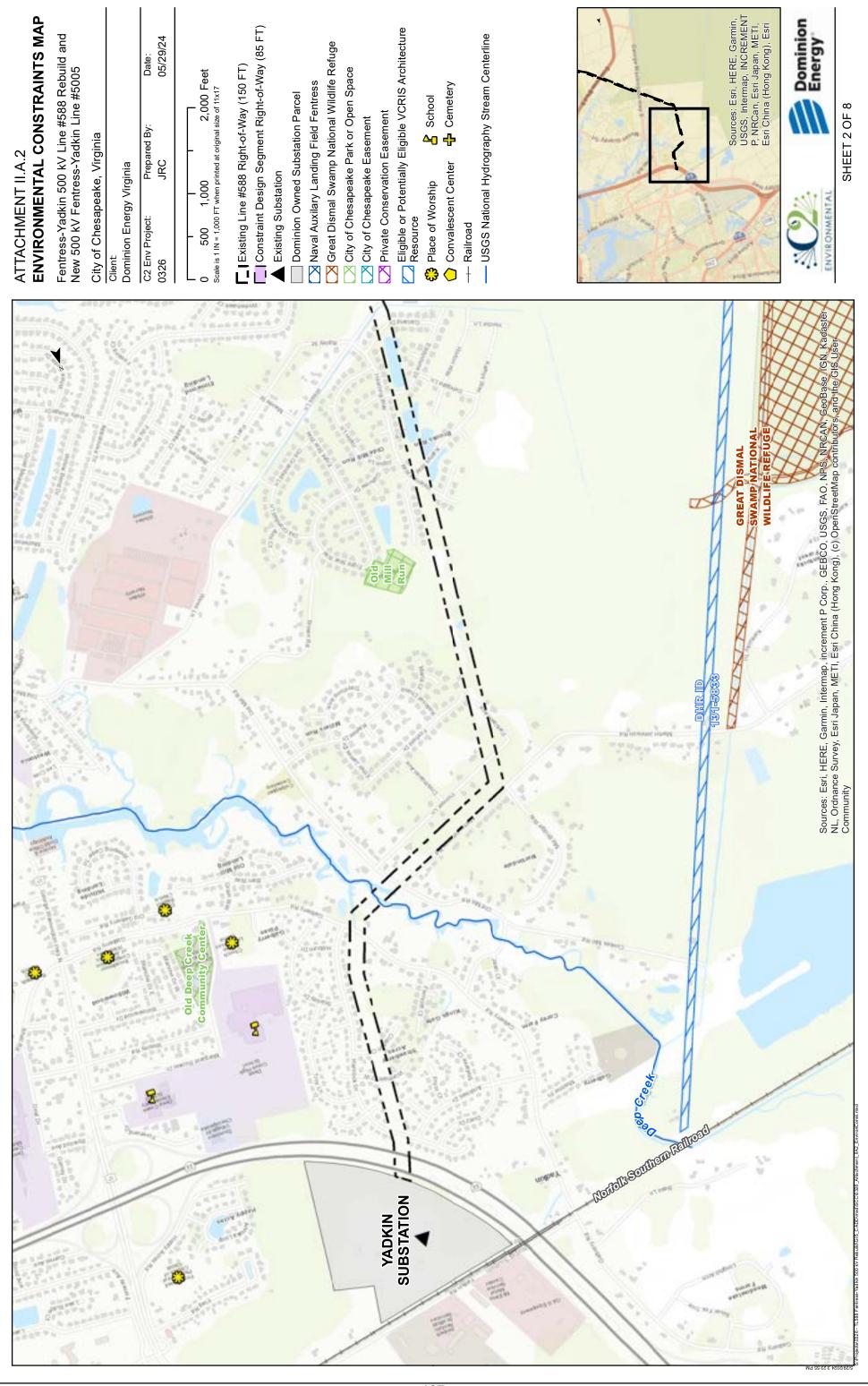
### II. DESCRIPTION OF THE PROPOSED PROJECT

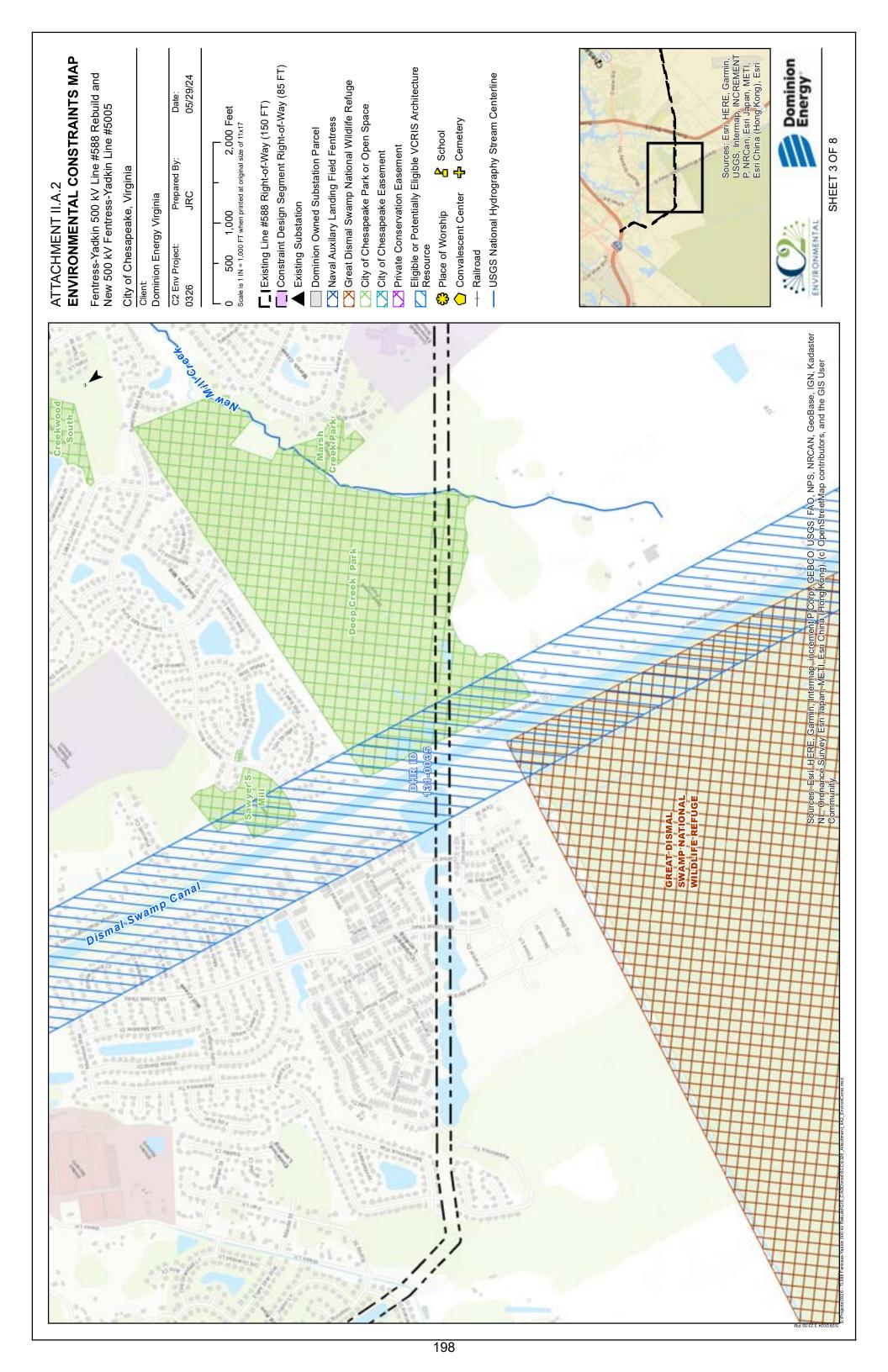
## A. Right-of-way ("ROW")

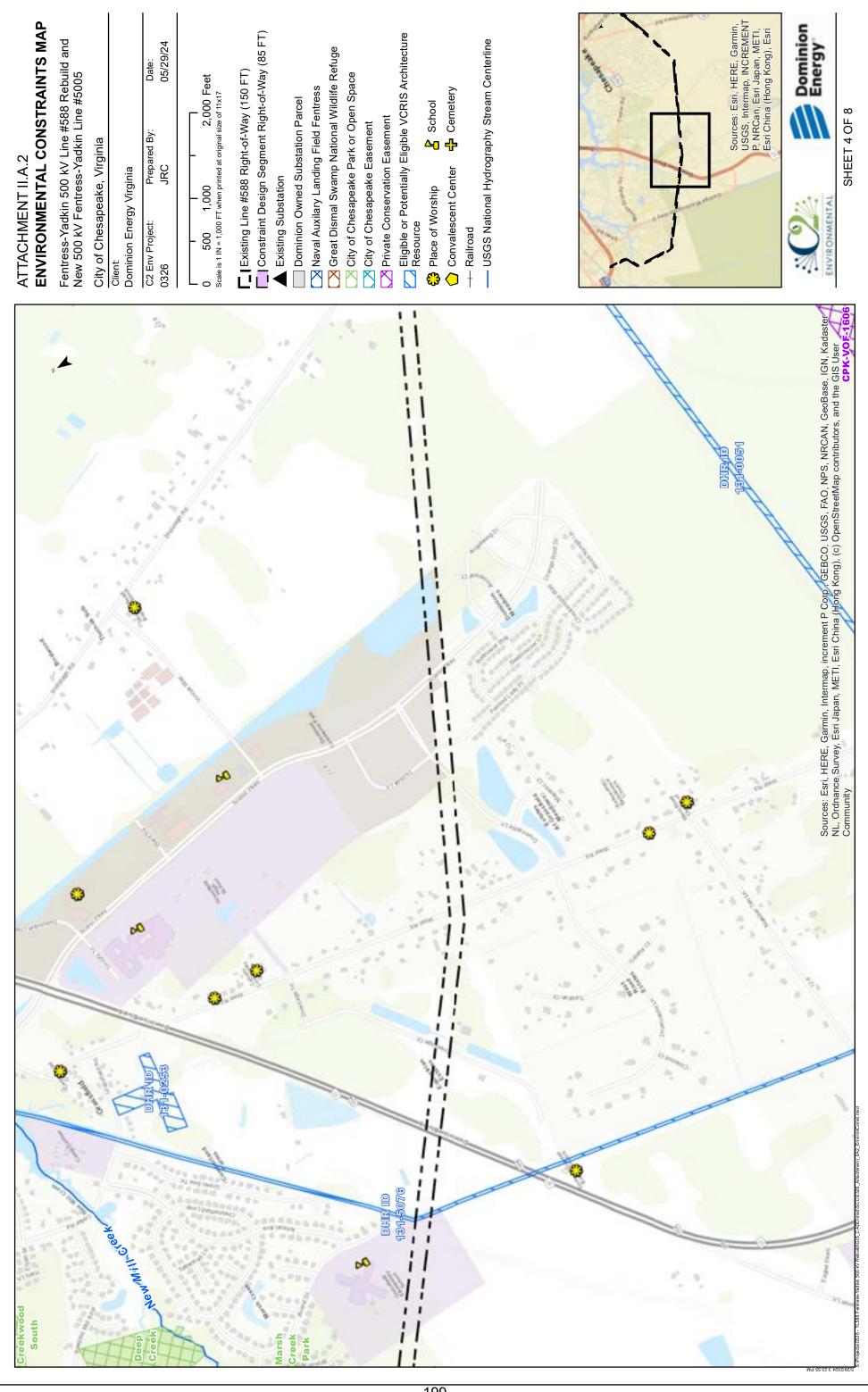
- 2. Provide color maps of suitable scale (including both general location mapping and more detailed GIS-based constraints mapping) showing the route of the proposed line and its relation to: the facilities of other public utilities that could influence the route selection, highways, streets, parks and recreational areas, scenic and historic areas, open space and conservation easements, schools, convalescent centers, churches, hospitals, burial grounds/cemeteries, airports and other notable structures close to the proposed project. Indicate the existing linear utility facilities that the line is proposed to parallel, such as electric transmission lines, natural gas transmission lines, pipelines, highways, and railroads. Indicate any existing transmission ROW sections that are to be quitclaimed or otherwise relinquished. Additionally, identify the manner in which the Applicant will make available to interested persons, including state and local governmental entities, the digital GIS shape file for the route of the proposed line.
- Response: See <u>Attachment II.A.2</u>. No portion of the right-of-way is proposed to be quitclaimed or relinquished.

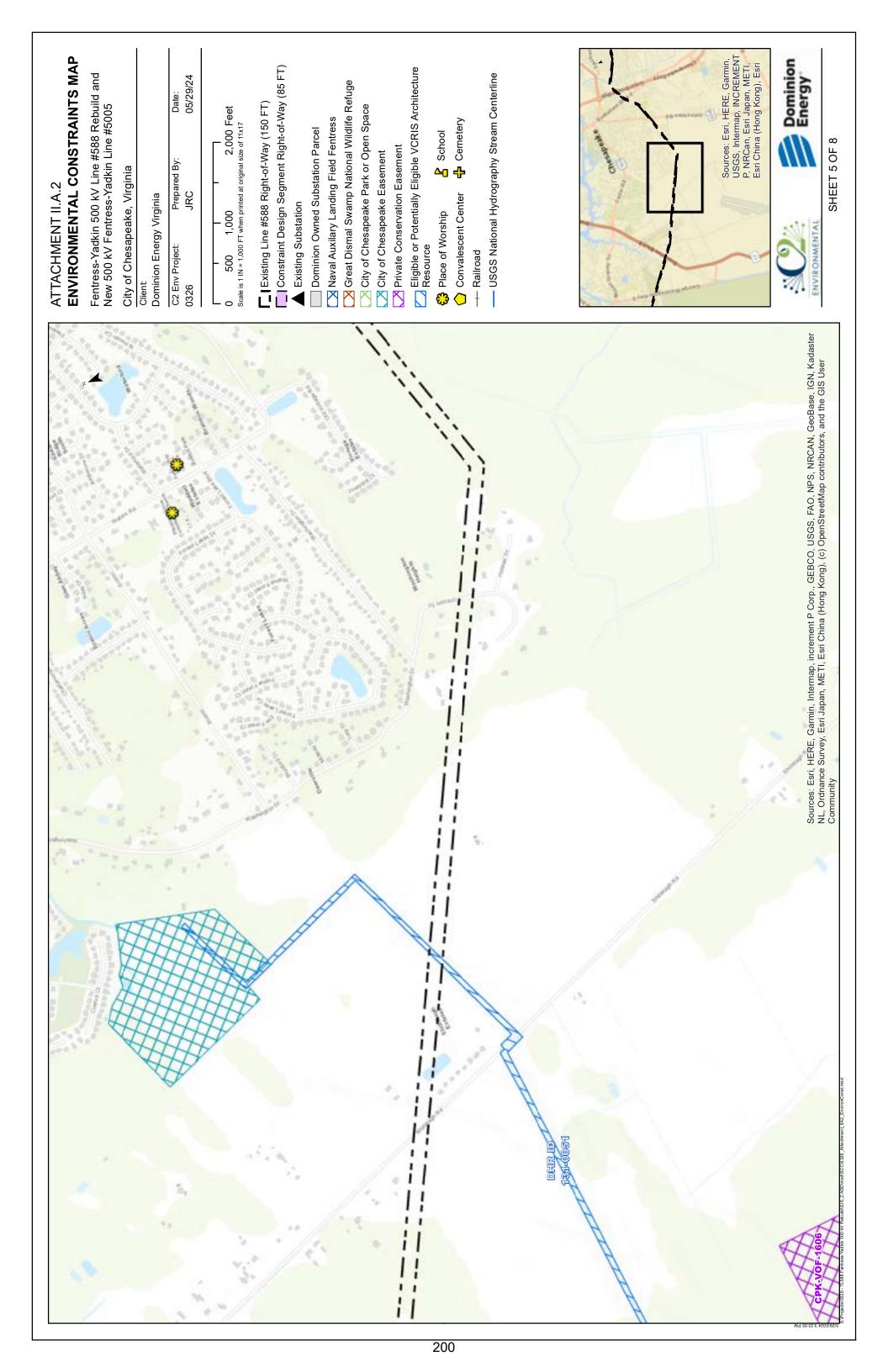
Dominion Energy Virginia will make the digital Geographic Information Systems shape file available to interested persons upon request to the Company's legal counsel as listed in the Project Application.

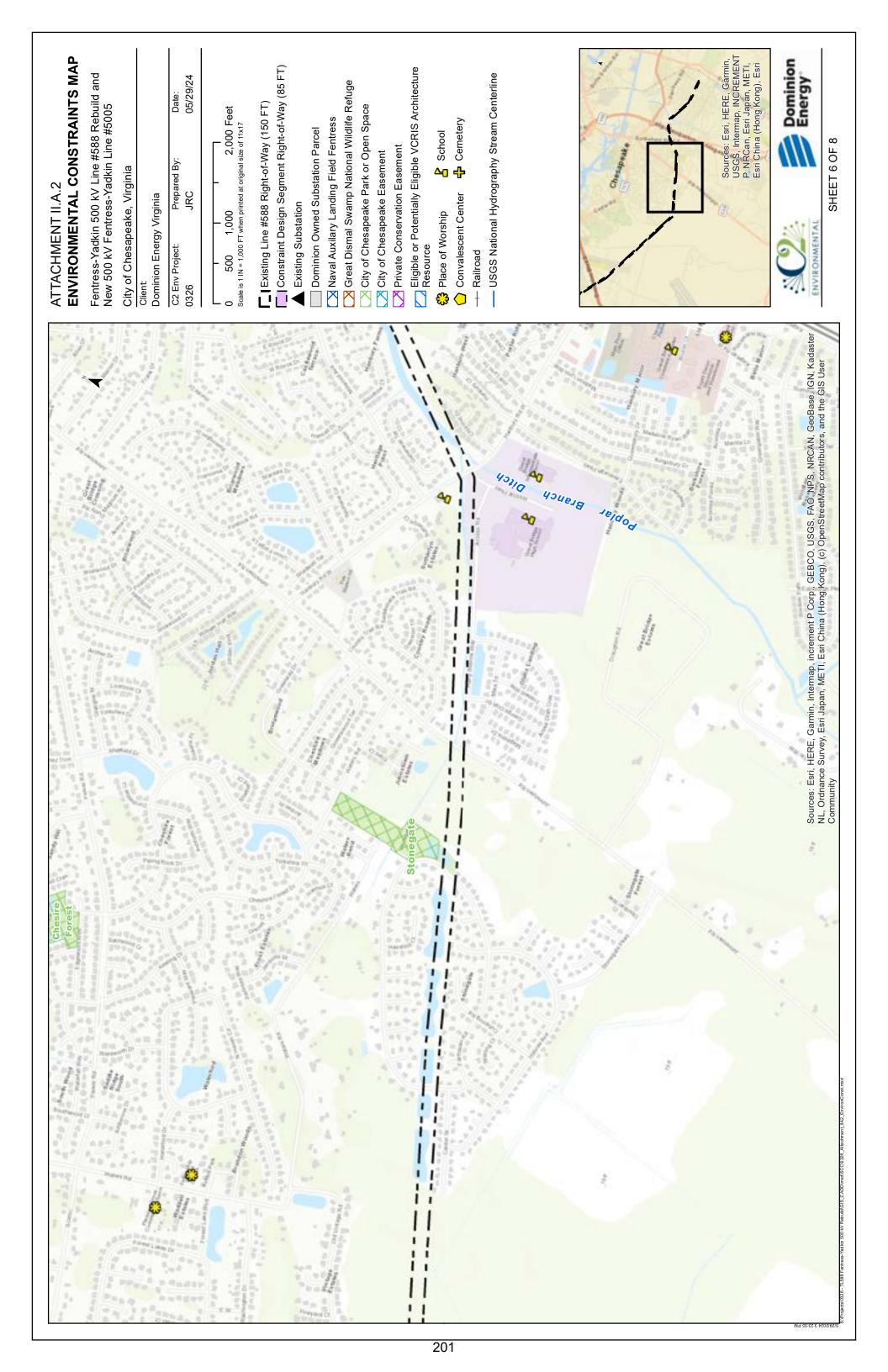


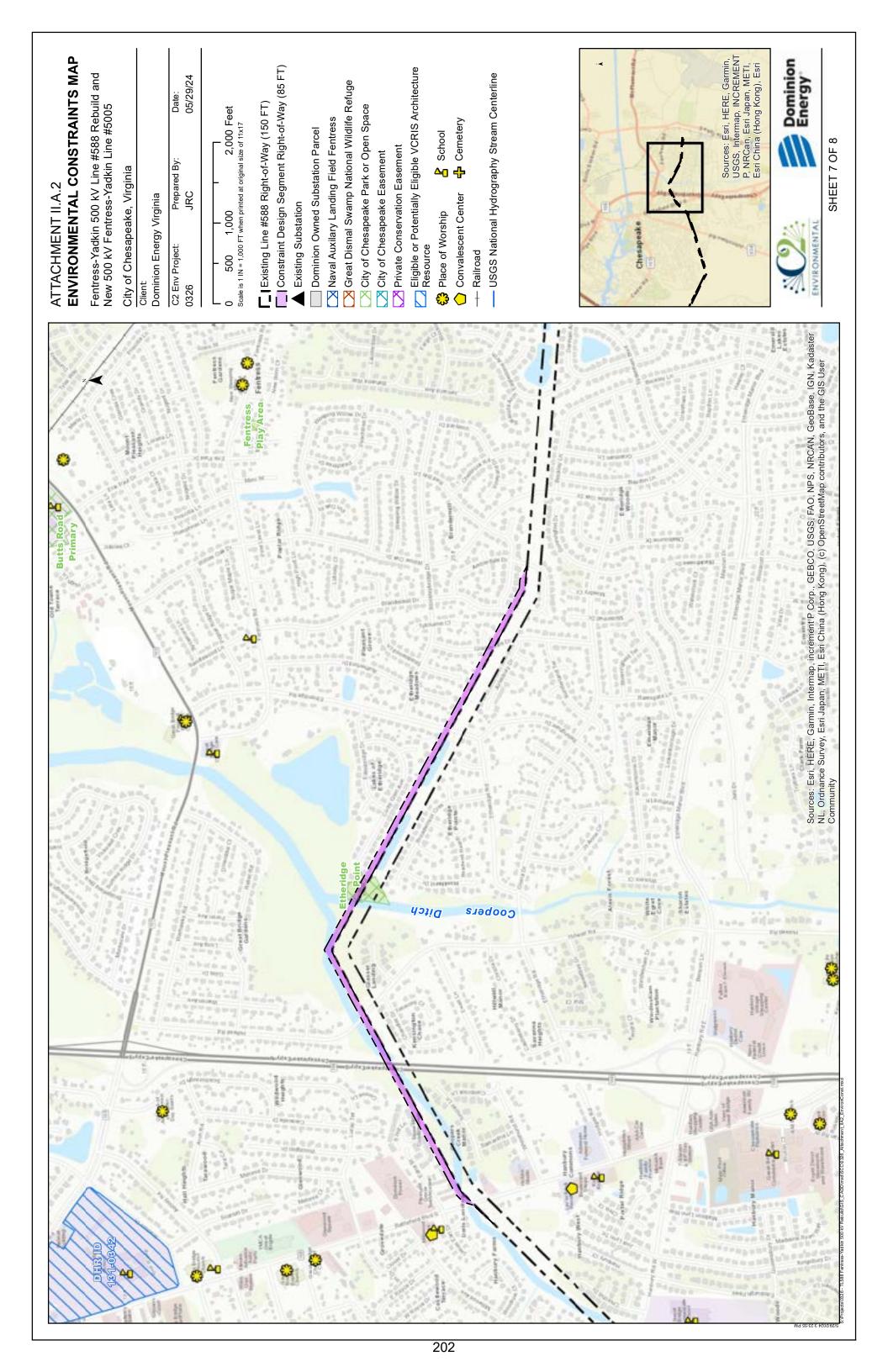


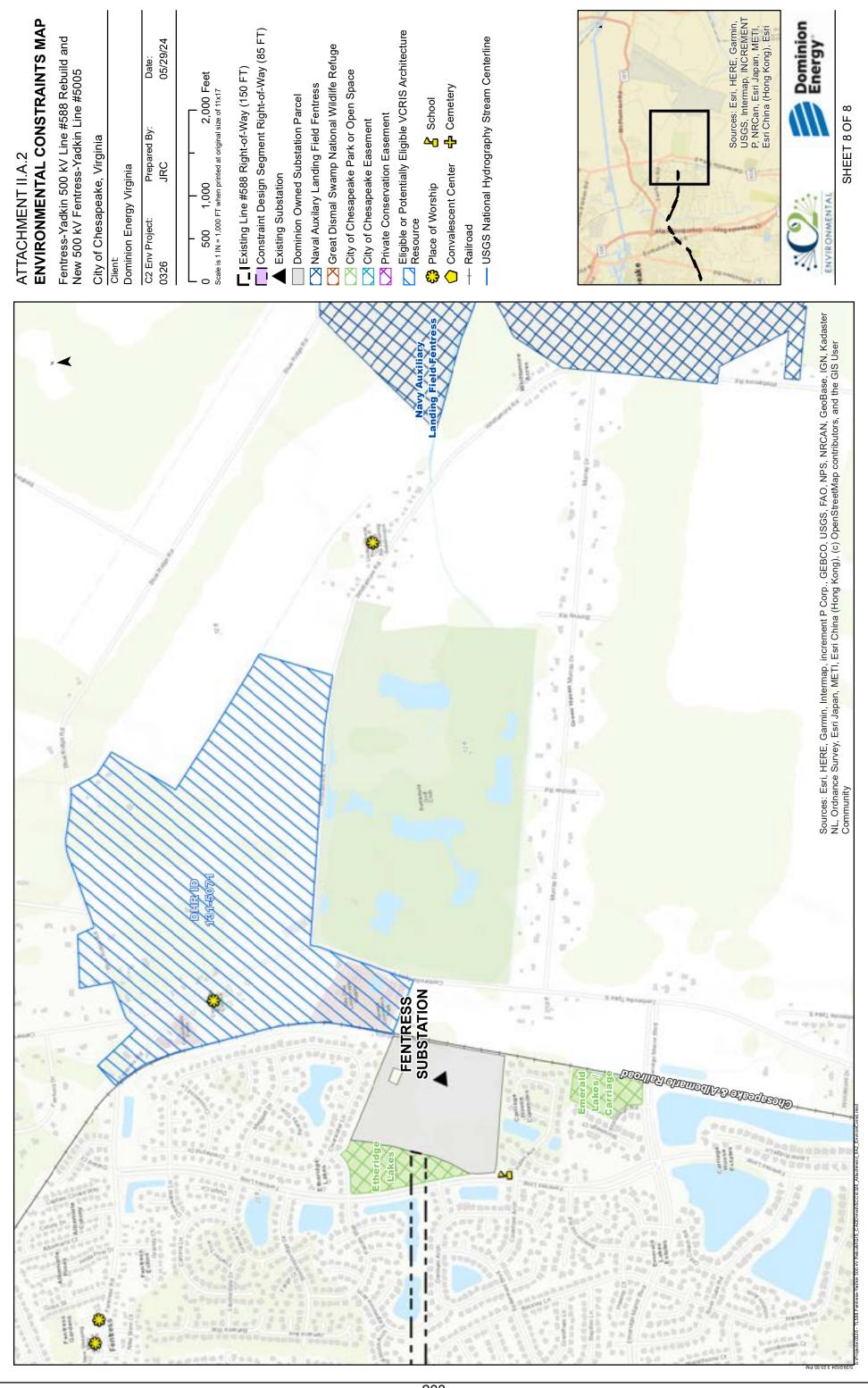












## A. Right-of-way ("ROW")

3. Provide a separate color map of a suitable scale showing all the Applicant's transmission line ROWs, either existing or proposed, in the vicinity of the proposed project.

Response: See <u>Attachment I.G.1</u>.

## A. Right-of-way ("ROW")

4. To the extent the proposed route is not entirely within existing ROW, explain why existing ROW cannot adequately service the needs of the Applicant.

Response: Not applicable.³⁹

³⁹ *See supra*, n. 38.

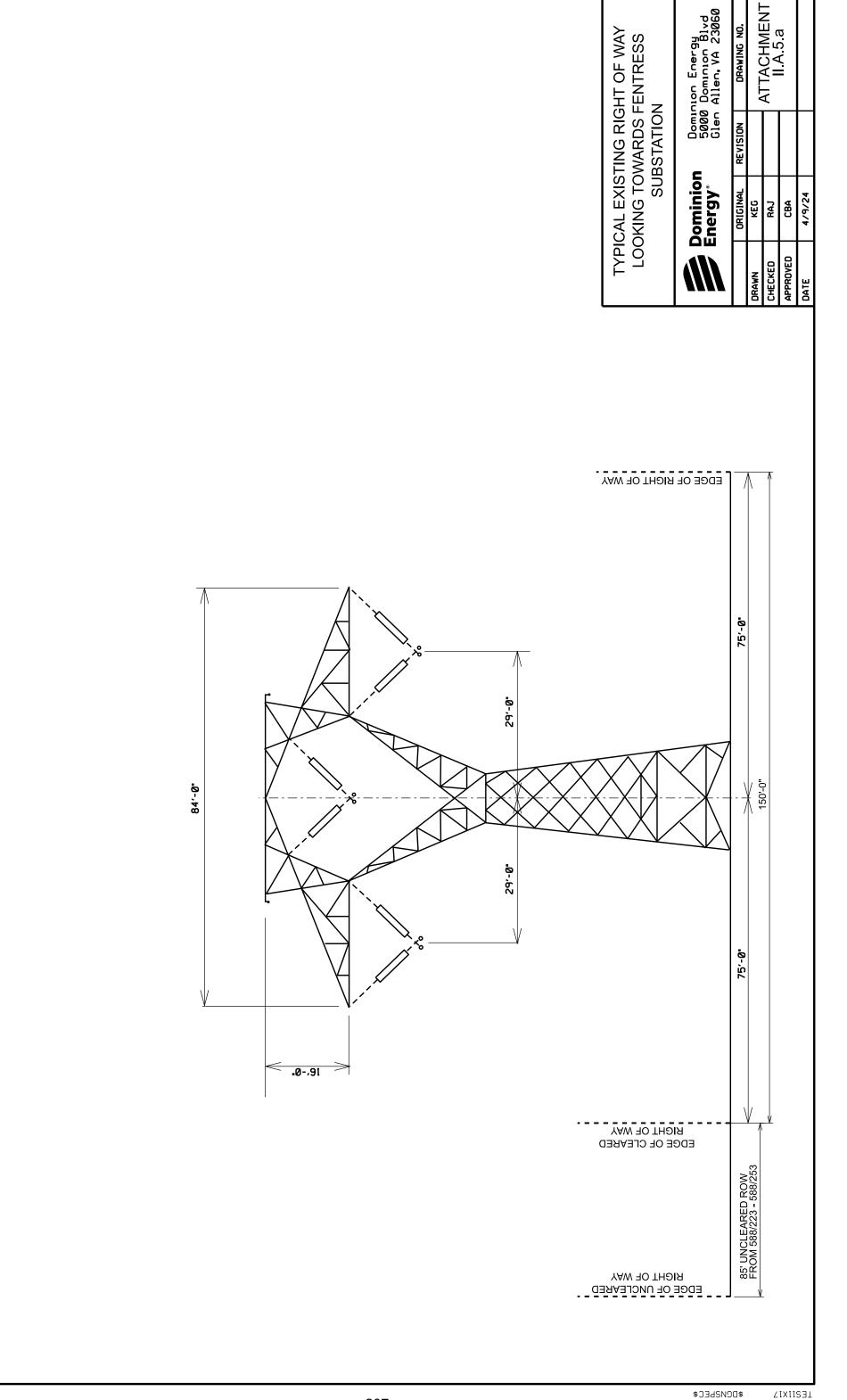
#### A. Right-of-way ("ROW")

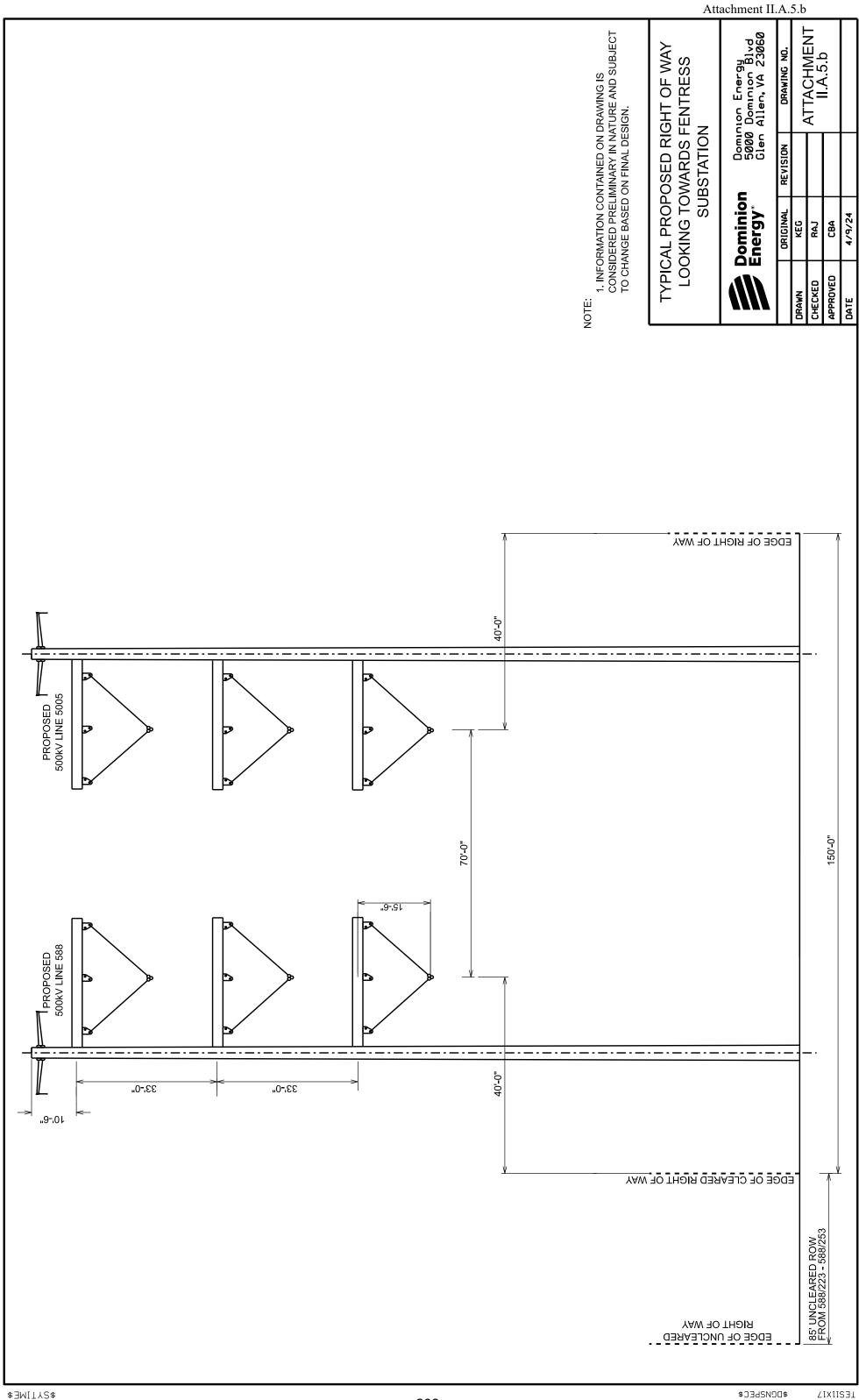
- 5. Provide drawings of the ROW cross section showing typical transmission line structure placements referenced to the edge of the ROW. These drawings should include:
  - a. ROW width for each cross section drawing;
  - b. Lateral distance between the conductors and edge of ROW;
  - c. Existing utility facilities on the ROW; and
  - d. For lines being rebuilt in existing ROW, provide all of the above(i) as it currently exists, and (ii) as it will exist at the conclusion of the proposed project.

Response: See <u>Attachments II.A.5.a-b.</u>⁴⁰

For additional information on the proposed structures, see Section II.B.3.

⁴⁰ See Section I.F and <u>Attachment I.F.1</u> for the Constraint Design Segment.





## A. Right-of-way ("ROW")

# 6. Detail what portions of the ROW are subject to existing easements and over what portions new easements will be needed.

Response: The Company obtained easements along the existing right-of-way of the Fentress-Yadkin transmission corridor in the late 1960s and early 1970s, including the 5.7mile section of 235-foot-wide right-of-way between Fentress Substation and Structure #588/223. See Section II.A.4.

#### A. Right-of-way ("ROW")

# 7. Detail the proposed ROW clearing methods to be used and the ROW restoration and maintenance practices planned for the proposed project.

Response: For purposes of the Project as proposed, the existing Line #588 transmission rightof-way corridor is currently maintained at 150 feet wide.⁴¹

Trimming of tree limbs along the edge of the right-of-way also may be conducted to support construction activities for the Project. For any such minimal clearing within the right-of-way, trees will be cut to no more than three inches above ground level. Trees located outside of the right-of-way that are tall enough to potentially impact the transmission facilities, commonly referred to as "danger trees," may also need to be cut. Danger trees will be cut to be no more than three inches above ground level, limbed, and will remain where felled. Debris that is adjacent to homes will be disposed of by chipping or removal. In other areas, debris may be mulched or chipped as practicable. Danger tree removal will be accomplished by hand in wetland areas and within 100 feet of streams, if applicable. Care will be taken not to leave debris in streams or wetland areas. Matting will be used for heavy equipment in these areas. Erosion control devices will be used where applicable on an ongoing basis during all clearing and construction activities accompanied by weekly Virginia Stormwater Management Program inspections.

Erosion control will be maintained and temporary stabilization for all soil disturbing activities will be used until the right-of-way has been restored. Upon completion of the Project, the Company will restore the right-of-way utilizing site rehabilitation procedures outlined in the Company's *Standards & Specifications for Erosion & Sediment Control and Stormwater Management for Construction and Maintenance of Linear Electric Transmission Facilities* that was approved by the Virginia Department of Environmental Quality ("DEQ"). Time of year and weather conditions may affect when permanent stabilization takes place.

This right-of-way will continue to be maintained on a regular cycle to prevent interruptions to electric service and provide ready access to the right-of-way to patrol and make emergency repairs. Periodic maintenance to control woody growth will consist of hand cutting, machine mowing and/or herbicide application.

⁴¹ See supra, n. 4. See Section I.F as to the Constraint Design Segment.

#### A. Right-of-way ("ROW")

# 8. Indicate the permitted uses of the proposed ROW by the easement landowner and the Applicant.

Response: Any non-transmission use will be permitted that:

- Is in accordance with the terms of the easement agreement for the right-of-way;
- Is consistent with the safe maintenance and operation of the transmission lines;
- Will not restrict future line design flexibility; and
- Will not permanently interfere with future construction.

Subject to the terms of the easement, examples of typical permitted uses include but are not limited to:

- Agriculture
- Hiking Trails
- Fences
- Perpendicular Road Crossings
- Perpendicular Utility Crossings
- Residential Driveways
- Wildlife / Pollinator Habitat

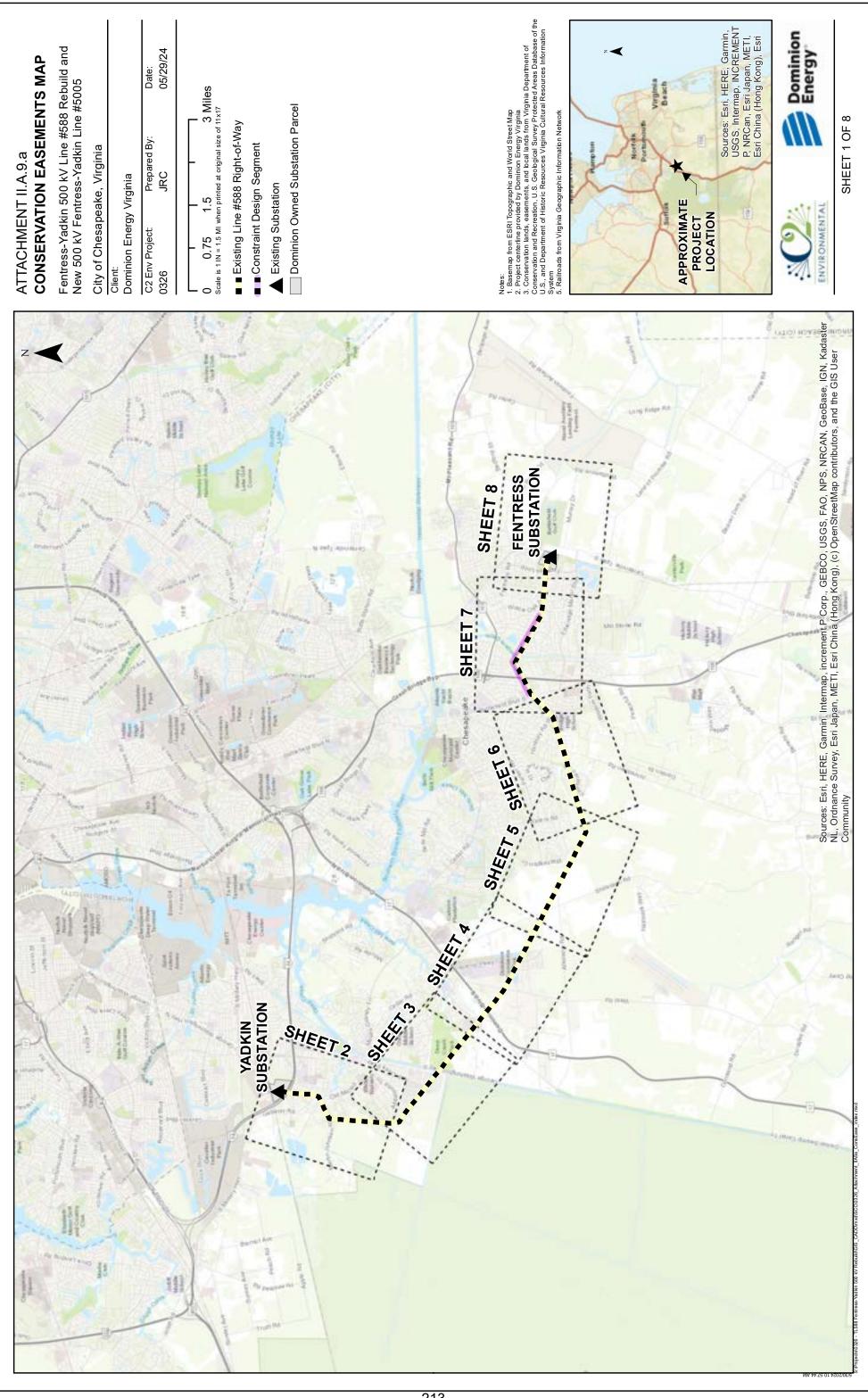
#### A. Right-of-way ("ROW")

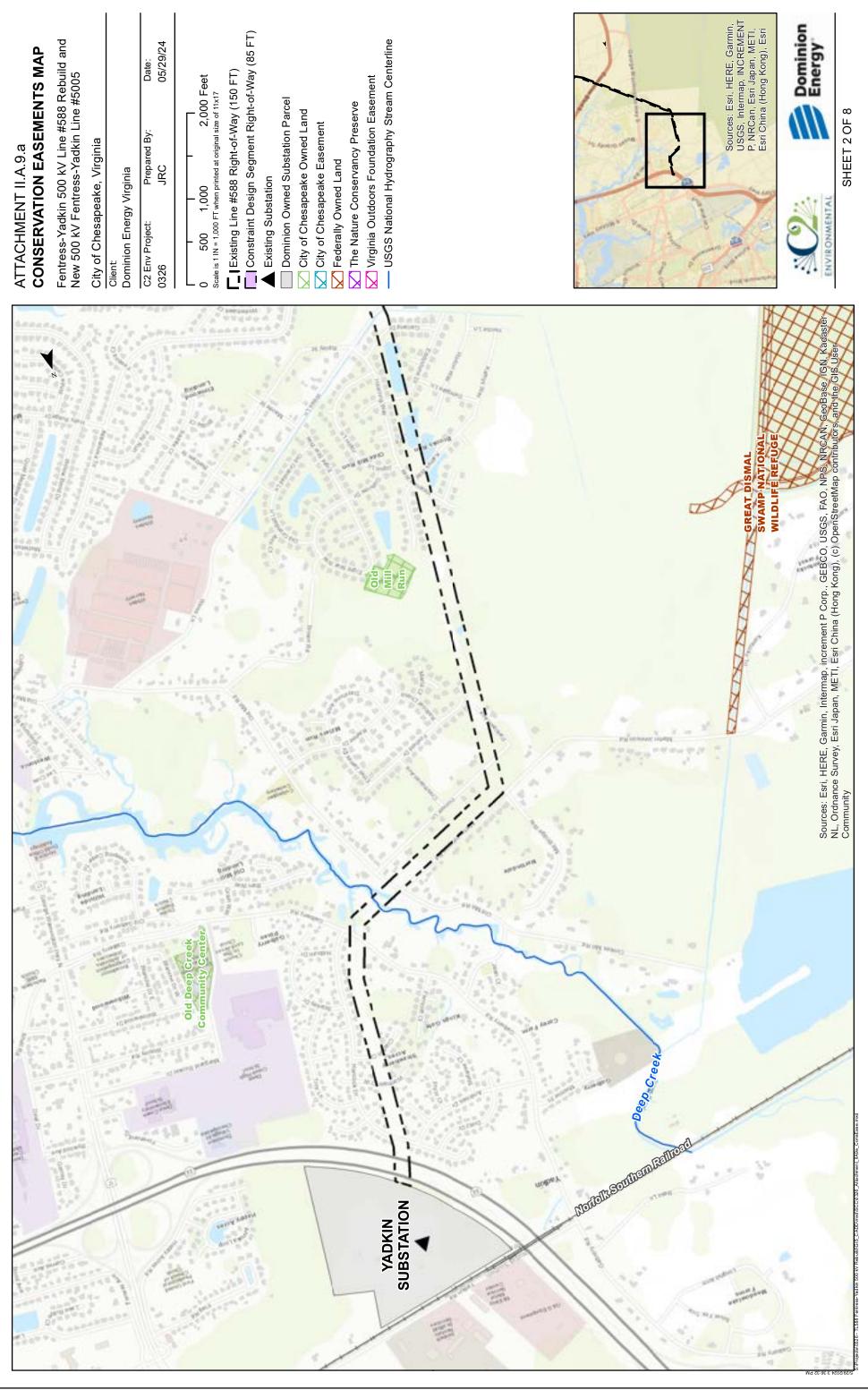
- 9. Describe the Applicant's route selection procedures. Detail the feasible alternative routes considered. For each such route, provide the estimated cost and identify and describe the cost classification (e.g. "conceptual cost," "detailed cost," etc.). Describe the Applicant's efforts in considering these feasible alternatives. Detail why the proposed route was selected and other feasible alternatives were rejected. In the event that the proposed route crosses, or one of the feasible routes was rejected in part due to the need to cross, land managed by federal, state, or local agencies or conservation easements or open space easements qualifying under §§ 10.1-1009 1016 or §§ 10.1-1700 1705 of the Code (or a comparable prior or subsequent provision of the Code), describe the Applicant's efforts to secure the necessary ROW.
- Response: The Company's route selection for transmission line rebuilds begins with a review of existing rights-of-way. This approach generally minimizes impacts on the natural and human environments. This approach also is consistent with Attachment 1 of these Guidelines, which provides a tool routinely used by the Company in routing its transmission line projects. Specifically, this approach is consistent with Guideline #1, which states that existing rights-of-way should be given priority when adding new transmission facilities, and Va. Code §§ 56-46.1 and 56-259, which promote the use of existing rights-of-way for new transmission facilities. For the proposed Project, the existing transmission corridor right-of-way that currently contains Line #588 is adequate.⁴²

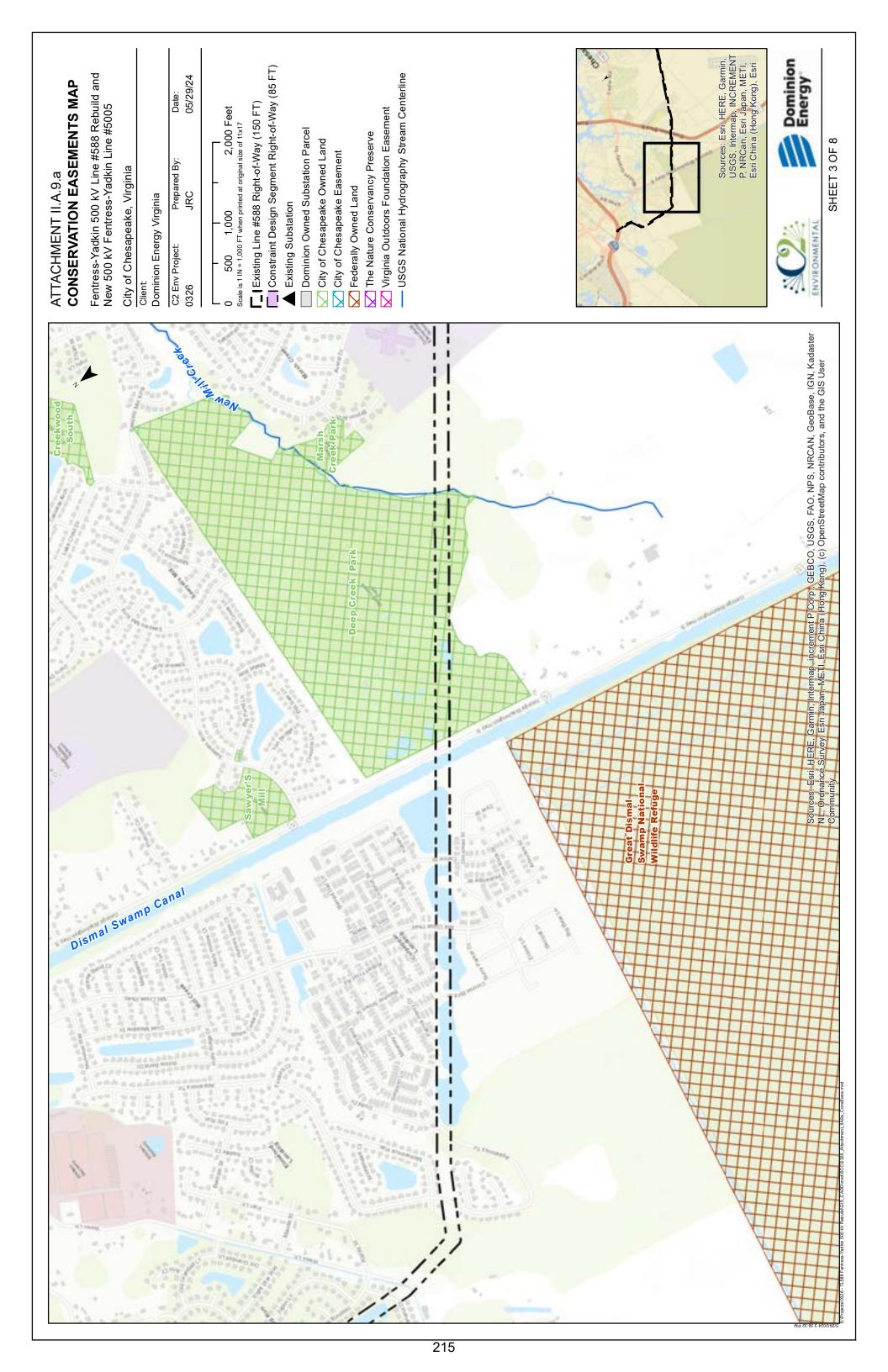
Because the existing right-of-way and Company-owned property is adequate to construct the proposed Project, no new right-of-way is necessary. Given the availability of existing right-of-way and the statutory preference given to the use of existing rights-of-way, and because additional costs and environmental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

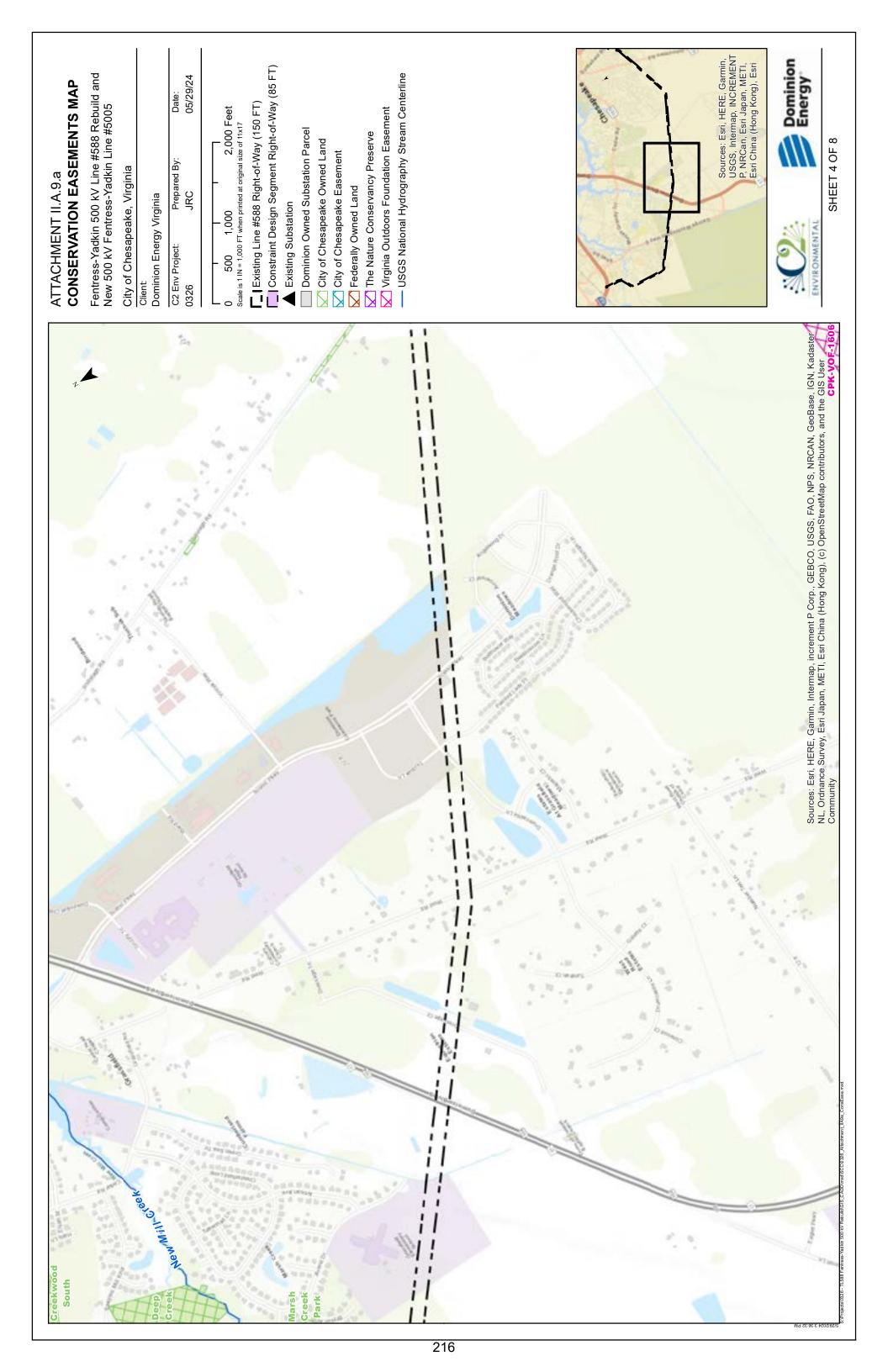
See <u>Attachment II.A.9.a</u> for conservation easements crossed by the proposed Project.

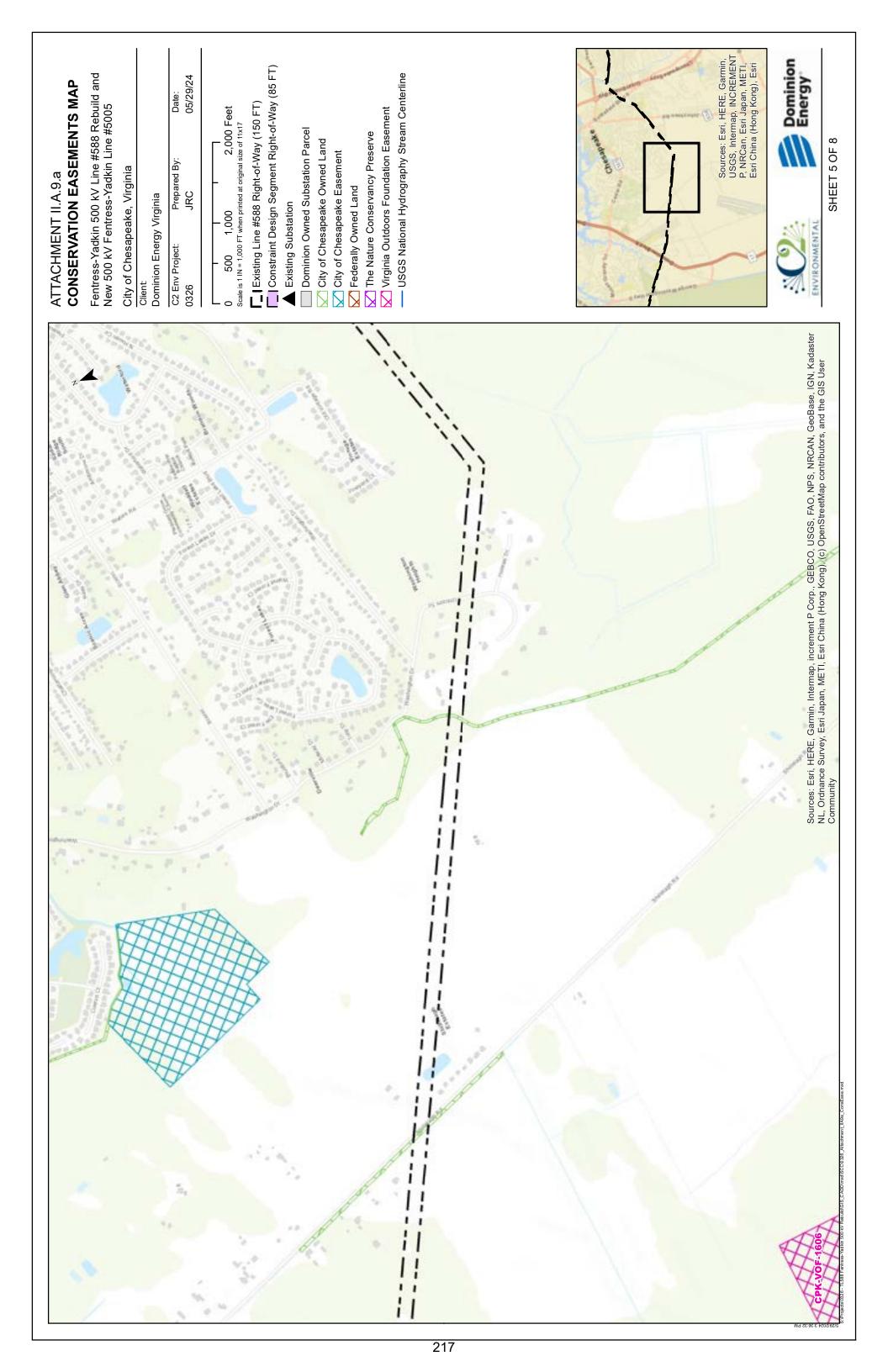
⁴² *See supra*, n. 38.

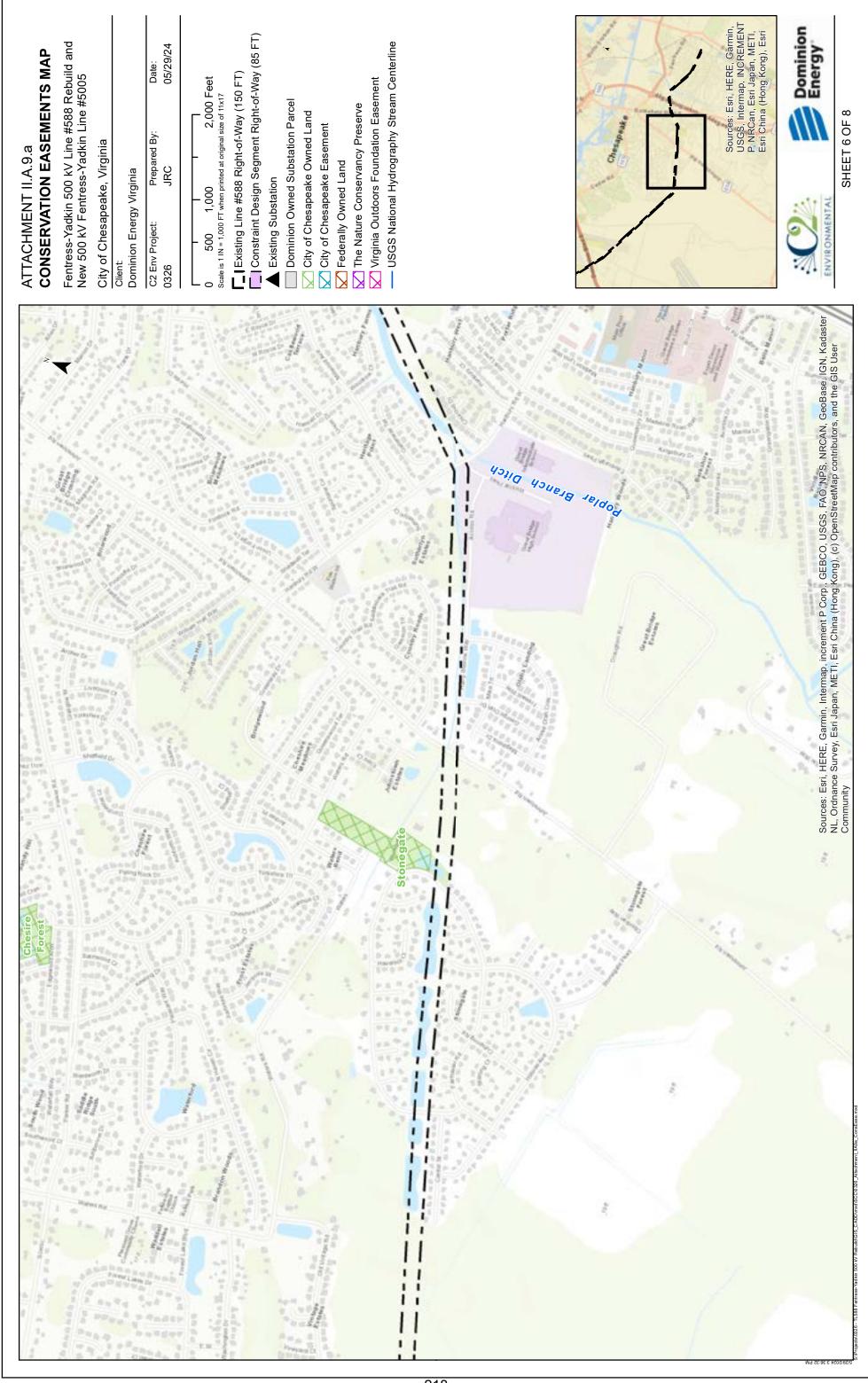


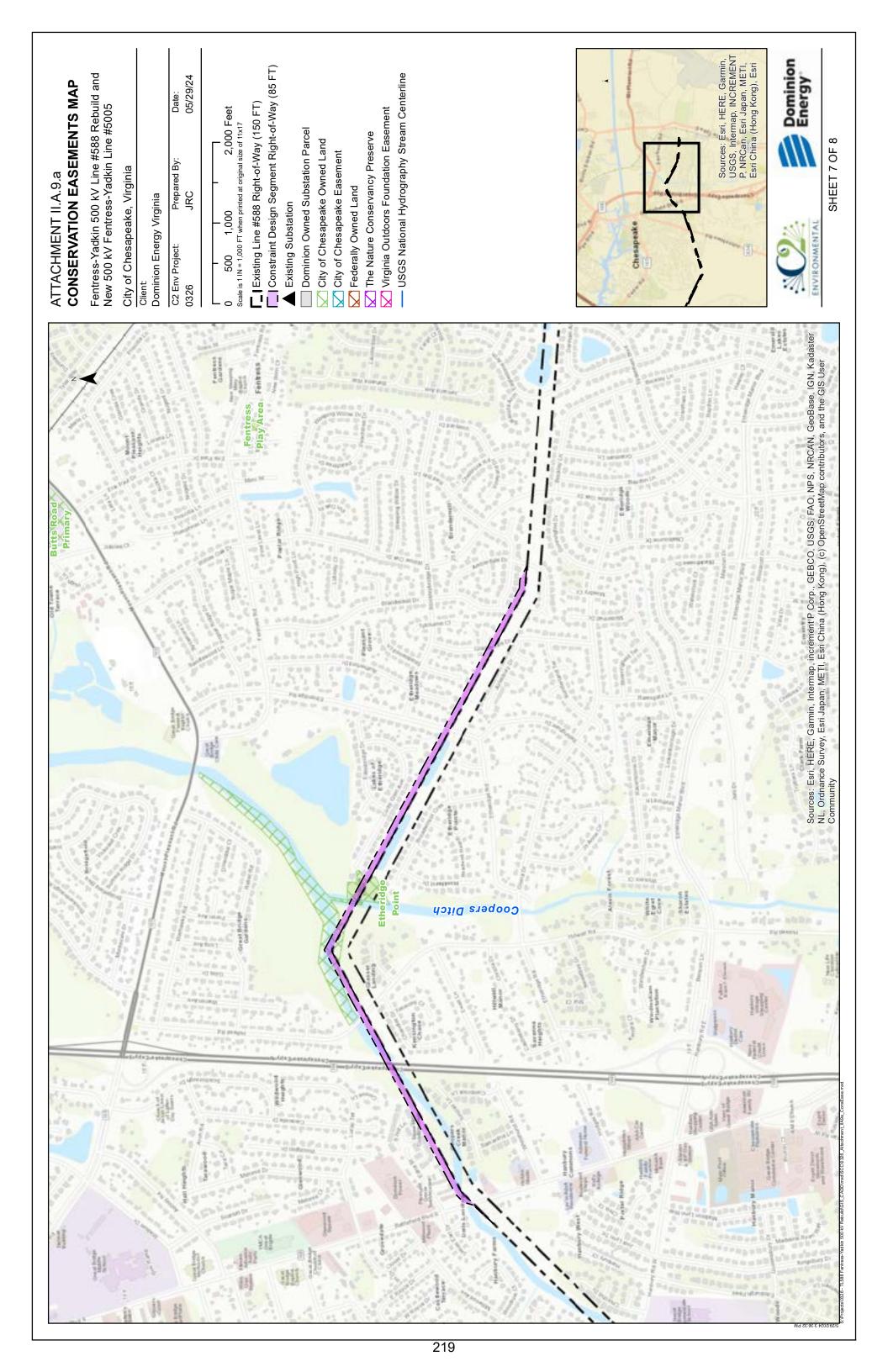


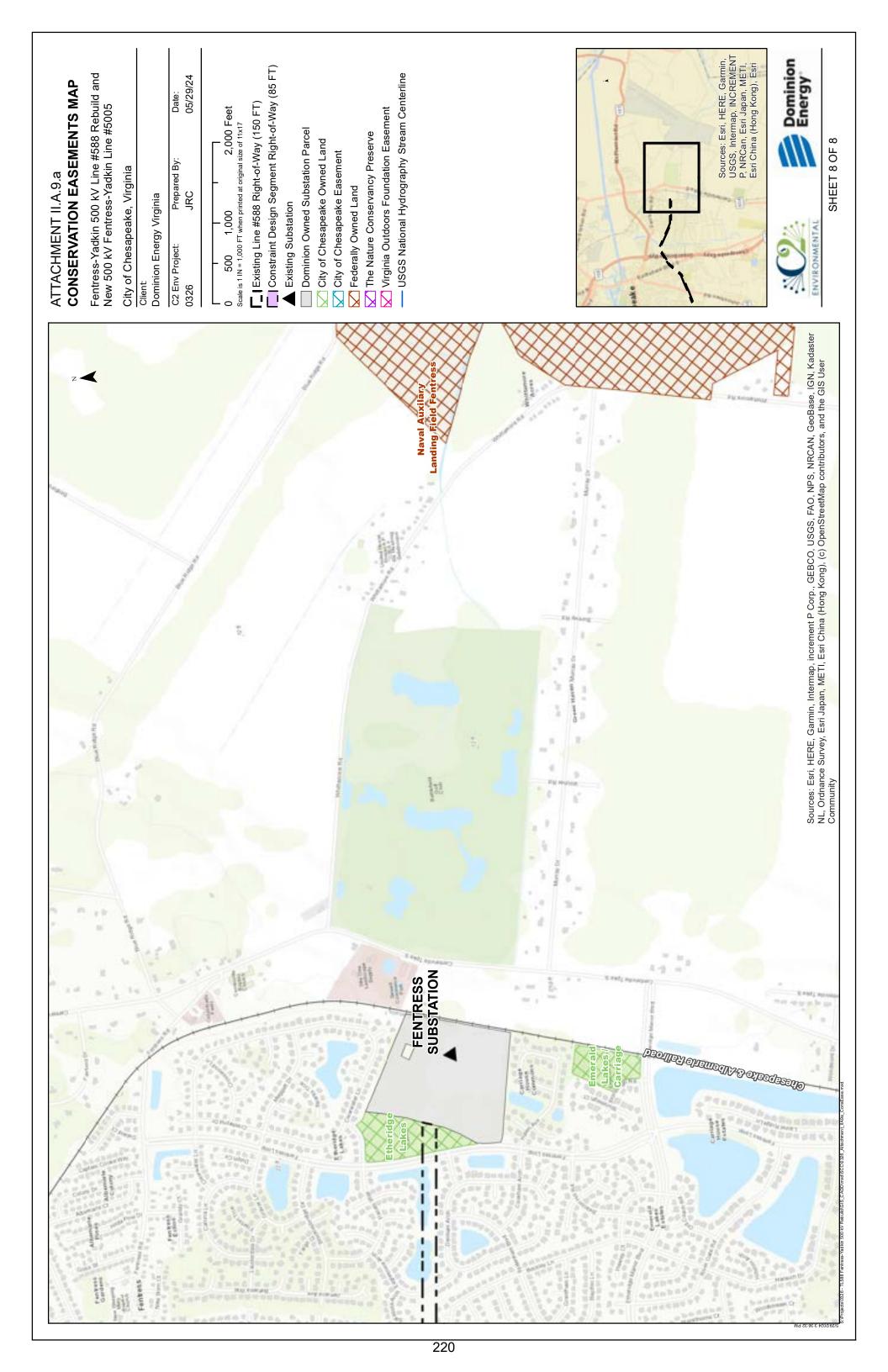












#### A. Right-of-way ("ROW")

- 10. Describe the Applicant's construction plans for the project, including how the Applicant will minimize service disruption to the affected load area. Include requested and approved line outage schedules for affected lines as appropriate.
- Response: The Company plans to construct the Project in a manner that minimizes outage time, as described below. Assuming a final order from the Commission by March 1, 2025, as requested in Section I.H of this Appendix, the Company estimates that the proposed Project construction will commence in March 2025 and be completed by January 2027, which will require two outages on Line #588 (beginning in spring 2025 and beginning in spring 2026), and one outage on Line #565⁴³ (beginning in winter 2026).

The Company intends to complete this work during requested outage windows. However, as with all outage scheduling, these outages may change depending on whether PJM approves the outages and other relevant considerations allow for it. It is customary for PJM to hold requests for outages and approve only shortly before the outages are expected to occur and, therefore, the requested outages are subject to change. Therefore, the Company will not have clarity on whether this work will be done as requested until very close in time to the requested outages. If PJM approves different outage dates, the Company will continue to diligently pursue timely completion of this work.

⁴³ See supra, n. 6.

#### A. Right-of-way ("ROW")

# 11. Indicate how the construction of this transmission line follows the provisions discussed in Attachment 1 of these Guidelines.

Response: As noted in Section II.A.9, the Company routinely uses Attachment 1 to these Guidelines in routing its transmission line projects.

The Company utilized Guideline #1 (existing rights-of-way should be given priority when adding additional facilities) by siting the Proposed Route within the existing transmission corridor as discussed in Section II.A.9.

By utilizing the existing transmission corridor, the proposed Project will minimize impact to any site listed on the National Register of Historic Places ("NRHP"). Thus, the Project is consistent with Guideline #2 (where practical, rights-of-way should avoid sites listed on the National Register of Historic Places). See Section III.A for a description of the resources identified in the Stage I Pre-Application Analysis prepared by Dutton+Associates ("Dutton") on behalf of the Company, which is included with the DEQ Supplement as Attachment 2.I.1. The Stage I Pre-Application Analysis was submitted to the Virginia Department of Historic Resources ("VDHR") on June 12, 2024.

The Company has communicated with a number of local, state, and federal agencies prior to filing this application consistent with Guideline #4 (where government land is involved, the applicant should contact the agencies early in the planning process). See Sections III.J and V.D of this Appendix and the DEQ Supplement.

The Company follows recommended construction methods on a site-specific basis for typical construction projects (Guidelines ##8, 10, 11, 15, 16, 18, and 22).

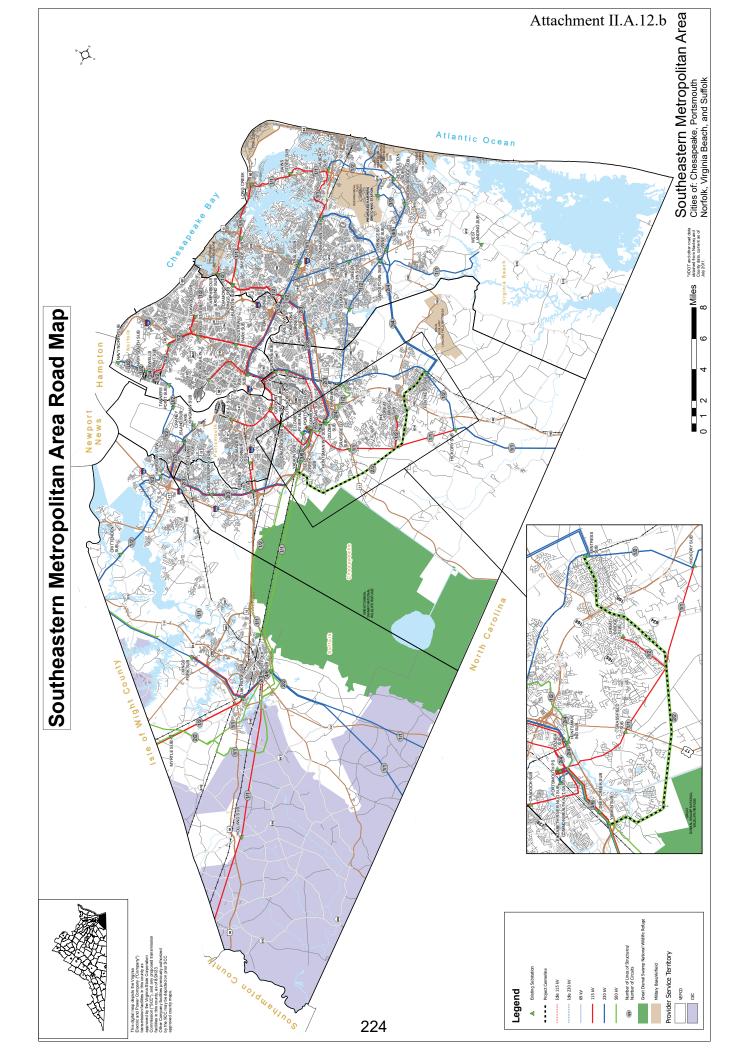
The Company also utilizes recommended guidelines in the clearing of right-of-way, constructing facilities and maintaining rights-of-way after construction. Moreover, secondary uses of right-of-way that are consistent with the safe maintenance and operation of facilities are permitted.

#### A. Right-of-way ("ROW")

12. a. Detail counties and localities through which the line will pass. If any portion of the line will be located outside of the Applicant's certificated service area: (1) identify each electric utility affected; (2) state whether any affected electric utility objects to such construction; and (3) identify the length of line(s) proposed to be located in the service area of an electric utility other than the Applicant; and

b. Provide three (3) color copies of the Virginia Department of Transportation "General Highway Map" for each county and city through which the line will pass. On the maps show the proposed line and all previously approved and certificated facilities of the Applicant. Also, where the line will be located outside of the Applicant's certificated service area, show the boundaries between the Applicant and each affected electric utility. On each map where the proposed line would be outside of the Applicant's certificated service area, the map must include a signature of an appropriate representative of the affected electric utility indicating that the affected utility is not opposed to the proposed construction within its service area.

- Response: a. The proposed Project crosses the City of Chesapeake for approximately 13.5 miles. The Project is located entirely within Dominion Energy Virginia's service territory.
  - b. An electronic copy of the VDOT "General Highway Map" for the City of Chesapeake (Southeastern Metropolitan Area Road Map) has been marked as required and submitted with the Application. A reduced copy of the map is provided as <u>Attachment II.A.12.b</u>.



#### **B.** Line Design and Operational Features

- 1. Detail the number of circuits and their design voltage, initial operational voltage, any anticipated voltage upgrade, and transfer capabilities.
- Response: The proposed 500 kV lines will be designed and operated at 500 kV with no anticipated voltage upgrade and have a transfer capability of 4,357 MVA.

#### **B.** Line Design and Operational Features

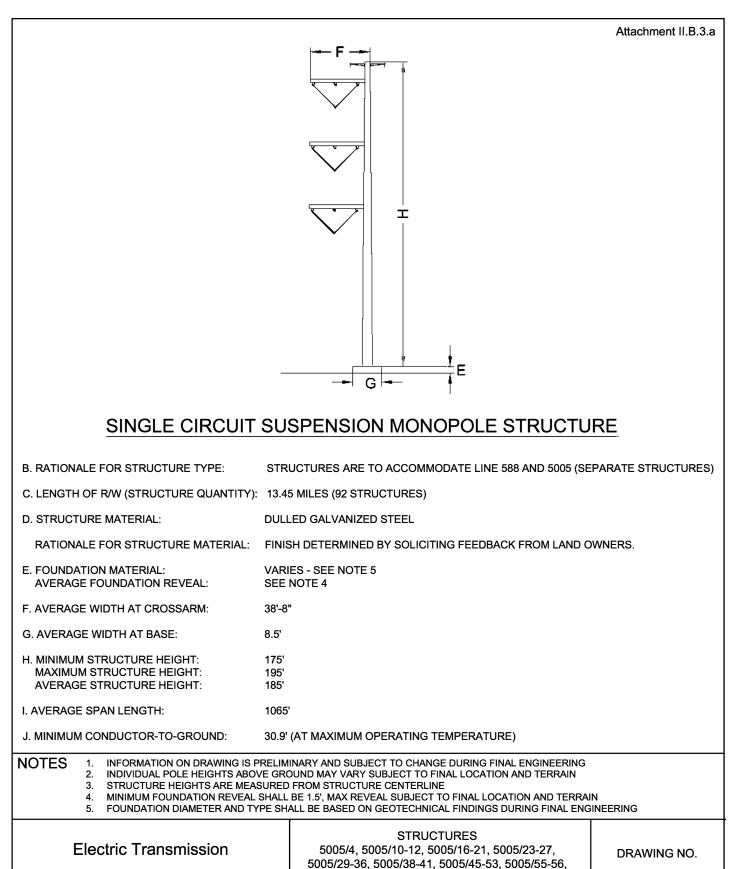
- 2. Detail the number, size(s), type(s), coating and typical configurations of conductors. Provide the rationale for the type(s) of conductor(s) to be used.
- Response: The proposed 500 kV lines will include three-phase triple-bundled 1351.5 ACSR conductors arranged as shown in <u>Attachments II.B.3.a-c</u>.⁴⁴ The three-phase triple-bundled 1351.5 ACSR conductors are a Company standard for new 500 kV construction.

⁴⁴ See Section I.F and <u>Attachments I.F.2</u> and <u>I.F.3</u> for the Constraint Design Segment.

- **B.** Line Design and Operational Features
  - 3. With regard to the proposed supporting structures over each portion of the ROW for the preferred route, provide diagrams (including foundation reveal) and descriptions of all the structure types, to include:
    - a. mapping that identifies each portion of the preferred route;
    - b. the rationale for the selection of the structure type;
    - c. the number of each type of structure and the length of each portion of the ROW;
    - d. the structure material and rationale for the selection of such material;
    - e. the foundation material;
    - f. the average width at cross arms;
    - g. the average width at the base;
    - h. the maximum, minimum and average structure heights;
    - i. the average span length; and
    - j. the minimum conductor-to-ground clearances under maximum operating conditions.
- Response: For subparts (b)-(j), see <u>Attachments II.B.3.a-c</u>.⁴⁵

For subpart (a), see <u>Attachment II.B.3.d</u>, which provides approximate mapping of the proposed structures along Line #588 and Line #5005, which are subject to change during final engineering.

⁴⁵ See Section I.F and <u>Attachments I.F.2</u> and <u>I.F.3</u> for the Constraint Design Segment.



^{5005/58-59, 5005/63-65, 5005/67-69,} 588/187, 588/193-195, 588/199-204, 588/206-210, 588/212-219, 588/221-224, 588/228-236, 588/238-239, 588/241-242, 588/246-248, 588/250-252 DRAWN KEG

Attachment II.B.3.a

Dominion Energy

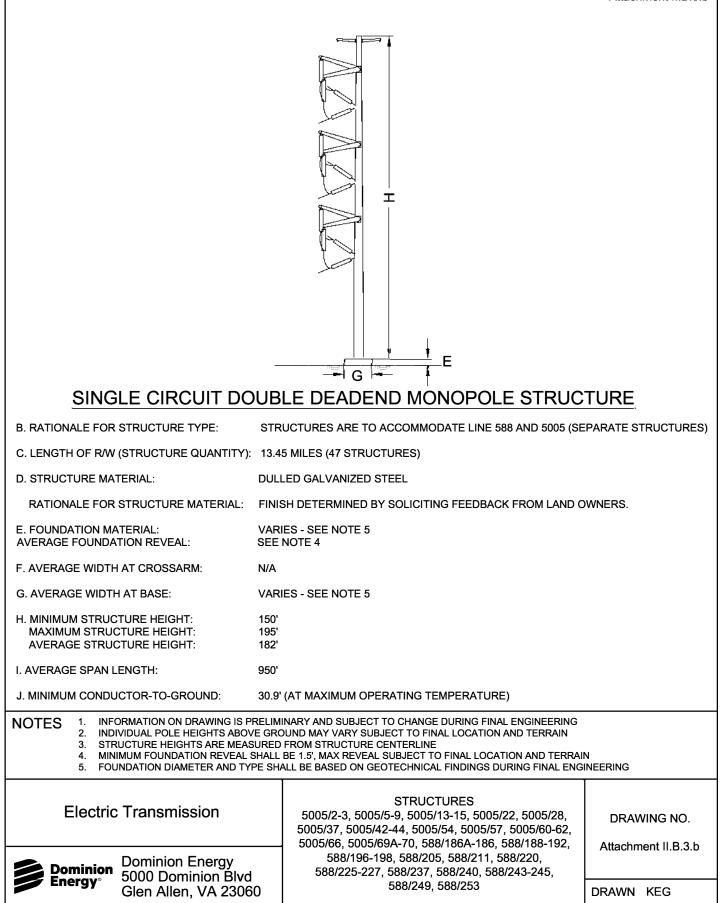
5000 Dominion Blvd

Glen Allen, VA 23060

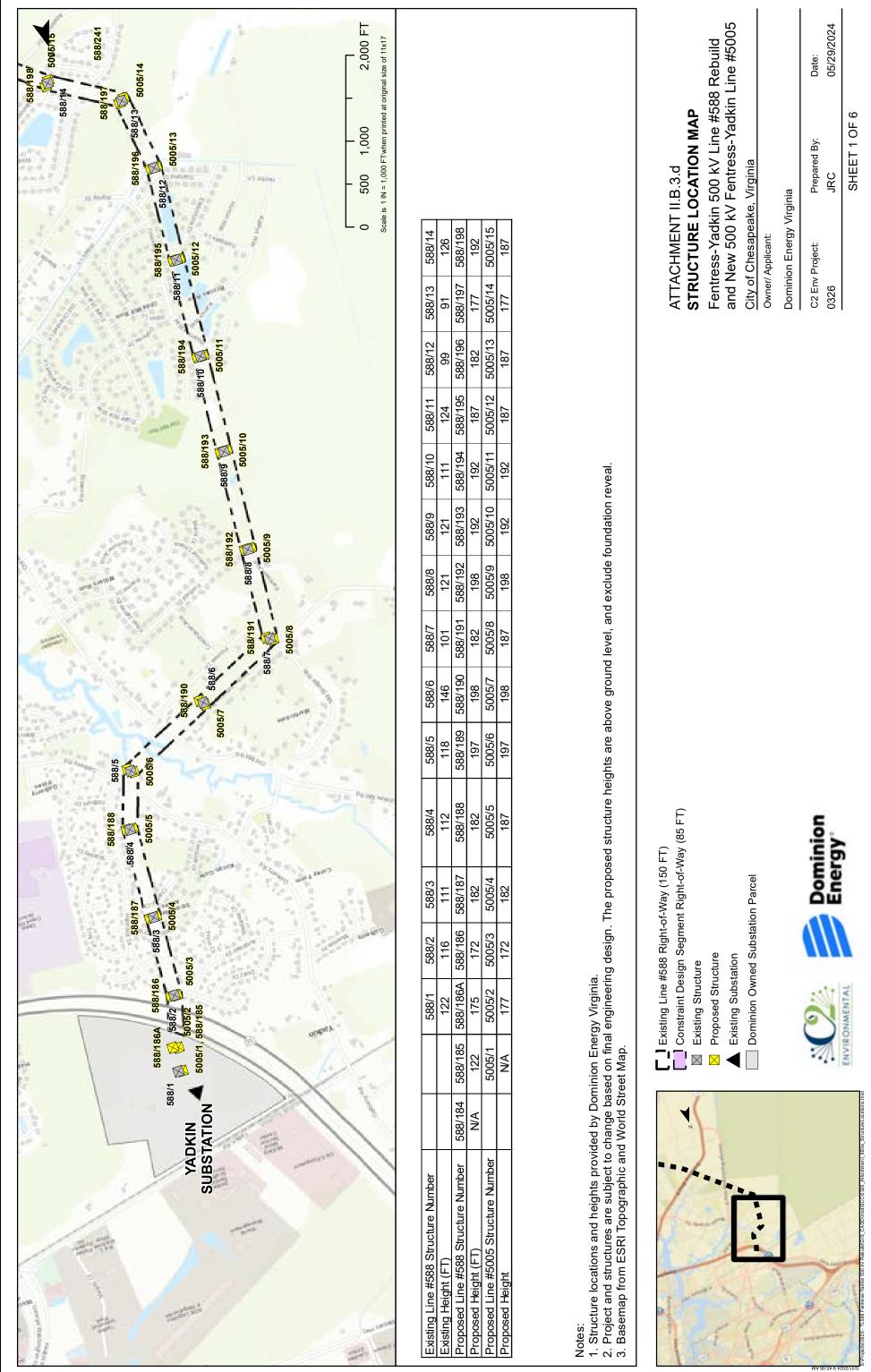
Dominion

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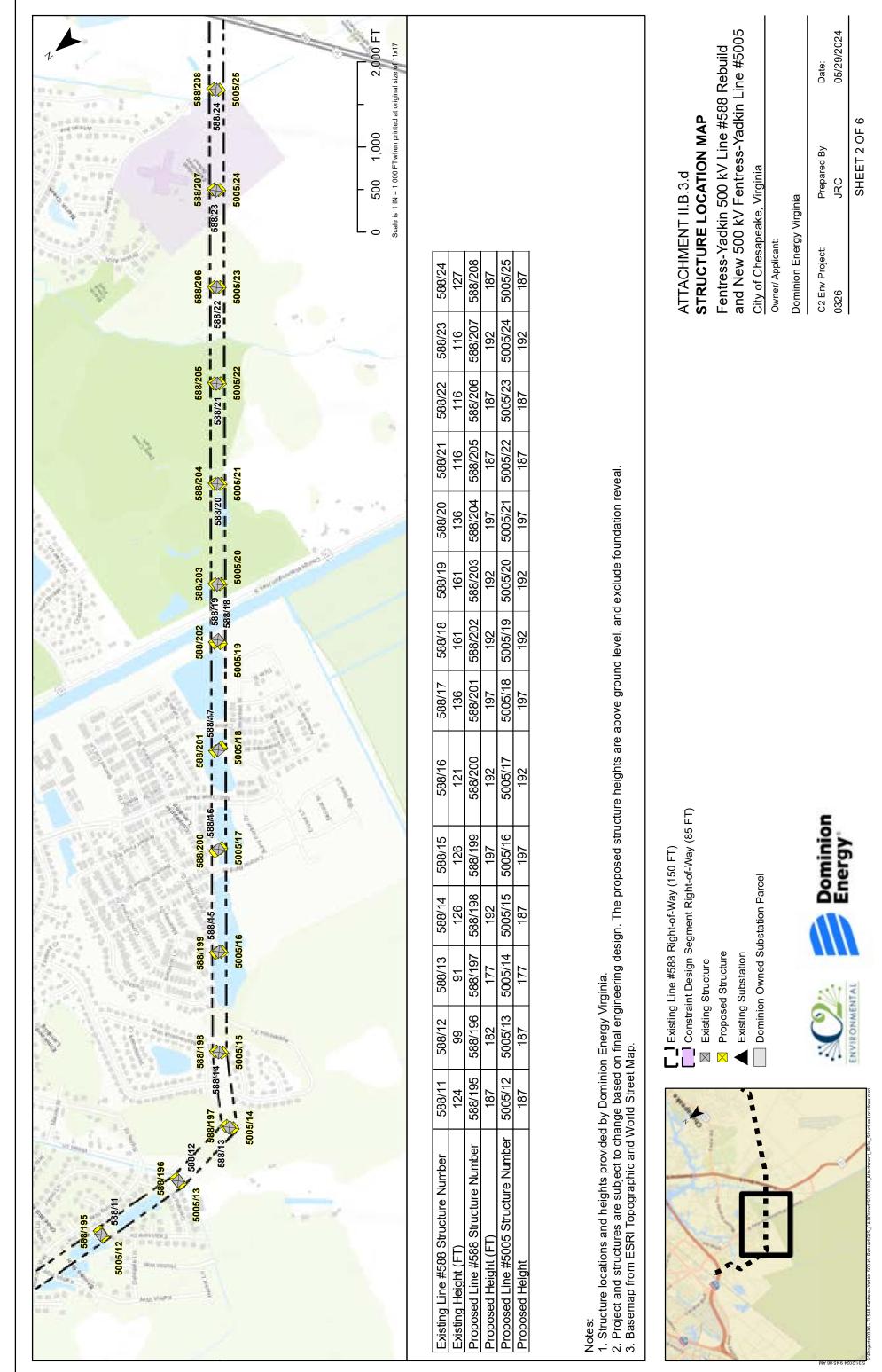


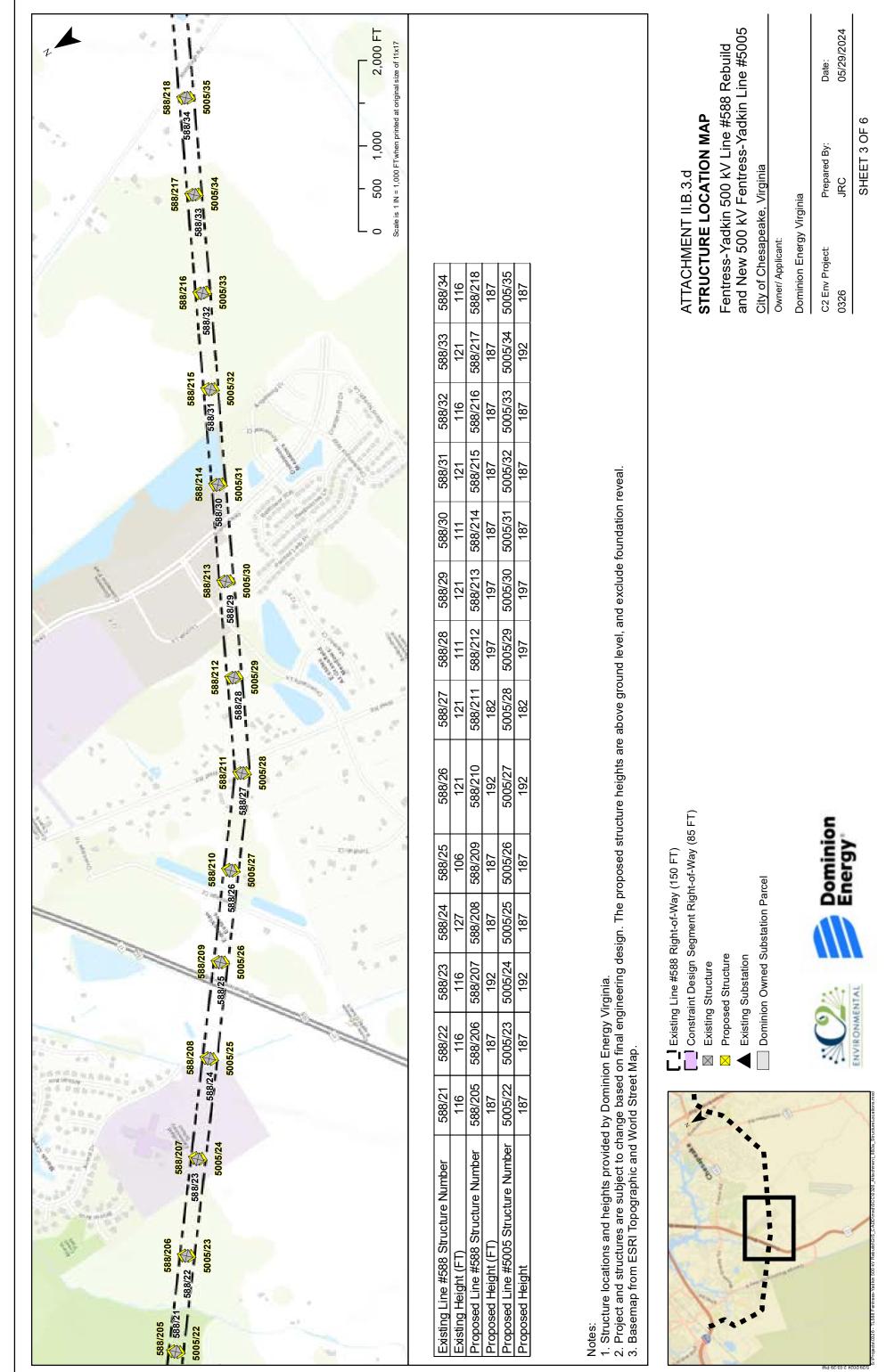


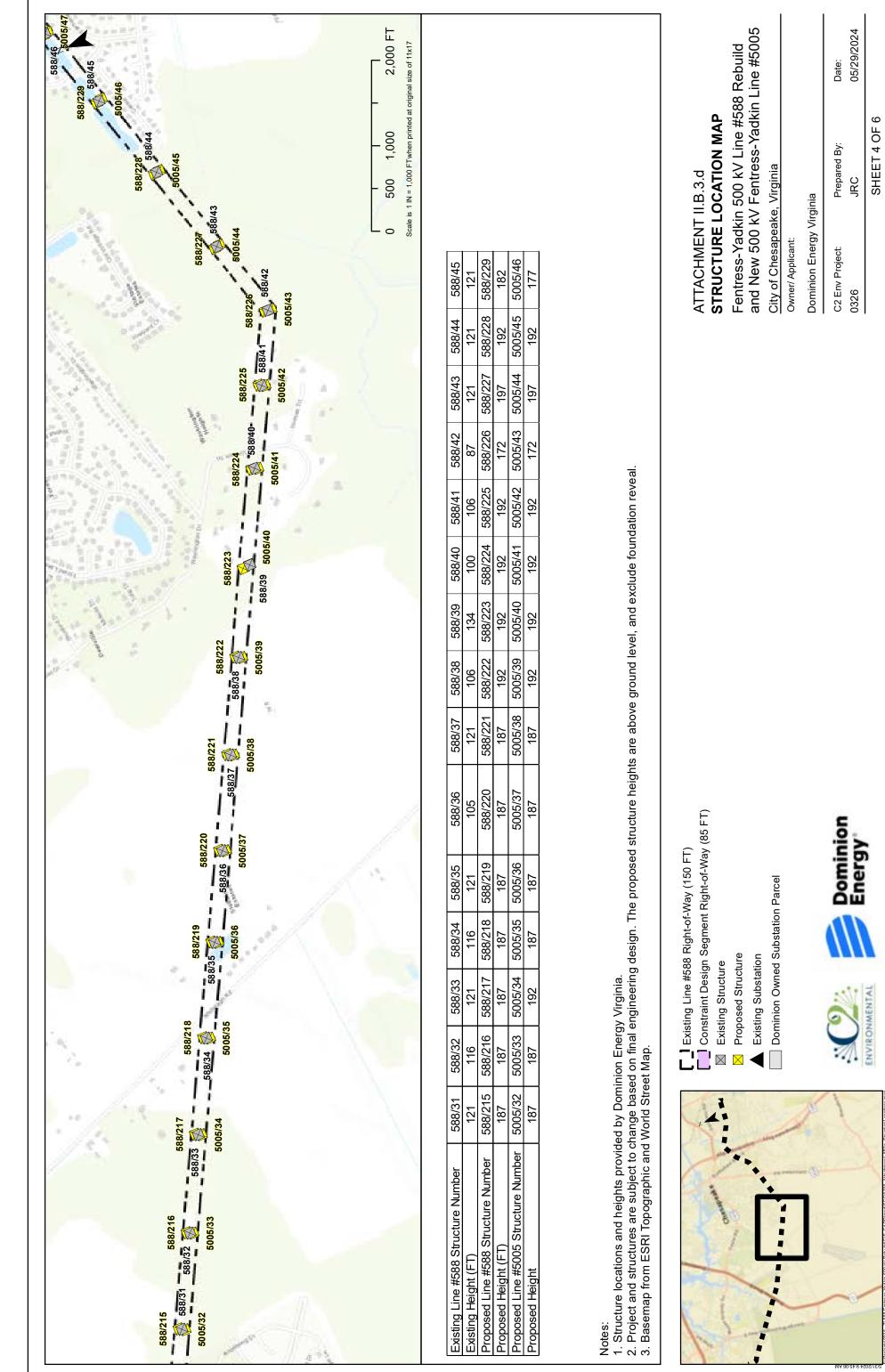
			Attachment II.B.3.c
	G		Ē
SINGLE CIRCUIT D	OUBLE DEADEND	3-POLE STRUCTU	RE
B. RATIONALE FOR STRUCTURE TYPE:	565 STRUCTURES ARE FOR REI 5005 STRUCTURE IS TO ROLL H		
C. LENGTH OF R/W (STRUCTURE QUANTITY):			
	ULLED GALVANIZED STEEL		
RATIONALE FOR STRUCTURE MATERIAL:	INISH DETERMINED BY SOLICI	TING FEEDBACK FROM LAND O	WNERS.
	'ARIES - SEE NOTE 5 EE NOTE 4		
F. AVERAGE WIDTH AT CROSSARM:	I/A		
G. AVERAGE WIDTH AT BASE:	9'		
MAXIMUM STRUCTURE HEIGHT:	10' 35' 20'		
I. AVERAGE SPAN LENGTH:	90'		
J. MINIMUM CONDUCTOR-TO-GROUND:	0.9' (AT MAXIMUM OPERATING	TEMPERATURE)	
NOTES 1. INFORMATION ON DRAWING IS PR 2. INDIVIDUAL POLE HEIGHTS ABOVE 3. STRUCTURE HEIGHTS ARE MEASE 4. MINIMUM FOUNDATION REVEAL S 5. FOUNDATION DIAMETER AND TYP	GROUND MAY VARY SUBJECT TO I RED FROM STRUCTURE CENTERLI ALL BE 1.5', MAX REVEAL SUBJECT	FINAL LOCATION AND TERRAIN NE TO FINAL LOCATION AND TERRAII	
Electric Transmission		0711770	DRAWING NO.
Dominion Energy 5000 Dominion Blvd	565/2	CTURES 253-254, 105/71	Attachment II.B.3.c
Glen Allen, VA 23060			DRAWN KEG

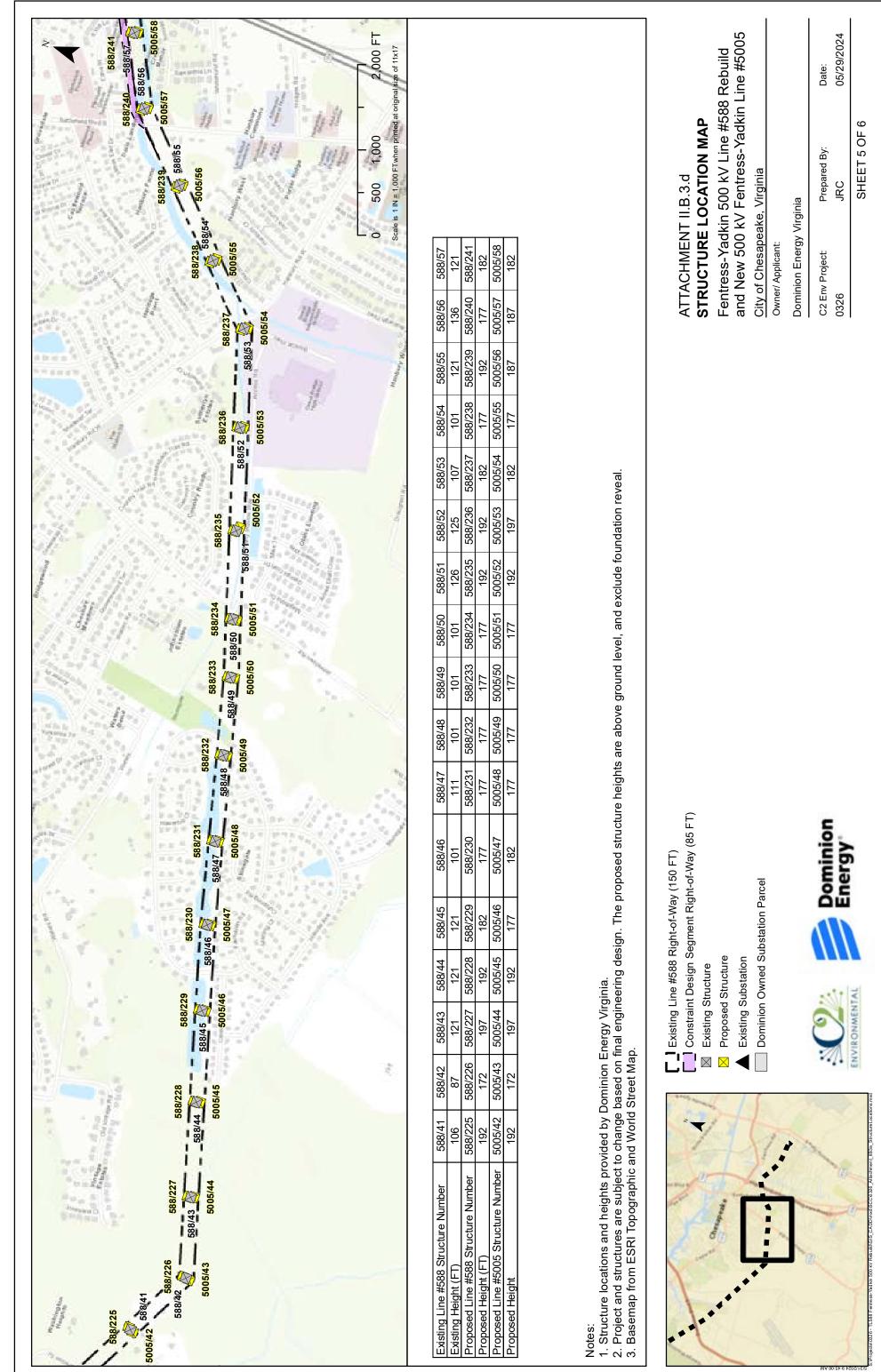


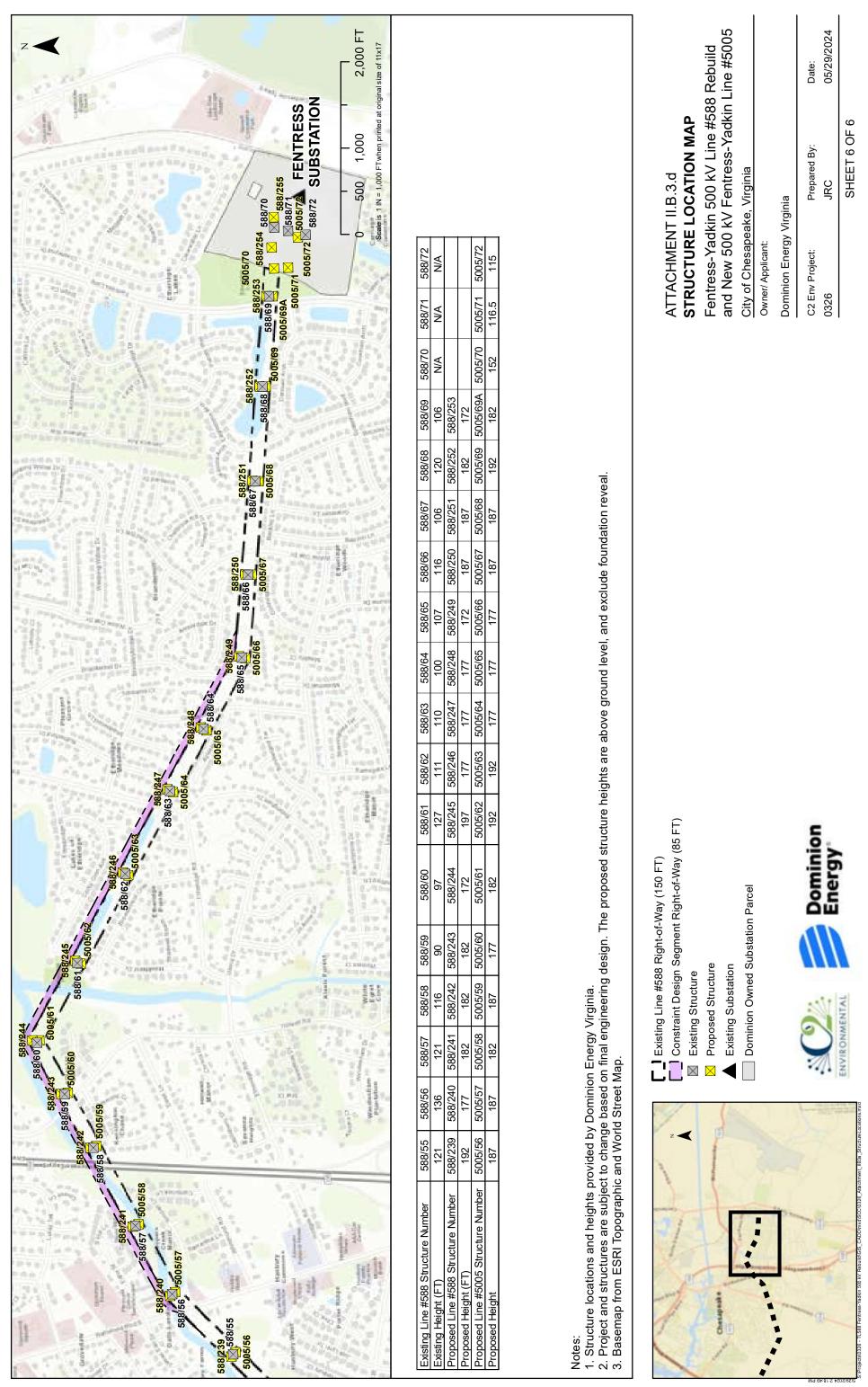
Existing Line #588 Structure Number			
Existing Height (FT)			
Proposed Line #588 Structure Number	588/184	588/185	ŝ
Proposed Height (FT)	N/A	122	
Proposed Line #5005 Structure Number		5005/1	
Proposed Height		NA	











588/243 588/243 588/59 588/59 588/59 5005/60	5005/59		1		Washington and American
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	588/241	111	Å.		
		598/240			
	I	1400	5005/56	and the second	

Existing Line #588 Structure Number	588/55	588/56	588/57
Existing Height (FT)	121	136	121
Proposed Line #588 Structure Number	588/239	588/240	588/241
Proposed Height (FT)	192	177	182
Proposed Line #5005 Structure Number	5005/56	5005/57	5005/58
Proposed Height	187	187	182

## II. DESCRIPTION OF THE PROPOSED PROJECT

## **B.** Line Design and Operational Features

4. With regard to the proposed supporting structures for all feasible alternate routes, provide the maximum, minimum and average structure heights with respect to the whole route.

Response: Not applicable.⁴⁶

⁴⁶ But see Section I.F as to the Constraint Design Segment.

## II. DESCRIPTION OF THE PROPOSED PROJECT

### **B.** Line Design and Operational Features

# 5. For lines being rebuilt, provide mapping showing existing and proposed structure heights for each individual structure within the ROW, as proposed in the application.

Response: See <u>Attachment II.B.3.d</u> for approximate structure locations and existing and proposed structure heights for the proposed Project. The proposed approximate structure heights are from the conceptual design created to estimate the cost of the proposed Project and are subject to change based on final engineering design. The approximate structure heights do not include foundation reveal.

### II. DESCRIPTION OF THE PROPOSED PROJECT

#### **B.** Line Design and Operational Features

- 6. Provide photographs for [a] typical existing facilities to be removed, [b] comparable photographs or representations for proposed structures, and [c] visual simulations showing the appearance of all planned transmission structures at identified historic locations within one mile of the proposed centerline and in key locations identified by the Applicant.
- Response: [a] See <u>Attachment II.B.6.a.i-iii</u> for photographs of typical existing facilities to be removed.

[b] See <u>Attachment II.B.6.b.i-iii</u> for representative photographs of the proposed structures.⁴⁷ Note that the proposed Project will utilize dulled galvanized steel.

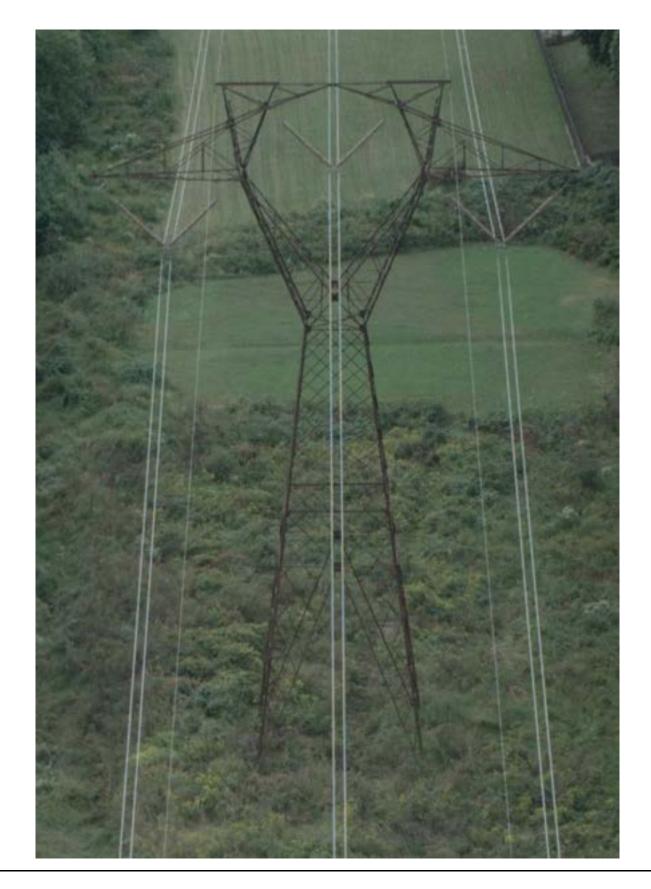
[c] Visual simulations showing the appearance of the proposed transmission structures at identified historic locations within 1.0 mile of the Proposed Route are provided. See <u>Attachment II.B.6.c</u> for a map of the simulation locations and the existing views at the historic properties. These simulations were created using Geographic Information Systems modeling to depict whether the proposed structures will be visible from the identified historic property. The historic properties evaluated are described below. See also the Stage I Pre-Application Analysis Report provided as Attachment 2.I.1 of the DEQ Supplement.

Historic Property	Viewpoint	Comments	
Dismal Swamp Canal (131-0035)	1 & 2	This resource is directly crossed by the Proposed Route. Minimal impact to the resource is expected since the existing Line #588 structures are located within the viewshed of the canal in both directions and the existing Line #588 is highly visible in the immediate vicinity where the Proposed Route crosses the canal.	
Portsmouth Ditch (131-5833)	3	This resource is approximately 0.4 mile from the nearest part of the Proposed Route, where the existing Line #588 structures are not visible. Despite the increase in proposed structure height, it is anticipated that there will remain no visibility of any of the proposed structures from public vantage along the ditch due to the intervening vegetation that will continue to screen views.	
Lindsay Canal (131-5076)	4 & 5	This resource is directly crossed by the Proposed Route. Minimal impact is expected since the existing Line #588 structures are located within the viewshed of the canal. Despite the increase in height, it is anticipated that there will not be a substantial change in visibility.	

⁴⁷ The representative photos are of the Company's existing Loudoun-Meadow Brook Line #535, which was installed in 2011. *See also* Section I.F and <u>Attachments I.F.4</u> and <u>I.F.5</u> for the Constraint Design Segment.

Historic Property	Viewpoint	Comments
Great Bridge School (131-0342)	6	This resource is approximately one mile from the nearest part of the Proposed Route. Existing Line #588 is not visible from this location. No impact to this resource is expected due to the distance and location of the existing right-of-way corridor. The Proposed Route is not expected to be visible due to intervening vegetation and development as shown by the simulation.
Centerville-Fentress Historic District (131-5071)	7 & 8	This resource is approximately 0.2 mile from the nearest part of the Proposed Route. Existing transmission lines, including some structures along Line #588 and those at Fentress Substation, are currently visible. The resource is also being encroached upon by modern residential development from the north, south and west. Despite the increase in structure height, it is anticipated that there will not be a substantial change in visibility and therefore, minimal impact is expected to this resource.
Herring Canal (131-0051)	9	This resource is directly crossed by the Proposed Route. Minimal impact to this resource is expected since existing Line #588 is openly visible within the viewshed of the canal and despite the increase in height, it is anticipated that there will not be a substantial change in visibility.
Lisle A. Lindsay III House (131-0253)	10	This resource is approximately 0.6 mile from the nearest part of the Proposed Route. Minimal to no impact to this resource is expected due to the distance and location of the existing right-of-way corridor. The Proposed Route is screened by intervening vegetation as shown by the simulation.

See <u>Attachment III.B.6</u> for visual simulations of other key locations evaluated.





Existing Structure Type: 500 kV Single Circuit Weathering Steel Suspension Tower

Attachment II.B.6.a.i





Existing Structure Type: 500 kV Single Circuit Weathering Steel Tower (Double Deadend)

Attachment II.B.6.a.ii





Existing Structure Type: 500 kV Single Circuit Weathering Steel Running Angle Tower

Attachment II.B.6.a.iii





Proposed Structure Type: 500 kV Single Circuit Galvanized Steel Suspension Pole

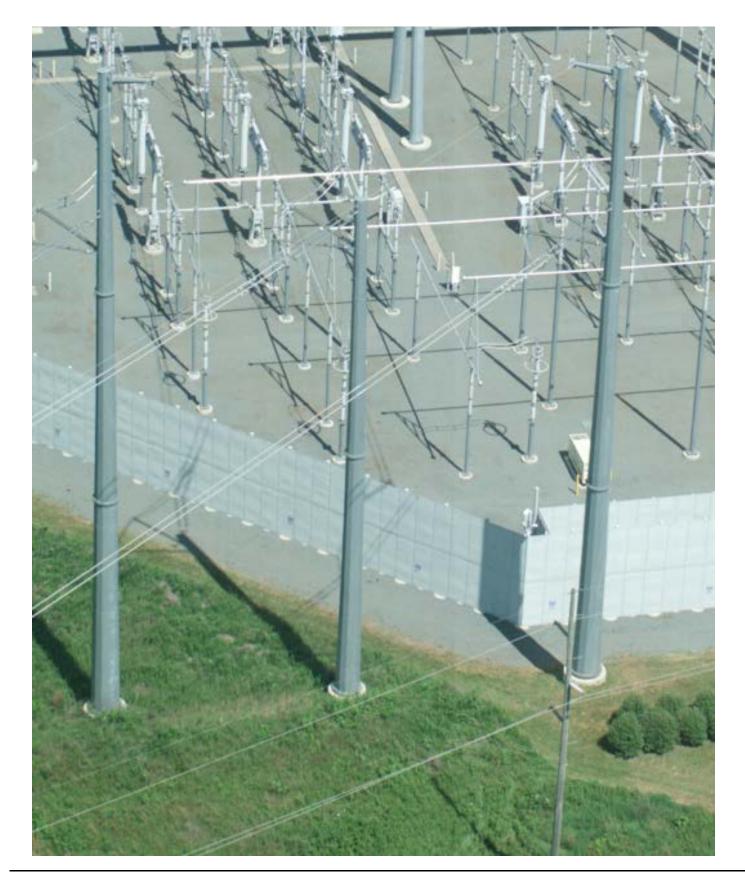
Attachment II.B.6.b.i





Proposed Structure Type: 500 kV Single Circuit Galvanized Steel Double Deadend Pole

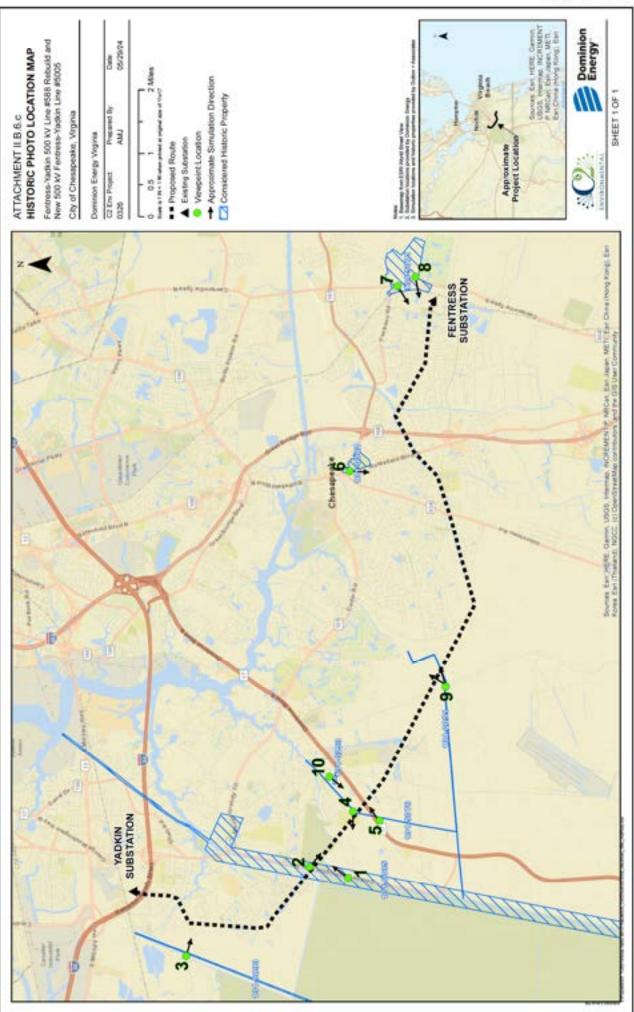
Attachment II.B.6.b.ii





Proposed Structure Type: 500 kV Single Circuit Galvanized Steel Deadend 3 Pole

Attachment II.B.6.b.iii



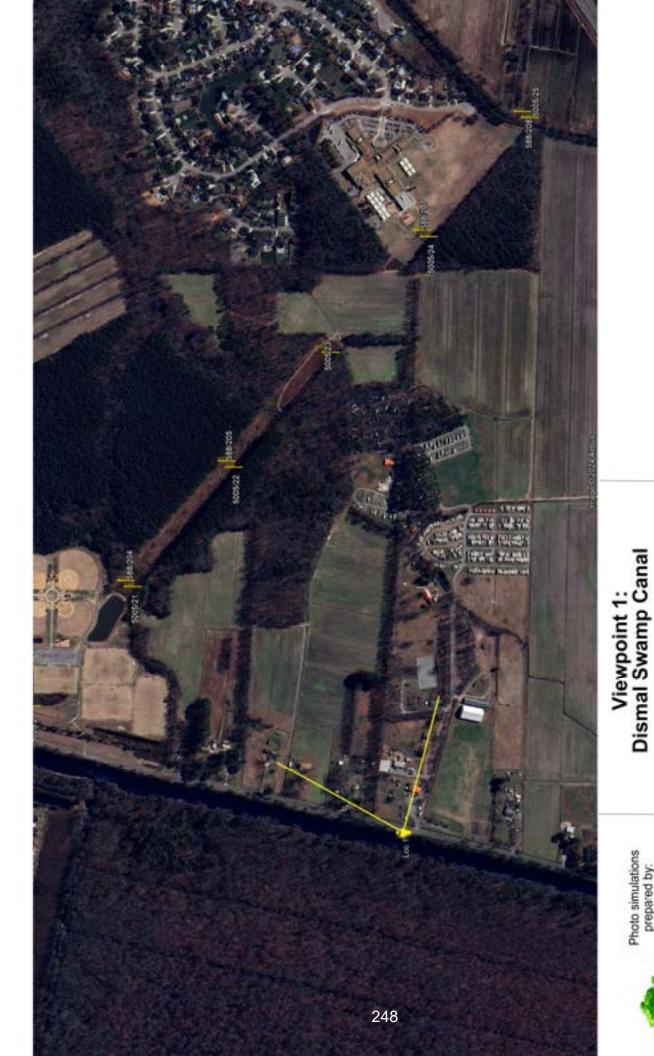






























Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350









Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350 & Ne







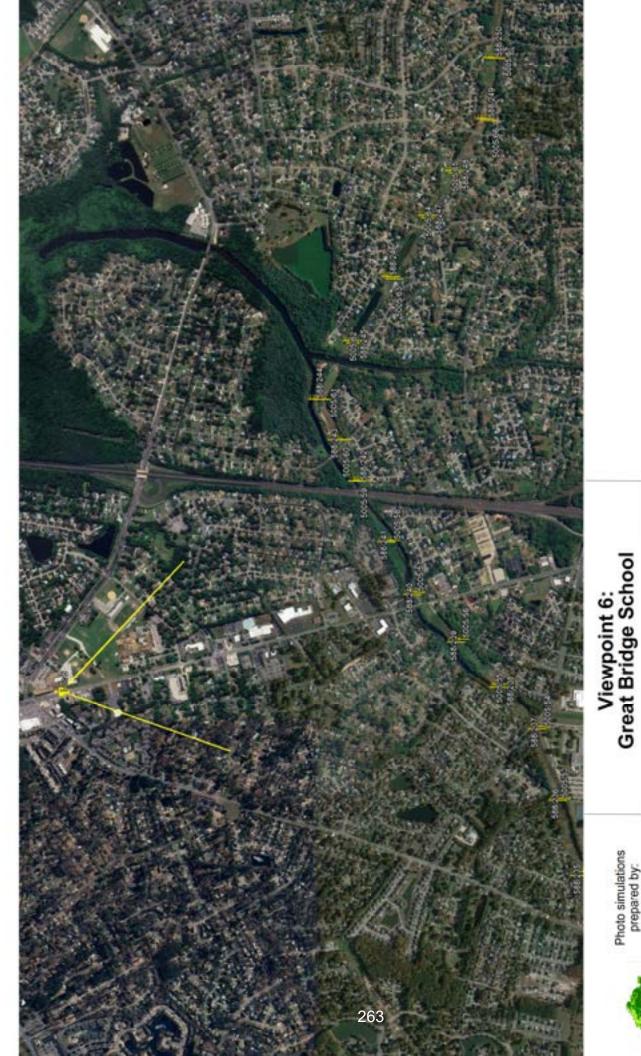












Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350









Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350









## Fentress-Yadkin 500kV Line #588 Rebuild & New 500kV Fentress-Yadkin Line #5005











Fentress-Yadkin 500kV Line #588 Rebuild & New 500kV Fentress-Yadkin Line #5005

Viewpoint 9B Herring Canal

> Photo simulations prepared by: GTTE LLC email: info@gttellc.com 703 447 1350



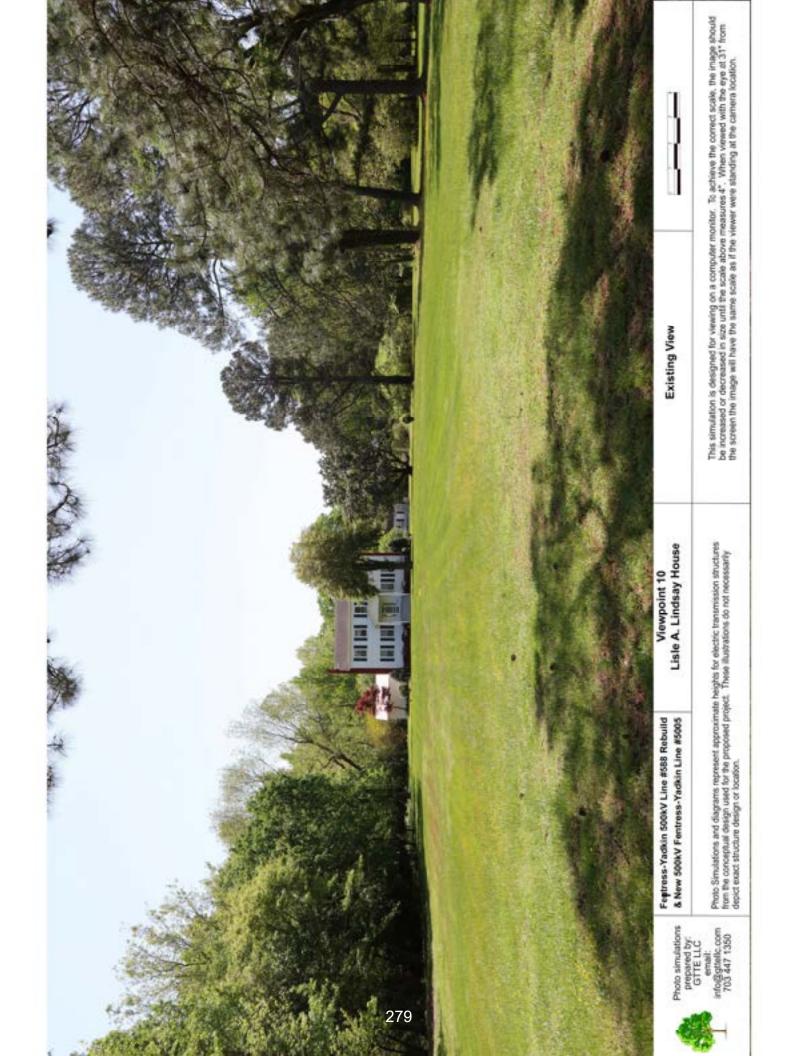


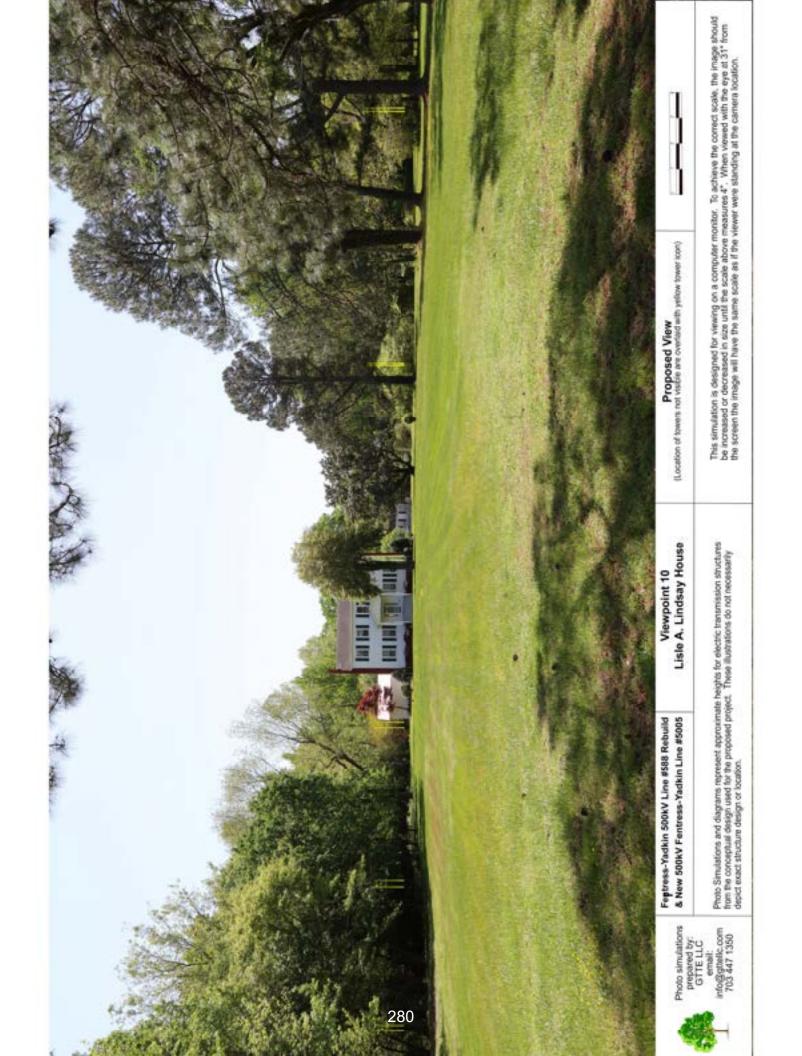




Fentress-Yadkin 500kV Line #588 Rebuild & New 500kV Fentress-Yadkin Line #5005







### II. DESCRIPTION OF THE PROPOSED PROJECT

- C. Describe and furnish plan drawings of all new substations, switching stations, and other ground facilities associated with the proposed project. Include size, acreage, and bus configurations. Describe substation expansion capability and plans. Provide one-line diagrams for each.
- Response: The Line #588 Rebuild will require substation-related work at the existing Fentress and Yadkin Substations, as described below. The proposed Line #5005 will require installation of additional substation equipment at the existing Fentress Substation, and installation of additional substation equipment and expansion of the Yadkin Substation, as described below.

### **Fentress Substation**

Line #588 Rebuild: The Line #588 Rebuild requires riser upgrades at Fentress Substation.

Line #5005: Proposed new Line #5005 requires installation of two 500 kV gasinsulated substation ("GIS") breakers, four 500 kV switches, three coupling capacity voltage transformers ("CCVTs"), and three arresters at Fentress Substation. A new backbone structure will support proposed Line #5005.

All the new substation equipment required for this Project will be installed inside the existing Fentress Substation footprint, which is approximately 21 acres.

The conceptual one-line diagram and general arrangement for the Fentress Substation are provided as <u>Attachment II.C.1</u> and <u>Attachment II.C.2</u>.

### Yadkin Substation

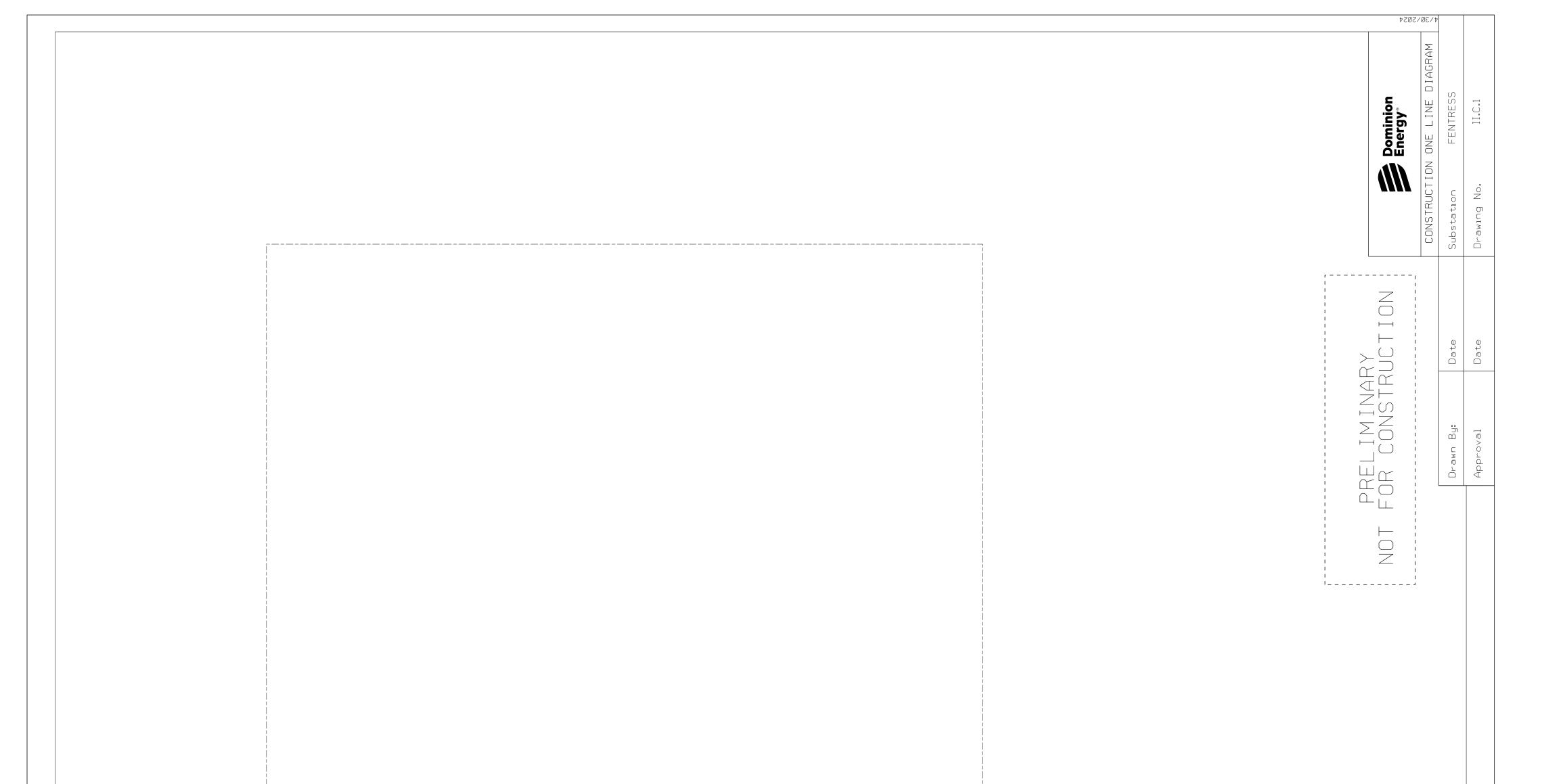
Line #588 Rebuild: The Line #588 Rebuild requires risers, CCVTs and arrester upgrades at Yadkin Substation.

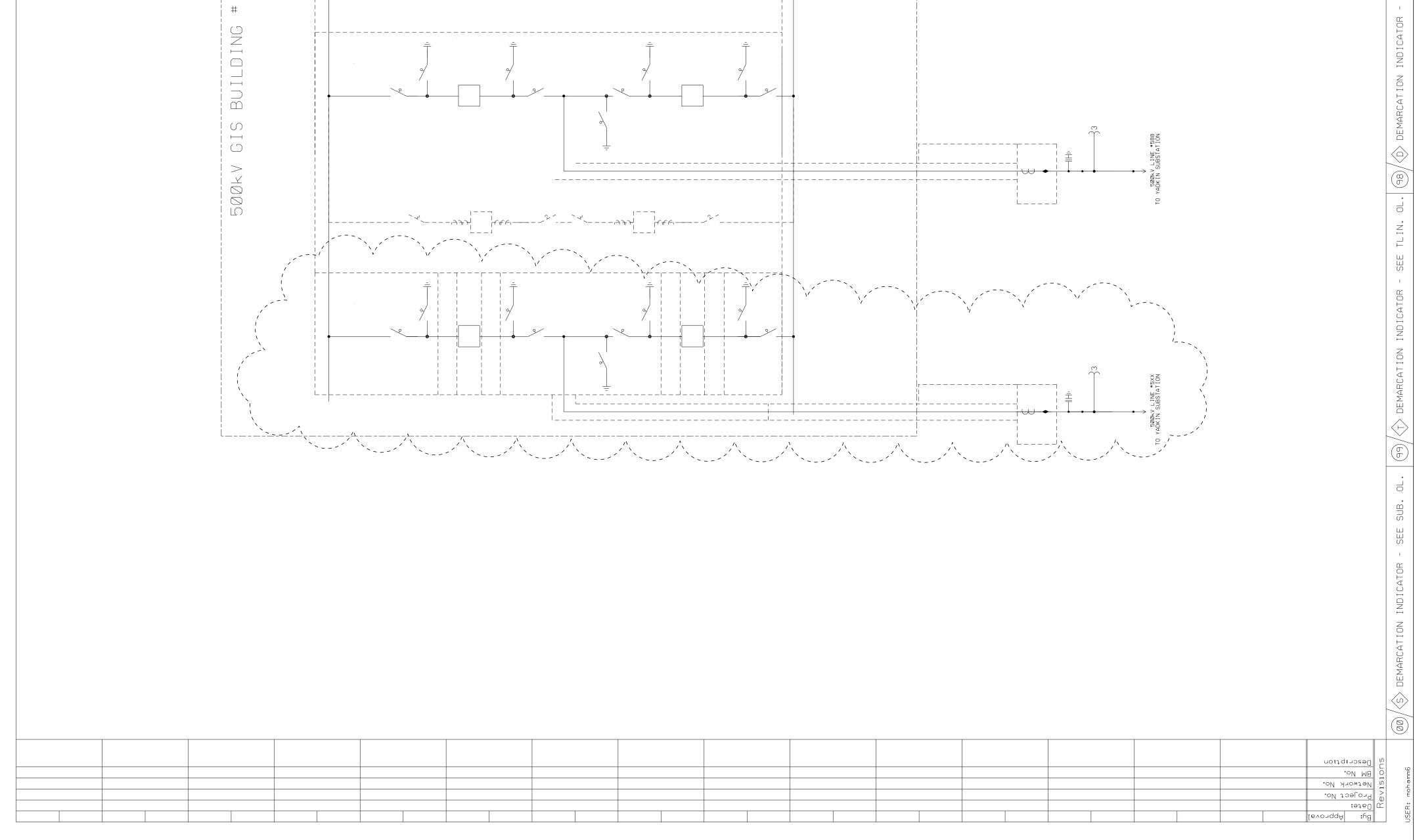
Line #5005: Proposed new Line #5005 requires the expansion of the existing 500 kV bus and the installation of a 500 kV circuit breaker, two 500 kV switches, three arresters, one wave trap, and three CCVTs to create a line position for the proposed Line #5005 at the Yadkin Substation.⁴⁸ Additionally, the existing Yadkin Substation footprint will be expanded approximately 2.5 acres within Company-owned property to accommodate the new equipment (total of 25 acres).

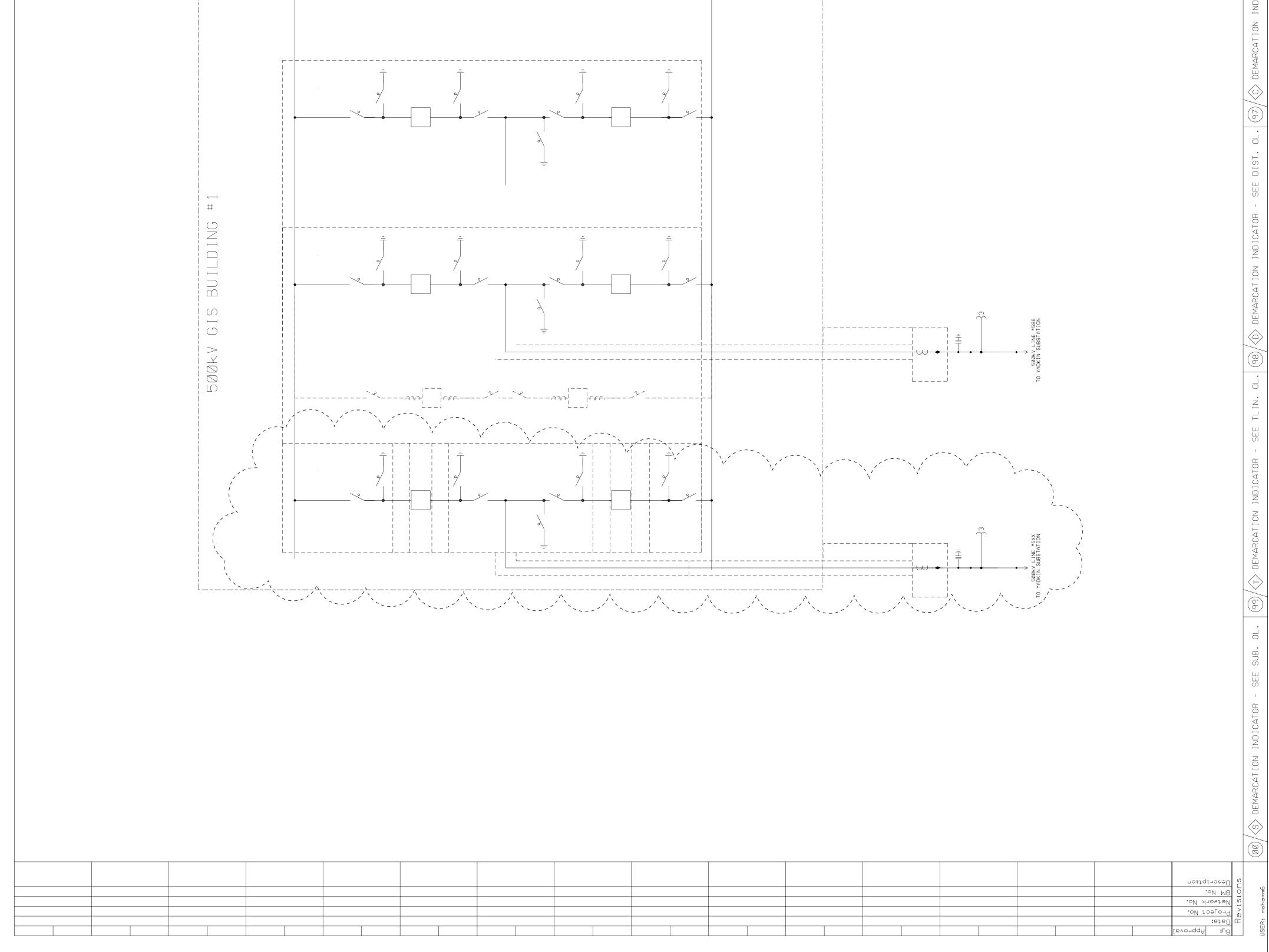
The conceptual one-line diagram and general arrangement for the Yadkin Substation are provided as <u>Attachment II.C.3</u> and <u>Attachment II.C.4</u>.

⁴⁸ See supra, n. 6. Existing Line #565 will be shifted within the Yadkin Substation to a new backbone so that proposed Line #5005 is able to terminate on the current Line #565 position and avoid transmission line crossings outside of the substation.

## Attachment II.C.1



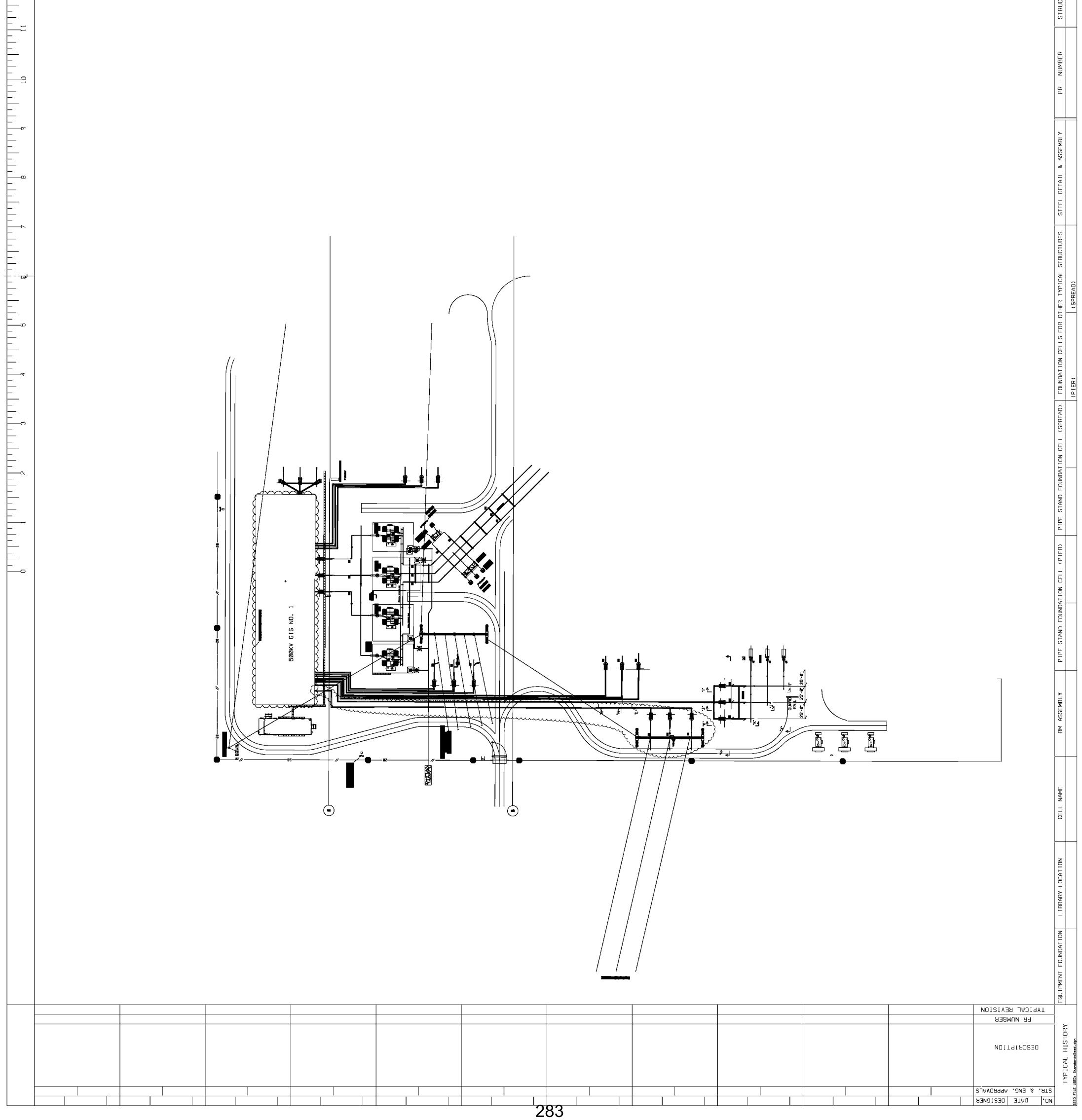




282

## Attachment II.C.2

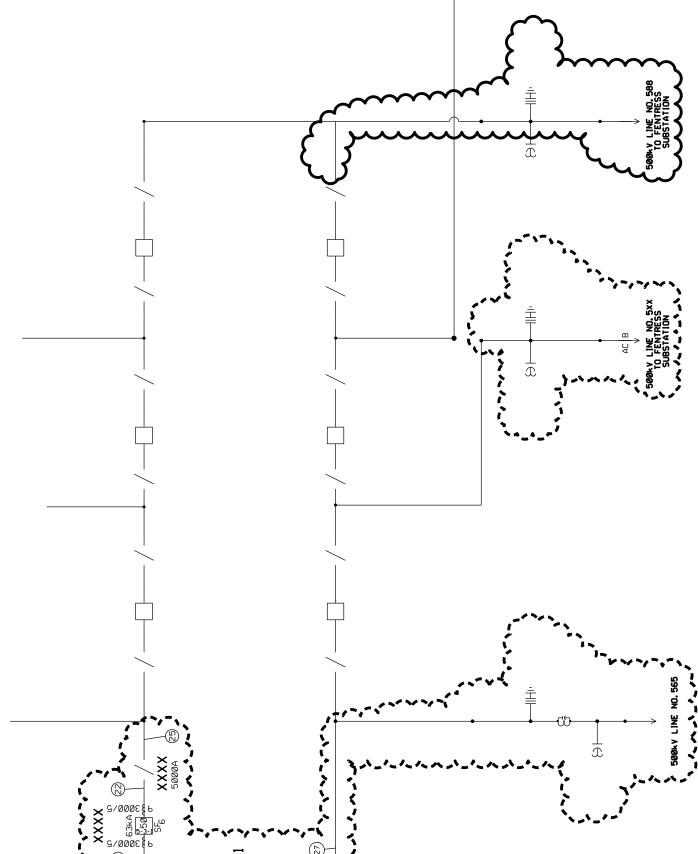
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			PEER REVIEWER ASSIGNED TO
			STRUCTURAL ENGINEER



### Attachment II.C.3

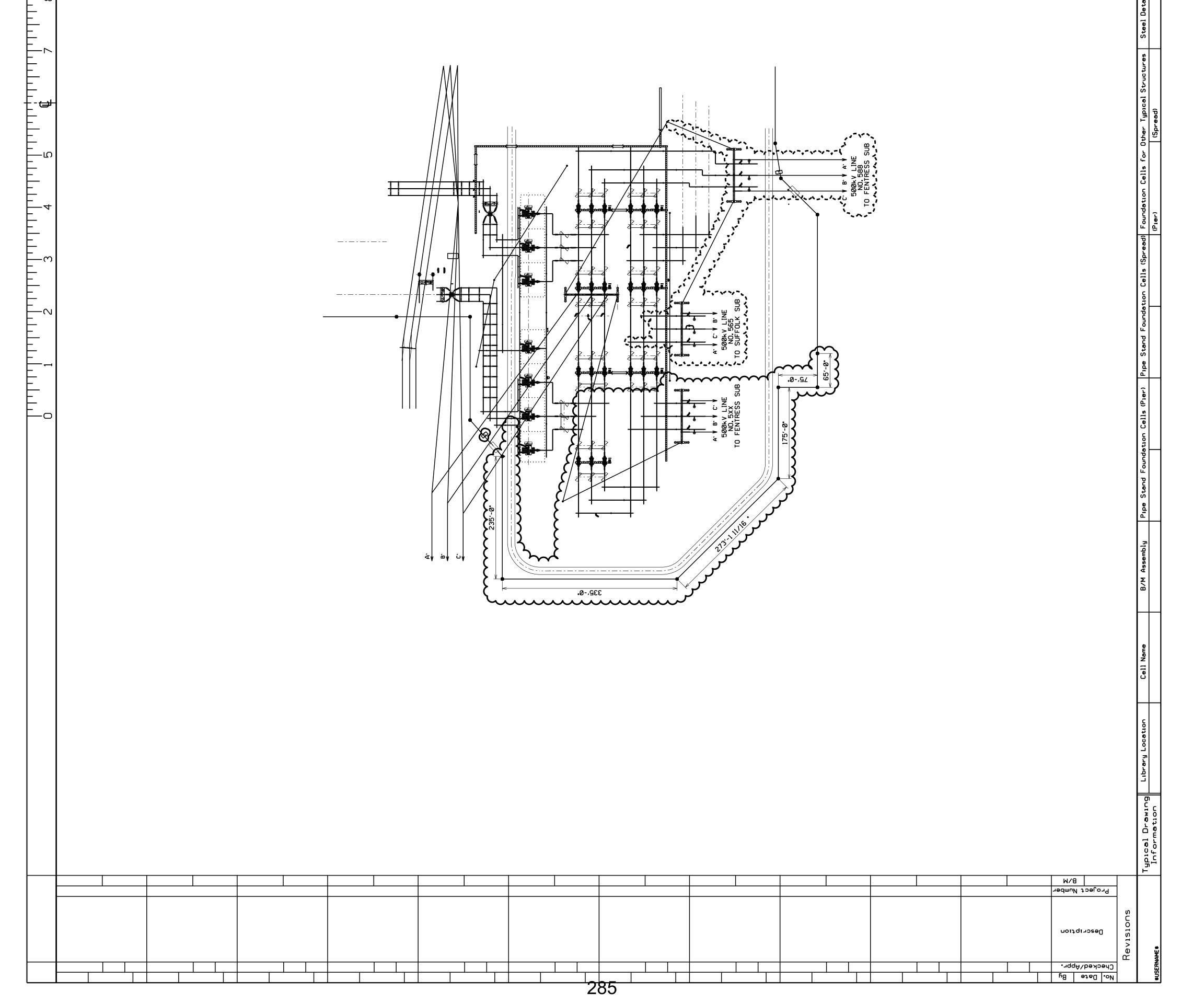
3WI172\$\$\$\$\$\$\$\$\$

	PRELIMINARY NOT FOR CONSTRUCTION	<b>Construction One Line Diagram</b> Construction One Line Diagram Substation YADKIN Drawing No. II.C.3
		Drawn By: MRH Date 9-15-95 Approval Date



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### III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

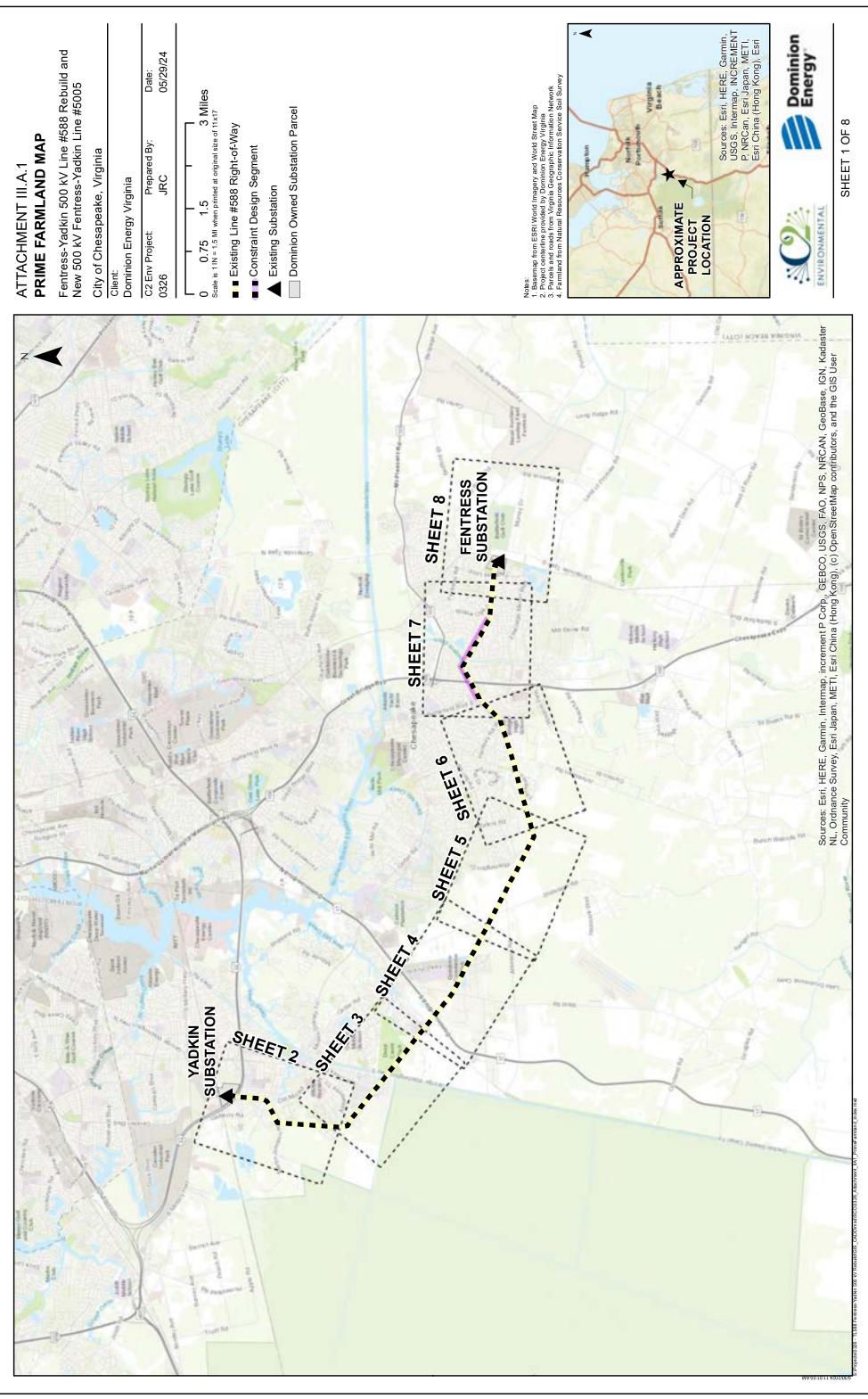
- A. Describe the character of the area that will be traversed by this line, including land use, wetlands, etc. Provide the number of dwellings within 500 feet, 250 feet and 100 feet of the centerline, and within the ROW for each route considered. Provide the estimated amount of farmland and forestland within the ROW that the proposed project would impact.
- Response: The Proposed Route extends approximately 13.5 miles from the existing Fentress Substation to the existing Yadkin Substation in the City of Chesapeake, Virginia. The northern and eastern termini of the Project in the vicinity of the substations feature dense residential development. The central portion of the Proposed Route, east of Route 17 Business/George Washington Highway and west of Johnstown Road, is less densely developed. This area is more generally characterized by agricultural lands and undeveloped land, with interspersed residences and small neighborhoods.

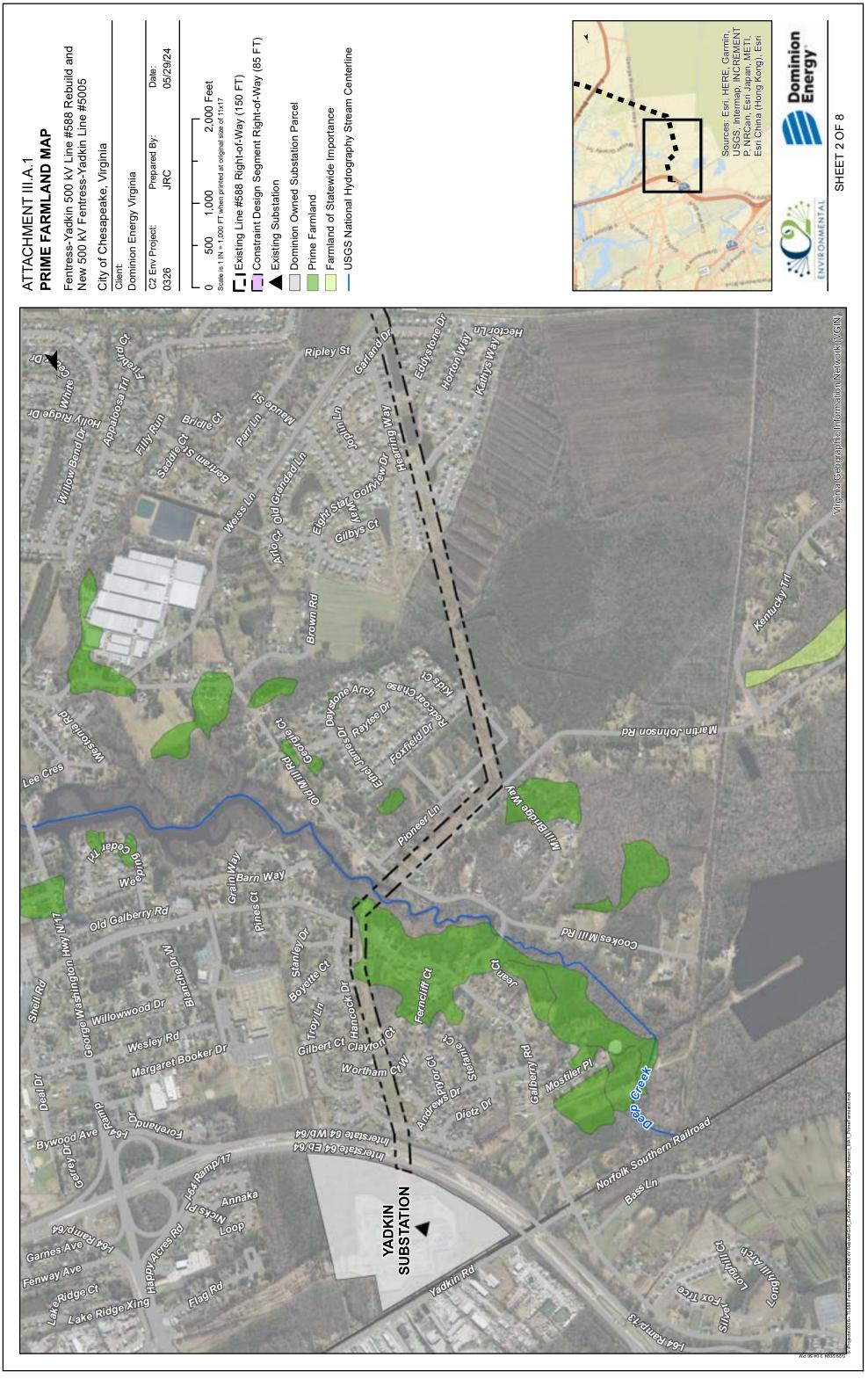
According to City of Chesapeake parcel data, zoning data, and aerial photo analysis, there are 1,758 dwellings within 500 feet, 822 dwellings within 250 feet, and 432 dwellings within 100 feet of the centerline of the existing transmission corridor for the Proposed Route.

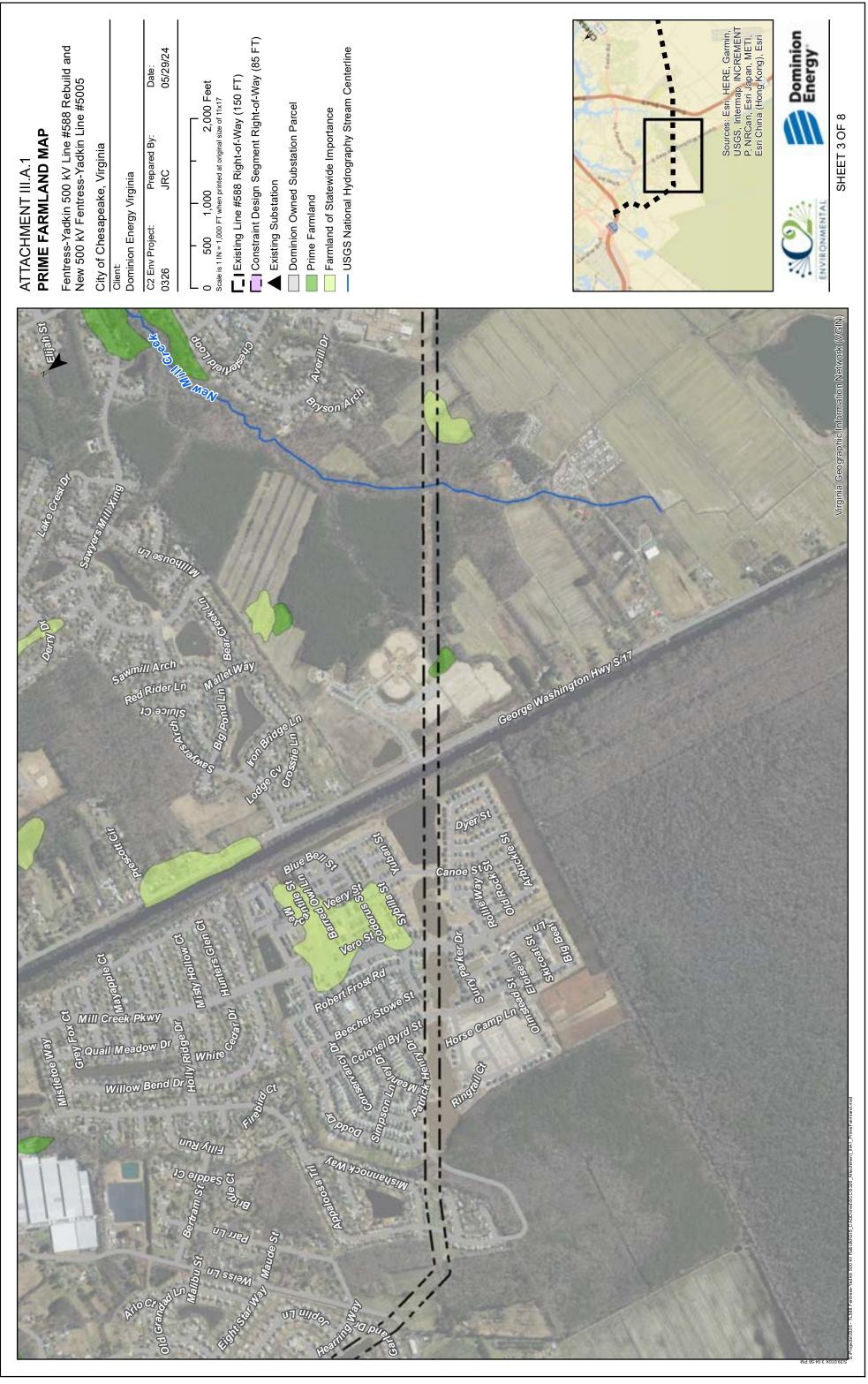
See <u>Attachment III.A.1</u> for a map depicting prime farmland and farmland of statewide importance, and Section 2.L of the DEQ Supplement for the estimated amount of farmland crossed by the Proposed Route.

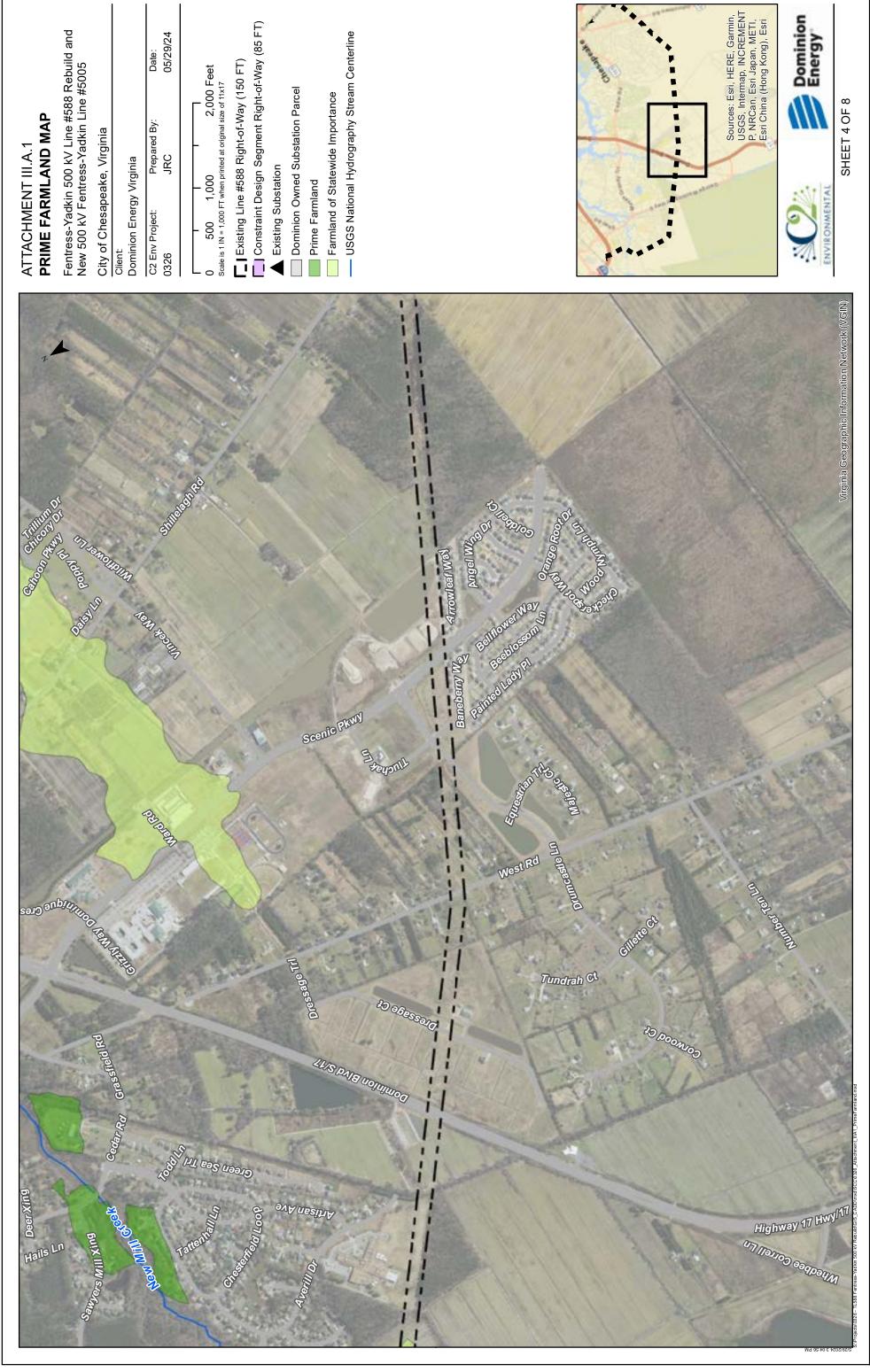
For additional description of the character of the area that will be traversed by the Proposed Route and the related impacts, see the DEQ Supplement, specifically as to land use (Sections 2.G and 2.L), wetlands (Section 2.D), forests (Section 2.L), agricultural lands (Section 2.L), historic resources (Section 2.I), and wildlife (Sections 2.G and 2.K).⁴⁹

⁴⁹ The Constraint Design Segment also is depicted on <u>Attachment III.A.1</u> and is discussed in the referenced sections of the DEQ Supplement.

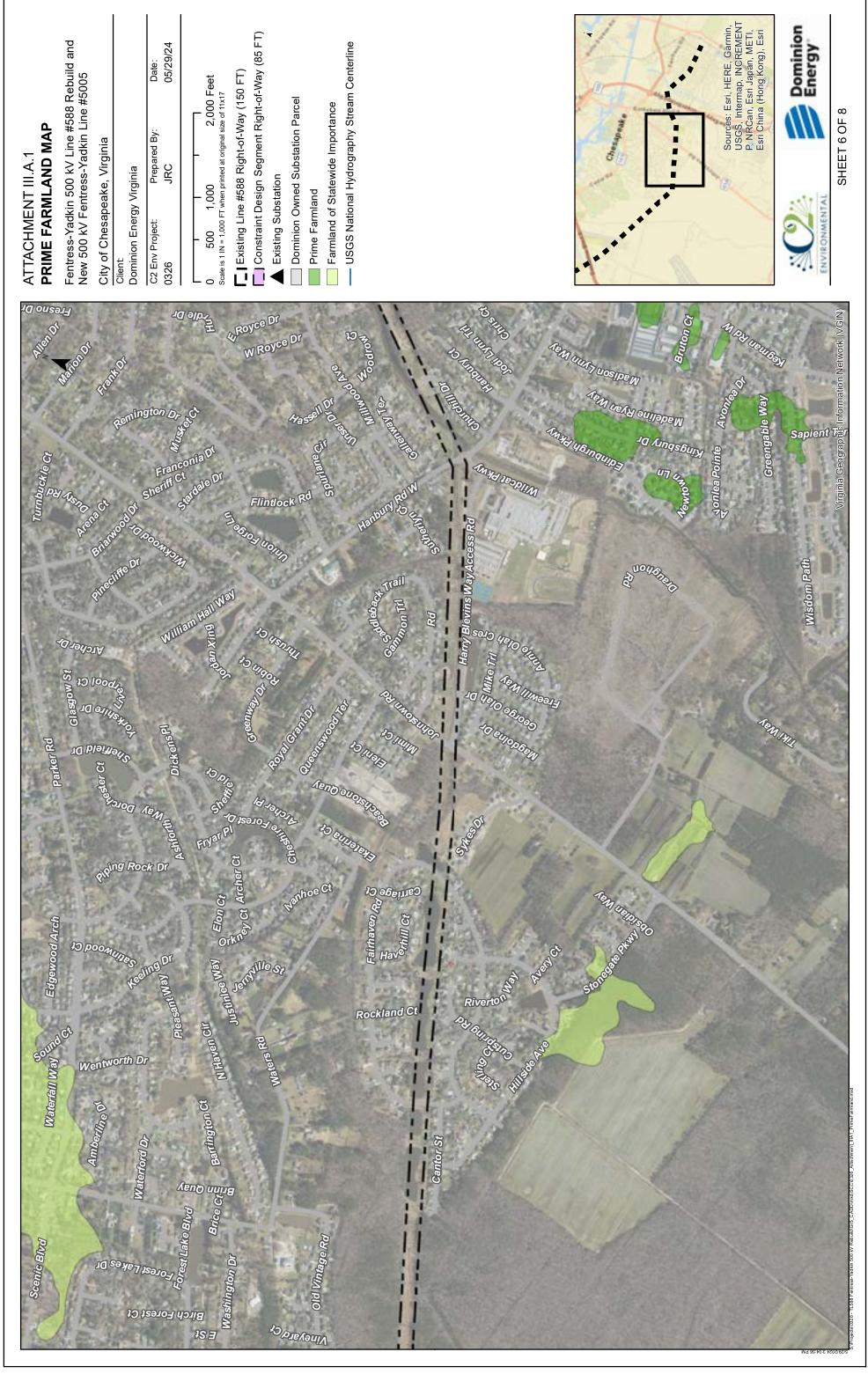


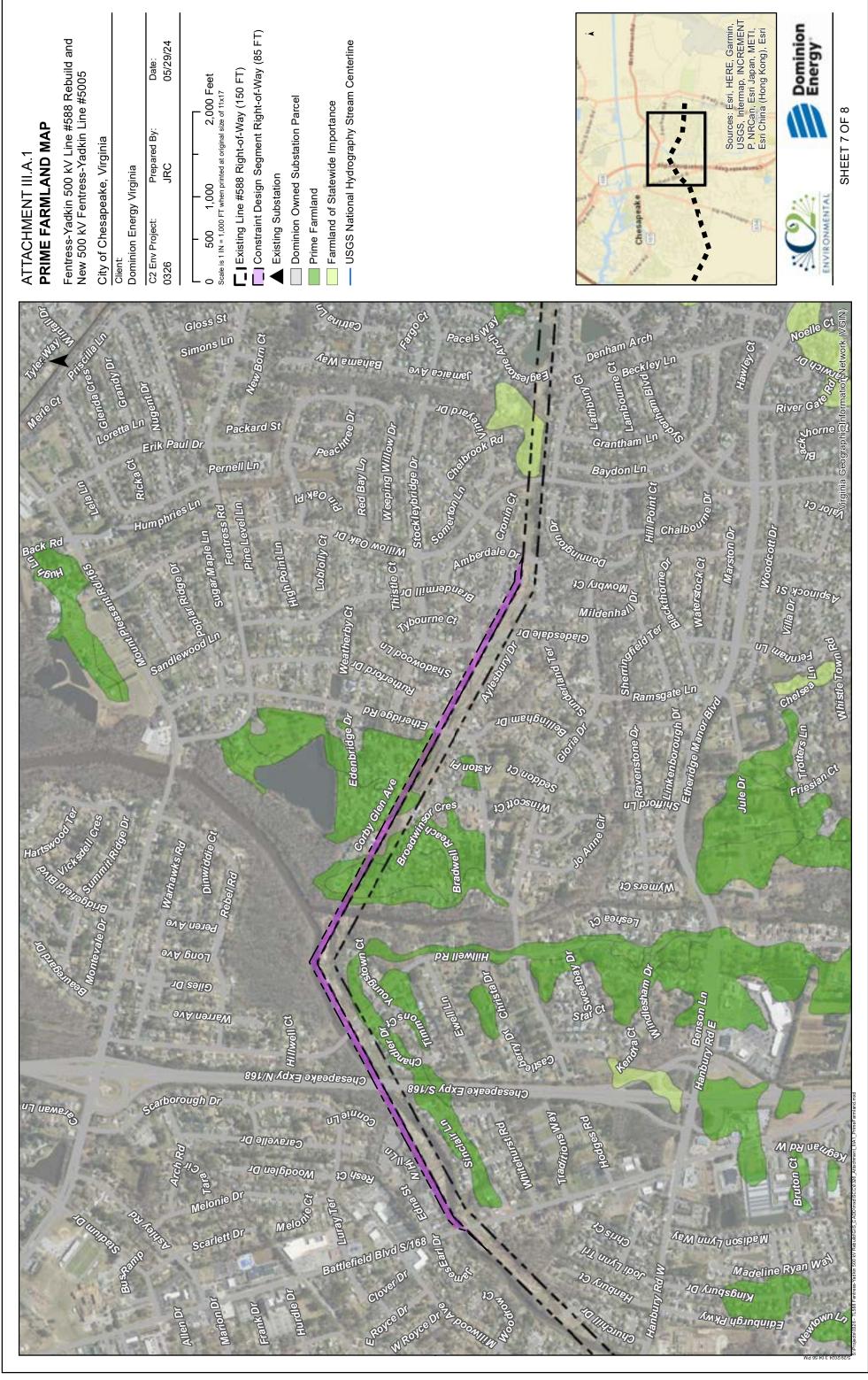














## III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

## B. Describe any public meetings the Applicant has had with neighborhood associations and/or officials of local, state or federal governments that would have an interest or responsibility with respect to the affected area or areas.

### Response: <u>Stakeholder Engagement</u>

At Dominion Energy Virginia, the Company believes stakeholder engagement and meaningful public involvement is a critical component to the success of this Project.

Feedback is critical as the Company considers all potential benefits and impacts of the Project. Dominion Energy Virginia has and will continue to engage with a broad range of stakeholders that have interests across the Project components. Stakeholder engagement includes both a statewide and regional approach in the following segments: cultural and historic resource stewardship organizations; the business community and workforce organizations; the environmental community; and organizations that represent the needs of underrepresented communities. The Company also met with individual property owners and community members.

In December 2023, the Company launched an internet website dedicated to the Project: <u>www.dominionenergy.com/yadkin-fentress</u>. Specific details about the Project were added to the website beginning in January 2024. The website includes a description of the proposed Project, an explanation of the need, an interactive structure comparison tool, photo renderings and simulations, and information on the Commission review process.

Beginning in January 2024, the Company commenced coordinated community and stakeholder engagement with the City of Chesapeake regarding the proposed transmission lines project, as follows.

- On January 24, 2024, a postcard was mailed to 5,427 residences and business within approximately 1,000 feet of the Project. See <u>Attachment III.B.1</u>. A "saturation" mailing list was provided by the U. S. Postal Service to include renters of multi-family dwellings, like apartment buildings. The postcard announced the upcoming Project, provided a brief overview, and included information of upcoming surveying work within the existing right-of-way corridor between the Yadkin and Fentress Substations. The postcard also included a Project map.
- On February 26, 2024, a second mailing to 5,420 residences provided more Project information and details regarding existing and proposed structure type and height. See <u>Attachment III.B.2</u>. Both height and structure type were illustrated on the postcard. This mailing included an attached tear-away survey card ("Survey Card") requesting feedback from recipients on their preferred finish color of the proposed structures. The Survey Card included illustrated

images of the proposed structures in three finish colors: galvanized; dull galvanized; and weathering steel (otherwise known as COR-TEN[®] steel). The postage to return the Survey Card portion of the postcard was prepaid by the Company.

- On March 13, 2024, a third mailing to 5,420 residences included details of the April 9, 2024 in-person community meeting and a Project map of the transmission line corridor. See <u>Attachment III.B.3</u>. Copies of the postcards and community meeting information have been available on <u>www.dominionenergy.com/yadkin-fentress</u> since prior to the April community meeting.
- The digital advertising campaign promoting this meeting ran from March 26, 2024, through April 19, 2024. The campaign targeted audiences in the City of Chesapeake. Pre-event digital ads generated 584,757 impressions and 5,715 clicks. There were over 50,000 video views with a 43.26% average video completion rate and a .98% click thru rate. See <u>Attachment III.B.4</u>.
- On March 28, 2024, a fourth mailing to 5,420 residences included a reminder ٠ to attend the April 9, 2024 in-person community meeting and provided detailed information on how to view and use the interactive structure comparison tool. See <u>Attachment III.B.5</u>. The Company deployed an online interactive structure comparison tool on March 28, 2024 (embedded at https://geovoice.powereng.com/beta/dominion/Yadkin-Fentress/#close within the Project website), which allows users to review the existing route corridor, existing structure location and typical proposed structure drawings and photo simulations and renderings, which are included as Attachment III.B.6. Users do not need to register before viewing the routing details.
- On April 9, 2024, the Company hosted an in-person community meeting at the Chesapeake Conference Center from 5:00 p.m.-7:00 p.m. The Project team also attended this in-person community meeting to share information and simulations regarding the Project with the public. The community meeting was conducted in an exhibition format and the layout included several Project-specific stations, such as renderings of the proposed electric transmission line structures, key location photo simulation, as well as related informational boards. A sign-in table with two team members was located at the main entrance. A fact sheet with Project information and a QR code linking to the Project website were available as handouts. See <u>Attachment III.B.7</u>. Attendees were also given the option to vote on structure finish color at the meeting. Physical samples of each structure material and color were available for attendees to view. Out of the 55 attendees, 11 provided votes for the structure finish color at the in-person community meeting.

In addition to postcards and traditional project materials available on the Project website, the Company met with property owners to address inquiries about the Project.

The Company's communications process to solicit community feedback generally, including the use of Survey Cards in this proceeding, is to evaluate public opinion. The use of the Survey Cards and associated collateral material to explain the proposed alternatives was the Company's attempt to present an impartial view of advantages and potential limitations of each finish color option. Neither Survey Cards nor any one method should serve as the sole proxy for understanding the community's viewpoints. Depending on a property owner's preferences, structure finish can help mitigate the visual change of the structures and inform an opinion on what they feel is best for their community. The results of the Survey Cards, which yielded a 5% response rate, showed 58% preferred a muted color finish, either dulled galvanized or weathering steel (COR-TEN[®]) finish, while 42% preferred the non-dulled galvanized steel. The Company confirmed the community preference for dulled or galvanized steel in person at the April 9, 2024 open house by exhibiting metal samples instead of renderings or photographs. All but one open house attendee preferred the dulled galvanized finish over either weathering steel or galvanized.

### Environmental Justice

As part of preparing for the Project, the Company researched the demographics of the surrounding communities using census data from the U.S. Census Bureau's American Community Survey 5-Year Estimates (2018-2022). This review revealed that 40 Census Block Groups ("CBGs") are located within one mile of the Proposed Route. A review of census data for several demographic characteristics identified populations within the Project study area that meet the Virginia Environmental Justice Act ("VEJA") thresholds for Environmental Justice Communities") (Va. Code § 2.2-234, 2.2-235).

Of the 40 CBGs within the study area, 13 CBGs are crossed by the Project's Proposed Route. Of these, 11 are communities of color and one meets the low-income threshold.

The Company has engaged extensively with all communities within the Project study area, including people in the EJ Community CGBs discussed herein. The Company believes that 1) its work has allowed for the fair treatment and meaningful involvement of all interested people, regardless of race, color, national origin, income, faith, or disability, and 2) the Project's Proposed Route minimizes potential impacts to EJ Communities and other populations, and will not result in a disproportionate impact on EJ Communities.

In addition to its evaluation of impacts, the Company has and will continue to engage the EJ Communities in a manner that allows them to meaningfully participate in the Project development and approval process so that the Company can take their views and input into consideration. See <u>Attachment III.B.8</u> for a copy of the Company's Environmental Justice Policy.



Electric Transmission P.O. Box 26666 Richmond, VA 23261

## Learn more about a local power line project in Chesapeake, Virginia



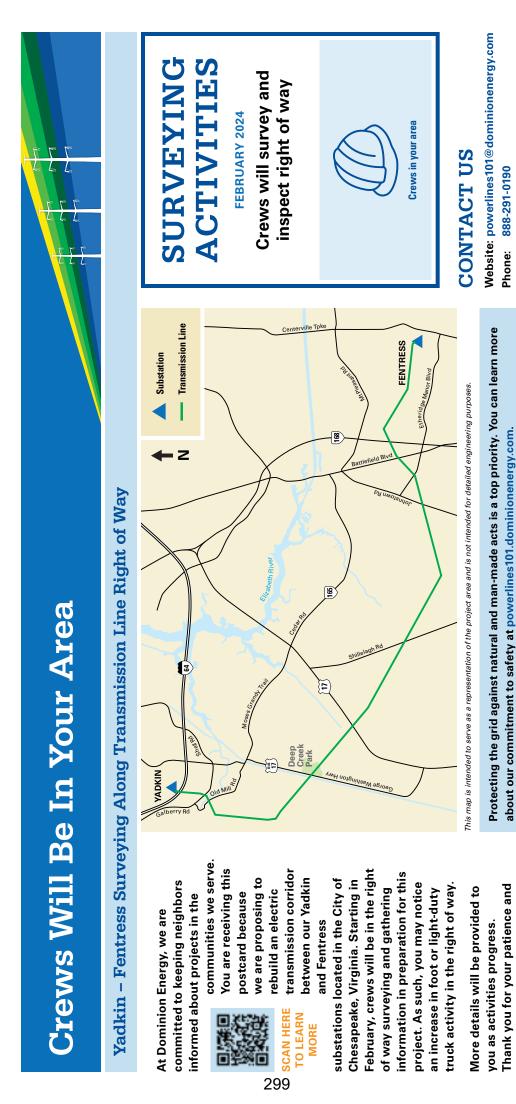
SCAN HERE TO LEARN MORE



Dominion Energy image. Not project specific.

Attachment III.B.1

7



powerline@dominionenergy.com

Email:

understanding during this time.





Yadkin – Fentress Electric Transmission Project PROJECT INFORMATION

## WE WANT TO HEAR FROM YOU PND SURVEY CARD – WE WANT TO HEAR FROM YOU

Yadkin – Fentress Electric Transmission Line

**URGENT** 

Recipient Name Address Line 1 City, VA 12345



Electric Transmission P.O. Box 26666 Richmond, VA 23286-8881

իրանդերարություն, իրենների իրեների հեր

LOUDOUN - OX PARTIAL REBUILD PROJECT ATTN: TAYLOR WATERS DOMINION ENERGY VIRGINIA 10900 NUCKOLS RD STE 400 GLEN ALLEN VA 23060-9822

POSTAGE WILL BE PAID BY ADDRESSEE

bedwit no. 694Richmond VA FIRST-CLASS MAIL BUSINESS REPLY MAIL

NO POSTAGE NECESSARY IF MAILED IN THE IN THE UNITED STATES

AT DOMINION ENERGY, we are dedicated to maintaining we serve. As a follow-up to our postcard in January, we kilovolt (kV) transmission line. This project is needed to reliable and secure electric service in the communities replace aging transmission structures to maintain the add additional infrastructure to deliver the renewable reliable operation of the transmission system, and to have a project near you to rebuild the existing 500 energy generated by the Coastal Virginia Offshore Wind (CVOW) project.

ine, currently on lattice structures (see image on upper right-of-way corridor that runs approximately 14 miles between our Yadkin and Fentress substations located current lattice-type structures, and instead utilize two project to be built without requiring new or expanded We are proposing to wreck the existing, aging 500 kV in the central part of the City of Chesapeake, Virginia. right-of-way, thereby minimizing impacts to property existing transmission corridor by not rebuilding the independent transmission lines. This will allow the Currently, there is a 500 kV transmission line in the separate monopole structures (see image on lower right). The approach is to maximize the use of the right) and build two 500 kV transmission lines on owners' land.

monopole structure will be an average of 65 feet taller In order to avoid new right-of-way and still maintain allows for the placement of the new structures in than the existing lattice structures. This plan also safety and operational clearances, the proposed similar locations as the existing structures.

301

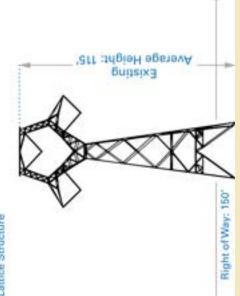
ong-term needs in the communities we proudly serve. Ne are dedicated to finding the best solution for the This project will require review by the Virginia State Corporation Commission, and we would like to gain information about this project, and for you to speak with project team members. Details regarding the community meeting in spring 2024 to share more your feedback before our filing. We will host a meeting will be shared once finalized.

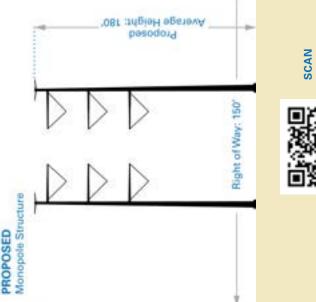
In the meantime, we want to hear from you. Depending mitigate the unavoidable visual change, and you may have an opinion on what is best for your community. on a person's preferences, structure finish can help

provides simulations of different structure finishes) by out and mailing back the attached survey card (which Please share your structure color preference by filing Wednesday, March 20, 2024. Postage is prepaid.

## PLEASE RETURN THE PREPAID POSTAGE REPLY CARD BY MARCH 20, 2024









## Yadkin – Fentress Electric **Transmission Project** SURVEY CARD

THE STRUCTURE FINISH COMPARISON, PLEASE RANK **BASED ON THE INFORMATION IN THIS MAILER AND** YOUR PREFERENCE*:

Corten	
Dull Galvanized	
Galvanized	

All structures and finish color depicted are for representation only.

PLEASE COMPLETE THE FOLLOWING:

NAME

CITY / STATE / ZIP

PHONE

ADDRESS

EMAIL



HERE TO LEARN MORE

* Results of this survey responses will be taken into consideration

company's ultimate decision or presenting a preferred option

as required by the Virginia State Corporation Commission during the company's final review but do not limit the





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# YOU'RE INVITED TO A COMMUNITY MEETING! INFORMATION ENCLOSED

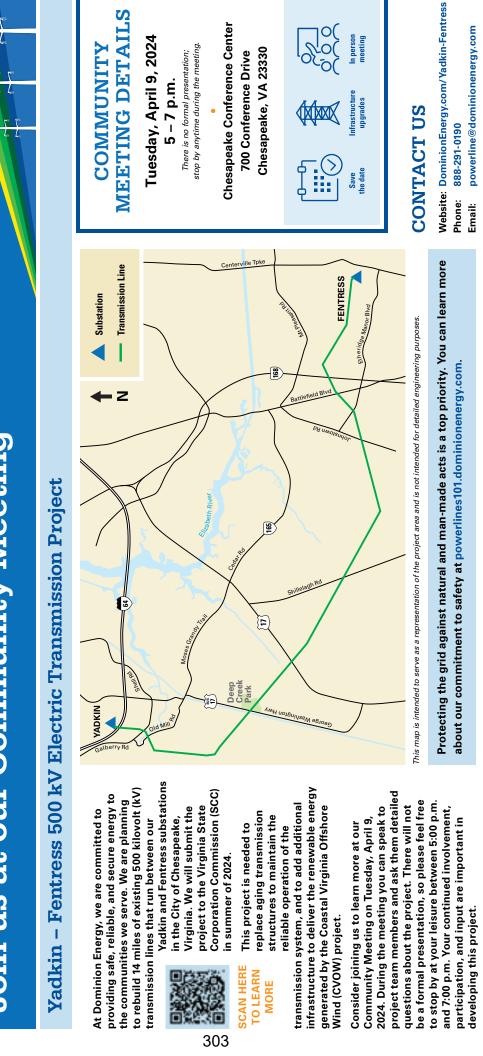


SCAN HERE TO LEARN MORE



Attachment III.B.3

Dominion Energy image. Not project specific.



<u>Join us at our Community Meeting</u>

# **DE Transmission**

# **Yadkin-Fentress**

Report Date: March 26, 2024 - April 19, 2024



May 28, 2024

The Yadkin-Fentress campaign ran on Facebook, Google and Nextdoor through 4/19/24. These campaigns were targeted at customers over the age of 25 who resided in and around the project areas in Chesapeake, Virginia.

## 1,054,477 impressions

of ads were delivered to target audiences.

## 10,832 clicks

have taken audiences to the landing pages.

## ⁵⁰⁰ 101,521 video views with an average 40.35% VCR.

## **1.03% CTR**

Most CTRs near or above benchmarks.

# 64,320 ad engagements

such as reactions, likes, comments, shares and saves have been made on the ads.

## **Notable Creative**

The DET Yadkin-Fentress Facebook Pre-Event ad had the highest CTR at 2.99%, which is 232% higher than the 0.90% Facebook benchmark.

## **Notable Insights**

- Facebook ads had a CTR of 2.60% and 29,090 completed video views for a 48.10% VCR.
- Nextdoor ads performed well with a CTR of 0.39%, which is 160% above benchmark.
- Google Video ads had 11,879 completed video views for a 28.94% VCR, which is 93% above the 15% Google VCR benchmark.
- Ads were engaging with females aged 25-34 on Google Display and females 55-65+ on Facebook.

Facebook CTR Benchmark: 0.90% | Twitter CTR Benchmark: 1.11% | Google Search CTR Benchmark: 3.17% | Google Display CTR Benchmark: 0.50% | Google Video Benchmark: 1.5% | Nextdoor CTR Benchmark: 0.15%



May 28, 2024

	DET	DET   Yadkin-Fentress   3/26/	3/26/24 - 4/19/24   Pre-Event Results	rent Results
	The Yadk were targ	The Yadkin-Fentress Pre-Event campaign ran on Facebook, Google and Nextdoor from 3/26/25 through 4/9/24. These campaigns were targeted at customers over the age of 25 who resided in and around the project areas in Chesapeake, Virginia.	oook, Google and Nextdoor from 3/26/25 ded in and around the project areas in C	through 4/9/24. These campaigns hesapeake, Virginia.
	584,75	584,757 impressions	Notable Creative	A manufacture of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se
	of ads were delivered to <b>5,715 clicks</b>	of ads were delivered to target audiences. 5,715 clicks	The DET Yadkin-Fentress Facebook ad had the highest CTR at 2.99%, which is	
30		have taken audiences to the landing pages. 52,158 video views with an	232% higher than the 0.90% Facebook benchmark.	
)6		average 43.26% VCR.		
	0.98% CTR	<b>CTR</b>	Notable Insights	Construction construction Construction (Construction) April (1,1) (1,0)
			<ul> <li>Facebook ads had a CTR of 2.93% and 1</li> </ul>	Facebook ads had a CTR of 2.93% and 16,821 completed video views for a 52.90% VCR.
	such as reactions made on the ads	oo, tot du engagements such as reactions, likes, comments, shares and saves have been made on the ads	<ul> <li>Nextdoor ads performed well with a CTR of benchmark.</li> </ul>	Nextdoor ads performed well with a CTR of 0.40%, which is 167% above the 0.15% benchmark.
			Ads were engaging with females aged 25	Ads were engaging with females aged 25-44 on Google Display and females aged 55-65+
		UII FACEDUUK. Facebook CTR Benchmark: 0.90%   Twitter CTR Benchmark: 1.11%   Google Search CTR Benchmark: 3.17%   Google Display CTR Benchmark: 0.50%   Google Video Benchmark: 15%   Nextdoor CTR Benchmark: 0.15%	UII FACEDOOK. e Search CTR Benchmark: 3.17%   Google Display CTR Benchmark: 0.5	00%   Google Video Benchmark: 15%  Nextdoor CTR Benchmark: 0.15%
	m	May 28, 2024	5	Charles ryan associates Energy*

-	<b>DET   Yadkin-Fentress  </b>	3/26/24 – 4/19/24   Post-Event Results
	The Yadkin-Fentress Post-Event campaign were targeted at customers over the age of 2	The Yadkin-Fentress Post-Event campaign ran on Facebook, Google and Nextdoor from 4/10/26 through 4/19/24. These campaigns were targeted at customers over the age of 25 who resided in and around the project areas in Chesapeake, Virginia.
307	<ul> <li>469,720 impressions</li> <li>of ads were delivered to target audiences.</li> <li>5,117 clicks</li> <li>have taken audiences to the landing pages.</li> <li>49,363 video views with an average 37.28% VCR.</li> <li>1.09% CTR</li> <li>Most CTRs near or above benchmarks.</li> <li>30,566 ad engagements, shares and saves and on a contents.</li> </ul>	Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative         Image: Notable Creative       Image: Notable Creative
		<ul> <li>Ads were engaging with females aged 25-44 on Google Display and females aged 65+ on Facebook.</li> </ul>
	Facebook CTR Benchmark: 0.90%   Twitter CTR Bench	Facebook CTR Benchmark: 0.90%   Twitter CTR Benchmark: 1.11%   Google Search CTR Benchmark: 3.17%   Google Display CTR Benchmark: 0.50%   Google Video Benchmark: 15%   Nextdoor CTR Benchmark: 0.15%
	4 May 28, 2024	🚳   charles ryan associates 💦 Energy®

	The Yadkin-Fentress Pre-Event Display 300x600 ad was the highest-performing Display ad with a CTR of 5.72%.	Females aged 55-65+ were the top engagers on Facebook. Females aged 25-44 were the top engagers on Video and Display.	the campaign and ended with a CTR 160% over the 0.15% Nextdoor benchmark.	Video ads performed well with 101,521 video views. There were 40,969 completed video views across the platforms for a total VCR of 40.35%.	media & entertainment audience segments had the highest CTRs on Google.		May 28, 2024	📾   charles ryan associates
<b>Summary:</b>	<ul> <li>The Yadkin-Fentress Pre-Event Display 300x600 ad</li> </ul>	<ul> <li>Females aged 55-65+ were the top engagers on Factor</li> </ul>	<ul> <li>Nextdoor was the top-performing platform for the call</li> </ul>	<ul> <li>Video ads performed well with 101,521 video views.</li> </ul>	<ul> <li>The home &amp; garden, business services, and media {</li> </ul>	308		Platform Benchmarks: Facebook CTR Benchmark: 0.90%   Twitter CTR Benchmark: 1.11%   Linkedin CTR Benchmark: 0.26%



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# YOU'RE INVITED TO A COMMUNITY MEETING! REMIN



SCAN HERE TO LEARN MORE

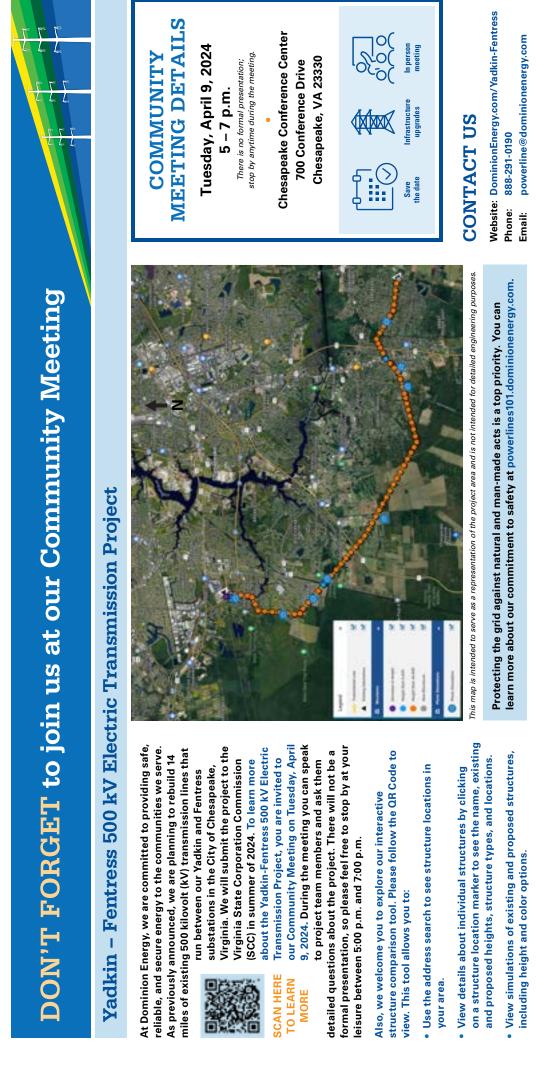


Dominion Energy image. Not project specific.

Yadkin-Fentress REMINDER OH Postcard_NW993107VCP_Mar2024.indd 1

Attachment III.B.5

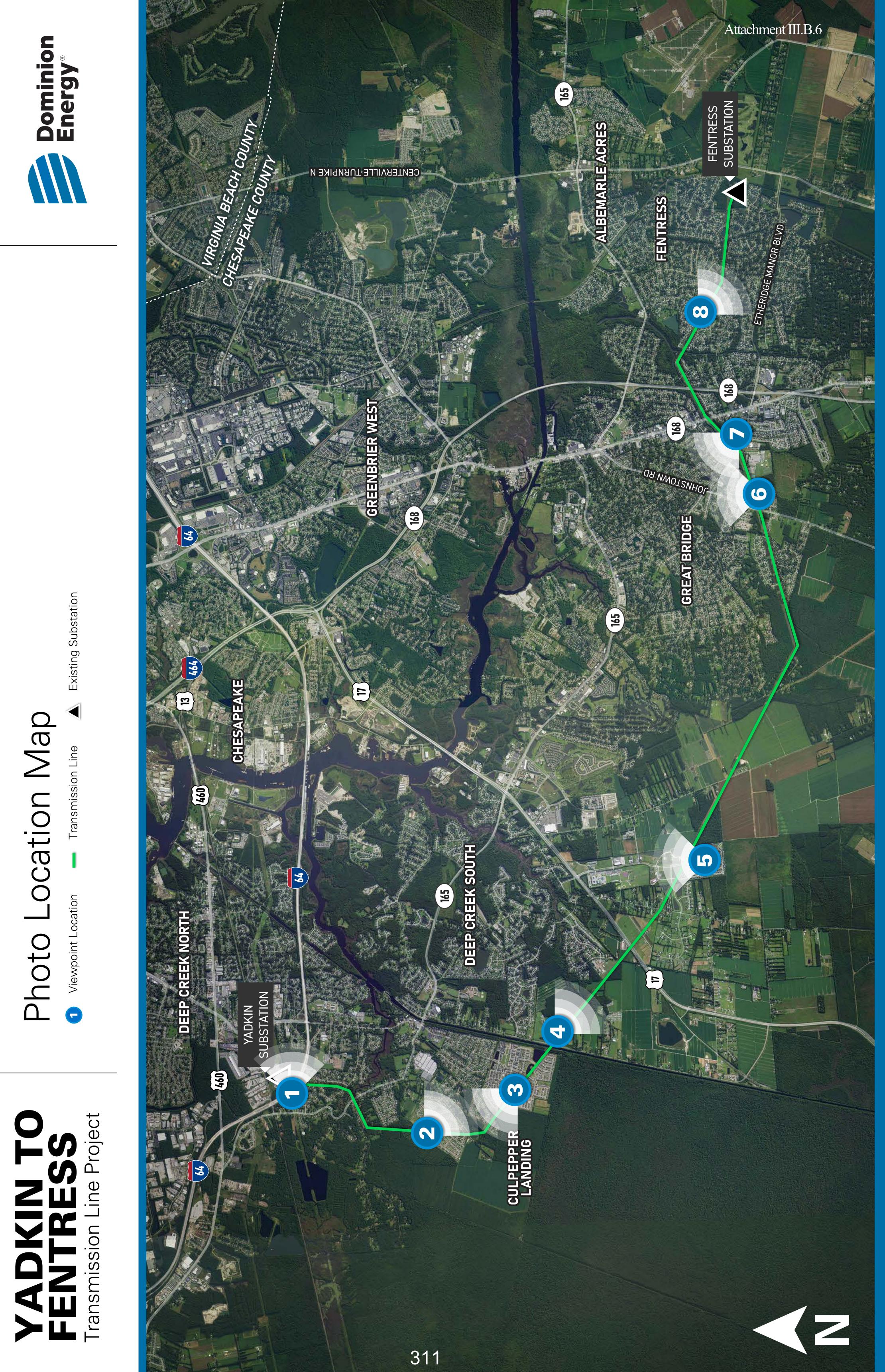
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Yadkin-Fentress REMINDER OH Postcard_NW993107VCP_Mar2024.indd 2

3/28/24 10:25 AM

310















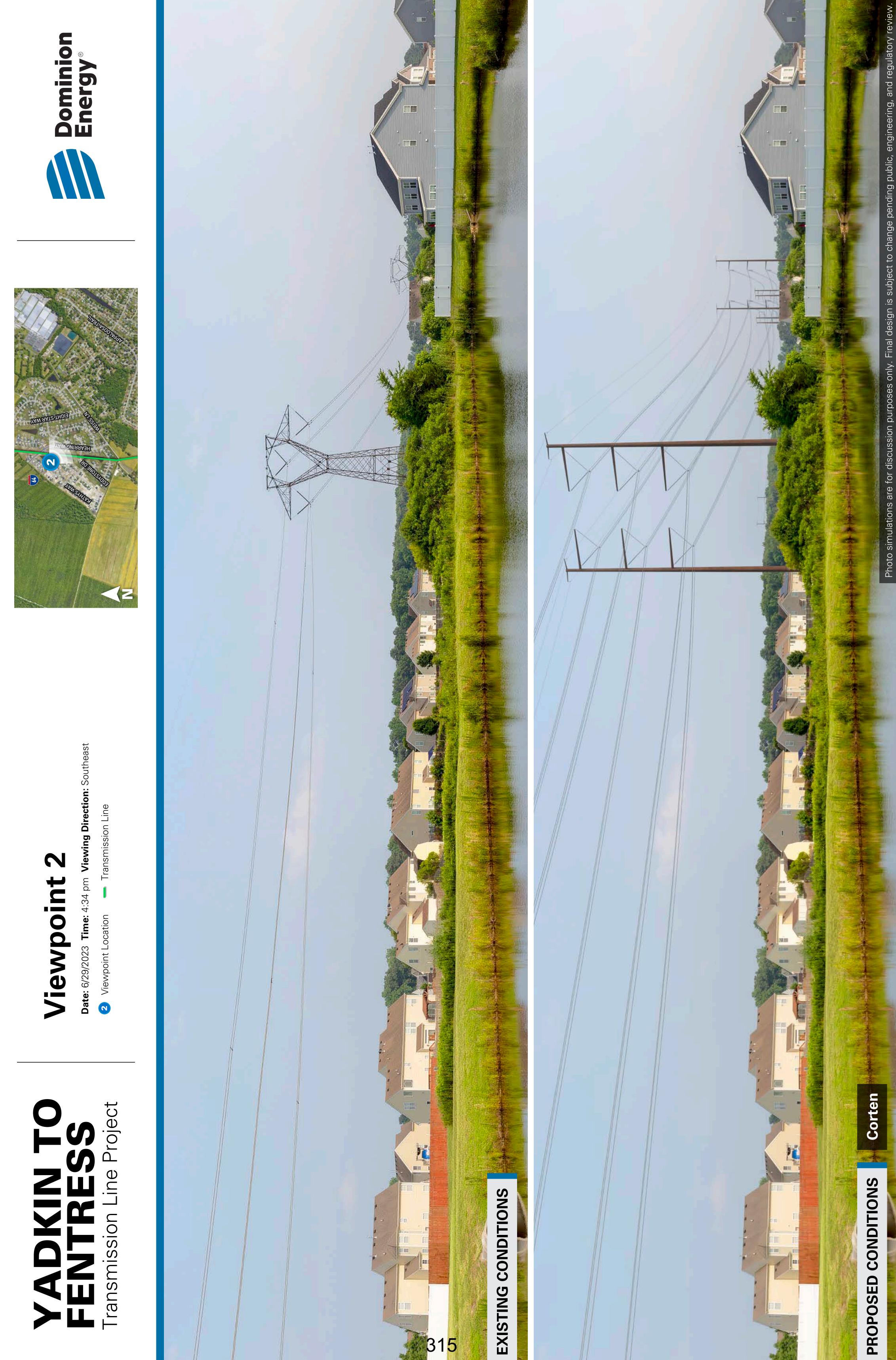






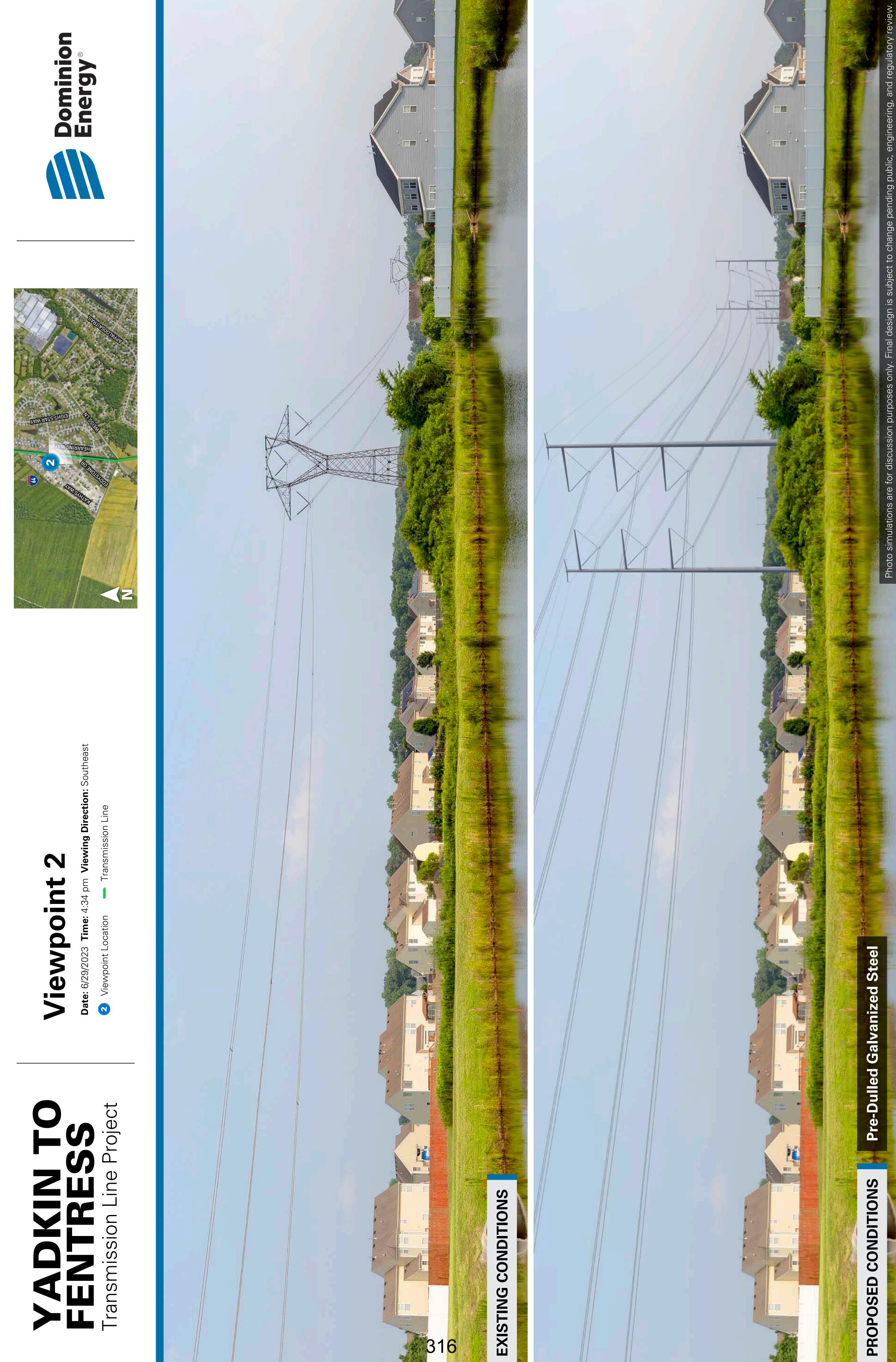


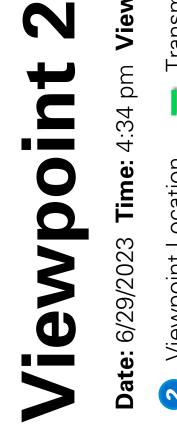
















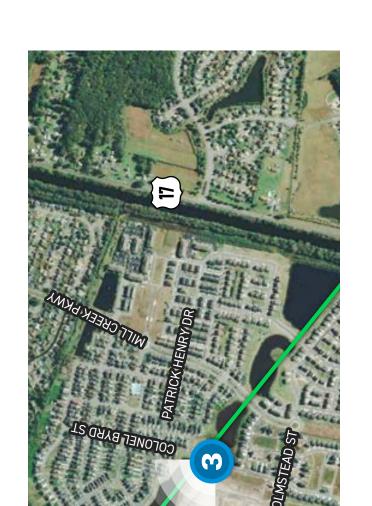
**EXISTING CONDITIONS** 

317

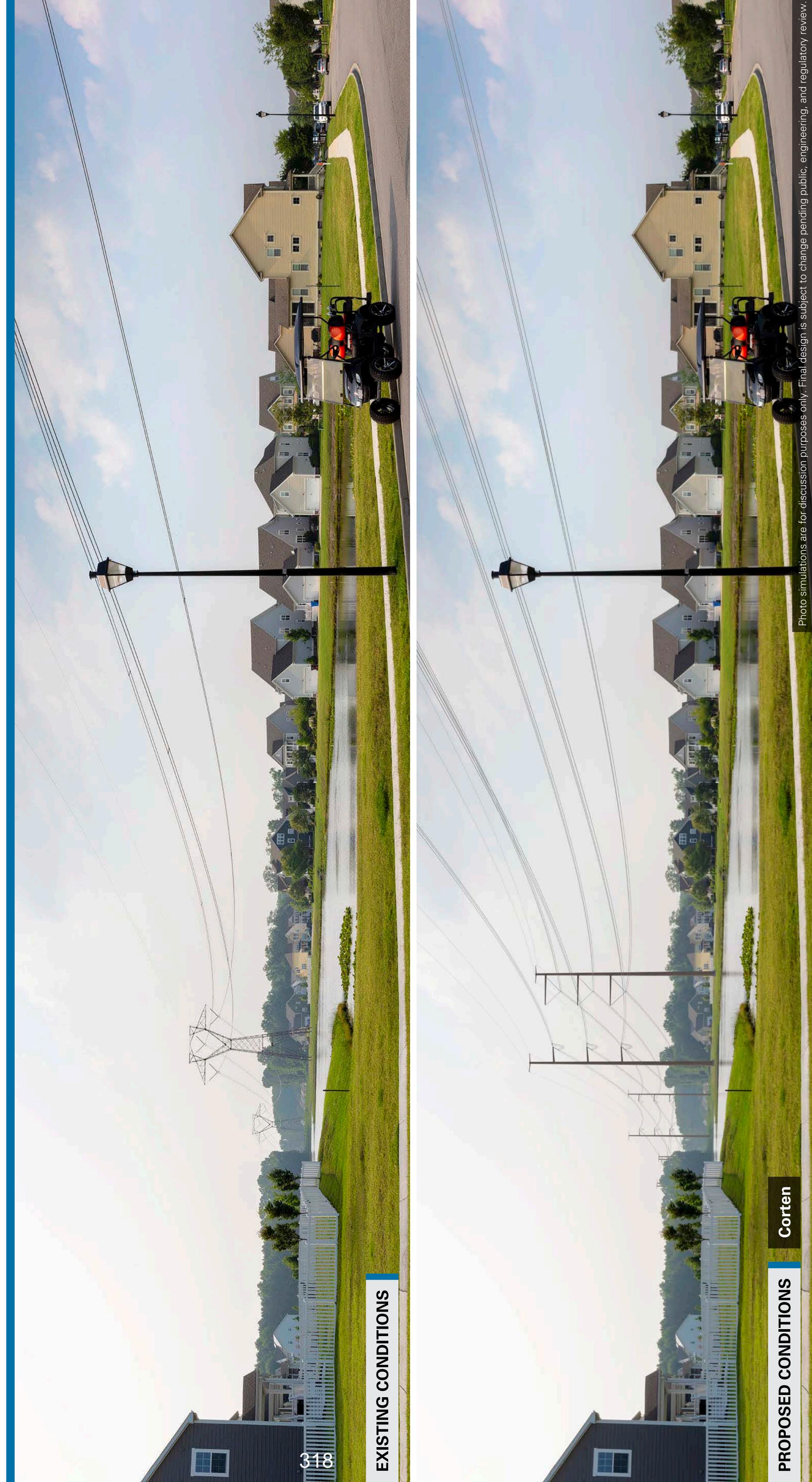




# **PROPOSED CONDITIONS**









Time: 4:15 pm Viewing Direction: Northwest

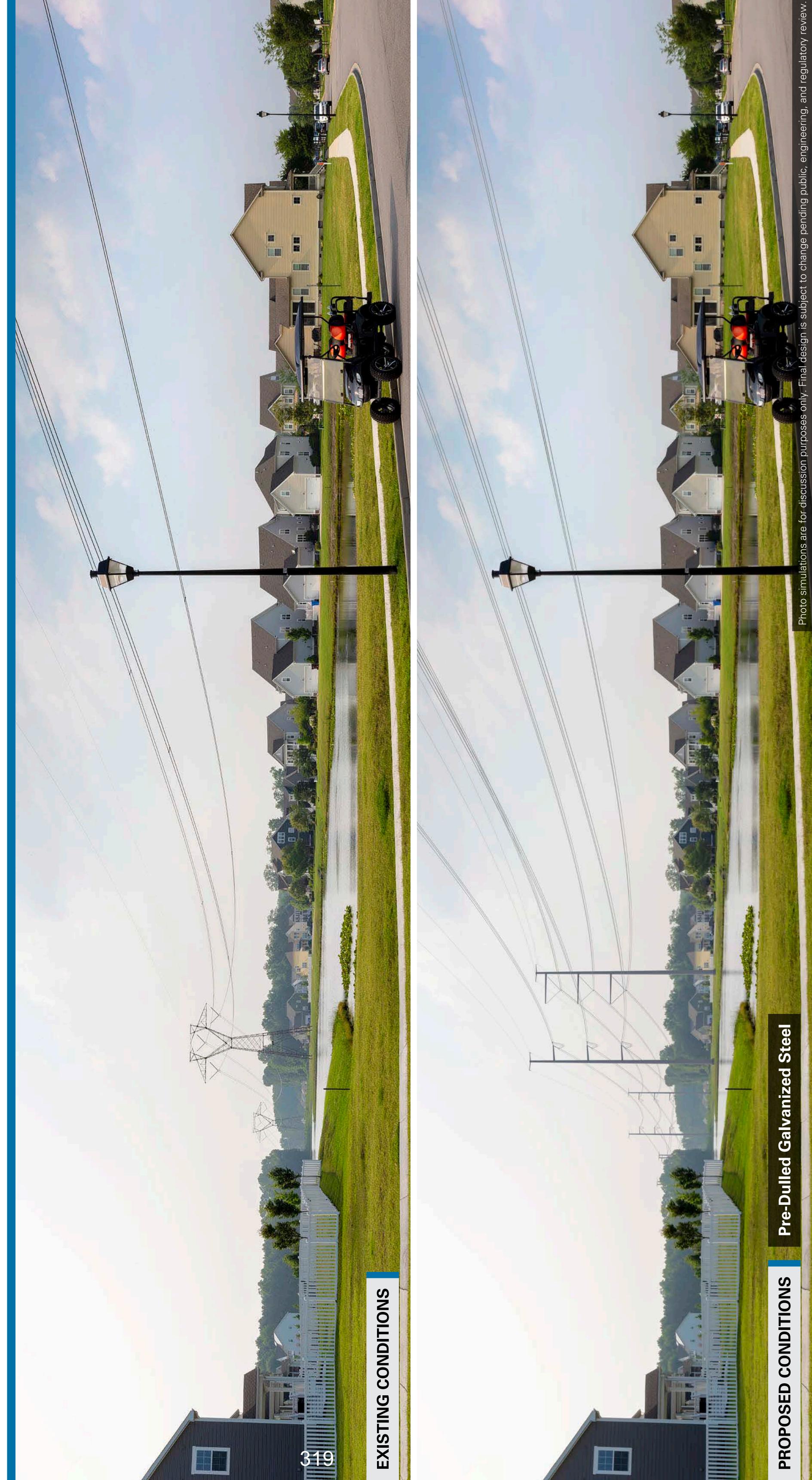
Transmission Line













Time: 4:15 pm Viewing Direction: Northwest

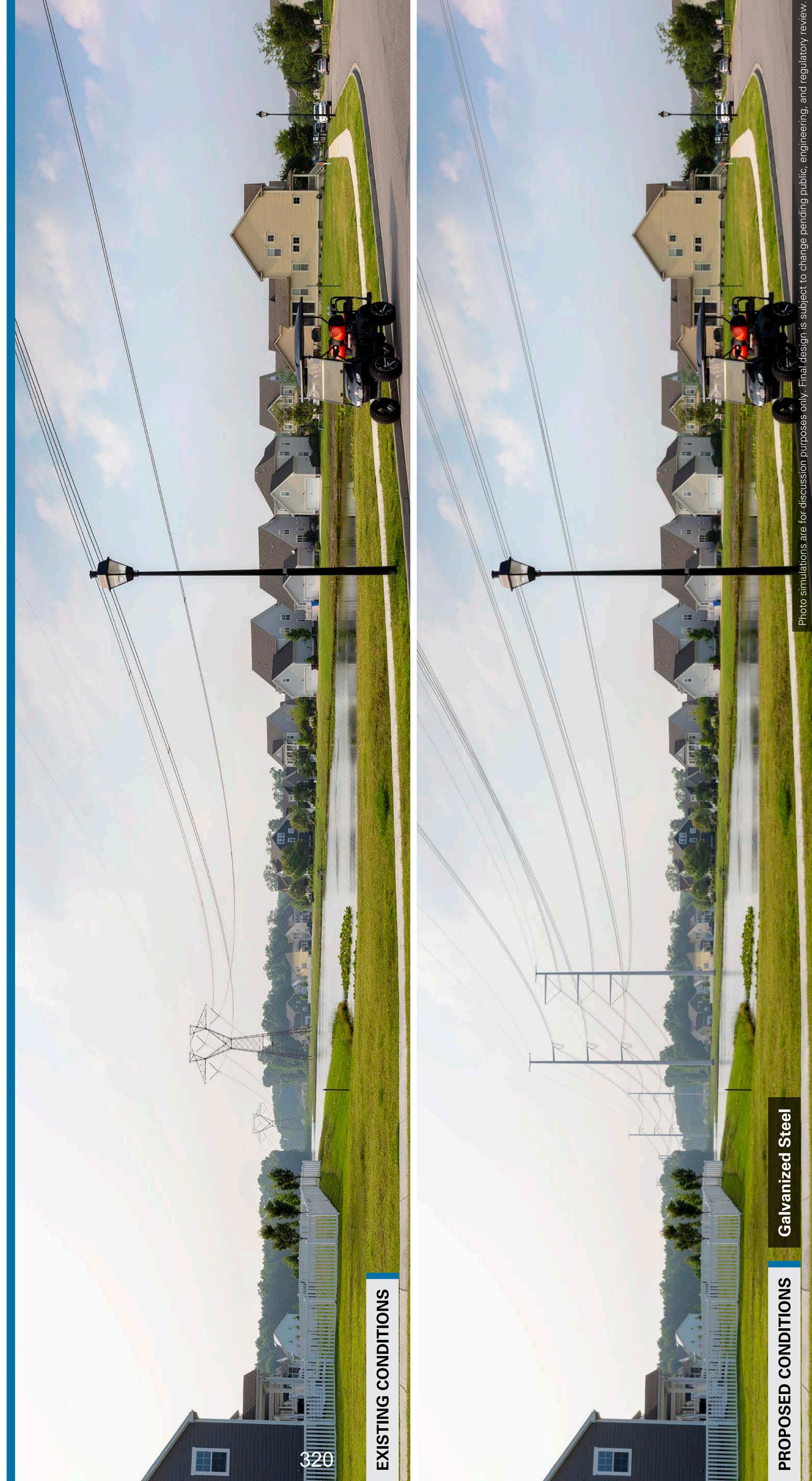
Transmission Line













Time: 4:15 pm Viewing Direction: Northwest

Transmission Line



























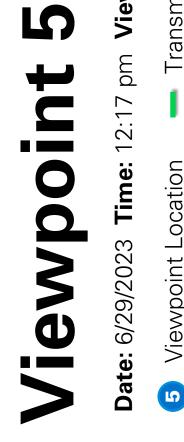














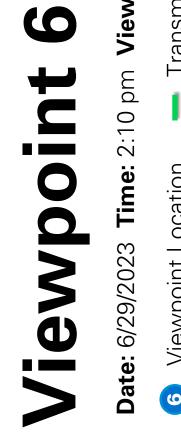


discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.





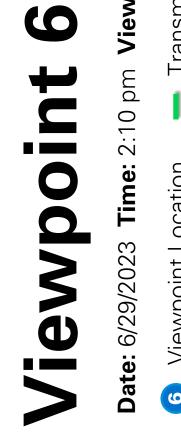




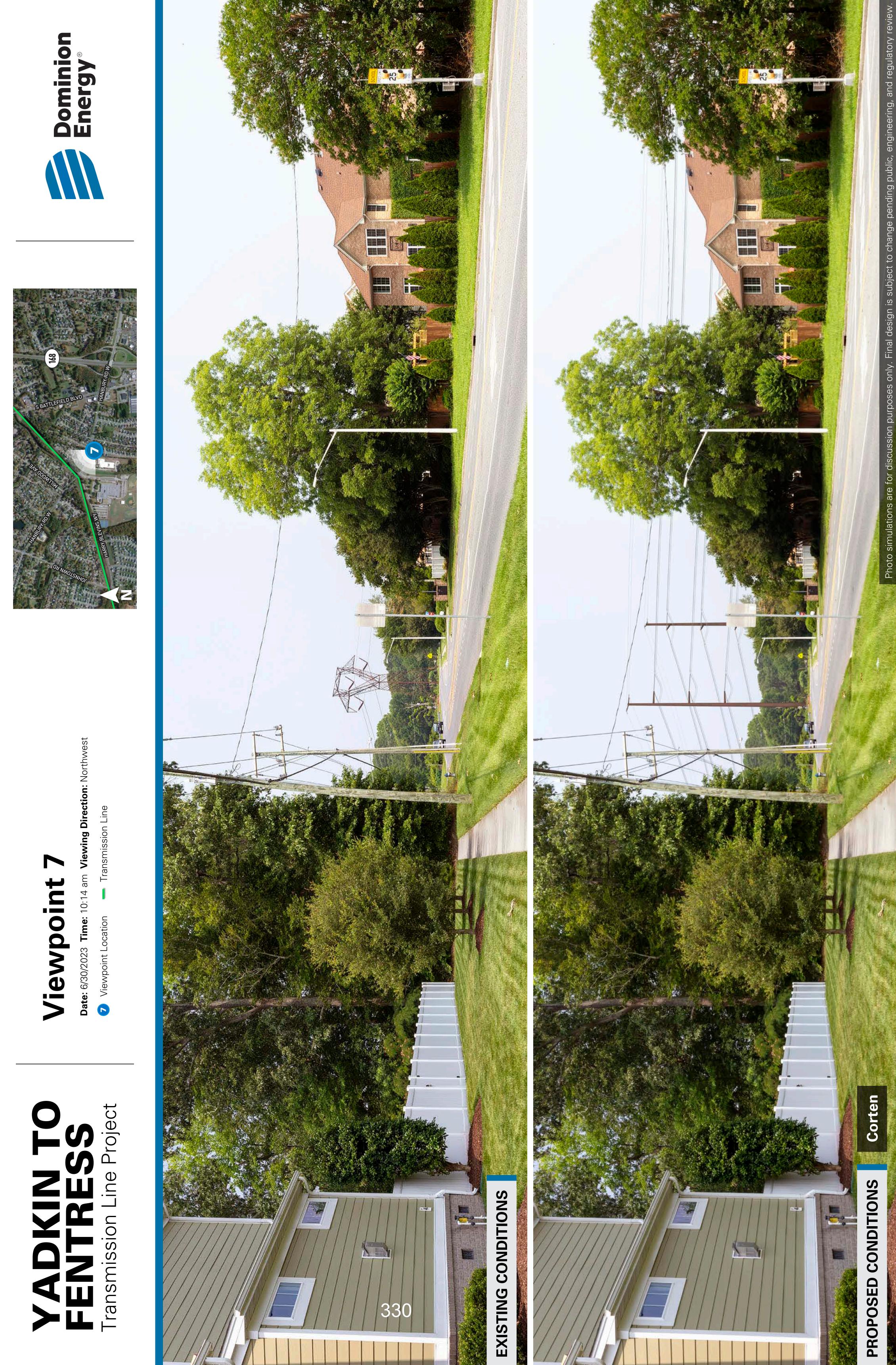




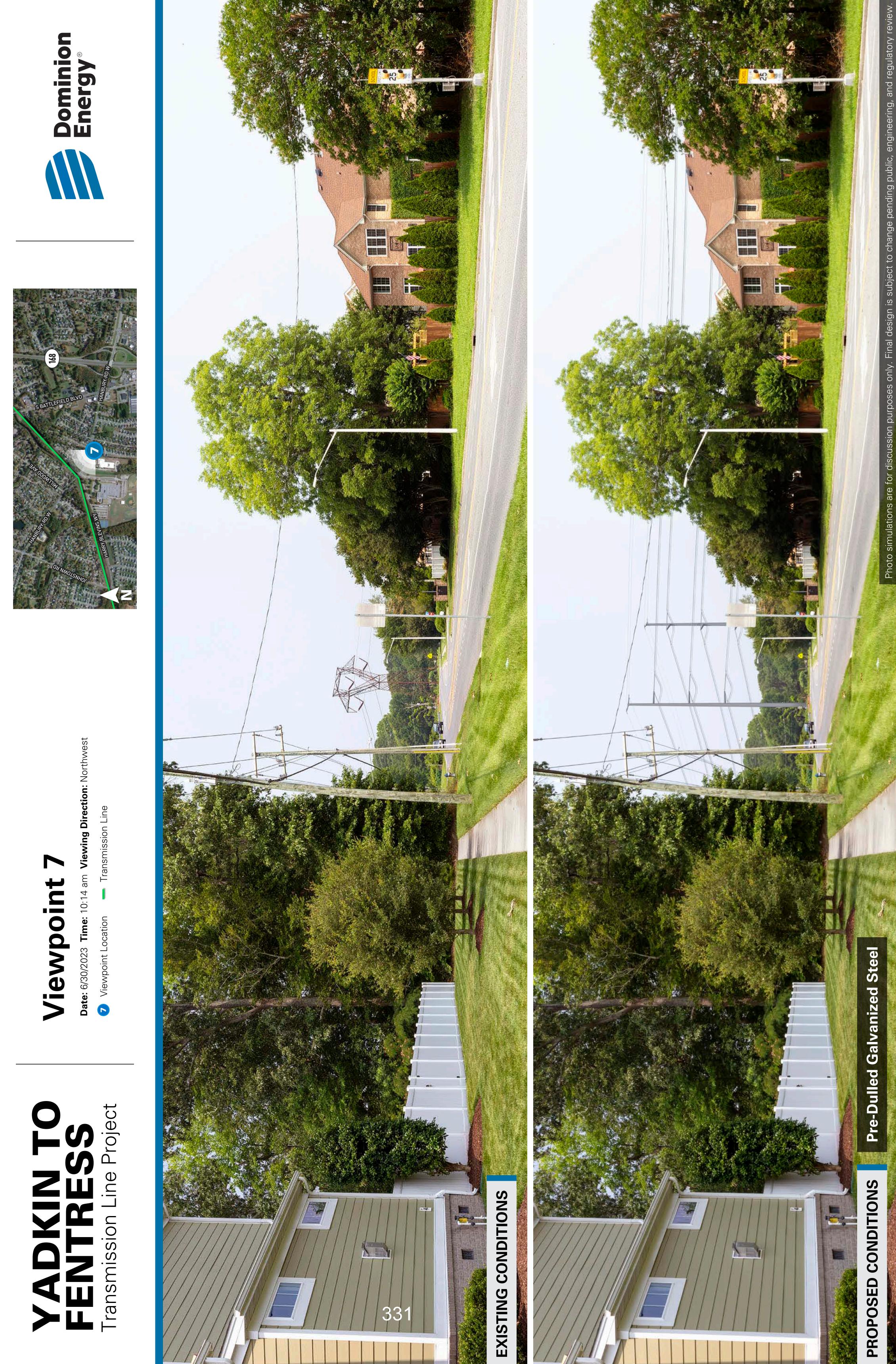
discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.













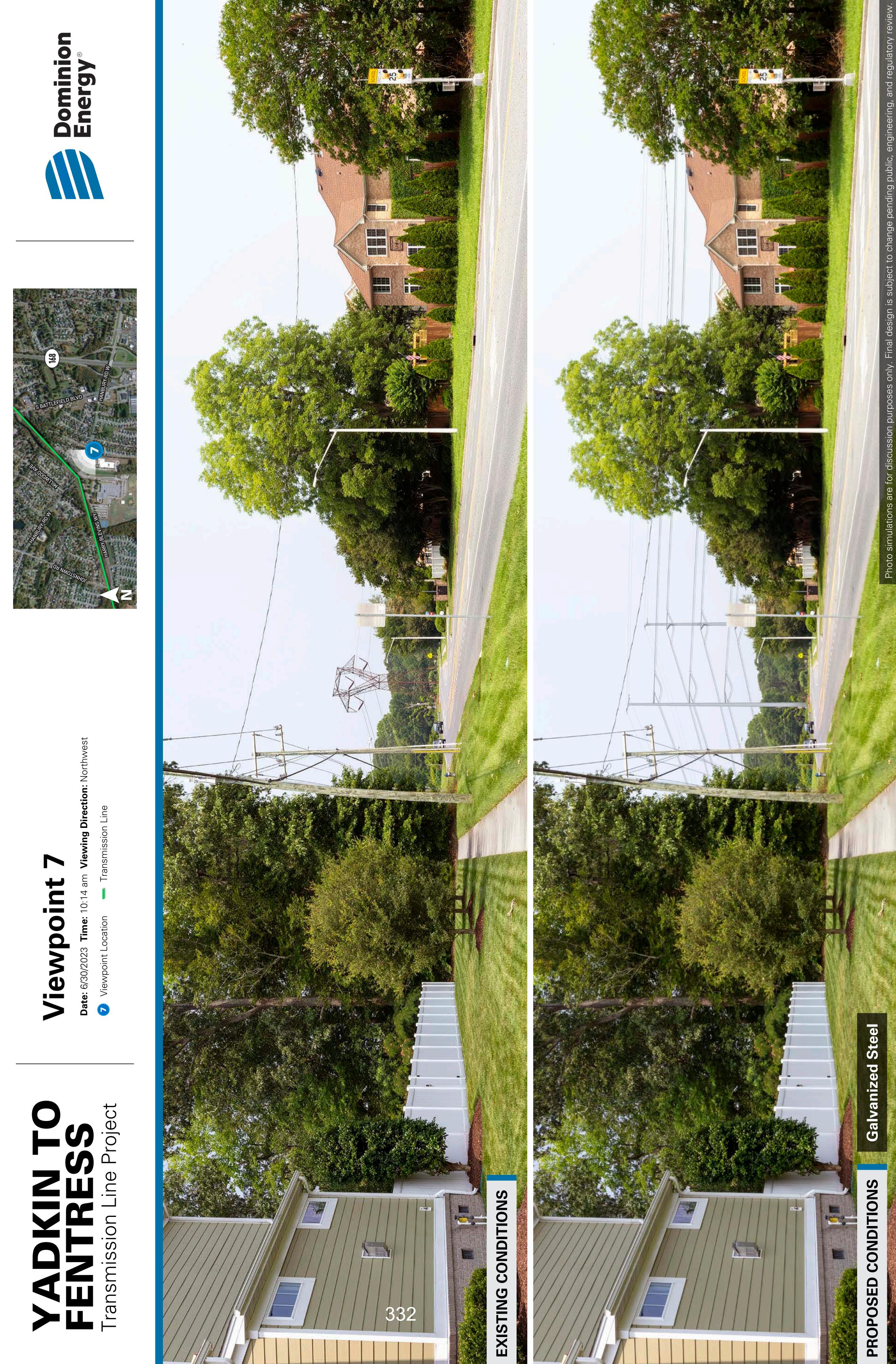








Photo simulations a







Photo simulations a







Photo simulations a



### Yadkin - Fentress 500 kV Electric Transmission Rebuild Project

### CITY OF CHESAPEAKE, VIRGINIA



AT DOMINION ENERGY, we are committed to providing safe, reliable, and affordable electric service to the communities we proudly serve. The Yadkin-Fentress 500 kilovolt (kV) Electric Transmission Line Project proposes to rebuild the existing 500 kV transmission line that runs between our Yadkin Substation and Fentress Substation.

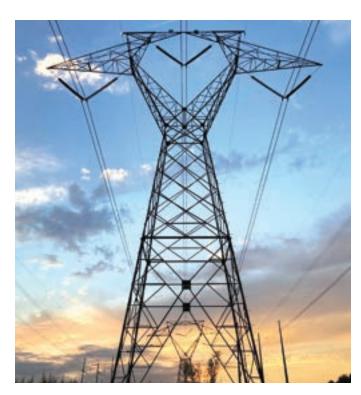


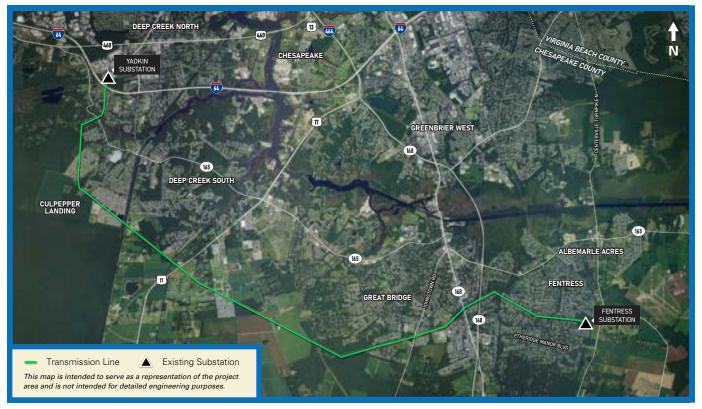
This project is needed to replace aging transmission structures to maintain reliability and to add additional infrastructure to deliver the renewable energy generated by the Coastal Virginia Offshore Wind (CVOW) project.

SCAN HERE to learn more and to explore the Structure Comparison Tool!

We are proposing to wreck the existing, aging 500 kV line, currently on lattice structures and build two 500 kV transmission lines on separate monopole structures. Changing the current lattice-type structures to taller monopoles will allow two independent transmission lines to be built without requiring new or

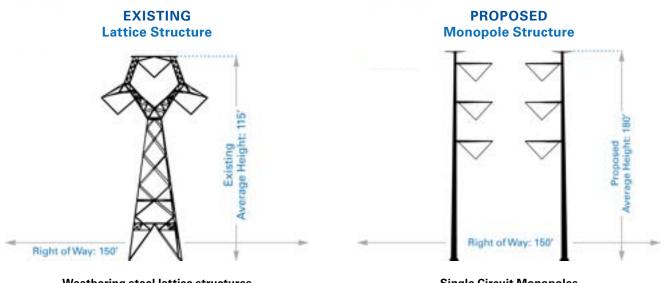
expanded right of way. To maintain safety and operational clearances, the proposed monopole structure will increase in height by an average of 65 feet. This height increase also allows us to place the new structures in the same or similar locations as the old structures.





CONTINUED ON BACK

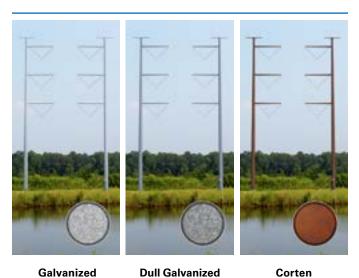
### Yadkin - Fentress 500 kV Electric Transmission Rebuild Project CONTINUED



STRUCTURE TYPE

Weathering steel lattice structures Average structure height: 115 feet Right of Way: 150 feet Single Circuit Monopoles Proposed average structure height: 180 feet Average Height Increase: 65 feet

**NOTE**: New structures will be located in close proximity to existing structures. Proposed structure heights are based on preliminary engineering calculations and are subject to change with final engineering design. View each individual structure change using the structure comparison tool on our website.



### **PROPOSED STRUCTURE COLOR OPTIONS**

### **PROJECT SCHEDULE** SUBJECT TO CHANGE

DATE	ACTIVITY			
January 2024	Project announcement			
March 2024	Community meeting			
Summer 2024	File application with the Virginia State Corporation Commission (SCC)			
Early 2025	Anticipated SCC ruling			
Spring 2025	Construction to begin			
End of 2026	Construction complete, restoration begins			



### FOR MORE INFORMATION

Visit our website at

DominionEnergy.com/YadkinFentress. You may also contact us by sending an email to powerline@dominionenergy.com or calling 888-291-0190.

### All structures and finish color depicted are for representation only.

- We surveyed the community to learn more about their preferences for structure finish.
- The finish can help mitigate the unavoidable visual change of the monopole structures.
- The results of this survey will be taken into consideration. However, Dominion Energy may present a preferred option as required by the Virginia State Corporation Commission (SCC).



### **Environmental Justice: Ongoing Commitment to Our Communities**

At Dominion Energy, we are committed to providing reliable, affordable, clean energy in accordance with our values of safety, ethics, excellence, embrace change and team work. This includes listening to and learning all we can from the communities we are privileged to serve.

Our values also recognize that environmental justice considerations must be part of our everyday decisions, community outreach and evaluations as we move forward with projects to modernize the generation and delivery of energy.

To that end, communities should have a meaningful voice in our planning and development process, regardless of race, color, national origin, or income. Our neighbors should have early and continuing opportunities to work with us. We pledge to undertake collaborative efforts to work to resolve issues. We will advance purposeful inclusion to ensure a diversity of views in our public engagement processes.

Dominion Energy will be guided in meeting environmental justice expectations of fair treatment and sincere involvement by being inclusive, understanding, dedicated to finding solutions, and effectively communicating with our customers and our neighbors. We pledge to be a positive catalyst in our communities.

November 2018

## C. Detail the nature, location, and ownership of each building that would have to be demolished or relocated if the project is built as proposed.

Response: During the Company's review of the existing transmission line corridor, 170 unauthorized encroachments were identified within the Company's existing right-of-way between the Yadkin and Fentress Substations. This includes the approximately 5.7-mile section of 235-foot-wide right-of-way between Fentress Substation and Structure #588/223. The majority of these encroachments are sheds in the easement. However, the Company identified three dwellings within the existing right-of-way corridor. The encroachments will need to be addressed with the respective property owners as the Company continues to investigate the right-of-way.

In support of the Project, the Company will continue to review the entire corridor width prior to construction and address unauthorized encroachments and easement violations as appropriate.

- D. Identify existing physical facilities that the line will parallel, if any, such as existing transmission lines, railroad tracks, highways, pipelines, etc. Describe the current use and physical appearance and characteristics of the existing ROW that would be paralleled, as well as the length of time the transmission ROW has been in use.
- Response: Line #588 was completed in 1975, and 150 feet of the transmission line right-ofway has been maintained and in continuous use since that time. The Proposed Route utilizes the existing Line #588 corridor and does not parallel any other existing linear features or utilities.

# E. Indicate whether the Applicant has investigated land use plans in the areas of the proposed route and indicate how the building of the proposed line would affect any proposed land use.

Response: The City of Chesapeake Comprehensive Plan was adopted in 2014 and amended in 2016 and 2018 (the "Plan").⁵⁰ The Plan focuses on responsible growth management, community preservation and development, and the preservation and access of natural amenities for the future of the City to 2035. The City of Chesapeake is committed to working with energy providers to plan for high-capacity transmission lines to minimize impacts on residences and businesses.

The Company engaged with the City of Chesapeake for feedback on the proposed Project and to understand any concerns or comments on the Project. See Section V.D. The proposed Project is not expected to interfere with future land use planning in the City of Chesapeake.

⁵⁰ See <u>https://resources.cityofchesapeake.net/comp-plan-2035/#page=1</u>.

- F. Government Bodies
  - 1. Indicate if the Applicant determined from the governing bodies of each county, city and town in which the proposed facilities will be located whether those bodies have designated the important farmlands within their jurisdictions, as required by § 3.2-205 B of the Code.
  - 2. If so, and if any portion of the proposed facilities will be located on any such important farmland:

a. Include maps and other evidence showing the nature and extent of the impact on such farmlands;

**b.** Describe what alternatives exist to locating the proposed facilities on the affected farmlands, and why those alternatives are not suitable; and

c. Describe the Applicant's proposals to minimize the impact of the facilities on the affected farmland.

Response: (1) Based on the City of Chesapeake's 2035 Land Use Plan, the Company determined that the City of Chesapeake has not specifically designated important farmlands within its jurisdiction under Va. Code § 3.2.205 B.

(2) Not applicable.

- G. Identify the following that lie within or adjacent to the proposed ROW:
  - 1. Any district, site, building, structure, or other object included in the National Register of Historic Places maintained by the U.S. Secretary of the Interior;
  - 2. Any historic architectural, archeological, and cultural resources, such as historic landmarks, battlefields, sites, buildings, structures, districts or objects listed or determined eligible by the Virginia Department of Historic Resources ("DHR");
  - 3. Any historic district designated by the governing body of any city or county;
  - 4. Any state archaeological site or zone designated by the Director of the DHR, or its predecessor, and any site designated by a local archaeological commission, or similar body;
  - 5. Any underwater historic assets designated by the DHR, or predecessor agency or board;
  - 6. Any National Natural Landmark designated by the U.S. Secretary of the Interior;
  - 7. Any area or feature included in the Virginia Registry of Natural Areas maintained by the Virginia Department of Conservation and Recreation ("DCR");
  - 8. Any area accepted by the Director of the DCR for the Virginia Natural Area Preserves System;
  - 9. Any conservation easement or open space easement qualifying under §§ 10.1-1009 1016, or §§ 10.1-1700 1705, of the Code (or a comparable prior or subsequent provision of the Code);
  - 10. Any state scenic river;
  - 11. Any lands owned by a municipality or school district; and
  - 12. Any federal, state or local battlefield, park, forest, game or wildlife preserve, recreational area, or similar facility. Features, sites, and the like listed in 1 through 11 above need not be identified again.

- Response: A Stage 1 Pre-Application Analysis was prepared by Dutton in accordance with VDHR's *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia.* That report is included as Attachment 2.I.1 to the DEQ Supplement and addresses the potential impacts from the Proposed Route to historic resources identified by VDHR's tiered survey guidance.⁵¹
  - 1. The NRHP-listed Dismal Swamp Canal is crossed by the Project and the NRHP-listed Centerville-Fentress Historic District is located within a half mile of the Project.
  - 2. The Herring Canal and Lindsey Canal, both of which have been determined potentially eligible for listing in the NRHP, are crossed by the Project.
  - 3. None.
  - 4. There are four previously recorded archaeological sites located within or immediately adjacent to the Project: 44CS0033, 44CS0267 44CS0295, and 44CS0294. Site 44CS0295, Dismal Swamp Railroad, is eligible for listing on the NRHP.
  - 5. None.
  - 6. The Great Dismal Swamp is designated as a National Natural Landmark and is adjacent to the Project.
  - 7. None.
  - 8. None.
  - 9. None.
  - 10. None.
  - 11. The existing right-of-way proposed for use by the Proposed Route crosses 12 parcels owned by the City of Chesapeake.⁵²
  - 12. The Project does not cross any battlefields, federal or state forests, or game or wildlife preserves. The Project is located adjacent to the Great Dismal Swamp National Wildlife Refuge, managed by the USFWS. Municipal parks and other private recreational facilities crossed by the Project are illustrated on <u>Attachment II.A.2</u> and addressed in Section 2.L of the DEQ Supplement.⁵³

⁵¹ The Constraint Design Segment does not cross any of the sites or resources noted in Items 1-10.

⁵² The City-owned parcel at Etheridge Point green space is also crossed by the Constraint Design Segment.

⁵³ The Constraint Design Segment does not cross any battlefields, federal or state forests, or game or wildlife preserves. Municipal parks and other private recreational facilities crossed by the Project or Constraint Design Segment are illustrated on <u>Attachment II.A.2</u> and addressed in Section 2.L of the DEQ Supplement.

- H. List any registered aeronautical facilities (airports, helipads) where the proposed route would place a structure or conductor within the federallydefined airspace of the facilities. Advise of contacts, and results of contacts, made with appropriate officials regarding the effect on the facilities' operations.
- Response: The Federal Aviation Administration ("FAA") is responsible for overseeing air transportation in the United States. The FAA manages air traffic in the United States and evaluates physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. The prime objective of the FAA in conducting an obstruction evaluation is to ensure the safety of air navigation and the efficient utilization of navigable airspace by aircraft.

The Company has reviewed the FAA's website⁵⁴ to identify airports/heliports within 10.0 nautical miles of the proposed Project. Based on this review, the FAA-restricted airports/heliports listed below are located within 10.0 nautical miles of the Project.⁵⁵

Airport Name	Approximate Distance and Direction from Proposed Project (nautical miles)	Use
Hampton Roads Executive Airport (PVG)	• 4.75 miles northwest	Public
Chesapeake Regional Airport (CPK)	• 1.95 miles southwest	Public
Fentress Naval Auxiliary Landing Field (NEF)	• 2.66 miles east	Private

In correspondence dated May 14, 2024, the Virginia Department of Aviation ("DOAv") stated that it appears as though the Project is within 20,000 linear feet of Chesapeake Regional Airport and the Fentress Naval Airfield, and a Part 1 Notification/Form 7460 will need to be submitted to the FAA to review for potential hazards to air navigation. See Section 2.0 of the DEQ Supplement.

⁵⁴ See <u>https://oeaaa.faa.gov/oeaaa/external/portal.jsp</u> and <u>https://adip.faa.gov/agis/public/#/public</u>.

⁵⁵ The Constraint Design Segment does not change this search in a meaningful way given its proximity to the 150-foot-wide maintained right-of-way.

- I. Advise of any scenic byways that are in close proximity to or that will be crossed by the proposed transmission line and describe what steps will be taken to mitigate any visual impacts on such byways. Describe typical mitigation techniques for other highways' crossings.
- Response: No scenic byways are in close proximity to or would be crossed by the proposed Project.⁵⁶ Further, use of the existing transmission right-of-way minimizes or eliminates permanent incremental impacts at road crossings.

⁵⁶ No scenic byways are in close proximity to or would be crossed by the Constraint Design Segment.

## J. Identify coordination with appropriate municipal, state, and federal agencies.

- Response: As described in Section V.D of the Appendix, the Company solicited feedback from City of Chesapeake regarding the proposed Project. Below is a list of coordination that has occurred with municipal, state, and federal agencies:
  - Coordination with the Corps, DEQ, the City of Chesapeake, and VDOT will take place as appropriate to obtain necessary approvals for the Project.
  - A letter was submitted to the agencies listed in Section V.C on May 14, 2024, describing the Project and requesting comment. See Attachment 2 to the DEQ Supplement.
  - A Stage I Pre-Application Analysis has been prepared and was submitted to VDHR on June 12, 2024. See Attachment 2.I.1 to the DEQ Supplement.
  - A Desktop Wetland Review was submitted to DEQ's Office of Wetlands and Stream Protection on May 15, 2024, to initiate the wetlands impact consultation. See Attachment 2.D.1 of the DEQ Supplement.
  - On April 2, 2024, the Company solicited comments via letter from several staterecognized Native American tribes, including:

Chief Walt "Red Hawk" Brown	Cheroenhaka (Nottoway) Indian Tribe
Mary Frances Wilkerson	Cheroenhaka (Nottoway) Indian
	Tribe
Chief Stephen Adkins	Chickahominy Indian Tribe
Assistant Chief Reginald Stewart	Chickahominy Indian Tribe
Chief Gerald A Stewart	Chickahominy Indian Tribe Eastern
	Division
Jessica Phillips	Chickahominy Indian Tribe Eastern
_	Division
Dana Adkins	Chickahominy Tribe
Chief Mark Custalow	Mattaponi Tribe
Chief Diane Shields	Monacan Indian Nation
Chief Keith Anderson	Nansemond Indian Nation
Chief Lynette Allston	Nottoway Indian Tribe of Virginia
SUB: Ms. Beth Roach	Nottoway Indian Tribe of Virginia
Chief Robert Gray	Pamunkey Indian Tribe
Kendall Stevens	Pamunkey Indian Tribal Resource
	Office
Chief Charles (Bootsie) Bullock	Patawomeck Indian Tribe of Virginia

Chief G. Anne Richardson	Rappahannock Tribe
SUB: Assistant Chief	Rappahannock Tribe
Chief W. Frank Adams	Upper Mattaponi Indian Tribe
Leigh Mitchell	Upper Mattaponi Indian Tribe

And federally recognized Native American Tribes, including:

President Deborah Dotson	Delaware Nation, Oklahoma
Katelyn Lucas	Delaware Nation, Oklahoma
Chief Keith Anderson	Nansemond Indian Nation
Chief Robert Gray	Pamunkey Indian Tribe

A template of the letter is included as <u>Attachment III.J.1</u>.

Dominion Energy Virginia Dominion Energy North Carolina Electric Transmission 5000 Dominion Boulevard Glen Allen, VA 23060 DominionEnergy.com



April 2, 2024

[recipient address]

## Yadkin to Fentress 500 kV Electric Transmission Line Rebuild Project

Dear [recipient salutation]:

Dominion Energy is dedicated to maintaining safe, reliable, and affordable electric service in the communities we serve. You are receiving this project announcement letter as part of our efforts to proactively communicate early with Tribal Nations who may have an interest in this area. With your unique perspective, you can help us better plan projects in their earliest stages. Please note, this letter is not a notification of formal government-to-government consultation from any state or federal agency. Dominion Energy has been and continues to be committed to creating and maintaining strong, open, supportive, and mutually beneficial relationships with Tribal Nations.

We are reaching out to you as we have an upcoming project in the City of Chesapeake. We are planning to rebuild 14 miles of existing 500 kilovolt (kV) electric transmission line between the Yadkin and Fentress Substations. This project is needed to replace aging equipment and to add additional infrastructure to deliver the renewable energy generated by the Coastal Virginia Offshore Wind (CVOW) project. We are proposing to wreck the existing, aging 500 kV line, currently on lattice structures, and build two 500kV transmission lines on separate monopole structures. To maintain safety and operational clearances, the proposed monopole structures will be an average of 65 feet taller than the existing lattice structures. This plan allows the project to be built without requiring new or expanded right-of-way and for the placement of the new structures to remain in similar locations as the old structures.

This project requires review by the Virginia State Corporation Commission (SCC). We are still in the conceptual phase of the project and more details will be provided as activities progress. Enclosed is a project map for your reference. Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations.

If you have questions or would like to set up a meeting to discuss the project, contact me by calling 804-944-5313 or sending an email to Janae.p.johnson@dominionenergy.com. You may also contact Tribal Relations Manager Ken Custalow by sending an email to Ken.Custalow@dominionenergy.com or calling 804-837-2067.

Sincerely,

Janae Johnson Communications Consultant The Electric Transmission Project Team



This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.

## K. Identify coordination with any non-governmental organizations or private citizen groups.

Response: On April 2, 2024, the Company solicited comments via letter from the nongovernmental organizations and private citizen groups identified below. A template of the letter is provided as <u>Attachment III.K.1</u>.

Name	Organization
Ms. Elizabeth S. Kostelny	Preservation Virginia
Mr. Thomas Gilmore	American Battlefield Trust
Mr. Jim Campi	American Battlefield Trust
Mr. Max Hokit	American Battlefield Trust
Mr. Steven Williams	Colonial National Historical Park
Ms. Eleanor Breen, PhD, RPA	Council of Virginia Archaeologists
Ms. Leighton Powell	Scenic Virginia
Ms. Elaine Chang	National Trust for Historic Preservation
Ms. Julie Bolthouse	Piedmont Environmental Council
Mr. John McCarthy	Piedmont Environmental Council
Dr. Cassandra Newby-Alexander, Dean	Norfolk State University
Mr. Roger Kirchen, Archaeologist	Virginia Department of Historic Resources
Ms. Adrienne Birge-Wilson	Virginia Department of Historic Resources
Mr. Dave Dutton	Dutton + Associates, LLC

Dominion Energy Virginia Dominion Energy North Carolina Electric Transmission 5000 Dominion Boulevard Glen Allen, VA 23060 DominionEnergy.com



April 2, 2024

[recipient address]

## Yadkin to Fentress 500 kV Electric Transmission Line Rebuild Project

Dear [recipient],

Dominion Energy is dedicated to maintaining safe, reliable, and affordable electric service in the communities we serve. As a valued stakeholder with a unique perspective, you can help us meet these objectives as we plan necessary electric infrastructure projects. We are reaching out to you as we have an upcoming project in Chesapeake, VA, and you may have an interest in this area.

We are planning to rebuild 14 miles of existing 500 kilovolt (kV) electric transmission line between the Yadkin and Fentress Substations. This project is needed to replace aging equipment and to add additional infrastructure to deliver the renewable energy generated by the Coastal Virginia Offshore Wind (CVOW) project. We are proposing to wreck the existing, aging 500 kV line, currently on lattice structures, and build two 500kV transmission lines on separate monopole structures. To maintain safety and operational clearances, the proposed monopole structures will be an average of 65 feet taller than the existing lattice structures. This plan allows the project to be built without requiring new or expanded right-of-way and for the placement of the new structures to remain in similar locations as the old structures.

Enclosed is a project overview map for your reference. This project requires review by the Virginia State Corporation Commission. Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations, as well as Tribal Nations.

We will host an in-person community meeting prior to submitting the SCC application on **April 9, 2024**, **at the Chesapeake Conference Center, 700 Conference Drive, from 5-7 p.m.** Please visit the project webpage at DominionEnergy.com/Yadkin-Fentress for meeting updates and more project information.



If you have questions or would like to set up a meeting to discuss the project, contact me by calling 804-944-5313 or sending an email to Janae.p.johnson@dominionenergy.com.

Sincerely,

Janae Johnson Communications Consultant The Electric Transmission Project Team



This map is intended to serve as a representation of the project area and is not intended for detailed engineering purposes.

## L. Identify any environmental permits or special permissions anticipated to be needed.

Response: The permits or special permissions that are likely to be required for the Proposed Route are listed below.

Activity	Potential Permit	Agency/Organization
Impacts to wetlands and other waters of the U.S. under Section 404 and aerial crossings of Section 10 waters	Nationwide Permit 57	U.S. Army Corps of Engineers
Construction access beyond Army Corps easement boundaries	Temporary Construction License	U.S. Army Corps of Engineers
Aerial crossings of state- owned subaqueous bottom Impacts to wetlands and	VGP – Utility Crossing General Permit Virginia Water	Virginia Marine Resource Commission Virginia Department of
other waters under Section 404 and 401	Protection Permit	Environmental Quality
Work within tidal wetlands	Tidal Wetlands Permit	Virginia Marine Resources Commission
Discharge of stormwater from construction	Construction General Permit	Virginia Department of Environmental Quality
Work within VDOT rights-of-way	Land Use Permit	Virginia Department of Transportation
Work within City of Chesapeake rights-of-way	Franchised Utility Permit	City of Chesapeake
Airspace obstruction evaluation	FAA 7460-1	Federal Aviation Administration

## **Potential Permits**

## IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS ("EMF")

- A. Provide the calculated maximum electric and magnetic field levels that are expected to occur at the edge of the ROW. If the new transmission line is to be constructed on an existing electric transmission line ROW, provide the present levels as well as the maximum levels calculated at the edge of ROW after the new line is operational.
- Response: Public exposure to magnetic fields associated with high voltage power lines is best estimated by field levels calculated at annual average loading. For any day of the year, the electromagnetic field ("EMF") levels associated with average conditions provide the best estimate of potential exposure. Maximum (peak) values are less relevant as they may occur for only a few minutes or hours each year.

This section describes the levels of EMF associated with the proposed transmission lines. EMF levels are provided for future (2027) annual average and maximum (peak) loading conditions.

## Existing Line #588– Historical Average Loading

EMF levels were calculated for the existing lines at the *historical average* load condition of 356.0 amps for Line #588. Line #588 has a maximum operating voltage of 500 kV. See <u>Attachment II.A.5.a</u>.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a historical average load operating temperature.

EMF levels at the edge of the right-of-way for the existing line at the historical average loading:

Existing Lines – Historic Average Loading					
	Left Edge		Right Edge		
	Looking towards		Looking towards		
	Fentress Substation		<b>Fentress Substation</b>		
	Electric Field Magnetic Field		Electric Field	Magnetic	
Attachment	(kV/m) (mG)		(kV/m)	Field (mG)	
<u>II.A.5.a</u>	6.787	12.464	6.787	12.464	

## Existing Line #588 – Historical Peak Loading

EMF levels were calculated for the existing lines at the *historical peak* load condition of 838.0 amps for Line #588. Line #588 has a maximum operating voltage of 500 kV. See <u>Attachment II.A.5.a</u>.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a historical peak load operating temperature.

Existing Lines – Historic <i>Peak</i> Loading					
	Left Edge		Right Edge		
	Looking towards		Looking towards		
	Fentress Substation		<b>Fentress Substation</b>		
	Electric Field Magnetic		Electric Field	Magnetic Field	
Attachment	(kV/m) <u>Field</u> $(mG)$		(kV/m)	(mG)	
<u>II.A.5.a</u>	6.804	29.419	6.804	29.419	

EMF levels at the edge of the right-of-way for the existing line at the historical peak loading:

## Proposed Project – Projected average loading in 2027

EMF levels were calculated for the rebuilt Line #588 and the proposed Line #5005 at the *projected average* load condition of 356 amps for Line #588 and 452 amps for Line #5005. Lines #588 and #5005 have a maximum operating voltage of 500 kV. See <u>Attachment II.A.5.b</u>.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a projected average load operating temperature.

EMF levels at the edge of the rights-of-way for the rebuilt Line #588 and the proposed Line #5005 at the projected average loading:

Proposed Lines – Projected Average Loading					
	Left Edge		Right Edge		
	Looking towards		Looking towards		
	Fentress Substation		Fentress Substation		
	Electric Field Magnetic Field		Electric Field	Magnetic Field	
Attachment	(kV/m) (mG)		(kV/m)	(mG)	
<u>II.A.5.b</u>	2.140	13.362	2.140	13.358	

## Proposed Project – Projected peak loading in 2027

EMF levels were calculated for the rebuilt Line #588 and the proposed Line #5005 at the *projected peak* load condition of 838 amps for Line #588 and 1643 amps for Line #5005. Lines #588 and #5005 have a maximum operating voltage of 500 kV. See <u>Attachment II.A.5.b</u>.

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a projected peak load operating temperature.

EMF levels at the edge of the rights-of-way for the rebuilt Line #588 and the proposed Line #5005 at the projected peak loading:

Proposed Lines - Projected <i>Peak</i> Loading					
	Left Edge		<b>Right Edge</b>		
	Looking towards		Looking towards		
	Fentress Substation		Fentress Substation		
	Electric Field Magnetic		Electric Field	Magnetic	
Attachment	(kV/m) <u>Field</u> $(mG)$		(kV/m)	Field (mG)	
<u>II.A.5.b</u>	2.125	48.945	2.126	48.917	

## IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS ("EMF")

- B. If the Applicant is of the opinion that no significant health effects will result from the construction and operation of the line, describe in detail the reasons for that opinion and provide references or citations to supporting documentation.
- Response: The conclusions of multidisciplinary scientific review panels assembled by national and international scientific agencies during the past few decades are the foundation of the Company's opinion that no adverse health effects are anticipated to result from the operation of the proposed Project. Each of these panels has evaluated the scientific research related to health and extremely low frequency ("ELF") EMF, also referred to as power-frequency (50/60 Hertz ("Hz")) EMF, and provided conclusions that form the basis of guidance to governments and industries. The Company regularly monitors the recommendations of these expert panels to guide their approach to EMF.

Research on EMF and human health varies widely in approach. Some studies evaluate the effects on biological responses of high, short-term EMF exposure not typically found in people's day-to-day lives, while others evaluate the effects of common, low EMF exposures found throughout communities. Studies also have evaluated the possibility of effects (*e.g.*, cancer, neurodegenerative diseases, and reproductive effects) of long-term exposure. Altogether, this research includes well over 100 epidemiologic studies of people in their natural environment and many more laboratory studies of animals (*in vivo*) and isolated cells and tissues (*in vitro*). Standard scientific procedures, such as weight-of-evidence methods, were used by the expert panels assembled by scientific agencies to identify, review, and summarize the results of this large and diverse research.

The reviews of ELF EMF-related biological and health research have been conducted by numerous scientific and health agencies, including, for example, the European Health Risk Assessment Network on Electromagnetic Fields Exposure ("EFHRAN"), the International Commission on Non-Ionizing Radiation Protection ("ICNIRP"), the World Health Organization ("WHO"), the IEEE's International Committee on Electromagnetic Safety ("ICES"), the Scientific Committee on Health, Environmental and Emerging Risks ("SCHEER") (formerly the Scientific Committee on Emerging and Newly Identified Health Risks ["SCENIHR"]) of the European Commission, and the Swedish Radiation Safety Authority ("SSM") (formerly the Swedish Radiation Protection Authority ["SSI"]) (WHO, 2007; SCENIHR, 2009, 2015; EFHRAN, 2010, 2012; ICNIRP, 2010; SSM, 2015, 2016, 2018, 2019, 2020, 2021, 2022; ICES, 2019; SCHEER, 2023). The general scientific consensus of the agencies that have reviewed this research, relying on generally accepted scientific methods, is that the scientific evidence does not confirm that common sources of EMF in the environment, including transmission lines and other parts of the electric system, appliances, etc., are a cause of any adverse health effects.

The most recent reviews on this topic include the 2015 and 2023 reports by SCENIHR and SCHEER, respectively, and annual reviews published by SSM (i.e., for the years 2015 through 2022). These reports, similar to previous reviews, found that the scientific evidence does not confirm the existence of any adverse health effects caused by environmental or community exposure to EMF.

WHO has recommended that countries adopt recognized international standards published by ICNIRP and ICES. Typical levels of EMF from Dominion Energy Virginia's high voltage power lines outside its property and rights-of-way are far below the screening reference levels of EMF recommended for the general public and still lower than exposures equivalent to restrictions to limits on fields within the body (ICNIRP, 2010; ICES, 2019).

Thus, based on the conclusions of scientific reviews and the levels of EMF associated with the proposed Project, the Company has determined that no adverse health effects are anticipated to result from the operation of the proposed Project.

### References

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Report on the Analysis of Risks Associated to Exposure to EMF: *In Vitro* and *In Vivo* (Animals) Studies. Milan, Italy: EFHRAN, 2010.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields (Revised). Report D2 of the EFHRAN Project. Milan, Italy: EFHRAN, 2012.

International Commission on Non-ionizing Radiation Protection (ICNIRP). Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz to 100 kHz). Health Phys 99: 818-36, 2010.

International Committee on Electromagnetic Safety (ICES). IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields 0 to 300 GHz. IEEE Std C95.1-2019. New York, NY: IEEE, 2019.

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## IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS ("EMF")

- C. Describe and cite any research studies on EMF the Applicant is aware of that meet the following criteria:
  - 1. Became available for consideration since the completion of the Virginia Department of Health's most recent review of studies on EMF and its subsequent report to the Virginia General Assembly in compliance with 1985 Senate Joint Resolution No. 126;
  - 2. Include findings regarding EMF that have not been reported previously and/or provide substantial additional insight into findings; and
  - 3. Have been subjected to peer review.
- Response: The Virginia Department of Health ("VDH") conducted its most recent review and issued its report on the scientific evidence on potential health effects of extremely low frequency ELF EMF in 2000: "[T]he Virginia Department of Health is of the opinion that there is no conclusive and convincing evidence that exposure to extremely low frequency EMF emanated from nearby high voltage transmission lines is causally associated with an increased incidence of cancer or other detrimental health effects in humans."⁵⁷

The continuing scientific research on ELF EMF exposure and health has resulted in many peer-reviewed publications since 2000. The accumulating research results have been regularly and repeatedly reviewed and evaluated by national and international health, scientific, and government agencies, including most notably:

- WHO, which published one of the most comprehensive and detailed reviews of the relevant scientific peer-reviewed literature in 2007;
- SCHEER (formerly SCENIHR), a committee of the European Commission, which published its assessments in 2009, 2015 and 2023;
- The SSM, which has published annual reviews of the relevant peer-reviewed scientific literature since 2003, with its most recent review published in 2022; and,
- EFHRAN, which published its reviews in 2010 and 2012.

The above reviews provide detailed analyses and summaries of relevant recent peer-reviewed scientific publications. The conclusions of these reviews that the evidence overall does not confirm the existence of any adverse health effects due to exposure to EMF below scientifically established guideline values are consistent with the conclusions of the VDH report. With respect to the statistical association observed in some of the childhood leukemia epidemiologic studies, the most recent

⁵⁷ See <u>http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/highfinal.pdf</u>.

comprehensive review of the literature by SCENIHR, published in 2015, concluded that "no mechanisms have been identified and no support is existing [*sic*] from experimental studies that could explain these findings, which, together with shortcomings of the epidemiological studies prevent a causal interpretation" (SCENIHR, 2015, p. 16). In their 2023 Preliminary Opinion providing an update on the potential health effects of exposure to electromagnetic fields in the 1 Hz to 100 kilohertz ("kHz") range, SCHEER concluded that "overall, there is weak evidence concerning the association of ELF-MF [magnetic field] exposure with childhood leukaemia" (SCHEER 2023, p. 2).

While research is continuing on multiple aspects of EMF exposure and health, many of the recent publications have focused on an epidemiologic assessment of the relationship between EMF exposure and childhood leukemia and EMF exposure and neurodegenerative diseases. Of these, the following recent publications, published following the inclusion date (June 2014) for the SCENIHR (2015) report through March 2024, provide additional evidence and contribute to clarification of previous findings. Overall, new research studies have not provided evidence to alter the previous conclusions of scientific and health organizations, including WHO and SCENIHR.

Epidemiologic studies of EMF and childhood leukemia published during the above referenced period include:

- Bunch et al. (2015) assessed the potential association between residential proximity to high voltage underground cables and development of childhood cancer in the United Kingdom largely using the same epidemiologic data as in a previously published study on overhead transmission lines (Bunch et al., 2014). No statistically significant associations or trends were reported with either distance to underground cables or calculated magnetic fields from underground cables for any type of childhood cancers.
- Pedersen et al. (2015) published a case-control study that investigated the potential association between residential proximity to power lines and childhood cancer in Denmark. The study included all cases of leukemia (n=1,536), central nervous system tumors, and malignant lymphoma (n=417) diagnosed before the age of 15 between 1968 and 2003 in Denmark, along with 9,129 healthy control children matched on sex and year of birth. Considering the entire study period, no statistically significant increases were reported for any of the childhood cancer types.
- Salvan et al. (2015) compared measured magnetic-field levels in the bedroom for 412 cases of childhood leukemia under the age of 10 and 587 healthy control children in Italy. Although the statistical power of the study was limited because of the small number of highly exposed subjects, no consistent statistical associations or trends were reported between measured magnetic-field levels and the occurrence of leukemia among children in the study.

- Bunch et al. (2016) and Swanson and Bunch (2018) published additional analyses using data from an earlier study (Bunch et al., 2014). Bunch et al. (2016) reported that the association with distance to power lines observed in earlier years was linked to calendar year of birth or year of cancer diagnosis, rather than the age of the power lines. Swanson and Bunch (2018) re-analyzed data using finer exposure categories (*e.g.*, cut-points of every 50-meter distance) and broader groupings of diagnosis date (*e.g.*, 1960-1979, 1980-1999, and 2000 and after) and reported no overall associations between exposure categories and childhood leukemia for the later periods (1980 and after), and consistent pattern for the periods prior to 1980.
- Crespi et al. (2016) conducted a case-control epidemiologic study of childhood cancers and residential proximity to high voltage power lines (60 kV to 500 kV) in California. Childhood cancer cases, including 5,788 cases of leukemia and 3,308 cases of brain tumor, diagnosed under the age of 16 between 1986 and 2008, were identified from the California Cancer Registry. Controls, matched on age and sex, were selected from the California Birth Registry. Overall, no consistent statistically significant associations for leukemia or brain tumor and residential distance to power lines were reported.
- Kheifets et al. (2017) assessed the relationship between calculated magnetic-• field levels from power lines and development of childhood leukemia within the same study population evaluated in Crespi et al. (2016). In the main analyses, which included 4,824 cases of leukemia and 4,782 controls matched on age and sex, the authors reported no consistent patterns, or statistically significant associations between calculated magnetic-field levels and childhood leukemia development. Similar results were reported in subgroup and sensitivity analyses. In two subsequent studies, Amoon et al. (2018a, 2019) examined the potential impact of residential mobility (i.e., moving residences between birth and diagnosis) on the associations reported in Crespi et al. (2016) and Kheifets et al. (2017). Amoon et al. (2018a) concluded that changing residences was not associated with either calculated magnetic-field levels or proximity to the power lines, while Amoon et al. (2019) concluded that while uncontrolled confounding by residential mobility had some impact on the association between EMF exposure and childhood leukemia, it was unlikely to be the primary driving force behind the previously reported associations in Crespi et al. (2016) and Kheifets et al. (2017).
- Amoon et al. (2018b) conducted a pooled analysis of 29,049 cases and 68,231 controls from 11 epidemiologic studies of childhood leukemia and residential distance from high voltage power lines. The authors reported no statistically-significant association between childhood leukemia and proximity to transmission lines of any voltage. Among subgroup analyses, the reported associations were slightly stronger for leukemia cases diagnosed before 5 years of age and in study periods prior to 1980. Adjustment for various potential confounders (*e.g.*, socioeconomic status, dwelling type, residential mobility) had little effect on the estimated associations.

- Kyriakopoulou et al. (2018) assessed the association between childhood acute leukemia and parental occupational exposure to social contacts, chemicals, and electromagnetic fields. The study was conducted at a major pediatric hospital in Greece and included 108 cases and 108 controls matched for age, gender, and ethnicity. Statistically non-significant associations were observed between paternal exposure to magnetic fields and childhood acute leukemia for any of the exposure periods examined (1 year before conception; during pregnancy; during breastfeeding; and from birth until diagnosis); maternal exposure was not assessed due to the limited sample size. No associations were observed between childhood acute leukemia and exposure to social contacts or chemicals.
- Auger et al. (2019) examined the relationship between exposure to EMF during pregnancy and risk of childhood cancer in a cohort of 784,000 children born in Quebec. Exposure was defined using residential distance to the nearest high voltage transmission line or transformer station. The authors reported statistically non-significant associations between proximity to transformer stations and any cancer, hematopoietic cancer, or solid tumors. No associations were reported with distance to transmission lines.
- Crespi et al. (2019) investigated the relationship between childhood leukemia • and distance from high voltage lines and calculated magnetic-field exposure, separately and combined, within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors reported that neither close proximity to high voltage lines nor exposure to calculated magnetic fields alone were associated with childhood leukemia; an association was observed only for those participants who were both close to high voltage lines (< 50 meters) and had exposure to high calculated magnetic fields ( $\geq 0.4$ microtesla [" $\mu$ T"]) (i.e.,  $\geq 4$  milligauss ["mG"]). No associations were observed with low-voltage power lines (< 200 kV). In a subsequent study, Amoon et al. (2020) examined the potential impact of dwelling type on the associations reported in Crespi et al. (2019). Amoon et al. (2020) concluded that while the type of dwelling at which a child resides (e.g., single-family home, apartment, duplex, mobile home) was associated with socioeconomic status and race or ethnicity, it was not associated with childhood leukemia and did not appear to be a potential confounder in the relationship between childhood leukemia and magnetic-field exposure in this study population.
- Swanson et al. (2019) conducted a meta-analysis of 41 epidemiologic studies of childhood leukemia and magnetic-field exposure published between 1979 and 2017 to examine trends in childhood leukemia development over time. The authors reported that while the estimated risk of childhood leukemia initially increased during the earlier period, a statistically non-significant decline in estimated risk has been observed from the mid-1990s until the present (i.e., 2019).
- Talibov et al. (2019) conducted a pooled analysis of 9,723 cases and 17,099

controls from 11 epidemiologic studies to examine the relationship between parental occupational exposure to magnetic fields and childhood leukemia. No statistically significant association was found between either paternal or maternal exposure and leukemia (overall or by subtype). No associations were observed in the meta-analyses.

- Núñez-Enríquez et al. (2020) assessed the relationship between residential magnetic-field exposure and B-lineage acute lymphoblastic leukemia ("B-ALL") in children under 16 years of age in Mexico. The study included 290 cases and 407 controls matched on age, gender, and health institution; magnetic-field exposure was assessed through the collection of 24-hour measurements in the participants' bedrooms. While the authors reported some statistically significant associations between elevated magnetic-field levels and development of B-ALL, the results were dependent on the chosen cut-points.
- Seomun et al. (2021) performed a meta-analysis based on 33 previously published epidemiologic studies investigating the potential relationship between magnetic-field exposure and childhood cancers, including leukemia and brain cancer. For childhood leukemia, the authors reported statistically significant associations with some, but not all, of the chosen cut-points for magnetic-field exposure. The associations between magnetic-field exposure and childhood brain cancer were statistically non-significant. The study provided limited new insight as most of the studies included in the current meta-analysis, were included in previously conducted meta- and pooled analyses.
- Amoon et al. (2022) conducted a pooled analysis of four studies of residential exposure to magnetic fields and childhood leukemia published following a 2010 pooled analysis by Kheifets et al. (2010). The study by Amoon et al. (2022) compared the exposures of 24,994 children with leukemia to the exposures of 30,769 controls without leukemia in California, Denmark, Italy, and the United Kingdom. Exposure was assessed by measured or calculated magnetic fields at their residences. The exposure of these two groups to magnetic fields were found not to significantly differ. A decrease in the combined effect estimates in epidemiologic studies was observed over time, and the authors concluded that their findings, based on the most recent studies, were "not in line" with previous pooled analyses that reported an increased risk of childhood leukemia.
- Brabant et al. (2022) performed a literature review and meta-analysis of studies of childhood leukemia and magnetic-field exposure. The overall analysis included 21 epidemiologic studies published from 1979 to 2020. The authors reported a statistically significant association, which they noted was "mainly explained by the studies conducted before 2000." The authors reported a statistically significant association between childhood leukemia and measured or calculated magnetic-field exposures > 0.4  $\mu$ T (4 mG); no statistically significant overall associations were reported between childhood leukemia and lower magnetic-field exposure (< 0.4  $\mu$ T [4 mG]), residential distance from power lines, or wire coding configuration. An association between childhood

leukemia and electric blanket use was also reported. The overall results were likely influenced by the inclusion of a large number of earlier studies; 10 of the 21 studies in the main analysis were published prior to 2000. Studies published prior to 2000 included fewer studies deemed to be of higher study quality, as determined by the authors, compared to studies published after 2000.

- Nguyen et al. (2022) investigated whether potential pesticide exposure from living in close proximity to commercial plant nurseries confounds the association between magnetic-field exposure and childhood leukemia development reported within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors in Nguyen et al. (2022) noted that while the association between childhood leukemia and magnetic-field exposure was "slightly attenuated" after adjusting for nursery proximity or when restricting to subjects living > 300 meters from nurseries, their results "do not support plant nurseries as an explanation for observed childhood leukemia risks." The authors further noted that close residential proximity to nurseries may be an independent risk factor for childhood leukemia.
- Guo et al. (2023) reported conducting a systematic review and meta-analysis of • studies published from 2015 to 2022 that evaluated associations between magnetic-field exposure and childhood leukemia development. Three metaanalyses were conducted to evaluate the relationship using different exposure metrics. In the first meta-analysis, magnetic-field levels ranging from 0.4  $\mu$ T (4 mG) to  $0.2 \mu \text{T} (2 \text{ mG})$  were associated with a statistically significant reduced risk of childhood leukemia development (i.e., a protective association). In the second meta-analysis, exposure was based on wiring configuration codes, and the reported pooled relative risk estimates demonstrated a statistically significant increased association with childhood leukemia. In the third metaanalysis, exposure was categorized into groupings of magnetic-field strength; no statistically significant associations with childhood leukemia were reported for any of the groupings, including for magnetic-field levels  $\geq 0.4 \ \mu T \ (4 \ mG)$ . There are significant limitations of this study that prevent meaningful interpretations of the results. Most of the analyses of magnetic fields did not state whether measurements and calculations were included, and the authors provided no description of the methods used for their analyses, no data tables to support their findings, and no references to the number and type of studies included. In fact, much of the article's introduction discusses ionized radiation. The authors also do not report relevant metrics for evaluating meta-analyses such as study heterogeneity.
- Malagoli et al. (2023) examined associations between exposure to magnetic fields from high voltage power lines (≥ 132 kV) and childhood leukemia development in a case-control study of children in Italy. The study included 182 cases diagnosed with childhood leukemia between 1998 and 2019 and 726 controls matched based on age, sex, and Italian province. The authors assessed magnetic-field exposure by calculating the distance from each participant's

residence to the nearest high voltage power line and classifying that distance into one of three exposed categories (participants living < 100 meters, 100 to < 200 meters, or 200 to < 400 meters from the power lines) or as unexposed (participants living  $\geq$  400 meters from the power lines). The authors reported a non-statistically significant association between childhood leukemia and a residence distance of <100 meters; no statistically significant associations were reported for any distance, including when stratifying by age (< 5 or  $\geq$  5 years) or when restricting to acute lymphoblastic leukemia (ALL).

- Nguyen et al. (2023) extended their previous investigation (Nguyen et al., 2022) into whether pesticide exposure was an independent risk factor or confounder for childhood leukemia in the presence of magnetic-field exposure from high voltage power lines by examining the potential impact of specific pesticide exposure factors (*e.g.*, intended use, chemical class, active ingredient). The authors found no statistically significant associations between distance to high voltage power lines or magnetic-field exposure and childhood leukemia, including when adjusting for pesticide exposures. Several of the examined pesticides were determined by the authors to be potential independent risk factors for childhood leukemia.
- Zagar et al. (2023) examined the relationship between magnetic fields and childhood cancers, including childhood leukemia, in Slovenia. Cancer cases, including 194 cases of leukemia, were identified from the Slovenian Cancer Registry; cases were then classified into one of five calculated magnetic-field exposure levels (ranging from < 0.1  $\mu$ T [< 1 mG] to ≥ 0.4  $\mu$ T [≥ 4 mG]) based on residential distance to high voltage (*e.g.*, 110-kV, 220-kV, and 400-kV) power lines. The authors reported that less than 1% of Slovenian children and adolescents lived in an area near high voltage power lines. No differences in the development of childhood cancers, including leukemia, brain tumors, or all cancers combined, were reported across the five exposure categories.
- Crespi et al. (2024) assessed the association between residential proximity to ٠ electricity transformers in multi-story residential buildings and childhood leukemia development in the International Transformer Exposure study. Participants were required to live in an apartment building that contained a built-in transformer; exposure was estimated using the participants' apartment location relative to the transformer and categorized as high exposure (located above or adjacent to the transformer), intermediate exposure (located on the same floor as apartments in the high exposure category), or unexposed (all other apartments). In the pooled analyses of five countries' data, a total of 74 cases and 20,443 controls were included; 18 of the 74 cases were identified in the intermediate or high exposure categories. No significant associations were reported between proximity to residential transformers and childhood leukemia. Sensitivity analyses performed using the data from one of the five countries (Finland) where a cohort study design was used, also reported no significant associations. The authors concluded that the evidence for an elevated risk of childhood leukemia from proximity to residential transformers was "weak."

- Duarte-Rodríguez et al. (2024) conducted a population-based case-control study to examine the geographical distribution of childhood ALL cases in Mexico City, Mexico. Cases and controls were geolocated using the most recent residential address, and a spatial scan statistic was used to detect spatial clusters of cancer cases. The authors identified eight spatial clusters of cases, representing nearly 40% of all cases included in the study (n=1,054 cases). The authors noted that six of the eight spatial clusters were located in proximity to high voltage power lines and high voltage electric installations (distances not specified), and that the remaining two clusters were located near former petrochemical industrial facility sites. Since the study did not directly assess magnetic-field exposure and made no conclusions about magnetic-field exposure and cancer development, this study adds little value to the existing literature regarding a potential association between exposure to ELF EMF and childhood leukemia development.
- Malavolti et al. (2024) examined the association between magnetic-field exposure from transformer stations and childhood leukemia in the same Italian study population as Malagoli et al. (2023). Magnetic-field exposure was estimated based on residential distance to the nearest transformer station, and participants were then categorized as exposed or unexposed using two different distance cut-points: residing within a radius of 15 or 25 meters from the transformer station (exposed); residing ≥ 15 meters or ≥ 25 meters from the transformer station (unexposed). No significant associations were reported for all leukemias, or ALL specifically, when either distance cut-point was used, and in fact no association at all (an odds ratio = 1.0) was observed when the more stringent cut-point of 15 meters was used. In sub-analyses that stratified by participant age (< 5 years vs. ≥ 5 years), no significant associations were reported for either age category.</p>

Epidemiologic studies of EMF and neurodegenerative diseases published during the above referenced period include:

- Seelen et al. (2014) conducted a population-based case-control study in the Netherlands and included 1,139 cases diagnosed with amyotrophic lateral sclerosis ("ALS") between 2006 and 2013 and 2,864 frequency-matched controls. The shortest distance from the case and control residences to the nearest high voltage power line (50 to 380 kV) was determined by geocoding. No statistically significant associations between residential proximity to power lines with voltages of either 50 to 150 kV or 220 to 380 kV and ALS were reported.
- Sorahan and Mohammed (2014) analyzed mortality from neurodegenerative diseases in a cohort of approximately 73,000 electricity supply workers in the United Kingdom. Cumulative occupational exposure to magnetic-fields was calculated for each worker in the cohort based on their job titles and job locations. Death certificates were used to identify deaths from neurodegenerative diseases. No associations or trends for any of the included

neurodegenerative diseases (Alzheimer's disease, Parkinson's disease, and ALS) were observed with various measures of calculated magnetic fields.

- Koeman et al. (2015, 2017) analyzed data from the Netherlands Cohort Study of approximately 120,000 men and women who were enrolled in the cohort in 1986 and followed up until 2003. Lifetime occupational history, obtained through questionnaires, and job-exposure matrices on ELF magnetic fields and other occupational exposures were used to assign exposure to study subjects. Based on 1,552 deaths from vascular dementia, the researchers reported a statistically not significant association of vascular dementia with estimated exposure to metals, chlorinated solvents, and ELF magnetic fields. However, because no exposure-response relationship for cumulative exposure was observed and because magnetic fields and solvent exposures were highly correlated with exposure to metals, the authors attributed the association with ELF magnetic fields and solvents to confounding by exposure to metals (Koeman et al., 2015). Based on a total of 136 deaths from ALS among the cohort members, the authors reported a statistically significant, approximately two-fold association with ELF magnetic fields in the highest exposure category. This association, however, was no longer statistically significant when adjusted for exposure to insecticides (Koeman et al., 2017).
- Fischer et al. (2015) conducted a population-based case-control study that included 4,709 cases of ALS diagnosed between 1990 and 2010 in Sweden and 23,335 controls matched to cases on year of birth and sex. The study subjects' occupational exposures to ELF magnetic fields and electric shocks were classified based on their occupations, as recorded in the censuses and corresponding job-exposure matrices. Overall, neither magnetic fields nor electric shocks were related to ALS.
- Vergara et al. (2015) conducted a mortality case-control study of occupational exposure to electric shock and magnetic fields and ALS. They analyzed data on 5,886 deaths due to ALS and over 58,000 deaths from other causes in the United States between 1991 and 1999. Information on occupation was obtained from death certificates and job-exposure matrices were used to categorize exposure to electric shocks and magnetic fields. Occupations classified as "electric occupations" were moderately associated with ALS. The authors reported no consistent associations for ALS, however, with either electric shocks or magnetic fields, and they concluded that their findings did not support the hypothesis that exposure to either electric shocks or magnetic fields explained the observed association of ALS with "electric occupations."
- Pedersen et al. (2017) investigated the occurrence of central nervous system diseases among approximately 32,000 male Danish electric power company workers. Cases were identified through the national patient registry between 1982 and 2010. Exposure to ELF magnetic fields was determined for each worker based on their job titles and area of work. A statistically significant increase was reported for dementia in the high exposure category when

compared to the general population, but no exposure-response pattern was identified, and no similar increase was reported in the internal comparisons among the workers. No other statistically significant increases among workers were reported for the incidence of Alzheimer's disease, Parkinson's disease, motor neuron disease, multiple sclerosis, or epilepsy, when compared to the general population, or when incidence among workers was analyzed across estimated exposure levels.

- Vinceti et al. (2017) examined the association between ALS and calculated magnetic-field levels from high voltage power lines in Italy. The authors included 703 ALS cases and 2,737 controls; exposure was assessed based on residential proximity to high voltage power lines. No statistically significant associations were reported and no exposure-response trend was observed. Similar results were reported in subgroup analyses by age, calendar period of disease diagnosis, and study area.
- Checkoway et al. (2018) investigated the association between Parkinsonism⁵⁸ and occupational exposure to magnetic fields and several other agents (endotoxins, solvents, shift work) among 800 female textile workers in Shanghai. Exposure to magnetic fields was assessed based on the participants' work histories. The authors reported no statistically significant associations between Parkinsonism and occupational exposure to any of the agents under study, including magnetic fields.
- Gunnarsson and Bodin (2018) conducted a meta-analysis of occupational risk factors for ALS. The authors reported a statistically significant association between occupational exposures to EMF, estimated using a job-exposure matrix, and ALS among the 11 studies included. Statistically significant associations were also reported between ALS and jobs that involve working with electricity, heavy physical work, exposure to metals (including lead) and chemicals (including pesticides), and working as a nurse or physician. The authors reported some evidence for publication bias. In a subsequent publication, Gunnarsson and Bodin (2019) updated their previous meta-analysis to also include Parkinson's disease and Alzheimer's disease. A slight, statistically significant association was reported between occupational exposure to EMF and Alzheimer's disease; no association was observed for Parkinson's disease.
- Huss et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of ALS and occupational exposure to magnetic fields. The authors reported a weak overall association; a slightly stronger association was observed in a subset analysis of six studies with full occupational histories available. The authors noted substantial heterogeneity among studies, evidence for publication

⁵⁸ Parkinsonism is defined by Checkoway et al. (2018) as "a syndrome whose cardinal clinical features are bradykinesia, rest tremor, muscle rigidity, and postural instability. Parkinson disease is the most common neurodegenerative form of [parkinsonism]" (p. 887).

bias, and a lack of a clear exposure-response relationship between exposure and ALS.

- Jalilian et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of occupational exposure to magnetic fields and Alzheimer's disease. The authors reported a moderate, statistically significant overall association; however, they noted substantial heterogeneity among studies and evidence for publication bias.
- Röösli and Jalilian (2018) performed a meta-analysis using data from five epidemiologic studies examining residential exposure to magnetic fields and ALS. A statistically non-significant negative association was reported between ALS and the highest exposed group, where exposure was defined based on distance from power lines or calculated magnetic-field level.
- Gervasi et al. (2019) assessed the relationship between residential distance to overhead power lines in Italy and risk of Alzheimer's dementia and Parkinson's disease. The authors included 9,835 cases of Alzheimer's dementia and 6,810 cases of Parkinson's disease; controls were matched by sex, year of birth, and municipality of residence. A weak, statistically non-significant association was observed between residences within 50 meters of overhead power lines and both Alzheimer's dementia and Parkinson's disease, compared to distances of over 600 meters.
- Peters et al. (2019) examined the relationship between ALS and occupational exposure to both magnetic fields and electric shock in a pooled study of data from three European countries. The study included 1,323 ALS cases and 2,704 controls matched for sex, age, and geographic location; exposure was assessed based on occupational title and defined as low (background), medium, or high. Statistically significant associations were observed between ALS and ever having been exposed above background levels to either magnetic fields or electric shocks; however, no clear exposure-response trends were observed with exposure duration or cumulative exposure. The authors also noted significant heterogeneity in risk by study location.
- Filippini et al. (2020) investigated the associations between ALS and several environmental and occupational exposures, including electromagnetic fields, within a case-control study in Italy. The study included 95 cases and 135 controls matched on age, gender, and residential province; exposure to electromagnetic fields was assessed using the participants' responses to questions related to occupational use of electric and electronic equipment, occupational EMF exposure, and residential distance to overhead power lines. The authors reported a statistically significant association between ALS and residential proximity to overhead power lines and a statistically non-significant association between ALS and occupational exposure to EMF; occupational use of electric and electronic equipment was associated with a statistically non-significant decrease in ALS development.

- Huang et al. (2020) conducted a meta-analysis of 43 epidemiologic studies examining potential occupational risk factors for dementia or mild cognitive impairment. The authors included five cohort studies and seven case-control studies related to magnetic-field exposure. For both study types, the authors reported positive associations between dementia and work-related magnetic-field exposures. The paper, however, provided no information on the occupations held by the study participants, their magnetic-field exposure levels, or how magnetic-field levels were assessed; therefore, the results are difficult to interpret. The authors also reported a high level of heterogeneity among studies. Thus, this analysis adds little, if any, to the overall weight of evidence on a potential association between dementia and magnetic fields.
- Jalilian et al. (2020) conducted a meta-analysis of ALS and occupational exposure to both magnetic fields and electric shocks within 27 studies from Europe, the United States, and New Zealand. A weak, statistically significant association was reported between magnetic-field exposure and ALS; however, the authors noted evidence of study heterogeneity and publication bias. No association was observed between ALS and electric shocks.
- Chen et al. (2021) conducted a case-control study to examine the association between occupational exposure to electric shocks, magnetic fields, and motor neuron disease ("MND") in New Zealand. The study included 319 cases with a MND diagnosis (including ALS) and 604 controls, matched on age and gender; exposure was assessed using the participants' occupational history questionnaire responses and previously developed job-exposure matrices for electric shocks and magnetic fields. The authors reported no associations between MND and exposure to magnetic fields; positive associations were reported between MND and working at a job with the potential for electric shock exposure.
- Grebeneva et al. (2021) evaluated disease rates among electric power company workers in the Republic of Kazakhstan. The authors included three groups of "exposed" workers who "were in contact with equipment generating [industrial frequency EMF]" (a total of 161 workers), as well as 114 controls "who were not associated with exposure to electromagnetic fields." Disease rates were assessed "based on analyzing the sick leaves of employees" from 2010 to 2014 and expressed as "incidence rate per 100 employees." The authors reported a higher "incidence rate" of "diseases of the nervous system" in two of the exposed categories compared to the non-exposed group. No meaningful conclusions from the study could be drawn, however, because no specific diagnoses within "diseases of the nervous system" were identified in the paper and no clear description was provided on how the authors defined and calculated "incidence rate" for the evaluated conditions. In addition, no measured or calculated magnetic-field levels were presented by the authors.
- Filippini et al. (2021) conducted a meta-analysis to assess the dose-response relationship between residential exposure to magnetic fields and ALS. The

authors identified six ALS epidemiologic studies, published between 2009 and 2020, that assessed exposure to residential magnetic fields by either distance from overhead power lines or magnetic-field modeling. They reported a decrease in risk of ALS in the highest exposure categories for both distance-based and modeling-based exposure estimates. The authors also reported that their dose-response analyses "showed little association between distance from power lines and ALS"; the data were too sparse to conduct a dose-response analysis for modeled magnetic-field estimates. The authors noted that their study was limited by small sample size, "imprecise" exposure categories, the potential for residual confounding, and by "some publication bias."

- Jalilian et al. (2021) conducted a meta-analysis of occupational exposure to ELF magnetic fields and electric shocks and development of ALS. The authors included 27 studies from Europe, the United States, and New Zealand that were published between 1983 and 2019. A weak, statistically significant association was reported between magnetic-field exposure and ALS, and no association was observed between electric shocks and ALS. Indications of publication bias and "moderate to high" heterogeneity were identified for the studies of magnetic-field exposure and ALS, and the authors noted that "the results should be interpreted with caution."
- Goutman et al. (2022) examined occupational exposures, including • "electromagnetic radiation" exposure, and associations with ALS in a casecontrol study of Michigan workers across various industries. The study included 381 cases diagnosed with ALS, all patients at the University of Michigan's Pranger ALS clinic, and 272 controls recruited from an online database for the University of Michigan. Participants were enrolled from 2010 to 2020 and completed a written survey of their work history and occupational exposures to nine exposure categories, including electromagnetic fields, particulate matter (PM), and pesticides. Exposure to electromagnetic fields was ascertained with a binary question asking whether they were "[e]xposed to power lines, transformation [sic] stations or other EM [electromagnetic radiation]?" The analysis was adjusted for age, sex, and military service. No association was observed between electromagnetic field exposure and ALS, while exposure to PM, pesticides, and metals, among others, were determined by the authors to be "associated with an increased ALS risk in this cohort."
- Sorahan and Nichols (2022) investigated magnetic-field exposure and mortality from MND in a large cohort of employees of the former Central Electricity Generating Board of England and Wales. The study included nearly 38,000 employees first hired between 1942 and 1982 and still employed in 1987. Estimates of exposure magnitude, frequency, and duration were calculated using data from the power stations and the employees' job histories, and were described in detail in a previous publication (Renew et al., 2003). Mortality from MND in the total cohort was observed to be similar to national rates. No statistically significant dose-response trends were observed with lifetime, recent, or distant magnetic-field exposure; statistically significant associations

were observed for some categories of recent exposure, but not for the highest exposure category.

- Duan et al. (2023) conducted a meta-summary of ALS and exposure to magnetic fields, which was 1 of 22 non-genetic risk factors evaluated across 67 studies for its association with ALS. Six of the 67 studies examined magnetic-field exposure and associations with ALS; of the six studies identified, the authors included four case-control studies and one cohort study in their meta-analysis. Pooling results from these studies resulted in significant increased odds of ALS among individuals with higher (but undefined) exposure to magnetic fields. However, this pooled odds ratio for magnetic-field exposure (1.22) was below the minimum odds ratio threshold of 1.3 set by the authors as the criterion for defining an exposure as an ALS risk factor. In addition, the authors identified "substantial" heterogeneity between studies evaluating magnetic-field exposure and ALS.
- In a subsequent publication of the same study as Goutman et al. (2022), Goutman et al. (2023) assessed the potential for the same nine exposure categories, including "electromagnetic radiation" exposure, to be risk factors for ALS progression, including survival and onset segment (bulbar, cervical, lumbar). Electromagnetic field exposure was not significantly associated with ALS survival or with bulbar onset compared to lumbar, but was significantly associated with cervical onset compared to lumbar. It is worth noting that an association with cervical onset compared to lumbar was observed in the majority (7/9) of the exposure categories. The authors make no concluding statements on electromagnetic field exposure and ALS and instead emphasize that occupational pesticide exposure and working in military operations were significantly associated with worse ALS survival.
- Saucier et al. (2023) carried out three systematic reviews of studies that evaluated relationships between urbanization, air pollution, and water pollution, and ALS development. The authors identified five studies that assessed whether electromagnetic fields (of varying frequencies) and high voltage infrastructure were significant urbanization risk factors for ALS, but make no conclusion about magnetic-field exposure and ALS development based on these studies, therefore adding little value to the existing literature.
- Vasta et al. (2023) examined the relationship between residential distance to power lines and ALS development in a cohort study of 1,098 participants in Italy. The authors reported no differences in the age of ALS onset or ALS progression rate between low-exposed and high-exposed participants based on residential distance to power lines at the time of the participants' diagnosis. Similarly, no differences were observed when exposure was based on residential distance to repeater antennas.
- Vitturi et al. (2023) conducted a systematic review and meta-analysis of casecontrol studies examining potential occupational risk factors related to multiple

sclerosis, including solvents, mercury, pesticides, and low-frequency magnetic fields. The authors included 24 studies in their review, but only one of the included studies investigated exposure to magnetic fields (Pedersen et al., 2017, discussed above), thereby adding little new information to the existing body of research.

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### V. NOTICE

- A. Furnish a proposed route description to be used for public notice purposes. Provide a map of suitable scale showing the route of the proposed project. For all routes that the Applicant proposed to be noticed, provide minimum, maximum and average structure heights.
- Response: A map showing the approximately 13.5-mile Proposed Route to be used for the proposed Project is provided as <u>Attachment V.A</u>. The map depicts the existing transmission corridor that includes the existing Fentress-Yadkin Line #588, which is proposed for rebuild, and the proposed new 500 kV Fentress-Yadkin Line #5005. The map also depicts the approximately 1.6-mile Constraint Design Segment within the approximately 13.5-mile Proposed Route. A written description of the Proposed Route is as follows:

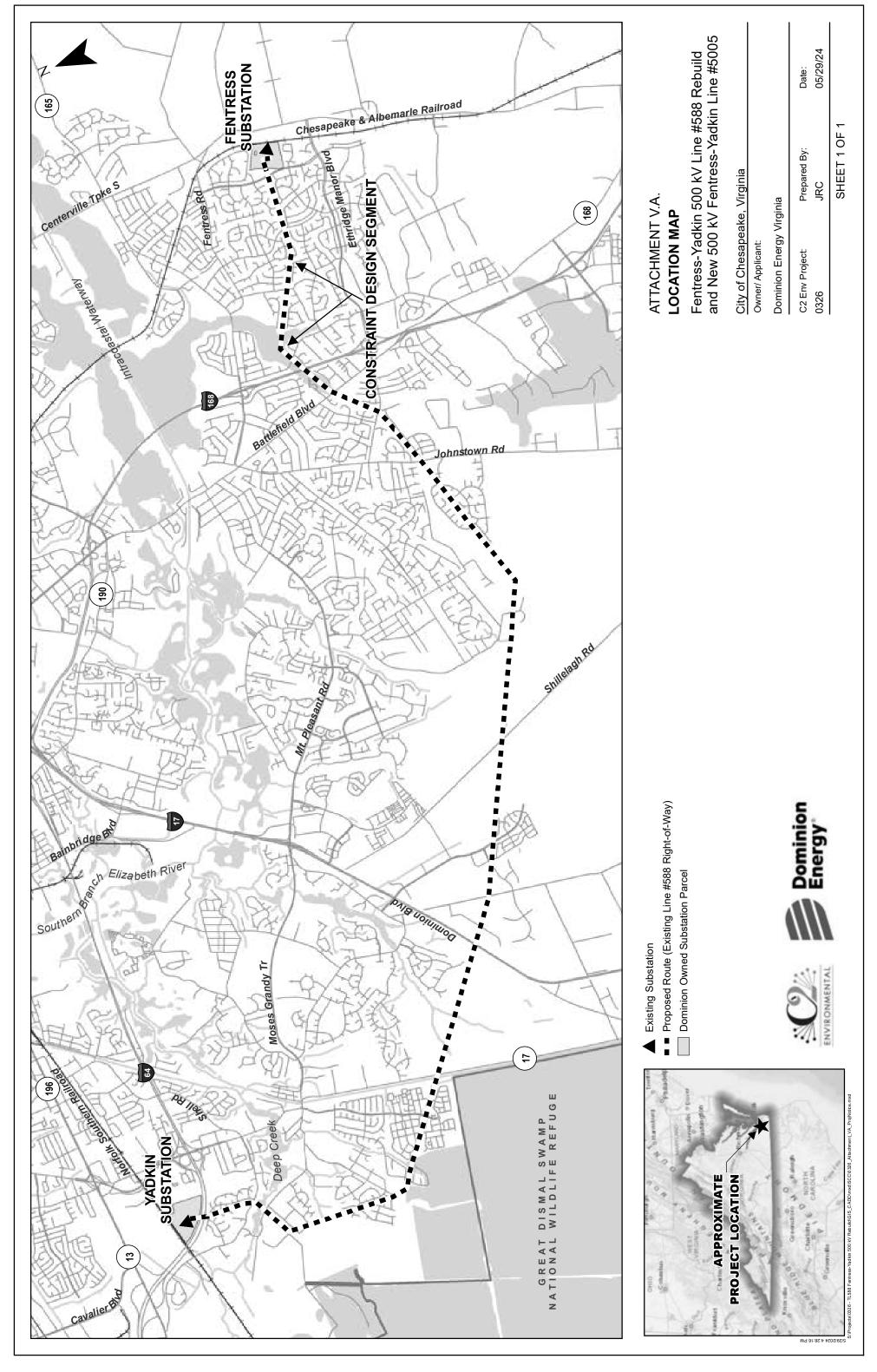
#### Proposed Route – Line #588 and Line #5005

The Proposed Route for rebuilt Line #588 and proposed Line #5005 begins at the Fentress Substation located east of Fentress Loop and west of Chesapeake & Albemarle Railroad. The Proposed Route exits the Fentress Substation within the existing right-of-way corridor, which is currently cleared and maintained at a width of 150 feet. The Proposed Route then crosses Fentress Loop and continues west through the Etheridge Woods, Brandermill, and Etheridge Meadows developments. It then crosses Chesapeake Expressway/Route 168. From there, the Proposed Route continues southwest, crossing Battlefield Boulevard, Hanbury Road and Johnstown Road. The Proposed Route then turns northwest and continues towards the Great Dismal Swamp National Wildlife Refuge, passing north of Chesapeake Regional Airport and crossing Route 17/Dominion Boulevard and Deep Creek The Proposed Route next crosses the Deep Creek Canal/Intracoastal Park. Waterway and passes northeast of the Great Dismal Swamp National Wildlife Refuge before crossing the Culpepper Landing and Elmwood Landing developments. From here, the Proposed Route generally trends north before terminating at the existing Yadkin Substation, located on Yadkin Road north and east of Interstate 64 and south of Norfolk Southern Railroad.

For the proposed Project, the existing weathering steel lattice towers supporting Line #588 are proposed to be replaced with new single circuit dulled galvanized steel monopoles. In addition, new single circuit dulled galvanized steel structures, which are primarily monopoles, will be installed within the same corridor to support the proposed new Line #5005. The proposed structures supporting rebuilt Line #588 and proposed Line #5005 will be constructed side-by-side entirely within the existing corridor, which is cleared and maintained at a width of 150 feet, or on Company-owned property. The side-by-side structures will have a minimum structure height of approximately 170 feet, a maximum structure height of approximately 185 feet, based on preliminary conceptual design, not including foundation reveal, and subject to change based on final engineering design. Note that these approximate

structure heights exclude one approximately 115-foot-tall 3-pole structure supporting Line #5005 that will be installed on Company-owned property, as it would create a downward bias in the overall average structure height along the Proposed Route for the Project.

To the extent needed, the Company may propose to replace the removed Line #588 structures within an approximately 1.6-mile Constraint Design Segment that includes two side-by-side single circuit 500 kV dulled galvanized steel monopoles in a delta configuration (*i.e.*, arms on both sides of the structures) supporting rebuilt Line #588 and proposed Line #5005. The Constraint Design Segment would require the Company to clear and utilize the entire 235-foot-width of the Company's existing right-of-way, which is currently maintained at 150 feet, for approximately 1.6 miles. The side-by-side delta configured monopole structures along the approximately 1.6-mile Constraint Design Segment would have a minimum structure height of approximately 145 feet, a maximum structure height of approximately 145 feet, a maximum structure height of approximately 147 feet, based on preliminary conceptual design, not including foundation reveal, and subject to change based on final engineering design.



# Attachment V.A

# V. NOTICE

- B. List Applicant offices where members of the public may inspect the application. If applicable, provide a link to website(s) where the application may be found.
- Response: Shortly after filing, the Application will be made available electronically for public inspection at: www.dominionenergy.com/yadkin-fentress.

#### V. NOTICE

C. List all federal, state, and local agencies and/or officials that may reasonably be expected to have an interest in the proposed construction and to whom the Applicant has furnished or will furnish a copy of the application.

Response: Ms. Bettina Rayfield Virginia Department of Environmental Quality Office of Environmental Impact Review 1111 East Main Street, Suite 1400 Richmond, Virginia 23219

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

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

Environmental Reviewer Virginia Department of Conservation and Recreation Planning & Recreation Bureau 600 East Main Street, 17th Floor Richmond, Virginia 23219

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

Ms. Amy Martin Virginia Department of Wildlife Resources Wildlife Information and Environmental Services 7870 Villa Park, Suite 400 Henrico, Virginia 23228

Mr. Keith Tignor Virginia Department of Agriculture and Consumer Affairs Office of Plant Industry Services 102 Governor Street Richmond, Virginia 23219 Mr. Clint Folks Virginia Department of Forestry Forestland Conservation Division 900 Natural Resources Drive, Suite 800 Charlottesville, Virginia 22903

Scoping at VMRC Virginia Marine Resources Commission Habitat Management Division Building 96, 380 Fenwick Road Ft. Monroe, Virginia 23651

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

Ms. Regena Bronson U.S. Army Corps of Engineers Norfolk District 803 Front Street Norfolk, Virginia 23510

Ms. Arlene F. Warren Virginia Department of Health Office of Drinking Water 109 Governor Street, 6th Floor Richmond, VA 23219

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

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

Mr. Christopher G. Hall, P.E Hampton Roads District Engineer Virginia Department of Transportation 7511 Burbage Drive Suffolk, Virginia 23435 Mr. Christopher M. Price City of Chesapeake, City Manager 306 Cedar Road, 6th Floor Chesapeake, VA 23322

Mayor Richard W. 'Rick' West City of Chesapeake 306 Cedar Road Chesapeake, Virginia 23322

## V. NOTICE

- D. If the application is for a transmission line with a voltage of 138 kV or greater, provide a statement and any associated correspondence indicating that prior to the filing of the application with the SCC the Applicant has notified the chief administrative officer of every locality in which it plans to undertake construction of the proposed line of its intention to file such an application, and that the Applicant gave the locality a reasonable opportunity for consultation about the proposed line (similar to the requirements of § 15.2-2202 of the Code for electric transmission lines of 150 kV or more).
- Response: In accordance with Va. Code § 15.2-2202 E, letters dated May 14, 2024, were delivered to Mr. Christopher M. Price, City Manager for the City of Chesapeake and Mr. Richard West, Mayor for the City of Chesapeake, where the Project is located. The letters stated the Company's intention to file this Application and invited the City to consult with the Company about the Project. These letters are included as <u>Attachment V.D.1</u>.

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



Mr. Christopher M. Price City of Chesapeake, City Manager 306 Cedar Road, 6th Floor Chesapeake, Virginia 23322

May 14, 2024

# RE: Dominion Energy Virginia's Fentress-Yadkin 500 kV Line #588 Rebuild and New 500 kV Fentress-Yadkin Line #5005

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Price:

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing 500 kV Fentress-Yadkin Line #588 (the "Line #588 Rebuild") and construct a new overhead single circuit 500 kV transmission line (the "proposed Line #5005") almost entirely within the Company's existing Line #588 transmission right-of-way corridor (collectively, the "Project"). The Project is located in the City of Chesapeake, Virginia, and will include substation-related work at the Company's expanded Fentress Substation and existing Yadkin Substation as well as new right-of-way required for a minor shift of existing Line #565 at Yadkin and for Line #5005 at Fentress, both of which are still under consideration. The Project is necessary to maintain the overall long-term reliability of its transmission system.

The Company is preparing to file an application for a certificate of public convenience and necessity ("CPCN") with the State Corporation Commission of Virginia (the "Commission"). In advance of filing an application for a CPCN from the Commission, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter.

Enclosed is a Project Overview Map depicting the alignment of the proposed Project, as well as the general Project location. All final materials, including maps, will be available in the Company's application filing to the Commission.

If you would like to receive a GIS shapefile of the proposed Project to assist in the project review or if you have any questions, please do not hesitate to contact me directly at 804-310-9658 or <u>lane.e.carr@dominionenergy.com</u>. The Company appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Regards,

Love Cu

Lane Carr Siting and Permitting Specialist, Electric Transmission

Attachment: Project Overview Map

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



Mayor Richard W. 'Rick' West City of Chesapeake 306 Cedar Road Chesapeake, Virginia 23322

May 14, 2024

# RE: Dominion Energy Virginia's Fentress-Yadkin 500 kV Line #588 Rebuild and New 500 kV Fentress-Yadkin Line #5005

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. West:

Dominion Energy Virginia (the "Company") is proposing to rebuild the existing 500 kV Fentress-Yadkin Line #588 (the "Line #588 Rebuild") and construct a new overhead single circuit 500 kV transmission line (the "proposed Line #5005") almost entirely within the Company's existing Line #588 transmission right-of-way corridor (collectively, the "Project"). The Project is located in the City of Chesapeake, Virginia, and will include substation-related work at the Company's expanded Fentress Substation and existing Yadkin Substation as well as new right-of-way required for a minor shift of existing Line #565 at Yadkin and for Line #5005 at Fentress, both of which are still under consideration. The Project is necessary to maintain the overall long-term reliability of its transmission system.

The Company is preparing to file an application for a certificate of public convenience and necessity ("CPCN") with the State Corporation Commission of Virginia (the "Commission"). In advance of filing an application for a CPCN from the Commission, the Company respectfully requests that you submit any comments or additional information that would have bearing on the proposed Project within 30 days of the date of this letter.

Enclosed is a Project Overview Map depicting the alignment of the proposed Project, as well as the general Project location. All final materials, including maps, will be available in the Company's application filing to the Commission.

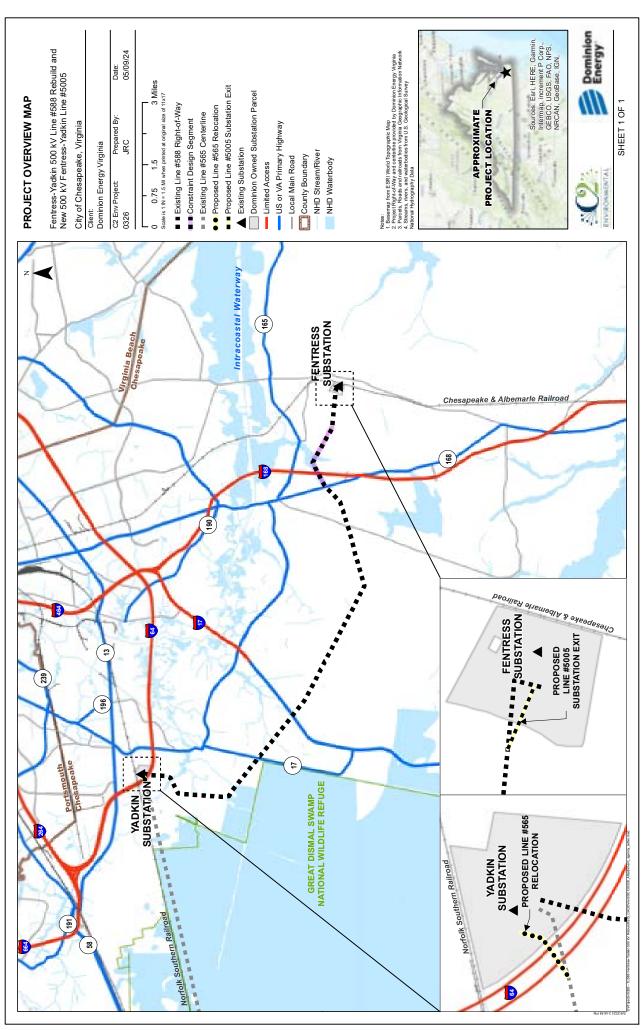
If you would like to receive a GIS shapefile of the proposed Project to assist in the project review or if you have any questions, please do not hesitate to contact me directly at 804-310-9658 or <u>lane.e.carr@dominionenergy.com</u>. The Company appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Regards,

Rome Ca

Lane Carr Siting and Permitting Specialist, Electric Transmission

Attachment: Project Overview Map



#### COMMONWEALTH OF VIRGINIA

#### STATE CORPORATION COMMISSION

) For approval and certification of electric transmission ) facilities: Fentress-Yadkin 500 kV Line #588 Rebuild )	
facilities: Fentress-Yadkin 500 kV Line #588 Rebuild )	ase No.
and New 500 kV Fentress-Yadkin Line #5005 )	

Case No. PUR-2024-00105

## IDENTIFICATION, SUMMARIES, AND TESTIMONY OF DIRECT WITNESSES OF VIRGINIA ELECTRIC AND POWER COMPANY

#### **Peter Nedwick**

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

### Daniel J. Cabonor

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

#### Mohammad M. Othman

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

## Lane E. Carr

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

# WITNESS DIRECT TESTIMONY SUMMARY

Witness: Peter Nedwick

<u>Title:</u> Senior Strategic Advisor – Electric Transmission Planning

# Summary:

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

- <u>Section I.B</u>: This section details the engineering justifications for the proposed Project.
- <u>Section I.C</u>: This section describes the present system and details how the proposed project will effectively satisfy present and projected future load demand requirements.
- <u>Section I.D</u>: This section describes critical contingencies and associated violations due to the inadequacy of the existing system.
- <u>Section I.E:</u> This section explains feasible project alternatives, when applicable.
- <u>Section I.G</u>: This section provides a system map of the affected area.
- <u>Section I.H</u>: This section provides the desired in-service date of the proposed project and the estimated construction time.
- <u>Section I.J</u>: This section provides information about the project if approved by the RTO.
- <u>Section I.K</u>: Although not applicable to the proposed project, this section, when applicable, 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.
- <u>Section I.M</u>: Although not applicable to the proposed project, this section, when applicable, contains information for transmission lines interconnecting a non-utility generator.
- <u>Section I.N</u>: Although not applicable to the proposed project, this section 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.
- <u>Section II.A.10</u>: This section provides details of the construction plans for the proposed project, including requested line outage schedules.

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

- <u>Section I.A (co-sponsored with Company Witnesses, Daniel J. Cabonor, Mohammad M.</u> <u>Othman, and Lane E. Carr)</u>: This section details the primary justifications for the proposed project.
- <u>Section I.F (co-sponsored with Company Witness Daniel J. Cabonor)</u>: This section describes any lines or facilities that will be removed, replaced or taken out of service upon completion of the proposed project, including the number of circuits and normal and emergency ratings of the facilities.
- <u>Section I.L (co-sponsored with Company Witness Daniel J. Cabonor)</u>: This section provides details on the deterioration of structures and associated equipment.
- <u>Section II.A.3 (co-sponsored with Company Witness Lane E. Carr)</u>: This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed project.

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-2024-00105

1	Q.	Please state your name, position with Virginia Electric and Power Company
2		("Dominion Energy Virginia" or the "Company"), and business address.
3	A.	My name is Peter Nedwick, and I am Senior Strategic Advisor – Electric Transmission
4		Planning for the Company. My business address is 5000 Dominion Blvd., Glen Allen,
5		Virginia, 23060. A statement of my qualifications and background is provided as
6		Appendix A.
7	Q.	Please describe your areas of responsibility with the Company.
8	A.	I am responsible for planning the Company's electric transmission system for voltages of
9		69 kilovolt ("kV") through 500 kV.
10	Q.	What is the purpose of your testimony in this proceeding?
11	A.	In order to maintain the structural integrity and reliability of its transmission system in
12		compliance with mandatory North American Electric Reliability Corporation ("NERC")
13		Reliability Standards, and to help reliably and successfully integrate the Coastal Virginia
14		Offshore Wind Commercial Project ("CVOW project" or "CVOW") with the
15		transmission system as requested by Company's Generation Construction Group
16		("Dominion Generation" or the "Customer"), the Company proposes in the City of
17		Chesapeake, Virginia, predominantly within existing rights-of-way, to:
18 19		(i) Rebuild the Company's existing overhead single circuit 500 kV Fentress-Yadkin Line #588 to address the condition of Line #588, which is approaching its end of

1 2 3 4 5 6 7 8 9 10	service life. Specifically, as proposed, rebuild the approximately 13.5-mile-long Line #588, which currently is supported primarily by single circuit 500 kV weathering steel (COR-TEN®) lattice structures, with primarily single circuit 500 kV dulled galvanized steel monopole structures entirely within the existing right- of-way, which is currently maintained at 150 feet wide, or on Company-owned property. Additionally, replace the existing three-phase twin-bundled 2500 Aluminum Conductor Alloy Reinforced ("ACAR") conductors with three-phase triple-bundled 1351.5 Aluminum Conductor Steel Reinforced ("ACSR") conductors with a summer transfer capability of 4,357 MVA for the entire 13.5 miles. Collectively, this work is referred to as the Line #588 Rebuild.	
11 12 13 14 15 16 17 18 19 20	(ii) Construct a new overhead single circuit 500 kV transmission line originating at the Company's existing Fentress Substation and continuing approximately 13.5 miles to terminate at the existing Yadkin Substation, resulting in 500 kV Fentress- Yadkin Line #5005. Specifically, as proposed, the new Line #5005 will be installed with the rebuilt Line #588 entirely within the existing right-of-way, which is currently maintained at 150 feet wide, or on Company-owned property, supported primarily by single circuit 500 kV dulled galvanized steel monopole structures. Additionally, the proposed Line #5005 will utilize three-phase triple- bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA. Collectively, this work is referred to as the proposed Line #5005.	
21 22	(iii) Perform substation-related work at the Company's existing Fentress Substation and Yadkin Substation.	
23	The Line #588 Rebuild, the proposed Fentress-Yadkin Line #5005, and the substation-	
24	related work at the Fentress and Yadkin Substations are collectively referred to as the	
25	"Project."	
26	The proposed Project will address the condition of Line #588, which is approaching its	
27	end of service life by rebuilding existing infrastructure in accordance with mandatory	
28	Planning Criteria and will help allow the CVOW project to reliably and successfully	
29	integrate with the transmission system, thereby allowing the Company to maintain the	
30	overall long-term reliability of the transmission system for its customers.	
31	The purpose of my testimony is to describe the Company's electric transmission system	
32	and the need for, and benefits of, the proposed Project. I sponsor Sections I.B, I.C, I.D,	

6	A.	Yes, it does.
5	Q.	Does this conclude your pre-filed direct testimony?
4		Daniel J. Cabonor; and Section II.A.3 with Company Witness Lane E. Carr.
3		Mohammad M. Othman, and Lane E. Carr; Sections I.F and I.L with Company Witness
2		the Executive Summary and Section I.A with Company Witnesses Daniel J. Cabonor,
1		I.E, I.G, I.H, I.J, I.K, I.M, I.N, and II.A.10 of the Appendix. Additionally, I co-sponsor

## 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. In July 2023, Mr. Nedwick was promoted to his current position, Senior Strategic Advisor.

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

# WITNESS DIRECT TESTIMONY SUMMARY

Witness: Daniel J. Cabonor

<u>Title</u>: Engineer III – Electric Transmission Line Engineering

## Summary:

Company Witness Daniel J. Cabonor sponsors those portions of the Appendix providing an overview of the design characteristics of the transmission facilities for the proposed Project, and discussing electric and magnetic field levels, as follows:

- <u>Section II.A.5</u>: This section provides drawings of the right-of-way cross section showing typical transmission lines structure placements.
- <u>Section II.B.1 to II.B.2</u>: These sections provide the line design and operational features of the proposed project, as applicable.
- <u>Section IV</u>: This section provides analysis on the health aspects of electric and magnetic field levels.

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

- <u>Section I.A (co-sponsored with Company Witnesses Peter Nedwick, Mohammad M.</u> <u>Othman, and Lane E. Carr)</u>: This section details the primary justifications for the proposed project.
- <u>Section I.F (co-sponsored with Company Witness Peter Nedwick</u>: This section describes any lines or facilities that will be removed, replaced, or taken out of service upon completion of the proposed project.
- <u>Section I.I (co-sponsored with Company Witness Mohammad M. Othman)</u>: This section provides the estimated total cost of the proposed project.
- <u>Section I.L (co-sponsored with Company Witness Peter Nedwick)</u>: This section, when applicable, provides details on the deterioration of structures and associated equipment.
- <u>Sections II.B.3 to II.B.5 (co-sponsored with Company Witness Lane E. Carr)</u>: These sections, when applicable, provide supporting structure details along the proposed and alternative routes.
- <u>Section II.B.6 (co-sponsored with Company Witness Lane E. Carr)</u>: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.
- <u>Section V.A (co-sponsored with Company Witness Lane E. Carr)</u>: This section provides the proposed route description and structure heights for notice purposes.

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

# DIRECT TESTIMONY OF DANIEL J. CABONOR ON BEHALF OF VIRGINIA ELECTRIC AND POWER COMPANY BEFORE THE STATE CORPORATION COMMISSION OF VIRGINIA CASE NO. PUR-2024-00105

1	Q.	Please state your name, position with Virginia Electric and Power Company
2		("Dominion Energy Virginia" or the "Company"), and business address.
3	A.	My name is Daniel J. Cabonor, and I am an Electric Transmission Line Engineer III in
4		the Electric Transmission Line Engineering Department of the Company. My business
5		address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my
6		qualifications and background is provided as Appendix A.
7	Q.	Please describe your areas of responsibility with the Company.
8	A.	I am responsible for the estimating, conceptual, and final design of high voltage
9		transmission line projects from 69 kilovolt ("kV") to 500 kV.
10	Q.	What is the purpose of your testimony in this proceeding?
11	A.	In order to maintain the structural integrity and reliability of its transmission system in
12		compliance with mandatory North American Electric Reliability Corporation ("NERC")
13		Reliability Standards, and to help reliably and successfully integrate the Coastal Virginia
14		Offshore Wind Commercial Project ("CVOW project" or "CVOW") with the
15		transmission system as requested by Company's Generation Construction Group
16		("Dominion Generation" or the "Customer"), the Company proposes in the City of
17		Chesapeake, Virginia, predominantly within existing rights-of-way, to:
18 19		(i) Rebuild the Company's existing overhead single circuit 500 kV Fentress-Yadkin Line #588 to address the condition of Line #588, which is approaching its end of

1 2 3 4 5 6 7 8 9 10		service life. Specifically, as proposed, rebuild the approximately 13.5-mile-long Line #588, which currently is supported primarily by single circuit 500 kV weathering steel (COR-TEN [®] ) lattice structures, with primarily single circuit 500 kV dulled galvanized steel monopole structures entirely within the existing right- of-way, which is currently maintained at 150 feet wide, or on Company-owned property. Additionally, replace the existing three-phase twin-bundled 2500 Aluminum Conductor Alloy Reinforced ("ACAR") conductors with three-phase triple-bundled 1351.5 Aluminum Conductor Steel Reinforced ("ACSR") conductors with a summer transfer capability of 4,357 MVA for the entire 13.5 miles. Collectively, this work is referred to as the Line #588 Rebuild.
11 12 13 14 15 16 17 18 19 20	(ii)	Construct a new overhead single circuit 500 kV transmission line originating at the Company's existing Fentress Substation and continuing approximately 13.5 miles to terminate at the existing Yadkin Substation, resulting in 500 kV Fentress-Yadkin Line #5005. Specifically, as proposed, the new Line #5005 will be installed with the rebuilt Line #588 entirely within the existing right-of-way, which is currently maintained at 150 feet wide, or on Company-owned property, supported primarily by single circuit 500 kV dulled galvanized steel monopole structures. Additionally, the proposed Line #5005 will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA. Collectively, this work is referred to as the proposed Line #5005.
21 22	(iii)	Perform substation-related work at the Company's existing Fentress Substation and Yadkin Substation.
23	The L	ine #588 Rebuild, the proposed Fentress-Yadkin Line #5005, and the substation-
24	related work at the Fentress and Yadkin Substations are collectively referred to as the	
25	"Proje	ect."
26	The p	roposed Project will address the condition of Line #588, which is approaching its
27	end of	f service life by rebuilding existing infrastructure in accordance with mandatory
28	Planni	ing Criteria and will help allow the CVOW project to reliably and successfully
29	integra	ate with the transmission system, thereby allowing the Company to maintain the
30	overal	ll long-term reliability of the transmission system for its customers.
31	The p	urpose of my testimony is to describe the design characteristics of the transmission
32	facilit	ies for the proposed Project, and also to discuss electric and magnetic field

7	Q.	Does this conclude your pre-filed direct testimony?
6		E. Carr.
5		Mohammad M. Othman; Sections II.B.3 to II.B.6 and V.A with Company Witness Lane
4		I.L with Company Witness Peter Nedwick; Section I.I with Company Witness
3		Witnesses Peter Nedwick, Mohammad M. Othman, and Lane E. Carr; Sections I.F and
2		Additionally, I co-sponsor the Executive Summary and Section I.A with Company
1		("EMF") levels. I sponsor Sections II.A.5, II.B.1, II.B.2, and IV of the Appendix.

8 A. Yes, it does.

# BACKGROUND AND QUALIFICATIONS OF DANIEL J. CABONOR

Daniel J. Cabonor graduated from North Carolina State University in 2004 with a Bachelor of Science in Civil Engineering. He joined the Company in 2008 and has held various engineering titles with the Civil Design Department of the Nuclear Business Unit. He has occupied a position in the Electric Transmission Engineering department with the Company since 2018, where he currently works as an Engineer III.

# WITNESS DIRECT TESTIMONY SUMMARY

Witness: Mohammad M. Othman

<u>Title</u>: Engineer III – Substation Engineering

Summary:

Company Witness Mohammad M. Othman sponsors or co-sponsors the following sections of the Appendix describing the substation work to be performed for the proposed project as follows:

- <u>Section I.A (co-sponsored with Company Witnesses Peter Nedwick, Daniel J. Cabonor,</u> <u>and Lane E. Carr)</u>: This section details the primary justifications for the proposed project.
- <u>Section I.I (co-sponsored with Company Witness Daniel J. Cabonor)</u>: This section provides the estimated total cost of the proposed project.
- <u>Section II.C</u>: This section describes and furnishes a one-line diagram of the substation associated with the proposed project.

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

# DIRECT TESTIMONY OF MOHAMMAD M. OTHMAN ON BEHALF OF VIRGINIA ELECTRIC AND POWER COMPANY BEFORE THE STATE CORPORATION COMMISSION OF VIRGINIA CASE NO. PUR-2024-00105

1	Q.	Please state your name, position with Virginia Electric and Power Company
2		("Dominion Energy Virginia" or the "Company"), and business address.
3	A.	My name is Mohammad M. Othman, and I am an Engineer III in the Substation
4		Engineering section of the Electric Transmission group of the Company. My business
5		address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my
6		qualifications and background is provided as Appendix A.
7	Q.	Please describe your area of responsibility with the Company.
8	A.	I am responsible for evaluation of the substation project requirements, feasibility studies,
9		conceptual physical design, scope development, preliminary engineering and cost
10		estimating for high voltage transmission and distribution substations.
11	Q.	What is the purpose of your testimony in this proceeding?
12	A.	In order to maintain the structural integrity and reliability of its transmission system in
13		compliance with mandatory North American Electric Reliability Corporation ("NERC")
14		Reliability Standards, and to help reliably and successfully integrate the Coastal Virginia
15		Offshore Wind Commercial Project ("CVOW project" or "CVOW") with the
16		transmission system as requested by Company's Generation Construction Group
17		("Dominion Generation" or the "Customer"), the Company proposes in the City of
18		Chesapeake, Virginia, predominantly within existing rights-of-way, to:

1 2 3 4 5 6 7 8 9 10 11 12	(i)	Rebuild the Company's existing overhead single circuit 500 kV Fentress-Yadkin Line #588 to address the condition of Line #588, which is approaching its end of service life. Specifically, as proposed, rebuild the approximately 13.5-mile-long Line #588, which currently is supported primarily by single circuit 500 kV weathering steel (COR-TEN [®] ) lattice structures, with primarily single circuit 500 kV dulled galvanized steel monopole structures entirely within the existing right- of-way, which is currently maintained at 150 feet wide, or on Company-owned property. Additionally, replace the existing three-phase twin-bundled 2500 Aluminum Conductor Alloy Reinforced ("ACAR") conductors with three-phase triple-bundled 1351.5 Aluminum Conductor Steel Reinforced ("ACSR") conductors with a summer transfer capability of 4,357 MVA for the entire 13.5 miles. Collectively, this work is referred to as the Line #588 Rebuild.	
13 14 15 16 17 18 19 20 21 22	(ii)	Construct a new overhead single circuit 500 kV transmission line originating at the Company's existing Fentress Substation and continuing approximately 13.5 miles to terminate at the existing Yadkin Substation, resulting in 500 kV Fentress-Yadkin Line #5005. Specifically, as proposed, the new Line #5005 will be installed with the rebuilt Line #588 entirely within the existing right-of-way, which is currently maintained at 150 feet wide, or on Company-owned property, supported primarily by single circuit 500 kV dulled galvanized steel monopole structures. Additionally, the proposed Line #5005 will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA. Collectively, this work is referred to as the proposed Line #5005.	
23 24	(iii)	Perform substation-related work at the Company's existing Fentress Substation and Yadkin Substation.	
25	The I	ine #588 Rebuild, the proposed Fentress-Yadkin Line #5005, and the substation-	
26	relate	d work at the Fentress and Yadkin Substations are collectively referred to as the	
27	"Proj	ect."	
28	The p	proposed Project will address the condition of Line #588, which is approaching its	
29	end o	f service life by rebuilding existing infrastructure in accordance with mandatory	
30	Plann	Planning Criteria and will help allow the CVOW project to reliably and successfully	
31	integr	rate with the transmission system, thereby allowing the Company to maintain the	
32	overa	ll long-term reliability of the transmission system for its customers.	

The purpose of my testimony is to describe the work to be performed as part of the
 Project. As it pertains to station work, I sponsor Section II.C of the Appendix.
 Additionally, I co-sponsor the Executive Summary and Section I.A with Company
 Witnesses Peter Nedwick, Daniel J. Cabonor, and Lane E. Carr; and Section I.I of the
 Appendix with Company Witness Daniel J. Cabonor, specifically, as it pertains to
 substation work.

- 7 Q. Does this conclude your pre-filed direct testimony?
- 8 A. Yes, it does.

## BACKGROUND AND QUALIFICATIONS OF MOHAMMAD M. OTHMAN

Mohammad M. Othman received a Bachelor of Science degree in Electrical Engineering from Virginia Commonwealth University in 2008. Mr. Othman's responsibilities include the evaluation of the substation project requirements, development of scope documents and schedules, preparation of estimates and proposals, preparation of specifications and bid documents, material procurement, design substation physical layout, development of detailed physical drawings, bill of materials, electrical schematics and wiring diagrams. Mr. Othman joined the Dominion Energy Virginia Substation Engineering department in 2010 as an Engineer II and was later promoted to Engineer III, the title he currently holds.

Mr. Othman has previously submitted pre-filed testimony to the State Corporation Commission of Virginia.

# WITNESS DIRECT TESTIMONY SUMMARY

Witness:Lane E. CarrTitle:Local Permitting Consultant

#### <u>Title</u>: Local Per Summary:

Company Witness Lane E. Carr 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:

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

Additionally, Ms. Carr co-sponsors the following section of the Appendix:

- <u>Section I.A (co-sponsored with Company Witnesses Peter Nedwick, Daniel J. Cabonor,</u> <u>and Mohammad M. Othman)</u>: This section details the primary justifications for the proposed project.
- <u>Section II.A.3 (co-sponsored with Company Witness Peter Nedwick)</u>: This section provides color maps of existing or proposed rights-of-way in the vicinity of the proposed project.
- <u>Sections II.B.3 to II.B.5 (co-sponsored with Company Witness Daniel J. Cabonor)</u>: These sections, when applicable, provide supporting structure details along the proposed and alternative routes.
- <u>Section II.B.6 (co-sponsored with Company Witness Daniel J. Cabonor)</u>: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.
- <u>Section V.A (co-sponsored with Company Witness Daniel J. Cabonor)</u>: This section provides the proposed route description and structure heights for notice purposes.

Finally, Ms. Carr sponsors the DEQ Supplement filed with the Application. A statement of Ms. Carr's background and qualifications is attached to her testimony as Appendix A.

# DIRECT TESTIMONY OF LANE E. CARR ON BEHALF OF VIRGINIA ELECTRIC AND POWER COMPANY BEFORE THE STATE CORPORATION COMMISSION OF VIRGINIA CASE NO. PUR-2024-00105

1	Q.	Please state your name, position with Virginia Electric and Power Company
2		("Dominion Energy Virginia" or the "Company"), and business address.
3	A.	My name is Lane E. Carr, and I am a Local Permitting Consultant in the Electric
4		Transmission group of the Company. My business address is 5000 Dominion Boulevard,
5		Glen Allen, Virginia 23060. A statement of my qualifications and background is
6		provided as Appendix A.
7	Q.	Please describe your areas of responsibility with the Company.
8	A.	I am responsible for identifying appropriate routes for transmission lines and obtaining
9		necessary federal, state, and local approvals and environmental permits for those
10		facilities. In this position, I work closely with government officials, permitting agencies,
11		property owners, and other interested parties, as well as with other Company personnel,
12		to develop facilities needed by the public so as to reasonably minimize environmental
13		and other impacts on the public in a reliable, cost-effective manner.
14	Q.	What is the purpose of your testimony in this proceeding?
15	A.	In order to maintain the structural integrity and reliability of its transmission system in
16		compliance with mandatory North American Electric Reliability Corporation ("NERC")
17		Reliability Standards, and to help reliably and successfully integrate the Coastal Virginia
18		Offshore Wind Commercial Project ("CVOW project" or "CVOW") with the

1	transr	transmission system as requested by Company's Generation Construction Group		
2	("Dor	("Dominion Generation" or the "Customer"), the Company proposes in the City of		
3	Chesa	Chesapeake, Virginia, predominantly within existing rights-of-way, to:		
4 5 6 7 8 9 10 11 12 13 14 15	(i)	Rebuild the Company's existing overhead single circuit 500 kV Fentress-Yadkin Line #588 to address the condition of Line #588, which is approaching its end of service life. Specifically, as proposed, rebuild the approximately 13.5-mile-long Line #588, which currently is supported primarily by single circuit 500 kV weathering steel (COR-TEN [®] ) lattice structures, with primarily single circuit 500 kV dulled galvanized steel monopole structures entirely within the existing right- of-way, which is currently maintained at 150 feet wide, or on Company-owned property. Additionally, replace the existing three-phase twin-bundled 2500 Aluminum Conductor Alloy Reinforced ("ACAR") conductors with three-phase triple-bundled 1351.5 Aluminum Conductor Steel Reinforced ("ACSR") conductors with a summer transfer capability of 4,357 MVA for the entire 13.5 miles. Collectively, this work is referred to as the Line #588 Rebuild.		
16 17 18 19 20 21 22 23 24 25	(ii)	Construct a new overhead single circuit 500 kV transmission line originating at the Company's existing Fentress Substation and continuing approximately 13.5 miles to terminate at the existing Yadkin Substation, resulting in 500 kV Fentress-Yadkin Line #5005. Specifically, as proposed, the new Line #5005 will be installed with the rebuilt Line #588 entirely within the existing right-of-way, which is currently maintained at 150 feet wide, or on Company-owned property, supported primarily by single circuit 500 kV dulled galvanized steel monopole structures. Additionally, the proposed Line #5005 will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer transfer capability of 4,357 MVA. Collectively, this work is referred to as the proposed Line #5005.		
26 27	(iii)	Perform substation-related work at the Company's existing Fentress Substation and Yadkin Substation.		
28	The L	ine #588 Rebuild, the proposed Fentress-Yadkin Line #5005, and the substation-		
29	relate	related work at the Fentress and Yadkin Substations are collectively referred to as the		
30	"Proje	ect."		
31	The p	roposed Project will address the condition of Line #588, which is approaching its		
32	end of	f service life by rebuilding existing infrastructure in accordance with mandatory		
33	Plann	Planning Criteria and will help allow the CVOW project to reliably and successfully		
34	integr	rate with the transmission system, thereby allowing the Company to maintain the		

overall long-term reliability of the transmission system for its customers.

16	Q.	Does this conclude your pre-filed direct testimony?
15		as Attachment V.D.1 to the Appendix.
14		consult with the Company about the proposed Project. A copy of the letters is included
13		letters stated the Company's intention to file this Application and invited the City to
12		Richard West, Mayor for the City of Chesapeake, where the Project is located. The
11		delivered to Mr. Christopher M. Price, City Manager for the City of Chesapeake and Mr.
10	A.	Yes. In accordance with Va. Code § 15.2-2202 E, letters dated May 14, 2024, were
9	Q.	Has the Company complied with Va. Code § 15.2-2202 E?
8		Finally, I sponsor the DEQ Supplement.
7		Sections II.B.3 to II.B.5, II.B.6, and V.A with Company Witness Daniel J. Cabonor.
6		and Mohammad M. Othman; Section II.A.3 with Company Witness Peter Nedwick; and
5		Summary and Section I.A with Company Witnesses Peter Nedwick, Daniel J. Cabonor,
4		II.A.12, III, and V.B to V.D of the Appendix. Additionally, I co-sponsor the Executive
3		the proposed Project. I sponsor Sections II.A.1, II.A.2, II.A.4, II.A.6 to II.A.9, II.A.11,
2		The purpose of my testimony is to provide an overview of the route and permitting for

17 A. Yes, it does.

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## BACKGROUND AND QUALIFICATIONS OF LANE E. CARR

Lane E. Carr graduated from California Polytechnic State University in 1992 with a Bachelor of Science in Agricultural Business. She also obtained a Master of Science from California Polytechnic State University, San Luis Obispo in 1997. Ms. Carr joined the Company's Transmission Right-of-Way group in January 2019 as a Siting and Permitting Specialist, and her current position is Local Permitting Consultant. Prior to working for the Company, Ms. Carr worked as an Environmental Inspector for the County of Henrico.

Ms. Carr has previously submitted pre-filed testimony to the Virginia State Corporation Commission.