

**STAGE I PRE-APPLICATION ANALYSIS
FOR THE PROPOSED DOMINION
ENERGY VIRGINIA REBUILD OF LINE
#224 230 kV TRANSMISSION LINE,
MATTAPONI RIVER CROSSING, KING
AND QUEEN KING WILLIAM COUNTIES,
VIRGINIA**

VDHR File No. TBD



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Executive Summary

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed rebuilding of Line #224 at the crossing of the Mattaponi River (Rebuild Project) in King and Queen and King William Counties, Virginia. In order to maintain the structural integrity and reliability of its transmission system and perform needed maintenance on its existing facilities, Dominion proposes to rebuild, pending final approval by the State Corporation Commission (SCC), entirely within existing right-of-way, approximately 1.3 miles of existing double circuit 230 kV transmission line. Dominion proposes to remove and replace seven existing transmission support structures, of varying type, associated foundations and overhead conductor wire as part of the rebuild project. Severe concrete and steel deterioration has reduced the structural capacity of these foundations, jeopardizing the reliability of Line #224.

Summary of Structures for the Proposed Rebuild Project				
Structure No.	Height (FT) Existing	Height (FT) Proposed	Approximate Change in Height (FT)	Existing/Proposed Structure Type
224/180	65	61	-4	Wood H-Frame/ Steel 3-Pole
224/181	68	107	39	Steel 3-Pole/ Galvanized Lattice
224/182	189	196	7	Corten Lattice/ Galvanized Lattice
224/183	188	196	8	Corten Lattice/ Galvanized Lattice
224/184	159	166	7	Corten Lattice/ Galvanized Lattice
224/185	61	107	46	Steel 3-Pole/ Galvanized Lattice
224/186	62	61	-1	Wood H-Frame/ Steel 3-Pole

Note: Existing and proposed structure heights include foundation reveal. This information is preliminary and subject to final engineering.

Background research for the Stage I Pre-Application Analysis was conducted in November 2017 by Stantec staff. The preliminary background research and a field study was conducted pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (Virginia Department of Historic Resources [VDHR] 2008) for proposed transmission line improvements. As detailed by VDHR guidance, consideration was given to National Historic Landmark (NHL) properties located within a 1.5-mile radius of the project centerline; National Register of Historic Places (NRHP)-listed properties, Battlefields, and Historic Landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. Four previously identified architectural resources were identified for inclusion in the Stage I analysis. No previously recorded archaeological resources within the ROW were identified during this phase of the project.

Recommendations

Architectural Resources

One NRHP-listed resource, the King and Queen County Courthouse Green Historic District (VDHR #049-5001), and one NRHP-eligible resource, the King and Queen County Courthouse (VDHR #049-0036), were identified within 0.5-miles of the transmission line ROW. In addition to the two previously recorded resources listed above, the NRHP-eligible Mantapike Hill/Walkerton Battlefield (VDHR #049-5007) also falls within 1.0-mile. Additionally, the Captain John Smith Chesapeake National Historic Trail crosses the ROW at the Mattaponi River; however, the nationally designated trail has not been evaluated by VDHR for NRHP eligibility. As the study was completed prior to filing a SCC application, all digital images were taken from public ROW and/or Dominion property easements.

Based on preliminary structure heights, the proposed Rebuild Project would increase the height of the structures approximately 7 to 46 (maximum) feet for the proposed lattice and 3-pole structures. Based on the analysis, it is recommended that the rebuild would have No Visual Impact to the King and Queen County Courthouse (VDHR #049-0036), the King and Queen County Courthouse Green Historic District (VDHR #049-5001), and the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007). The proposed Rebuild Project would have a Minimal Impact to the Captain John Smith Chesapeake National Historic Trail).

Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Process				
VDHR #	Resource Name	VDHR/NRHP Status	Distance to Centerline (Feet)	Impact
049-0036	King and Queen County Court House, Court House Landing Road	Determined Eligible by VDHR in 1994	2,630	None
049-5001	King and Queen County Courthouse Green Historic District	NRHP-Listed 2014	2,440	None
049-5007	Mantapike Hill/Walkerton Battlefield	Determined Eligible by VDHR in 2016	2,290	None
N/A	Captain John Smith Chesapeake National Historic Trail	Not Evaluated within the APE	0	Minimal

Archaeological Resources

No previously recorded archaeological resources were identified during the background research. An archaeological survey of the ROW during the Stage II analysis is recommended.

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Abbreviations

ABPP	American Battlefield Protection Program
amsl	Above Mean Sea Level
DEM	Digital Elevation Model
DSM	Digital Surface Model
Dominion	Dominion Energy Virginia
kV	Kilovolt
NERC	North American Electric Reliability Corporation
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PotNR	Potential National Register
ROW	Right-of-Way
SCC	State Corporation Commission
Stantec	Stantec Consulting Services, Inc.
USDI	United States Department of the Interior
V-CRIS	Virginia Cultural Resources Information System
VLR	Virginia Landmarks Register
VDHR	Virginia Department of Historic Resources

1.0 INTRODUCTION

1.1 OVERVIEW

Stantec Consulting Services Inc. (Stantec) was retained by Dominion Energy Virginia (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed rebuilding of Line #224 at the crossing of the Mattaponi River (Rebuild Project) in King and Queen and King William Counties, Virginia. In order to maintain the structural integrity and reliability of its transmission system and perform needed maintenance on its existing facilities, Dominion proposes to rebuild, pending final approval by the State Corporation Commission (SCC), entirely within existing right-of-way, approximately 1.3 miles of existing double circuit 230 kV transmission line. Dominion proposes to remove and replace nine existing transmission support structures and associated foundations, including H-frame, 3-Pole and Corten lattice towers. Based upon preliminary engineering, in most cases, the proposed structures will be taller than the existing structures, as described in Table 1. Severe concrete and steel deterioration has reduced the structural capacity of these foundations, jeopardizing the reliability of Line #224. Additionally, the existing overhead single 1109 ACAR conductor is proposed to be replaced with new bundled 768 ACSS conductor.

Table 1. Summary of Structures for the Proposed Rebuild Project				
Structure No.	Height (FT) Existing	Average Height (FT) Proposed	Approximate Change in Height (FT)	Existing/Proposed Structure Type
224/180	65	61	-4	Wood H-Frame/ Steel 3-Pole
224/181	68	107	39	Steel 3-Pole/ Galvanized Lattice
224/182	189	196	7	Corten Lattice/ Galvanized Lattice
224/183	188	196	8	Corten Lattice/ Galvanized Lattice
224/184	159	166	7	Corten Lattice/ Galvanized Lattice
224/185	61	107	46	Steel 3-Pole/ Galvanized Lattice
224/186	62	61	-1	Wood H-Frame/ Steel 3-Pole

1.2 STAGE I PRE-APPLICATION ANALYSIS

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

and archaeological resources requiring inclusion in a formal Stage I Pre-Application Analysis, as defined by the 2008 *Guidelines*.

As detailed by VDHR guidance, consideration was given to NHL properties located within a 1.5-mile radius of the project centerline; NRHP-listed properties, battlefields, and historic landscapes located within a 1.0-mile radius of the project centerline; NRHP-eligible sites located within a 0.5-mile radius of the project centerline; and archaeological sites located within the project ROW. No NHL-listed architectural resources are located within the 1.5-mile buffer. No NHL-listed architectural resources are located within 1.5-miles. One NRHP-listed resource, the King and Queen County Courthouse Green Historic District (VDHR #049-5001), and one NRHP-eligible resource, the King and Queen County Courthouse (VDHR #049-0036), were identified within 0.5-miles. Additionally, the NRHP-eligible Mantapike Hill/Walkerton Battlefield (VDHR #049-5007) also falls within 1.0-miles. Pursuant to VDHR guidelines, this document includes a line-of-sight analysis to address potential views from the three resources identified pursuant to the guidance of the VDHR for the proposed Rebuild Project; King and Queen County Court House (VDHR #049-0036), King and Queen County Courthouse Green Historic District (VDHR #049-5001), and the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007). Additionally, the Captain John Smith Chesapeake National Historic Trail crosses the ROW at the Mattaponi River; however, the nationally designated trail has not been evaluated by VDHR for NRHP eligibility. As the study was completed prior to filing an SCC application, all digital images were taken from public ROW and/or Dominion property easements.

This Stage I Pre-Application Analysis project was directed by Senior Principal Investigator Ellen Brady and co-authored by Senior Architectural Historian Sandra DeChard. Architectural Technician, Jody Kutzler conducted the fieldwork under the supervision and direction of Sandra DeChard. GIS Coordinator Melissa Sanderson prepared the report graphics and project maps.



Figure No.

1

Title

Project Location Map

Client/Project
 Dominion Energy Virginia
 Line #224 Partial Rebuild Projects
 Mattaponi River Rebuild

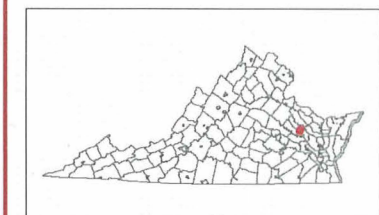
Project Location
 King and Queen and
 King William Counties, Virginia

Prepared by MGS on 2018-02-08
 Technical Review by TP5 on 2018-02-08
 Independent Review by JBJ on 2018-02-08

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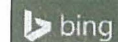
Legend

- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- Right-of-Way



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
3. Information contained herein is preliminary in nature and subject to final engineering
4. Orthomimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



2.0 BACKGROUND RESEARCH

As part of the Stage I Pre-Application Analysis effort, VDHR guidance recommends a four-tier study area strategy to be considered for each alternative alignment for the proposed undertaking (Table 2).

Table 2. Study Areas as Defined by VDHR Guidelines for Transmission Lines	
Radial Buffer (in miles)	Considered Resources
1.5	National Historic Landmarks
1.0	Above resources and: National Register Properties (listed), Battlefields, Historic Landscapes (e.g. Rural HD)
0.5	Above resources and: National Register-eligible (as determined by VDHR)
0.0 (Within ROW)	Above resources and Archaeological Sites

The background research included a review of the VDHR archives and of data collected from the VDHR's Virginia Cultural Resource Information System (V-CRIS) database using the most current data as provided by the VDHR. The VDHR files of archaeological sites and historic structures were examined and information was retrieved on all archaeological sites located up to a 0.5-mile radius of the project area and all previously recorded architectural resources up to a 1.5-mile radius of the project centerline. ESRI ArcGIS Online aerial photography of current conditions was examined for the entire study area. Photographs of each of the architectural resources under consideration, if visible, as well as their view sheds, were taken from the public ROW.

2.1 RESULTS OF THE BACKGROUND RESEARCH

2.1.1 Architectural Resources

No NHL-listed architectural resources are located within 1.5-miles of the project ROW. One NRHP-listed resource, the King and Queen County Courthouse Green Historic District (VDHR #049-5001), and one NRHP-eligible resource, the King and Queen County Courthouse (VDHR #049-0036), were identified within 0.5-miles of the ROW. In addition to the two previously recorded resources listed above, the NRHP-eligible Mantapike Hill/Walkerton Battlefield (VDHR #049-5007) also falls within 1.0-mile. Additionally, the Captain John Smith Chesapeake National Historic Trail crosses the ROW at the Mattaponi River; however, the nationally designated trail has not been evaluated by VDHR for NRHP eligibility (Table 3; Appendix B).

Table 3. Previously Recorded Architectural Resources Considered within the Stage I Pre-Application			
VDHR ID	Resource Name	VDHR/NRHP Status	Distance to Centerline (feet)
049-0036	King and Queen County Court House, Court House Landing Road	Determined Eligible by VDHR in 1994	2,630
049-5001	King and Queen County Courthouse Green Historic District	NRHP-Listed 2014	2,440
049-5007	Mantapike Hill/Walkerton Battlefield	Determined Eligible by VDHR in 2016	2,290
N/A	Captain John Smith Chesapeake National Historic Trail	Not Evaluated within APE	0

2.1.2 Archaeological Resources

No previously recorded archaeological resources were identified within the project ROW (Appendix C).

3.0 STAGE I PRE-APPLICATION ANALYSIS RESULTS

3.1 VISUAL EFFECTS METHODOLOGY

Fieldwork for the proposed transmission line project, under the direction of the Stantec's Senior Architectural Historian Sandra DeChard, was undertaken by Architectural Technician Jody Kutzler on November 13 and 17, 2017. The fieldwork for the assessment entailed photographing the resources requiring view shed analysis according to the Stage I Pre-Application review process and examined the potential views from the resources towards the proposed transmission line improvements. As the fieldwork was conducted prior to a formal SCC application submittal, all photographs were taken from public ROW locations with aerial photography utilized to supplement the analysis of project visibility and potential visual effects. As the proposed line is a rebuild of existing transmission lines and the proposed new lines will be located within the current alignment, the existing lines were utilized to assist with the assessment of potential visual effects.

A detailed view shed was modeled for the existing and proposed structures. This analysis required the creation of two datasets, a digital elevation model (DEM) which provided base ground elevations, and a digital surface model (DSM) which provided overall elevations for features on the terrain, such as trees and buildings. Using the existing structure heights and preliminary proposed structure heights provided by Dominion, two view shed analyses were run using these datasets to determine where the existing and proposed towers are or will be visible in the landscape surrounding the river crossing. The visibility is illustrated by three color shadings, orange where both existing and proposed structures are/will be visible, red where the existing towers are visible but the proposed will not be, and blue where the existing are not visible but the proposed will be (Figure 21).

Additionally, a line-of-sight analysis was conducted for each proposed structure from designated points to determine visibility. The analysis uses the same DEM and DSM datasets and illustrates the extent of the height of current vegetation, which potentially obstructs, or does not obstruct, the view from the resource. The black dot is the point at which the analysis was undertaken utilizing that location's elevation above mean sea level (amsl). The blue dot is the point where an object, typically a tree, is tall enough to obstruct the view of the transmission structure. The green dots indicate visibility of the proposed structures from the resource, while the red dots indicate towers which will not be visible from the resource (Figures 6, 11-13, and 18-20).

3.2 INDIVIDUAL ARCHITECTURAL RESOURCES CONSIDERED

A NRHP-eligible resource; King and Queen County Court House (VDHR #049-0036) was located within 0.5-miles of the ROW and was therefore considered for visual effects per VDHR guidelines for the proposed rebuild project.

3.2.1 King and Queen Courthouse (VDHR #049-0036/049-5001-0008)

The courthouse is a one-and-a-half-story, cruciform-plan building with brick exterior walls laid in a Flemish bond pattern. The building also features a cross-gable roof clad in shingles (Figure 2). The original c. 1750 building burned in 1828 and in 1864. In the later decades of the nineteenth century, the building was expanded. The building was enlarged again in 1957 with the addition of the gable-roofed ell. Additional architectural features include exterior and interior brick chimneys, an arched, fixed window over the entry, and nine-over-nine double-hung sash windows. The King and Queen Courthouse was determined eligible for listing on the NRHP in 1994 by VDHR for its contribution to broad patterns in history (Criterion A) and under Criterion C for its architectural merit (VDHR Site Form).



Figure 2. King and Queen Courthouse (VDHR #049-0036), View Looking West.

3.2.1.1 Visual Effect Assessment

The King and Queen Courthouse is located to the northwest of the transmission line ROW (Appendix B), within 0.5-miles, and at its closest point, is approximately 2,630 feet from the proposed Rebuild Project. The building sits adjacent to the road at the intersection of Court House Landing Road and Allens Circle. To the northwest is a radio tower and to the southeast, between the existing transmission line and the resource, a modern courthouse and administration building has been constructed. The landscape to the southeast, east, and northeast of the resource, looking towards the existing line, is mainly open fields. Currently the exist (Figures 4-6). The proposed rebuild project is sited within existing ROW with existing structures ranging in height from

approximately 61 feet to 189 feet. The preliminary proposed structures range in height approximately 61 to 196 feet.

All seven structures proposed for the rebuild (Structures #224/180 through #224/186), were evaluated in the line-of-sight analysis using the heights of the proposed structures. The analysis used the view directly in front and to the side of the primary resource of the building. According to the analysis, the primary resource would not view the proposed transmission line due to tree cover between the courthouse and the line (Figure 6). The line-of-site findings were the same as the view shed modeling (Figure 21). Photosimulations prepared for the resource also indicated the proposed towers will not be visible (Appendix C). Based on the line-of-sight analysis, view shed modeling, photosimulations, and the fieldwork, ***it is recommended that the proposed project would have No Visual Impact on the King and Queen County Courthouse (VDHR #049-0036).***

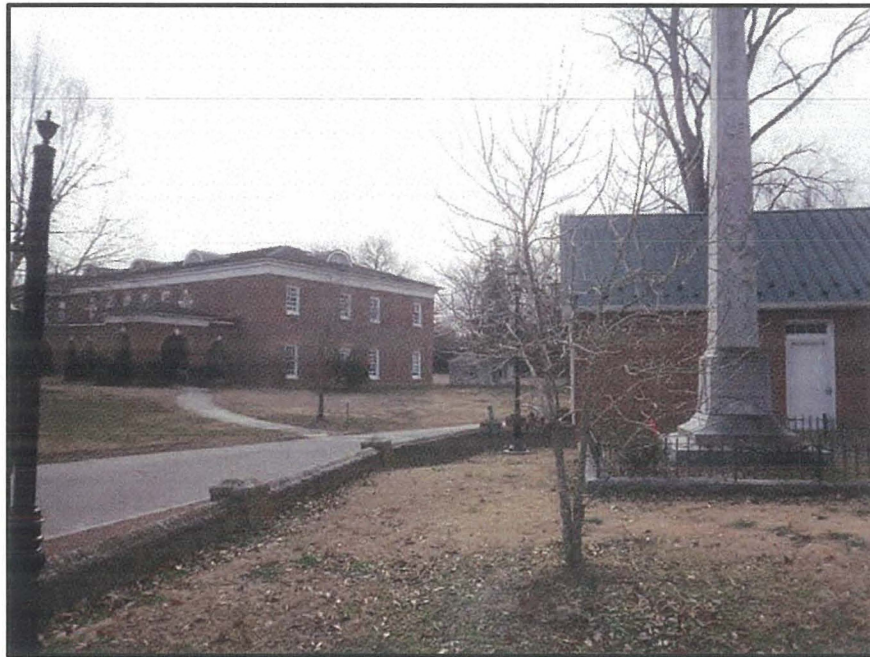


Figure 3. View from Photo Location D, King and Queen County Courthouse (VDHR #049-0036) Looking South towards the Rebuild Project. Rebuild Section of the Transmission Line is Not Visible.



Figure 4. View from Photo Location D, King and Queen County Courthouse (VDHR #049-0036) Looking Southeast towards the Rebuild Project. Rebuild Section of Transmission Line is Not Visible.

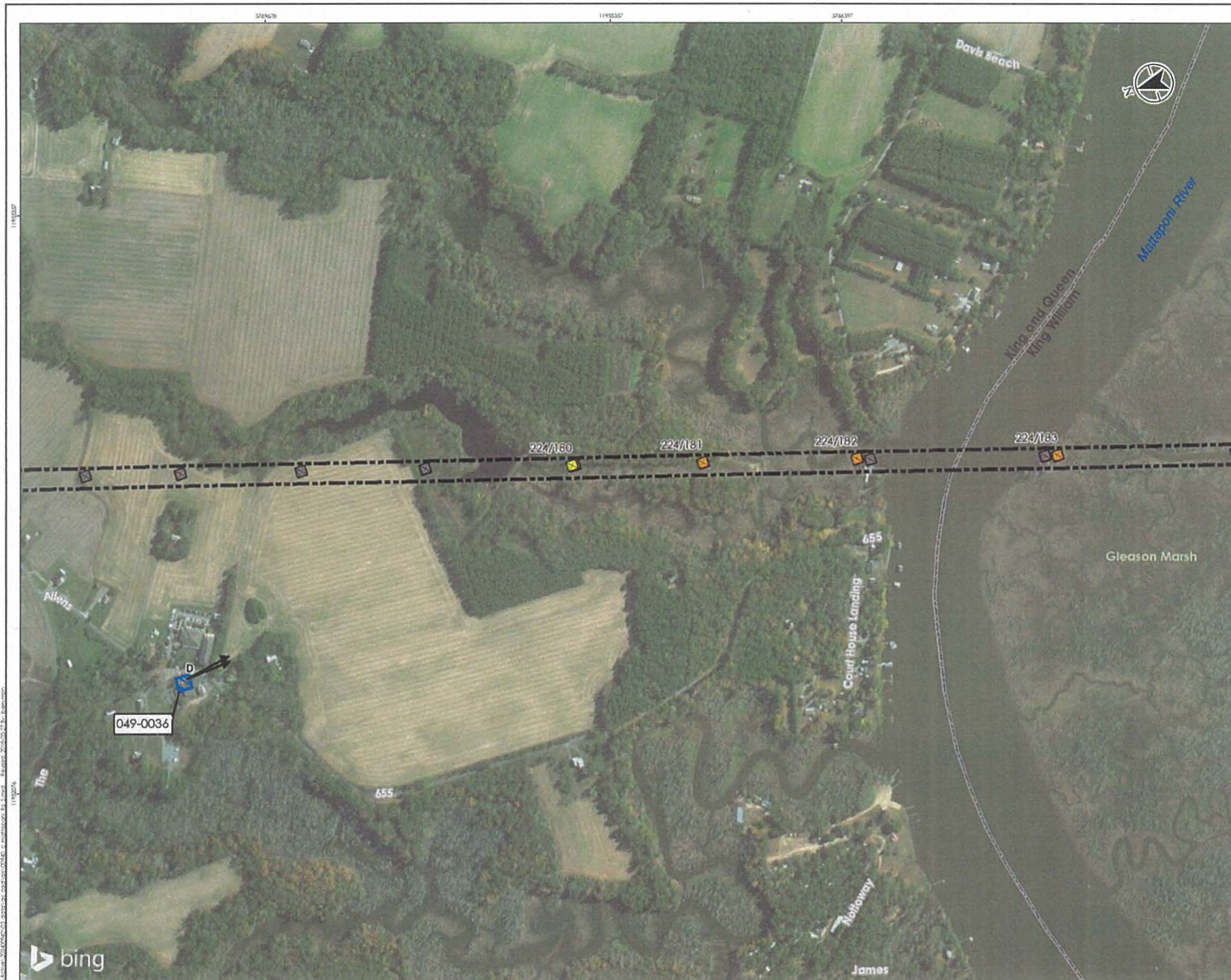


Figure No.
5

Title
Photo Location Map of King and Queen
County Court House (VDHR #049-0036)

Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

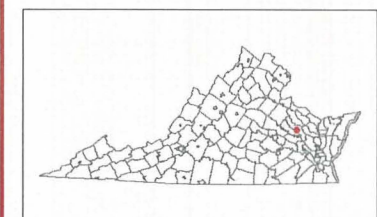
Project Location
King and Queen and
King William Counties, Virginia

Prepared by MGS on 2018-02-09
Technical Review by TFS on 2018-06-02
Independent Review by JBI on 2018-06-02

0 600 1,200 Feet
1:7,200 (At original document size of 11x17)

Legend

- Photo Location
- ☒ Proposed 3-Pole Structure
- ☒ Proposed Lattice Tower
- ☒ Existing Structure Location
- ▨ Architectural Resources
- ▨ Right-of-Way



- Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
 2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
 3. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
 4. Information contained herein is preliminary in nature and subject to final engineering
 5. Orthomage © Bing Maps
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Figure No.
6
Title
Line of Sight of King and Queen County
Court House (VDHR #049-0036) Location D

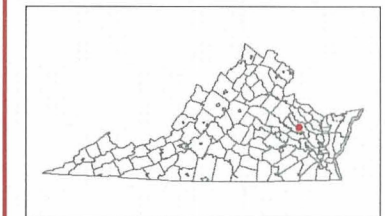
Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

Project Location
King and Queen and
King William Counties, Virginia

203400940
Prepared by MGS on 2018-02-08
Technical Review by TFS on 2018-02-08
Independent Review by JBJ on 2018-02-08

0 1,000 2,000
1:12,000 (At original document size of 11x17)
Feet

- Legend
- Proposed 3-Pole Structure
 - Proposed Lattice Tower
 - Existing Structure Location
 - Point of Origin
 - Point of Visual Obstruction
 - Line of Sight Tower Not Visible
 - Architectural Resources



- Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
 2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
 3. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
 4. Information contained herein is preliminary in nature and subject to final engineering
 5. Orthomageary © Bing Maps
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3.3 HISTORIC DISTRICTS CONSIDERED

A NRHP-listed or eligible historic district, the King and Queen County Courthouse Green Historic District (VDHR #049-5001), was located within 1.0-miles of the ROW and was therefore considered for visual effects per VDHR guidelines for the proposed rebuild project.

3.3.1 King and Queen County Courthouse Green Historic District (VDHR #049-5001)

The King and Queen County Courthouse Green Historic District comprises approximately 11.5 acres and contains 15 contributing buildings, structures, and objects. The district includes the core buildings making up the fenced courthouse area; the courthouse itself, the jail, and the clerk's office, as well as a tavern, school, store, and an additional tavern that now functions as a private residence, outside the wall. The district was listed on the NRHP in 1998 under Criteria A and C with a period of significance from c. 1750 to 1940. The NRHP boundary was increased to include the Immanuel Episcopal Church in 2014 (VDHR Site Form; Spain Jr. 1998; Spain Jr. and Hall 2013).

3.3.1.1 Visual Effect Assessment

To assess the potential visual effects on the historic district, photographs were taken from the public ROW from accessible points of the district within 0.5 and 1.0-miles of the ROW. At its closest point, the historic district is approximately 2,440 feet to the north/northwest of the Rebuild Project. The district is generally characterized by wooded areas as well as open greens, lawns, and fields. Currently the existing structures, with the exception of Structure #224/180 (see Figure 7), and associated wires are not visible from the resource as observed during fieldwork (Figures 7-10). The proposed rebuild project will be located within existing ROW with transmission line support structures and range in height from approximately 61 feet to 196 feet have been determined by Dominion on a preliminary basis and are subject to final engineering.

All seven structures proposed for the rebuild (Structures #224/180 through #224/186), were evaluated in the line-of-sight analysis using the heights of the proposed structures. The modeling utilized three points within the historic district. According to the analysis, the historic district would view the proposed transmission line from Locations A, B, and C due to tree cover between the district and the line (Figures 12 and 13). Photosimulations indicated that the proposed structures would not be visible from the resource (Appendix C). The line-of-sight findings were the same as the view shed modeling (Figure 21). Based on the line-of-sight analysis, view shed modeling, photosimulations, and the fieldwork, ***it is recommended that the proposed project would have a Minimal Visual Impact on the King and Queen Courthouse Green Historic District (VDHR #049-5001).***



Figure 7. View from Photo Location A within the King and Queen County Courthouse Green Historic District (VDHR #049-5001) Looking South towards the Rebuild Project. Rebuild Section of the Transmission Line is Not Visible.



Figure 8. View from Photo Location B King and Queen County Courthouse Green Historic District (VDHR #049-5001) Looking South towards the Rebuild Project. Rebuild Section of the Transmission Line is Not Visible.



Figure 9. View from Photo Location C King and Queen County Courthouse Green Historic District (VDHR #049-5001) Looking Southeast towards the Rebuild Project. Rebuild Section of the Transmission Line is Not Visible.



Figure No.
10

Title
Photo Location Map of King and Queen
County Court House Green Historic District
(VDHR #049-5001)

Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

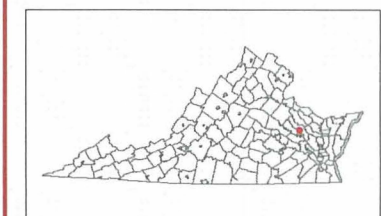
Project Location
King and Queen
King William Counties, Virginia

Prepared by MGJ on 2018-02-08
Technical Review by TPJ on 2018-02-08
Independent Review by JBJ on 2018-02-08

0 800 1,600
Feet
1:9,600 (At original document size of 11x17)

Legend

- Photo Location
- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- ▨ Architectural Resources
- ▭ Right-of-Way



- Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
 2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
 3. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
 4. Information contained herein is preliminary in nature and subject to final engineering
 5. Orthom imagery © Bing Maps
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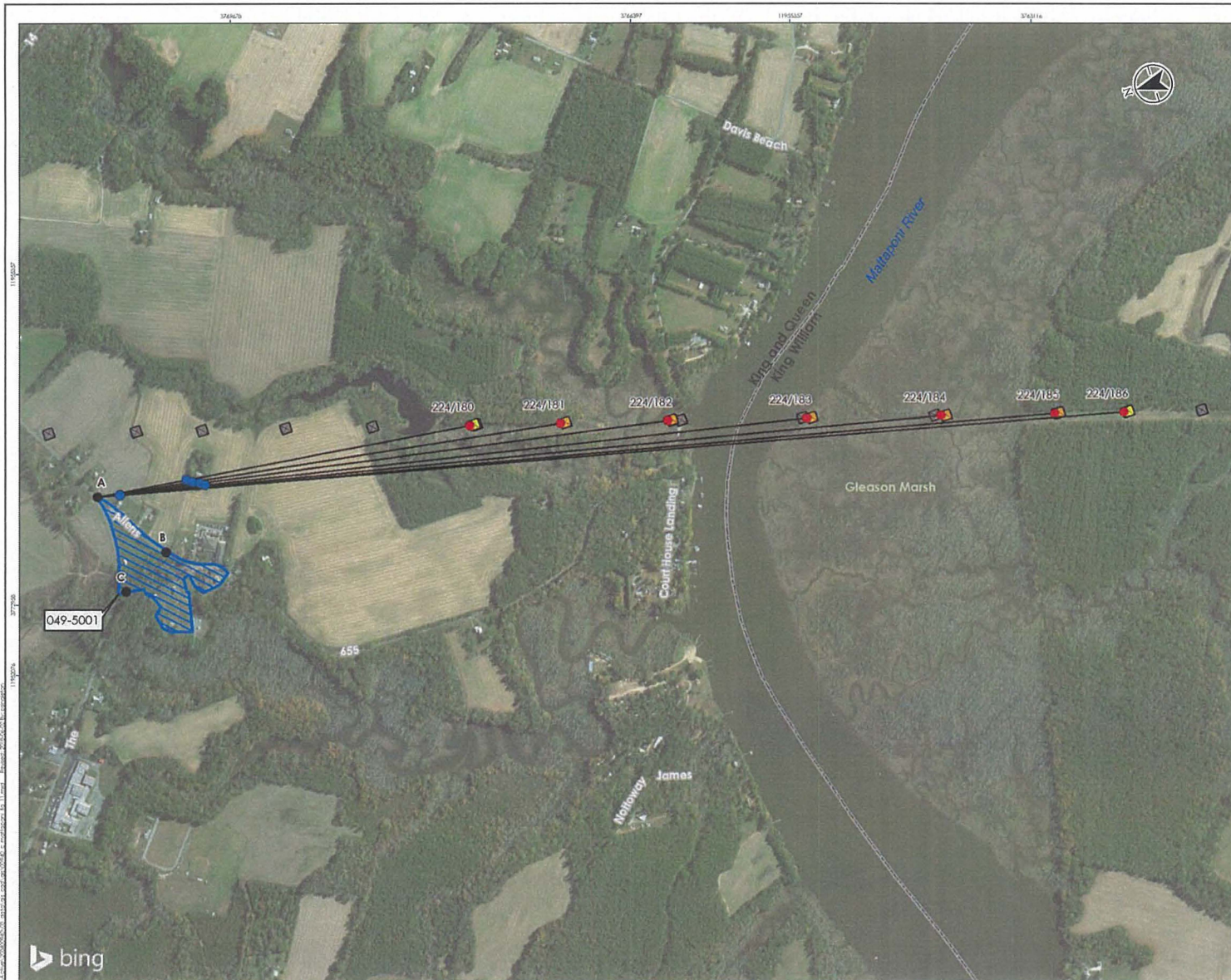


Figure No.
11

Title
Line of Sight of King and Queen
County Court House Green Historic District
(VDHR #049-5001) Location A

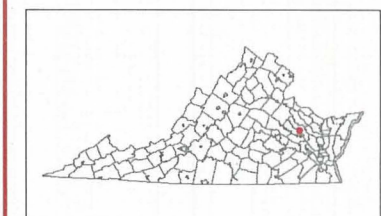
Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

Project Location
King and Queen and
King William Counties, Virginia

20340094D
Prepared by MGJ on 2018-03-08
Technical Review by TP5 on 2018-06-01
Independent Review by JBJ on 2018-06-01

0 870 1,740
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Feet

- Legend
- Proposed 3-Pole Structure
 - Proposed Lattice Tower
 - Existing Structure Location
 - Point of Origin
 - Point of Visual Obstruction
 - Line of Sight Tower Not Visible
 - Architectural Resources



- Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
 2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
 3. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
 4. Information contained herein is preliminary in nature and subject to final engineering
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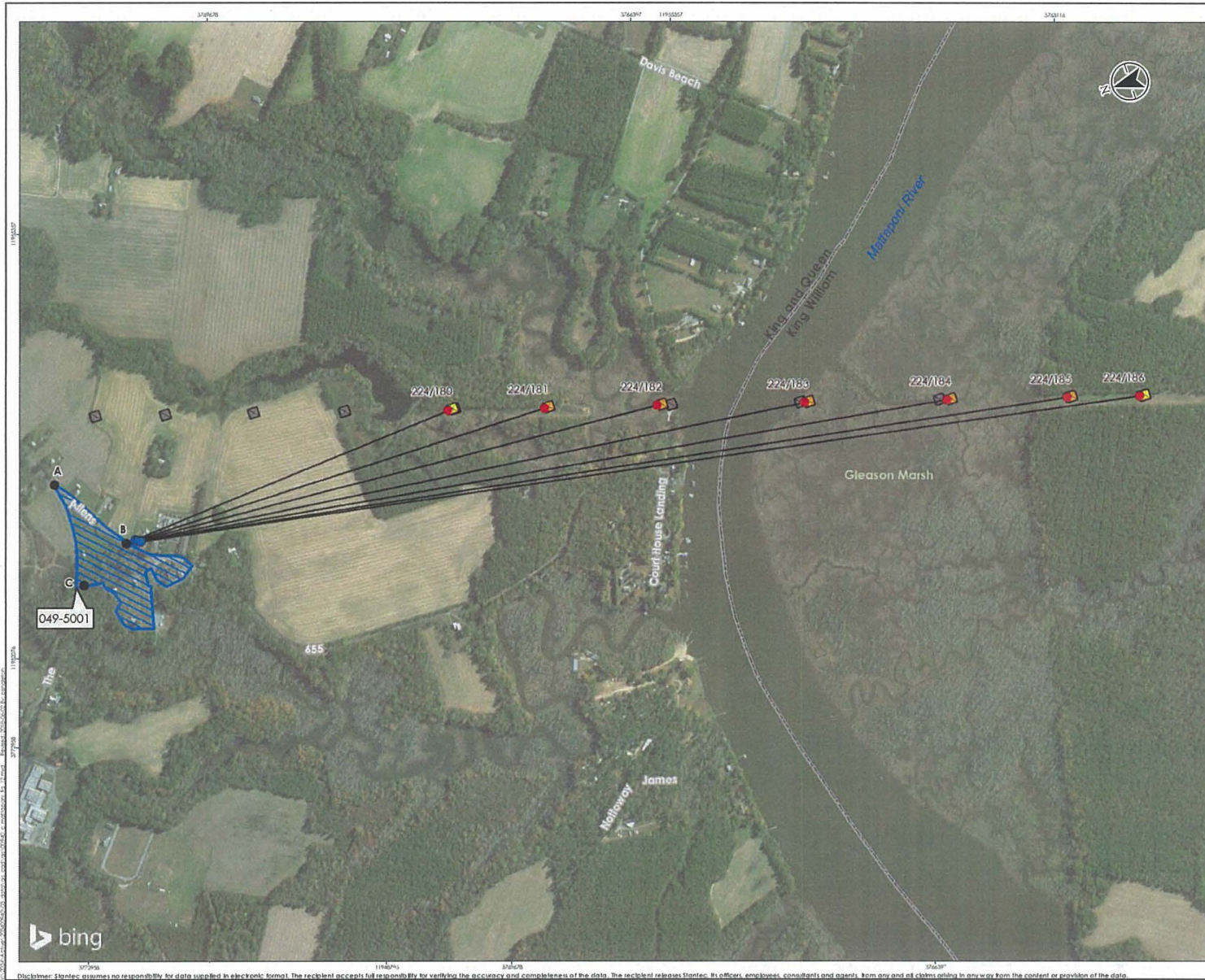


Figure No.
12

Title
Line of Sight of King and Queen
County Court House Green Historic District
(VDHR #049-5001) Location B

Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

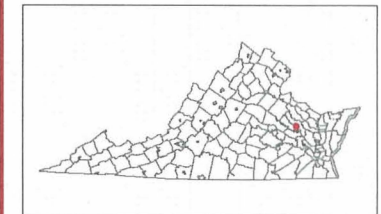
Project Location
King and Queen and
King William Counties, Virginia

Prepared by MG5 on 2018-02-08
Technical Review by TFS on 2018-06-06
Independent Review by JBI on 2018-06-06

0 800 1,600
1:9,600 (At original document size of 11x17)
Feet

Legend

- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- Point of Origin
- Point of Visual Obstruction
- Line of Sight Tower Not Visible
- Architectural Resources



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
3. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
4. Information contained herein is preliminary in nature and subject to final engineering
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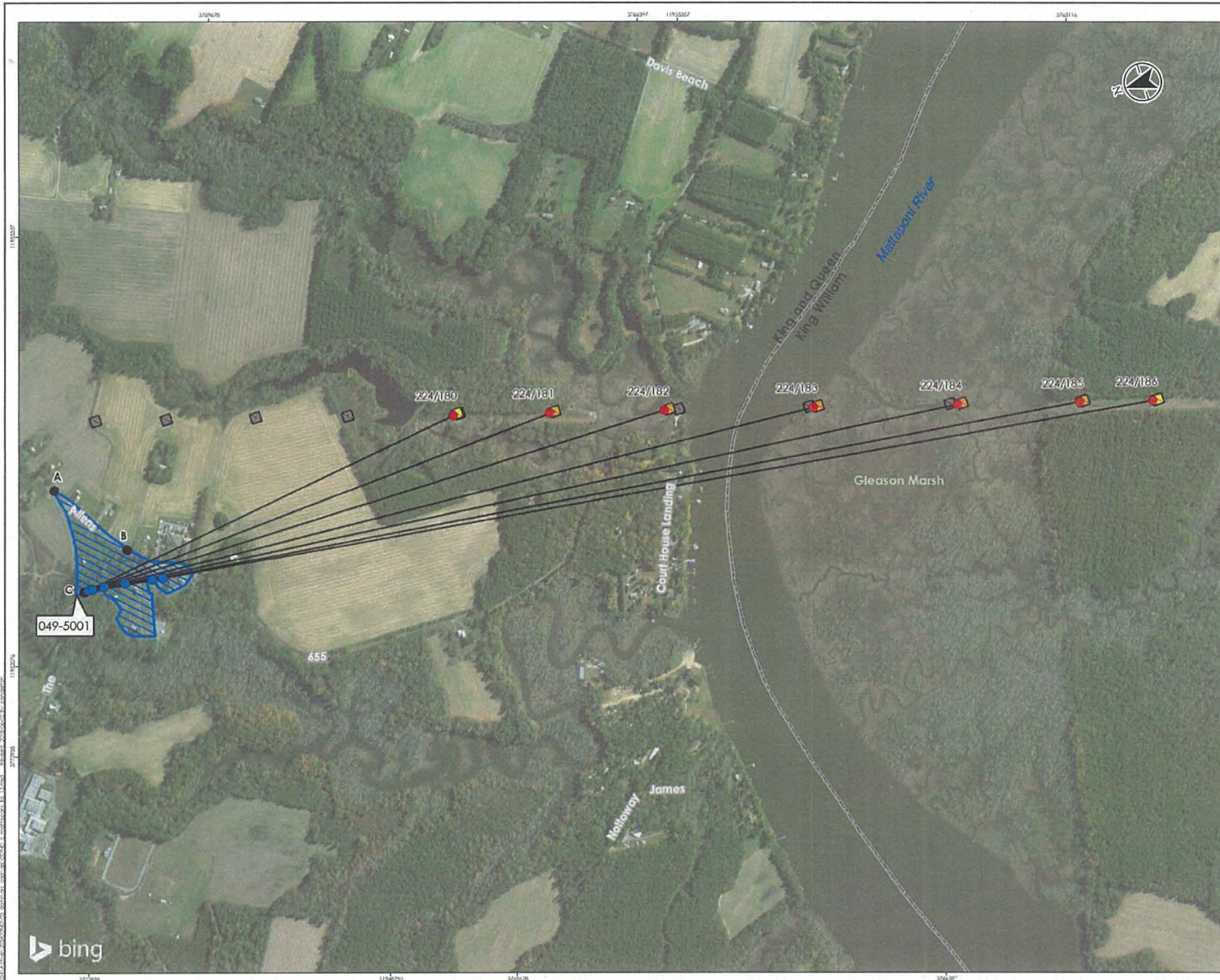


Figure No.
13

Title
Line of Sight of King and Queen
County Court House Green Historic District
(VDHR #049-5001) Location C

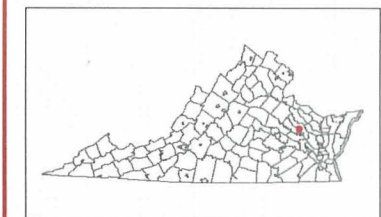
Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

Project Location
King and Queen and
King William Counties, Virginia

203400940
Prepared by MG5 on 2018-02-08
Technical Review by TP5 on 2018-06-01
Independent Review by JB1 on 2018-06-01

0 800 1,600
1:9,600 (At original document size of 11x17)
Feet

- Legend
- Proposed 3-Pole Structure
 - Proposed Lattice Tower
 - Existing Structure Location
 - Point of Origin
 - Point of Visual Obstruction
 - Line of Sight Tower Not Visible
 - Architectural Resources



- Notes
1. Coordinate System: HAD 1983 StatePlane Virginia South FIPS 4502 Feet
 2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
 3. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
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3.4 BATTLEFIELD RESOURCES CONSIDERED

A portion of the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007) was located within 1.0-miles of the ROW and was therefore considered for visual effects per VDHR guidelines for the proposed rebuild project.

3.4.1 Mantapike Hill/Walkerton Battlefield (VDHR #049-5007/ABPP VA125)

The battle of Mantapike Hill/Walkerton took place on March 2, 1864 between Confederate forces led by Major General Wade Hampton and Union forces under the command of Brigadier General Judson Kilpatrick and Colonel Ulric Dahlgren. Four thousand Union forces under Kilpatrick and 500 under Dahlgren were on route to Richmond to penetrate defenses in the capital. Kilpatrick's troops traveled along the Virginia Central Railroad tearing up the tracks in order to disrupt supply lines while Dahlgren's men were traveling along the James River in order to free Union prisoners on Belle Isle. Due to the delay in Dahlgren's arrival, Kilpatrick was forced to retreat. Near Old Church Union soldiers were attacked by Hampton's cavalry. Separated from Kilpatrick's troops, Dahlgren and his soldiers tried to escape to the north of Richmond only to be taken prisoner and Dahlgren killed (ABPP 2017; Appendix B).

3.4.1.1 Visual Effects Assessment

The portion of the NRHP-eligible resource includes sections of the study and Potential National Register (PotNR) areas of the battlefield. The main core area is located approximately three miles from the current project area. The existing transmission line is located to the southeast of the battlefield (Appendix B). The closest point, which is the southeastern point of the resource, is approximately 2,290 feet from the existing transmission line. Currently the existing structures and associated wires are not visible from the resource as observed during fieldwork (Figures 14-17). The proposed rebuild project will be located within existing ROW with transmission line support structures and range in height from approximately 61 feet to 196 feet, based on preliminary information.

All seven structures proposed for the rebuild (Structures #224/180 through #224/186), were evaluated in the line-of-sight analysis using the preliminary heights of the proposed structures. The analysis utilized four points within the battlefield, including Location A used for the King and Queen County Courthouse Green Historic District (VDHR #049-5001). According to the analysis, the battlefield would not view the proposed transmission line from Locations A and E-G due to tree cover between the battlefield and the line (Figures 18-20). The line-of-sight findings were the same as the view shed modeling (Figure 21). The photosimulations prepared for the resource also indicated that the proposed structures would not be visible from the battlefield. Based on the computer line-of-sight analysis, view shed modeling, photosimulations, and the fieldwork, ***it is recommended that the proposed project would have No Impact on the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007).***



Figure 14. View from Photo Location E from the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007) Looking South toward the Rebuild Project. Rebuild Section of the Transmission Line is Not Visible (Wires Visible in the Photograph Connect to a Residential Utility Pole).



Figure 15. View from Photo Location F from the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007) Looking South toward the Rebuild Project. Rebuild Section of the Transmission Line is Not Visible.



**Figure 16. View from Photo Location G from the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007)
Looking South toward the Rebuild Project. Rebuild Section of the Transmission Line is Not Visible.**



Figure No.
17

Title
**Photo Location Map of Mantapike Hill /
Wakerton Battlefield (VDHR #049-5007)**

Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

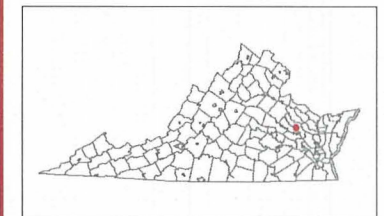
Project Location
King and Queen and
King William Counties, Virginia

20340094D
Prepared by MGS on 2018-02-08
Technical Review by TFS on 2018-04-03
Independent Review by JBJ on 2018-05-03

0 800 1,600
1:9,600 (At original document size of 11x17)
Feet

Legend

- Photo Location
- ☒ Proposed 3-Pole Structure
- ☒ Proposed Lattice Tower
- ☒ Existing Structure Location
- ▨ Architectural Resources
- ▭ Right-of-Way



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
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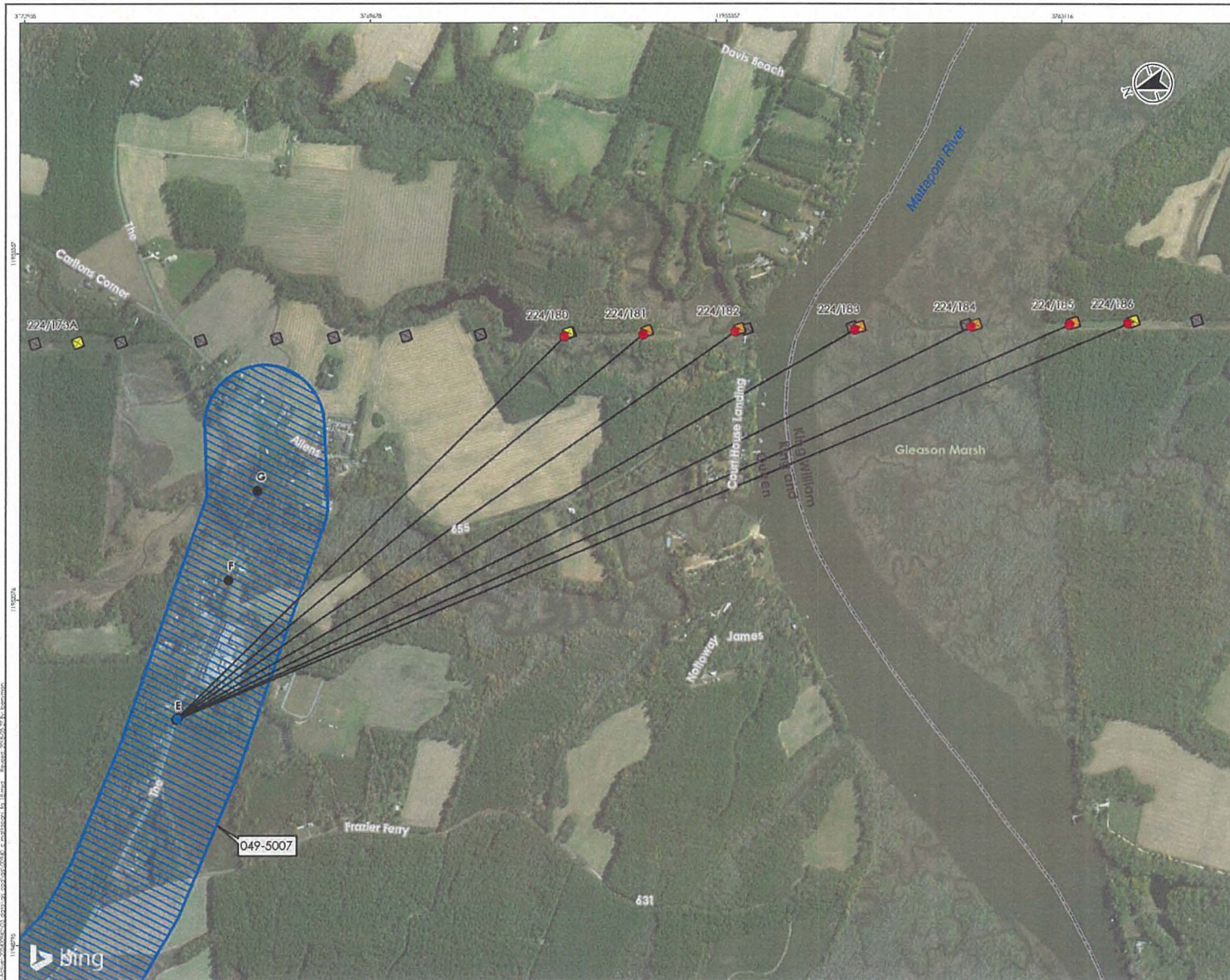


Figure No.
18

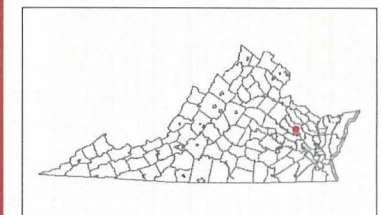
Title
Line of Sight of Mantapike Hill / Wakerton
Battlefield (VDHR #049-5007) Location E
Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

Project Location
King and Queen and
King William Counties, Virginia
Prepared by MGS on 2018-09-09
Technical Review by TFS on 2018-09-09
Independent Review by JBI on 2018-09-09

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1:12,000 (At original document size of 11x17)
Feet

Legend

- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- Point of Origin
- Point of Visual Obstruction
- Line of Sight Tower Not Visible
- Architectural Resources



- Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
 2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only.
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Page 01 of 01

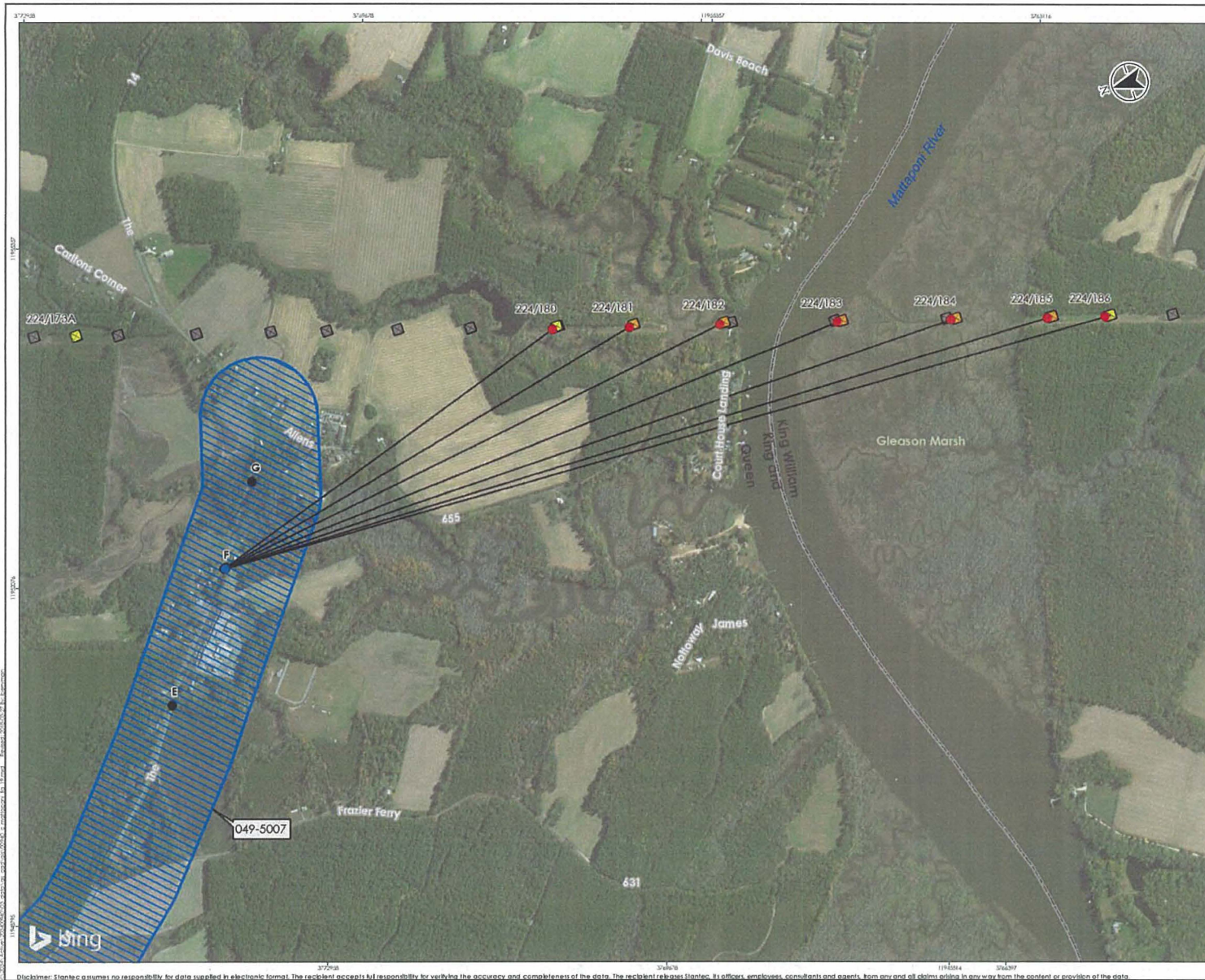


Figure No.
19

Title

Line of Sight of Mantapike Hill / Wakerton
Battlefield (VDHR #049-5007) Location F

Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

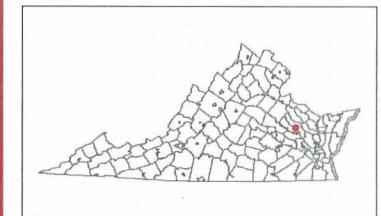
Project Location
King and Queen and
King William Counties, Virginia

2034-009-40
Prepared by MG5 on 2018-05-08
Technical Review by TPS on 2018-05-08
Independent Review by JLI on 2018-05-08

0 1,000 2,000 Feet
1:12,000 (At original document size of 11x17)

Legend

- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- Point of Origin
- Point of Visual Obstruction
- Line of Sight Tower Not Visible
- Architectural Resources



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only.
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Figure No.
20

Title

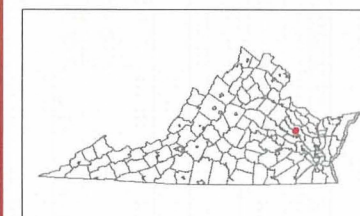
Line of Sight of Mantapike Hill / Wakerton
Battlefield (VDHR #049-5007) Location G
Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

Project Location
King and Queen and
King William Counties, Virginia
Prepared by MGS on 2018-02-08
Technical Review by TPS on 2018-02-08
Independent Review by JB on 2018-02-08

0 1,000 2,000
1:12,000 (At original document size of 11x17)
Feet

Legend

- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- Point of Origin
- Point of Visual Obstruction
- Line of Sight Tower Not Visible
- Architectural Resources



- Notes
1. Coordinate System: NAD 1983 StatePlane: Virginia South FIPS 4502 Feet
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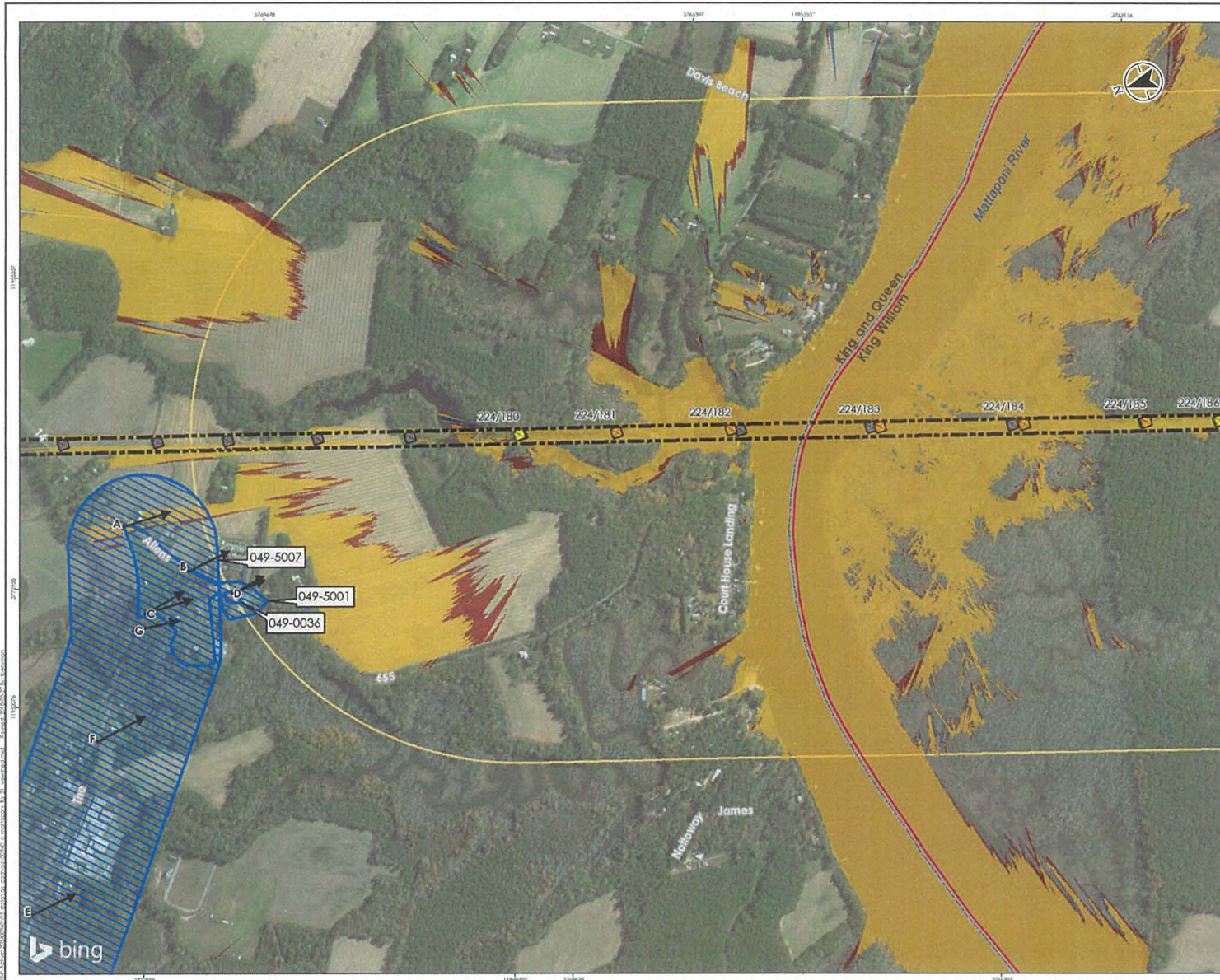
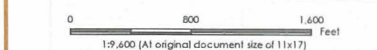
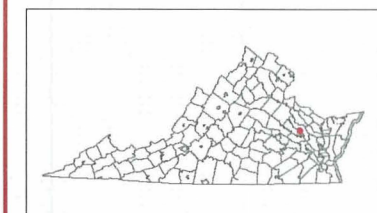


Figure No. 21
 Title Viewshed Modeling of the Mattaponi River Crossing
 Client/Project Dominion Energy Virginia
 Line #224 Partial Rebuild Projects
 Mattaponi River Rebuild
 Project Location King and Queen and King William Counties, Virginia
 Prepared by MGS on 2018-02-20
 Technical Review by TFS on 2018-02-20
 Independent Review by JBI on 2018-03-05



- Legend**
- Right-of-Way
 - Proposed 3-Pole Structure
 - Proposed Lattice Tower
 - Existing Structure Location
 - Captain John Smith Chesapeake National Historic Trail
 - Architectural Resource
 - 0.5-Mile Buffer
- Structure Visibility**
- Existing Visible, Proposed not Visible
 - Both Existing and Proposed Visible
 - Existing not Visible, Proposed Visible



- Notes**
1. Coordinate System: NAD 1983 StatePlane: Virginia South FIPS 4502 Feet
 2. Historic resource data provided by Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS) and are for planning purposes only
 3. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
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3.4.2 Captain John Smith Chesapeake National Historic Trail

The Captain John Smith Chesapeake National Historic Trail encompasses over 3,000 miles of waterway associated with the voyages of John Smith as well as early explorations of the Chesapeake Bay region. A portion of the ROW crosses the trail at the Mattaponi River. Modern residential development is present, but sparse in the vicinity of the project area.

The visibility of the proposed transmission line rebuild within the bounds of the Captain John Smith Trail would be nearly identical to that which is currently present. The increase in heights of the structures along the banks of the river (Structure #224/182 and #224/183), which is limited to a maximum of 8 feet, will not be significantly noticeable and would not result in a significant change over the existing conditions. ***Because the proposed rebuild is consistent with the transmission line which is currently in place, it is recommended that the rebuild would have a minimal or no adverse visual effect to the Captain John Smith Chesapeake National Historic Trail.***

4.0 CONCLUSIONS

4.1 OVERVIEW

Stantec was retained by Dominion to conduct a Stage I Pre-Application Analysis for the proposed rebuilding of Line #224 at the crossing of the Mattaponi River in King and Queen and King William Counties, Virginia. In order to maintain the structural integrity and reliability of its transmission system, to comply with mandatory NERC Reliability Standards, Dominion proposes to rebuild the line entirely within an existing ROW. The proposed Rebuild Project will require the replacement of seven existing structures. Current H-frame structures will be replaced with 3-pole structures, existing 3-pole structures will be replaced by steel lattice structures, and current lattice structures will be replaced with galvanized structures of a similar type.

4.1.1 Recommendations - Architectural Resources

No NHL-listed architectural resources are located within 1.5-miles of the ROW. One NRHP-listed resource, the King and Queen County Courthouse Green Historic District (VDHR #049-5001) and one NRHP-eligible resource, the King and Queen County Courthouse (VDHR #049-0036), were identified within 0.5-miles of the transmission line. The NRHP-eligible Mantapike Hill/Walkerton Battlefield (VDHR #049-5007) also falls within 1.0-mile. Additionally, the Captain John Smith Chesapeake National Historic Trail crosses the ROW at the Mattaponi River; however, the nationally designated trail has not been evaluated by VDHR for NRHP eligibility. Table 4 details the recommendations for the project.

Based on preliminary structure heights, the proposed Rebuild Project would increase the height of the structures approximately 7 to 46 (maximum) feet for the proposed lattice and 3-pole structures. Based on the analysis, it is recommended that the rebuild would have No Visual Impact to the King and Queen County Courthouse (VDHR #049-0036), the King and Queen County Courthouse Green Historic District (VDHR #049-5001), and the Mantapike Hill/Walkerton Battlefield (VDHR #049-5007. The proposed Rebuild Project would have a Minimal Impact to the Captain John Smith Chesapeake National Historic Trail).

Table 4. Previously Recorded Architectural Resources Considered within the Stage I Pre-Application Guidelines				
VDHR #	Resource Name	VDHR/NRHP Status	Distance to Centerline (Feet)	Impact
049-0036	King and Queen County Court House, Court House Landing Road	Determined Eligible by VDHR in 1994	2,630	None
049-5001	King and Queen County Courthouse Green Historic District	NRHP-Listed 2014 VLR-Listed 2013	2,440	None
049-5007	Mantapike Hill/Walkerton Battlefield	Determined Eligible by VDHR in 2016	2,290	None
N/A	Captain John Smith Chesapeake National Historic Trail	Not Evaluated within the APE	0	Minimal

5.0 REFERENCES

American Battlefield Protection Program

2017 "Walkerton." <https://www.nps.gov/abpp/battles/va125.htm>, accessed 4 January 2018.

Advisory Council for Historic Preservation (ACHP)

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

United States Department of the Interior (Interagency Resources Division)

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

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

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

Virginia Department of Historic Resources (VDHR)

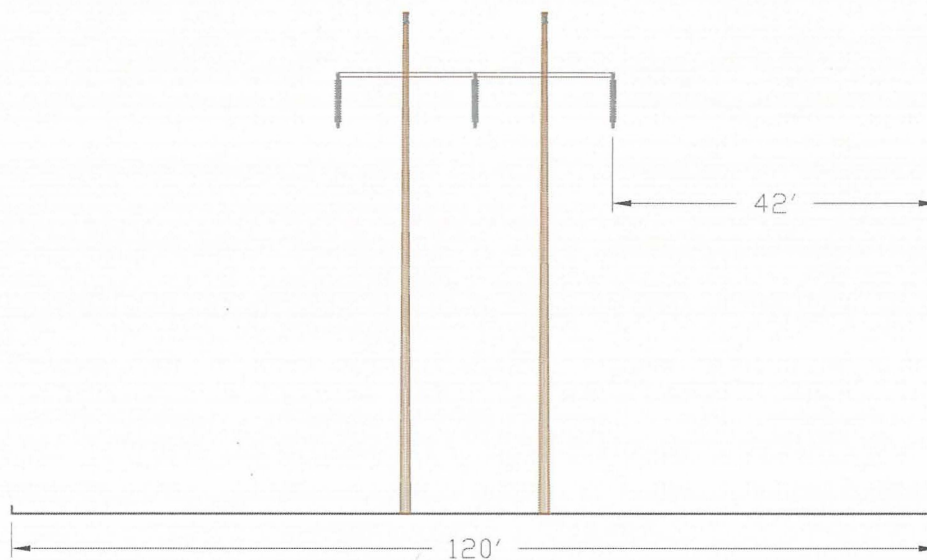
2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia.* VDHR, Richmond.

2017 VDHR Archive Files.

Appendix A

A.1 STRUCTURE DETAILS

230KV CIRCUIT
LINE #224



STRUCTURES 224/180 & 224/186

RIGHT OF WAY LOOKING TOWARD NORTHERN NECK SUBSTATION

STRUCTURE TYPE:	SUSPENSION H-FRAME
LENGTH OF R/W (TOTAL QUANTITY):	1.06 MILES (2)
MATERIAL FOR STRUCTURE:	WOOD
FOUNDATION MATERIAL:	N/A - DIRECT EMBED
AVERAGE FOUNDATION REVEAL (RANGE):	N/A - DIRECT EMBED
WIDTH AT CROSSARM:	36'
WIDTH AT BASE (RANGE):	18'
AVERAGE SPAN LENGTH (RANGE):	894' (600' - 1140')
AVERAGE STRUCTURE HEIGHT (RANGE):	63' (62' - 65')
MINIMUM CONDUCTOR - TO - GROUND:	22.5'
ROW WIDTH:	120'

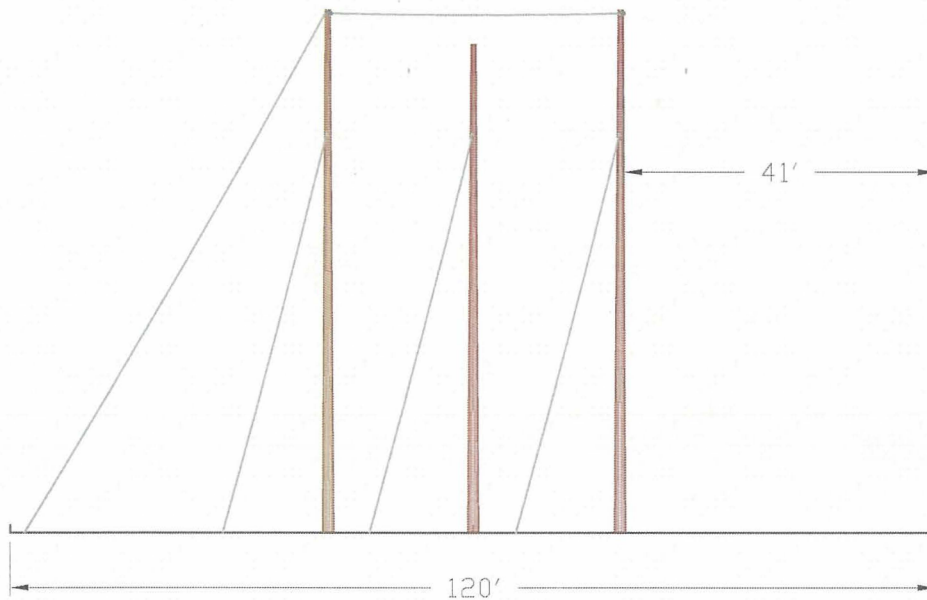
NOTES: 1. HEIGHT DIMENSION DOES NOT INCLUDE FOUNDATION REVEAL.

A.5.i

Attachment 2.H.2

Page 40 of 50

230KV CIRCUIT
LINE #224



STRUCTURES 224/181 & 224/185

RIGHT OF WAY LOOKING TOWARD NORTHERN NECK SUBSTATION

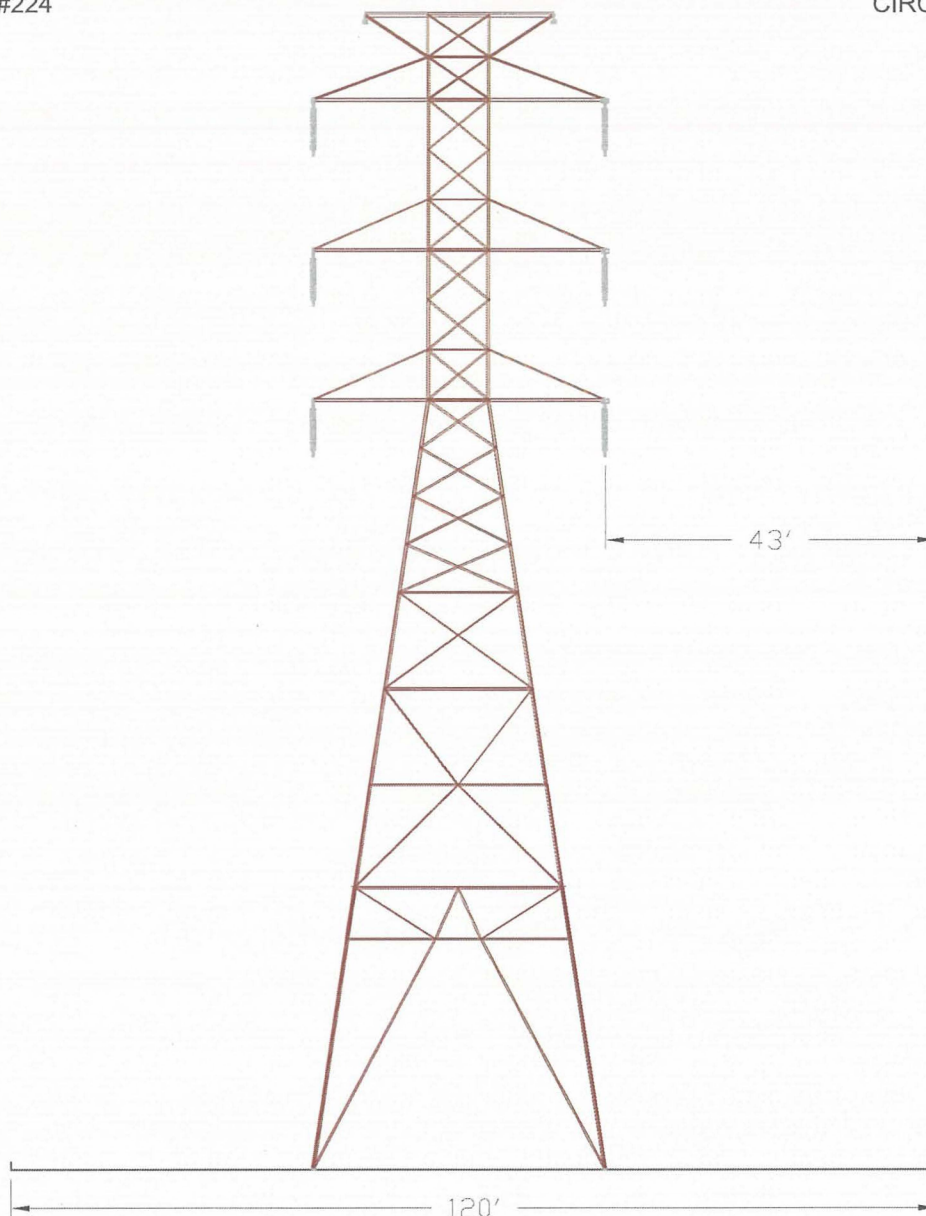
STRUCTURE TYPE:	DEADEND 3-POLE
LENGTH OF R/W (TOTAL QUANTITY):	1.06 MILES (2)
MATERIAL FOR STRUCTURE:	STEEL
FOUNDATION MATERIAL:	N/A - DIRECT EMBED
AVERAGE FOUNDATION REVEAL (RANGE):	N/A - DIRECT EMBED
WIDTH AT CROSSARM:	36'
WIDTH AT BASE (RANGE):	38'
AVERAGE SPAN LENGTH (RANGE):	894' (600' - 1140')
AVERAGE STRUCTURE HEIGHT (RANGE):	65' (61' - 68')
MINIMUM CONDUCTOR - TO - GROUND:	22.5'
ROW WIDTH:	120'

NOTES: 1. HEIGHT DIMENSION DOES NOT INCLUDE FOUNDATION REVEAL.

230KV CIRCUIT
LINE #224

DISTRIBUTION
CIRCUIT

Attachment 2.H.2
Page 41 of 50



STRUCTURES 224/182 - 224/184

RIGHT OF WAY LOOKING TOWARD NORTHERN NECK SUBSTATION

STRUCTURE TYPE:	SUSPENSION LATTICE TOWER
LENGTH OF R/W (TOTAL QUANTITY):	1.06 MILES (2)
MATERIAL FOR STRUCTURE:	CORTEN STEEL
FOUNDATION MATERIAL:	CONCRETE/STEEL
AVERAGE FOUNDATION REVEAL (RANGE):	8.9' (8.6' - 9')
WIDTH AT CROSSARM:	36'
WIDTH AT BASE (RANGE):	41' (38' - 47')
AVERAGE SPAN LENGTH (RANGE):	894' (600' - 1140')
AVERAGE STRUCTURE HEIGHT (RANGE):	170' (150' -180')
MINIMUM CONDUCTOR - TO - MHW:	90'
ROW WIDTH:	120'

NOTES: 1. HEIGHT DIMENSION DOES NOT INCLUDE FOUNDATION REVEAL.

Appendix B

B.1 ARCHITECTURAL RESOURCE MAPS – LINE #224 MATTAPONI REBUILD

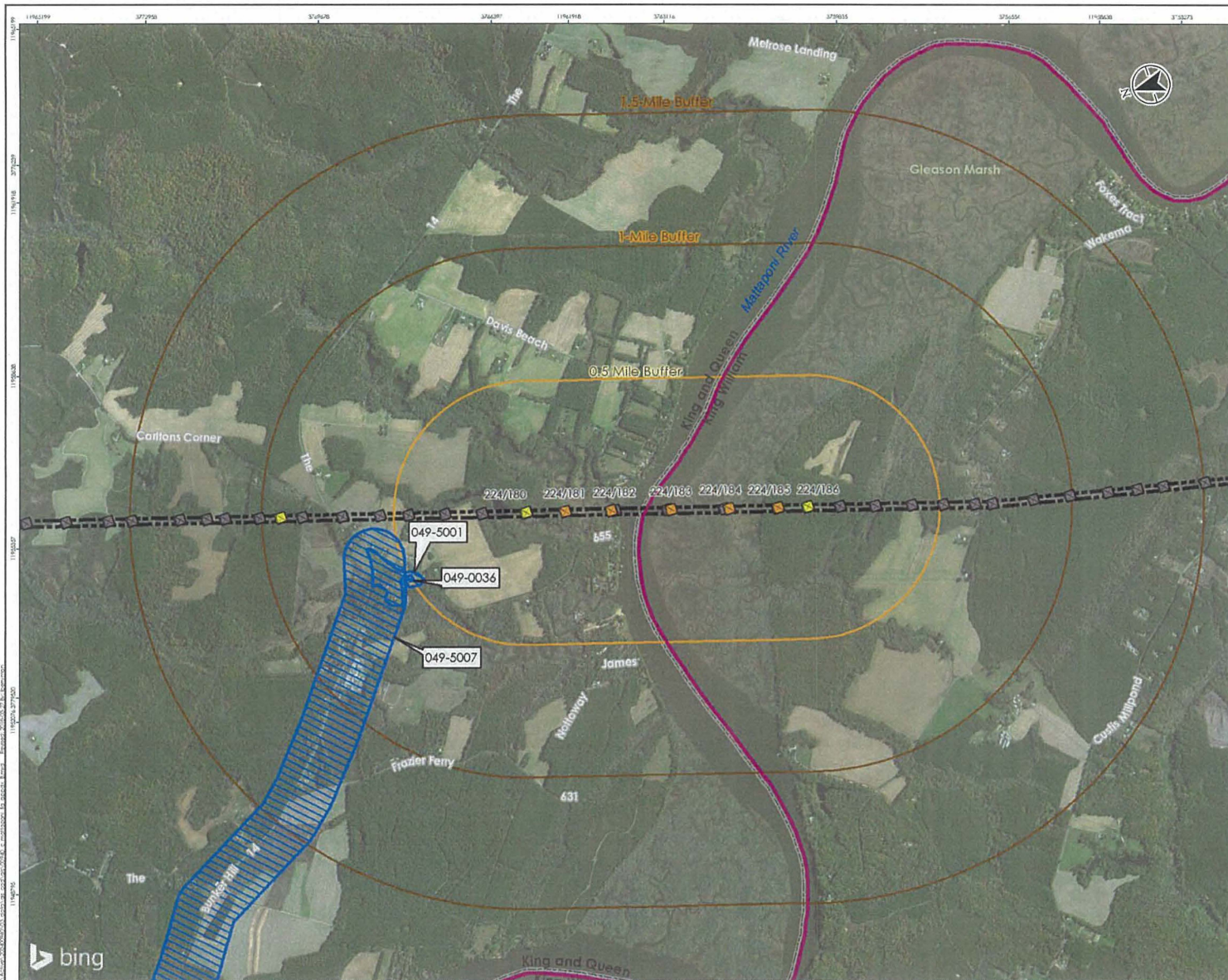


Figure No.

Appendix B

Architectural Resources Under Consideration

Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

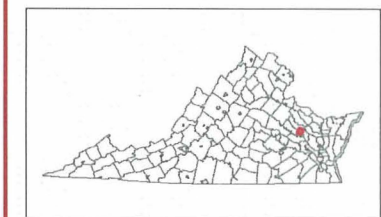
Project Location
King and Queen and
King William Counties, Virginia

Prepared by MGS on 2018-05-20
Technical Review by TPS on 2018-05-03
Independent Review by JBI on 2018-05-03

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1:24,000 (At original document size of 11x17)
Feet

Legend

- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- Captain John Smith Chesapeake National Historic Trail
- Architectural Resource
- 0.5-Mile Buffer
- 1-Mile Buffer
- 1.5-Mile Buffer
- Right-of-Way



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
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Appendix C

C.1 PHOTOSIMULATIONS



Photograph provided by Stantec

Existing View from King and Queen County Courthouse (DHR
#049-0036) Looking South



Photograph provided by Stantec

Proposed/Simulation from King and Queen County Courthouse (DHR #049-0036) Looking South



Photograph provided by Stantec

Existing View from Mantapike Hill/ Walkerton Battlefield (DHR #049-5007) and King and Queen Courthouse Green Historic District (DHR #049-5001) Looking South



Photograph provided by Stantec

Proposed/Simulation from Mantapike Hill/ Walkerton Battlefield (DHR #049-5007) and King and Queen Courthouse Green Historic District (DHR #049-5001) Looking South

Appendix D

D.1 ARCHAEOLOGICAL RESOURCE MAPS – LINE #224 MATTAPONI RIVER REBUILD



Figure No.

Appendix D

Archaeological Resources

Client/Project
Dominion Energy Virginia
Line #224 Partial Rebuild Projects
Mattaponi River Rebuild

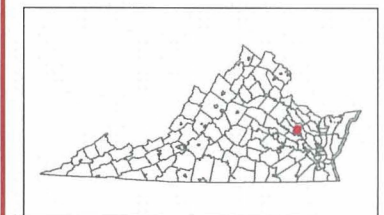
Project Location
King and Queen and
King William Counties, Virginia

Prepared by MGS on 2018-05-25
Technical Review by TFS on 2018-05-30
Independent Review by JBJ on 2018-05-30

0 2,000 4,000
1:24,000 (At original document size of 11x17)
Feet

Legend

- Proposed 3-Pole Structure
- Proposed Lattice Tower
- Existing Structure Location
- Right-of-Way



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Structure locations and Right-of-Way dimensions provided by Dominion Energy Virginia
3. Information contained herein is preliminary in nature and subject to final engineering
4. Orthoimagery © Bing Maps
5. Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation





Stantec Consulting Services Inc.
5209 Center Street, Williamsburg, Virginia 23188

April 4, 2018
File: 203400940

Attention: Ms. Marcie Parker, P.E.
Virginia Department of Transportation
Fredericksburg District Office
87 Deacon Road
Fredericksburg, Virginia 22405

Reference: 230 kV Transmission Line #224 Partial Rebuild Projects
King William County, King and Queen County, New Kent County, Virginia
Application: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Ms. Parker, P.E.,

Dominion Energy Virginia (the "Company") is proposing to wreck and rebuild portions of its 230 kV transmission line, Line #224, which is located in King and Queen County, King William County and New Kent County, Virginia. Select structures have been identified as requiring replacement due to the deterioration of the foundations and/or structures that are nearing the end of their service life. A total of 21 structures in four different locations, inclusive of two river crossings, are scheduled for replacement. The project is entirely within cleared and maintained transmission line right-of-way ("ROW") and no additional ROW is anticipated. The proposed project is part of an ongoing effort to provide reliable electric service consistent with North American Electric Reliability Corporation Reliability Standards. The structures have been in operation for over five decades and need to be replaced to maintain reliability for the Company's customers.

Since the project involves proposed work to an existing 230 kV transmission line, the Company is preparing an application for a certificate of public convenience and necessity from the State Corporation Commission ("SCC"). It is likely that the Department of Environmental Quality, on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, the Company respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project within 30 days of the date of this letter. Stantec is supporting the Company with the solicitation of this information. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me using the contact information provided below. We appreciate your assistance with this project review and look forward to any additional information you may have to offer.

Regards,

STANTEC CONSULTING SERVICES

A handwritten signature in black ink, appearing to read "Jennifer Johnson".

Jennifer Johnson
Project Manager
Phone: (757) 220-6869
jennifer.johnson@stantec.com

CC: John Mulligan, Dominion

Design with community in mind



Stantec Consulting Services Inc.
5209 Center Street, Williamsburg, Virginia 23188

April 4, 2018
File: 203400940

Attention: Mr. Bart Thrasher
Virginia Department of Transportation
Richmond District Office
2430 Pine Forest Drive
Colonial Heights, Virginia 23834

Reference: 230 kV Transmission Line #224 Partial Rebuild Projects
King William County, King and Queen County, New Kent County, Virginia
Application: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Thrasher,

Dominion Energy Virginia (the "Company") is proposing to wreck and rebuild portions of its 230 kV transmission line, Line #224, which is located in King and Queen County, King William County and New Kent County, Virginia. Select structures have been identified as requiring replacement due to the deterioration of the foundations and/or structures that are nearing the end of their service life. A total of 21 structures in four different locations, inclusive of two river crossings, are scheduled for replacement. The project is entirely within cleared and maintained transmission line right-of-way ("ROW") and no additional ROW is anticipated. The proposed project is part of an ongoing effort to provide reliable electric service consistent with North American Electric Reliability Corporation Reliability Standards. The structures have been in operation for over five decades and need to be replaced to maintain reliability for the Company's customers.

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Jennifer Johnson
Project Manager
Phone: (757) 220-6869
jennifer.johnson@stantec.com

CC: John Mulligan, Dominion

Design with community in mind



Stantec Consulting Services Inc.
5209 Center Street, Williamsburg, Virginia 23188

April 4, 2018
File: 203400940

Attention: Mr. Scott Denny
Virginia Department of Aviation
Airport Services Division, Planning and Environmental Section
5702 Gulfstream Road
Richmond, Virginia 23250

Reference: 230 kV Transmission Line #224 Partial Rebuild Projects
King William County, King and Queen County, New Kent County, Virginia
Application: Virginia Electric and Power Company (Dominion Energy Virginia)

Dear Mr. Denny,

Dominion Energy Virginia (the "Company") is proposing to wreck and rebuild portions of its 230 kV transmission line, Line #224, which is located in King and Queen County, King William County and New Kent County, Virginia. Select structures have been identified as requiring replacement due to the deterioration of the foundations and/or structures that are nearing the end of their service life. A total of 21 structures in four different locations, inclusive of two river crossings, are scheduled for replacement. The project is entirely within cleared and maintained transmission line right-of-way ("ROW") and no additional ROW is anticipated. The proposed project is part of an ongoing effort to provide reliable electric service consistent with North American Electric Reliability Corporation Reliability Standards. The structures have been in operation for over five decades and need to be replaced to maintain reliability for the Company's customers.

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STANTEC CONSULTING SERVICES

A handwritten signature in black ink, appearing to read "Jennifer Johnson".

Jennifer Johnson
Project Manager
Phone: (757) 220-6869
jennifer.johnson@stantec.com

CC: John Mulligan, Dominion

Design with community in mind

RECEIVED

APR 20 2018



COMMONWEALTH of VIRGINIA

Mark K. Flynn
Director

Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624
FAX • (804) 236-3635

April 17, 2018

Ms. Jennifer Johnson, Project Manager
Stantec Consulting Services Inc.
5209 Center Street
Williamsburg, Virginia 23188

RE: Dominion Energy 230kV Transmission Line #244 Partial Rebuild

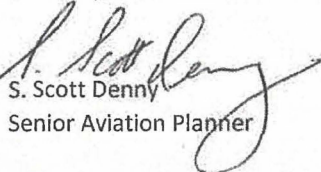
Dear Ms. Johnson:

The Virginia Department of Aviation has received your request to comment on the proposed rebuild of Transmission Line #224 by Dominion Energy Virginia. Following our review, it does not appear as though any portion of the proposed project will be located within 20,000 linear feet of any public use airport. Therefore the Department has no comment based on the information provided.

However, the information provided did not identify the height of the support structures. If any of the transmission line support structures will be 200' above ground level (AGL) or greater, a 7460 form will have to be submitted to the Federal Aviation Administration (FAA). Additionally, if the crane used to install the new support structures or remove the old structures will be 200' or taller, a 7460 will also have to be submitted to the FAA. The 7460 form is used by the FAA to evaluate potential hazards to air navigation.

If you have any questions or would like to discuss this matter further, please contact me at (804) 236-3638.

Sincerely,


S. Scott Denny
Senior Aviation Planner



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Attachment 2.N.4
Aeronautical Study No. ^{Page 1 of 2}
2018-AEA-6367-OE

Issued Date: 06/05/2018

Nadiah F. Younus
Virginia Power and Electric Company
701 East Cary Street
12th Floor
Richmond, VA 23219

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Transmission Structure 224/297
Location:	Lanexa, VA
Latitude:	37-25-56.94N NAD 83
Longitude:	76-54-52.80W
Heights:	23 feet site elevation (SE) 140 feet above ground level (AGL) 163 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 12/05/2019 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (817) 222-5922, or debbie.cardenas@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-AEA-6367-OE.

Signature Control No: 363927882-366989285

(DNE)

Debbie Cardenas
Technician

cc: FCC