



**VISUAL EFFECTS ASSESSMENT FOR  
THE PROPOSED DOMINION VIRGINIA POWER SURRY TO SKIFFES  
CREEK 500 kV TRANSMISSION LINE PROJECT AND  
SKIFFES CREEK 500-230-115 kV SWITCHING STATION  
JAMES CITY, ISLE OF WIGHT, AND SURRY COUNTIES**

**VDHR File:**

**Prepared For:**

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## MANAGEMENT SUMMARY

Cultural Resources, Inc. (CRI), now Stantec Consulting Services, Inc. (Stantec) was retained by Dominion Virginia Power (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed Surry to Skiffes Creek 500 kV Transmission Line Project (Leithoff et al. 2012). This analysis was completed during October and November 2011 and January 2012. CRI conducted preliminary background research and a field study pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) for proposed transmission line improvements in Charles City, Surry, James City and York Counties, and the City of Williamsburg, Virginia. Two alternatives were investigated and associated with that project.

Since that time, a single alternative has been identified and approved by the State Corporation Commission (SCC). This alternative, Surry to Skiffes Creek 500 kV Transmission Line, Variation 1 (Variation 1) is 7.42 miles long (Figure 1). The total length of the Surry to Skiffes Creek 500 kV Transmission line with Variation is 7.95 miles.

### Area of Potential Effect

This alternative, among others, were included in a formal Stage I Pre-Application Analysis 2011 and 2012. Since that time, and the selection of Variation 1 as the final route, a U.S. Army Corps of Engineers (Corps) Permit has been filed. At that time, an expanded Area of Potential Effect (APE) for the project was identified, particularly with respect to potential visual effects associated with the James River crossing. In an email dated November 12, 2013, the Corps representative for the project described the APE as follows:

“Boundaries whose western extent is Grays Creek and just west of Jamestown Island. From these two reference points the northern boundary should capture all of Jamestown Island and extend east along the northern shoreline; while the southern boundary can extend east to the Power Plant and continue across land parallel to the corridor with the ½ mile landside buffer. South of the JRV1 (and other variations), the APE should extend on both the western and eastern shorelines extending down to Burwell’s Bay to the mouth of the Pagan River. At some point on the eastern shoreline, south of Ft. Eustis, the boundary may not have to follow the shoreline exactly. Keep visual perspective in mind when drafting the limits.” Based on this description, Williamsburg Environmental Group (WEG), now Stantec developed a map showing the boundaries of the Corps defined APE above.

### View Shed Assessment

In light of the information presented above and the need to conduct additional visual effects assessments for the expanded APE as defined by the Corps, CRI, now Stantec has prepared this visual effects assessment to include resources previously addressed during the Stage I Pre-Application Analysis prepared in 2012 as well as for resources identified within the recently expanded APE. This combined document is intended to assist with the review of this project pursuant Section 106 of the National Historic Preservation Act.

A total of 14 resources were identified during the 2012 Pre-Application Analysis and a current review of the resources on file at the VDHR for the visual effects assessment. This review included all previously recorded resources within the 0.5-mile wide expanded APE as currently defined as well as those resources identified during the Stage I assessment. The resources considered for potential visual effects are listed in Table 3. Concurrent with the current visual effects assessment, a Phase I Reconnaissance Level Architectural Survey was also conducted for the expanded APE. No additional resources were identified

that would qualify for visual effects assessment. The results of the architectural survey will be presented in a revised document entitled *Phase I Cultural Resources Survey for the Proposed Surry to Skiffes Creek 500 kV Transmission Line* prepared by CRI in 2012 and updated in 2014.

### National Historic Water Trail

In addition to the traditional architectural resources identified within the corridor, one additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail has not been recorded as resources in the VDHR database. However, it has been recommended by the VDHR that resources such as these should be considered as a NRHP-eligible resource for purposes of review for the projects associated with this transmission line. It is clear that the proposed transmission line will have effects to this resource, however, the full breadth of these effects along with potential mitigation of those effects should be examined and explored through consultation with the US Army Corps of Engineers as the lead federal agency for the project.

### Recommendations

The view shed analysis was conducted for 16 resources within the APE for the proposed Surry to Skiffes Creek 500 kV Transmission Line. The results of the investigation are summarized in the following table. Additional research may be required for a formal assessment of the Captain John Smith Trail as has been noted. Of the 16 resources included in the visual effects assessment for the project, it is recommended that the proposed project will have an Adverse Effect on one resource – Carter’s Grove. Additional investigation will be required to mitigate these adverse effects according to Federal guidelines. It is recommended that six resources will not be affected by the project and that the remaining nine will not be adversely affected by the project.

<b>Table 1. Summary of Visual Impacts to Identified Resources.</b>				
<b>VDHR #</b>	<b>Resource</b>	<b>No Effect</b>	<b>No Adverse Effect</b>	<b>Adverse Effect</b>
047-0001	Carter’s Grove			X
047-0002	Colonial Parkway		X	
047-0009	Jamestown Island		X	
047-0010	Kingsmill Plantation	X		
047-0043	Amblers and Coke Watts House	X		
047-0082	Governor’s Land Archaeological District	X		
046-0037	Fort Huger		X	
046-0094	Basses Choice/Days Point Archaeological District		X	
046-0095	Fort Boykin		X	
046-5415	SS Charles H Cugle/Sturgis		X	
090-0020	Crouches Creek Plantation/Pleasant Point	X		
090-0070	Chippokes Plantation	X		
090-5046	Scotland Wharf Historic District	X		
099-5283	Battle of Yorktown		X	
121-0045	SS John W. Brown		X	
121-5070	The Ghost Fleet		X	



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## I. INTRODUCTION

Cultural Resources, Inc. (CRI), now Stantec Consulting Services, Inc. (Stantec) was retained by Dominion Virginia Power (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed Surry to Skiffes Creek 500 kV Transmission Line Project (Leithoff et al. 2012). This analysis was completed during October and November 2011 and January 2012. CRI conducted preliminary background research and a field study pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) for proposed transmission line improvements in Charles City, Surry, James City and York Counties, and the City of Williamsburg, Virginia. Two alternatives were investigated and associated with that project.

Since that time, a single alternative has been identified and approved by the State Corporation Commission (SCC). This alternative, Surry to Skiffes Creek 500 kV Transmission Line, Variation 1 (Variation 1) is 7.42 miles long (Figure 1). It extends in a northeasterly direction from Dominion's Surry Power Station in Surry County, crosses the James River, and terminates at the proposed Skiffes Creek Switching Station in James City County. The route originates at the Surry Switching Station and continues east for a distance of 1.38 miles paralleling an unnamed service road and a canal associated with the Surry Power Station. The route then pivots to the southeast for 0.23 mile, to a point just offshore in the James River, and then turns to the northeast for 3.48 miles and crosses the James River. After leaving the shoreline in Surry County, the river crossing continues southeast for a distance of 0.1 mile. The river crossing then turns to the northeast across the James River for a distance of 0.55 mile. From this point, the river crossing pivots to the north for 1.02 miles adjacent to the shoreline of the Hog Island WMA. The river crossing then turns east for 2.46 miles, reaching the shoreline of the river in James City County. The total length of the Surry to Skiffes Creek 500 kV Transmission Line, Variation 1 is 7.95 miles.

After coming onshore in James City County, the route continues for 0.38 mile crossing a thin strip of beach, forested land, and a tidal stream channel feeding Wood Creek. The route then turns to the north for 0.30 mile crossing Utility Street and then reaches the Dow Chemical Substation. From the substation location to the proposed Skiffes Creek Switching Station, the route would utilize an existing Dominion right-of-way that currently contains a 115 kV line (a portion of Line #34). This existing right-of-way is 80 to 130 feet wide and would require expansion to a 150-foot width. It crosses through lightly developed and cleared forested land, and residential areas. The route then continues for 1.45 miles to the north, crossing Route 60. The route next pivots to the northwest for 0.19 mile to its terminus at the proposed Skiffes Creek Switching Station.

### **Area of Potential Effect**

This alternative, among others, were included in a formal Stage I Pre-Application Analysis 2011 and 2012. Since that time, and the selection of Variation 1 as the final route, a U.S. Army Corps of Engineers (Corps) Permit has been filed. At that time, an expanded Area of Potential Effect (APE) for the project was identified, particularly with respect to potential visual effects



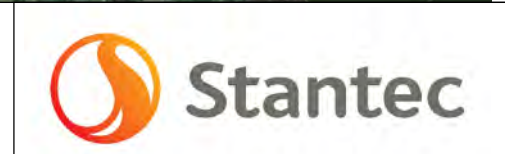
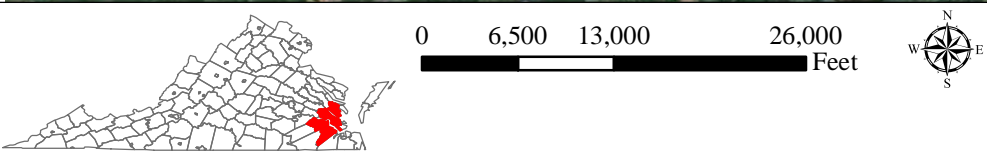
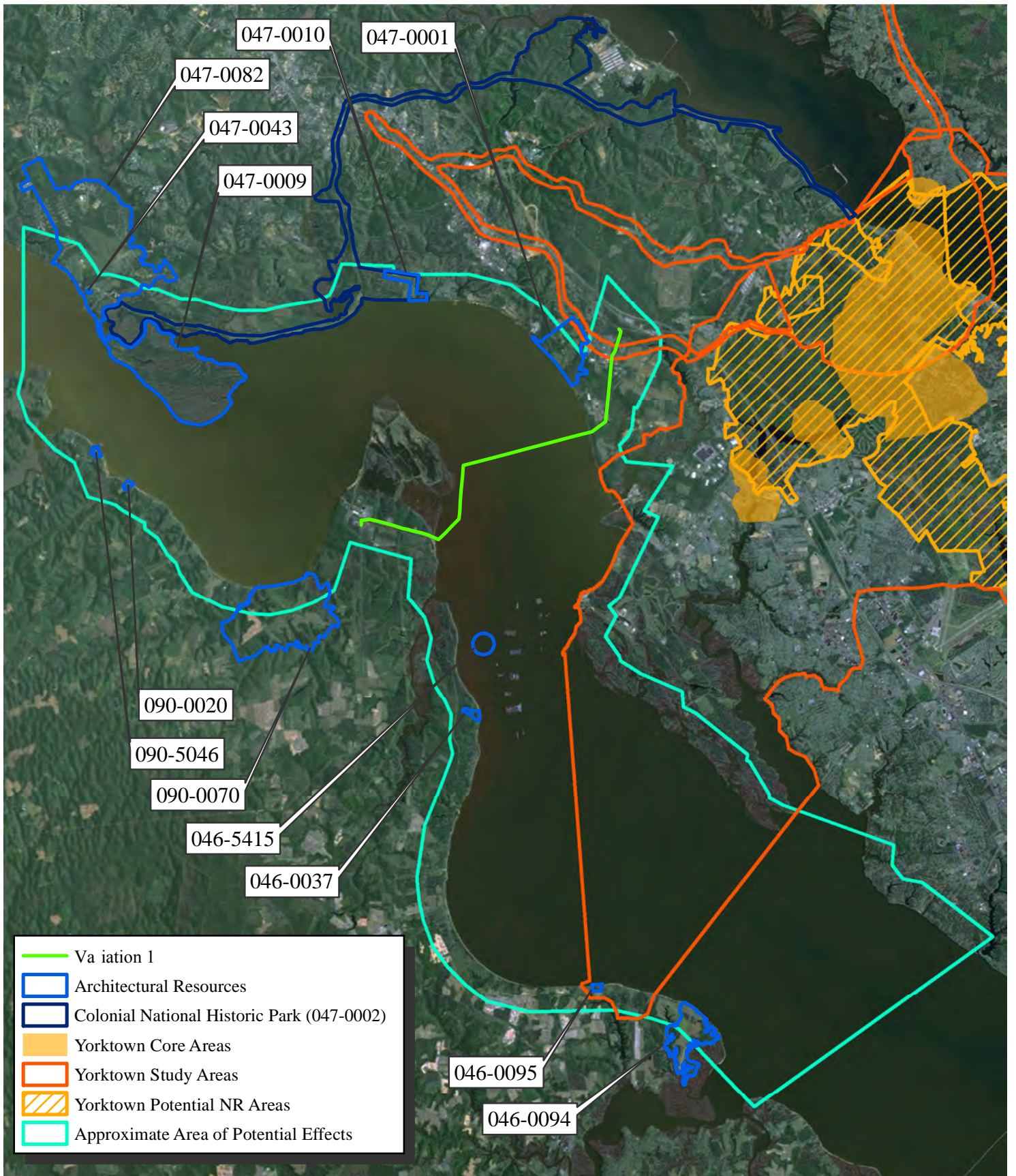


Figure 1. Map showing the Location of Variation 1, the Defined APE, and Architectural Resources Identified for Visual Effects Assessment.

associated with the James River crossing. In an email dated November 12, 2013, the Corps representative for the project described the APE as follows:

“Boundaries whose western extent is Grays Creek and just west of Jamestown Island. From these two reference points the northern boundary should capture all of Jamestown Island and extend east along the northern shoreline; while the southern boundary can extend east to the Power Plant and continue across land parallel to the corridor with the ½ mile landside buffer. South of the JRV1 (and other variations), the APE should extend on both the western and eastern shorelines extending down to Burwell’s Bay to the mouth of the Pagan River. At some point on the eastern shoreline, south of Ft. Eustis, the boundary may not have to follow the shoreline exactly. Keep visual perspective in mind when drafting the limits.”

Based on this description, Williamsburg Environmental Group (WEG), now Stantec developed a map showing the boundaries of the Corps defined APE above (see Figure 1). The APE was defined with the aid of a line of sight visual analysis conducted by Natural Resources Group, Inc. (NRG) using a combination of ArcGIS Viewshed Analysis, the engineered tower locations and tower height and multi-return Light Detection and Ranging (LiDAR) datasets. Multi-return LiDAR data allows not only the detailed ground elevation to be mapped and recorded, but also existing vegetation and structure heights in the study area as well. Using a highly detailed and site-specific LiDAR dataset obtained from the College of William and Mary, the viewshed analysis tool used the proposed tower heights and locations to determine which, if any, of them could be seen from each 5- X 5-foot wide cell within the LiDAR data. The analysis used a viewing height of 6 feet within every cell, which represented a person standing in that location looking towards the river and towers. Based on the actual vegetation and other visual impediments, each cell in the LiDAR data was given a value of 0 (not visible) or 1 (visible). The resulting viewshed was overlain on the map showing the Corps prescribed APE, indicating areas where one or more towers are either visible or not visible.

### **View Shed Assessment**

In light of the information presented above and the need to conduct additional visual effects assessments for the expanded APE as defined by the Corps, CRI, now Stantec has prepared the following visual effects assessment to include resources previously addressed during the Stage I Pre-Application Analysis prepared in 2012 as well as for resources identified within the recently expanded APE. This combined document is intended to assist with the review of this project pursuant Section 106 of the National Historic Preservation Act.

Ellen M. Brady served as Senior Principal Investigator for this project. Senior Architectural Historian Sandra DeChard co-authored the report with Ms. Brady. Ms. DeChard also served as Architectural Historian for the project. Emily Lindtveit, Assistant Architectural Historian assisted with the fieldwork. GIS Technician Sean Sutor prepared the report graphics and project maps.

## II. BACKGROUND RESEARCH

The background research included a review of the VDHR archives and of data collected from the VDHR Data Sharing System (DSS), using the most current (March 2014) 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. The *Update to the Civil War Sites Advisory Commission's Report on the Nation's Civil War Battlefields* (NPS 2009) prepared by the American Battlefield Protection Program of the National Park Service (NPS) and the *Final Comprehensive Management Plan and Environmental Assessment for the Captain John Smith Chesapeake National Historic Trail* (NPS, 2011) were also reviewed during the background research.

Background research also focused on relevant sources of local historical information and available historical maps, which were examined to check for any buildings and other cultural features present within the project area. Google Earth 2011 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.

### Cultural Resources Identified for Visual Effects Assessment

A total of 16 resources were identified during the 2012 Pre-Application Analysis and a current review of the resources on file at the VDHR for the visual effects assessment. This review included all previously recorded resources within the 0.5-mile wide expanded APE as currently defined as well as those resources identified during the Stage I assessment. The resources considered for potential visual effects are listed in Table 1 (see Figure 1). A Phase I level cultural resources survey was conducted for the Surry to Skiffes transmission line in 2012 and 2013 and no additional resources were identified for the visual effects assessment at that time. Concurrent with the current visual effects assessment, a Phase I Reconnaissance Level Architectural Survey was also conducted for the expanded APE. No additional resources were identified that would qualify for visual effects assessment. The results of the architectural survey will be presented in a revised document entitled *Phase I Cultural Resources Survey for the Proposed Surry to Skiffes Creek 500 kV Transmission Line* prepared by CRI in 2012.

<b>Table 2. Architectural Resources Considered for Visual Effects.</b>				
VDHR #	Resource	Date	Reference	VDHR/NRHP Status
099-5283	Battle of Yorktown	1862	NPS 1993 and 2009	NRHP-Listed Date Unknown
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970
047-0002	Colonial Parkway	c. 1931	NPS 1966	NRHP-Listed 1966
047-0009	Jamestown Island	c. 1600	NPS 1966	NRHP-Listed 1966; VLR-Listed 1983
047-0010	Kingsmill Plantation	c.1736	VHLC 1972	NRHP-Listed 1972; VLR-Listed 1972
047-0043	Amblers and Coke Watts House	c. 1770	Outlaw 2012	DHR Determined Eligible 2013
047-0082	Governor's Land Archaeological District	c. 1642	VDHR 1973	NRHP-Listed 1973; VLR-Listed 1973



**Table 2. Architectural Resources Considered for Visual Effects.**

<b>VDHR #</b>	<b>Resource</b>	<b>Date</b>	<b>Reference</b>	<b>VDHR/NRHP Status</b>
046-0037	Fort Huger	1861	CRI 2009	NRHP-Listed 2009; VLR Listed 2009
046-0094	Basses Choice/Days Point Archaeological District	Woodland – 19 <sup>th</sup> century historic	VHLC1983	NRHP-Listed 1983; VLR Listed 1983
046-0095	Fort Boykin	1861	DHL RCA 1985	NRHP-Listed 1985; VLR Listed 1985
046-5415	SS Charles H Cugle/Sturgis	1945	JMA 2012	DHR Determined Potentially Eligible-2013
090-0020	Crouches Creek Plantation/Pleasant Point	c. 1756	Herman 1965	NRHP-Listed 1976; VLR-Listed 1974; Easement 1998
090-0070	Chippokes Plantation	c. 1829	O'Dell 1986	NRHP-Listed 1986; VLR-Listed 1986
090-5046	Scotland Wharf Historic District	c. 1886	Cook 2006	DHR Determined Potentially Eligible
121-0045	SS John W. Brown	1942	VDHR 1984	NRHP Listed 1984
121-5070	The Ghost Fleet	c. 1935	Stantec 2014	Potentially Eligible, Stantec 2014

### **National Historic Water Trails**

In addition to the traditional architectural resources identified within the corridor, one additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail has not been recorded as resources in the VDHR database. However, it has been recommended by the VDHR that resources such as these should be considered as a NRHP-eligible resource for purposes of review for the projects associated with this transmission line.

### III. RESULTS OF THE VISUAL EFFECTS ASSESSMENT

#### Architectural Field Work Methodology

Field work was designed to examine the potential line-of-sight views from each resource towards the proposed transmission line improvements (Figure 2). Fieldwork was generally conducted from the public right of way (ROW), except for in the case of Carter’s Grove, and aerial photography was utilized to supplement the analysis of project visibility and potential visual effects. Line of sight analyses were prepared by NRG for select resources including for Carter’s Grove and Yorktown Battlefield. Photo simulations for select points were prepared by TrueScape and were also utilized in the assessment.

Variation 1, the approved alternative, will be located largely on new right-of-way adjacent to an existing cleared and maintained transmission line ROW with an existing power line. As the proposed transmission line exits the proposed Skiffes Creek substation, and between MP 7.4 and 5.8, heading south, existing structures within an existing ROW will be replaced. The remainder of the line and including the crossing of the James River and entry into the Surry substation will be constructed on new location right-of-way. Construction will be required for installation of each new structure. Additional ROW will be cleared for the construction of new structures which will require ground disturbing activities. Current conditions in the vicinity of proposed alternative are characterized by suburban development, mobile home parks, peppered with a mixture of deciduous and evergreen trees. Proposed changes in height for the proposed land-based portion of the line as well as the river crossing are documented in Table 2.

**Table 3. Proposed Height Changes Associated with Variation 1, Surry to Skiffes Creek 50 kV Transmission Line.**

Starting Point	End Point	Distance	Current Height	Proposed Height	Proposed Structure Type	Number of Other Lines in ROW Corridor	Maximum Existing Height in ROW Corridor	Change in Height to Current ROW Conditions
MP 0	MP 1.65	1.65 Miles	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 1.65	MP 2.14	0.49 Miles	New Line – James River Crossing	295 Feet	Lattice	None	New Line – James River Crossing	+ 295 Feet
MP 2.14	MP 2.95	0.81 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line - James River Crossing	+ 160 Feet
MP 2.95	MP 3.35	0.40 Mile	New Line – James River Crossing	275 Feet	Lattice	None	New Line – James River Crossing	+ 275 Feet
MP 3.35	MP 4.00	0.65 Mile	New Line – James River Crossing	160 Feet	Lattice	None	New Line	+ 160 Feet
MP 4.00	MP 4.04	0.04 Mile	New Line – James River Crossing	150 Feet	Lattice	None	New Line	+ 150 Feet
MP 5.07	MP 5.73	0.66 Mile	New Line	150 Feet	Lattice	None	New Line	+ 150 Feet

**Table 3. Proposed Height Changes Associated with Variation 1, Surry to Skiffes Creek 50 kV Transmission Line.**

Starting Point	End Point	Distance	Current Height	Proposed Height	Proposed Structure Type	Number of Other Lines in ROW Corridor	Maximum Existing Height in ROW Corridor	Change in Height to Current ROW Conditions
MP 5.73	MP 6.70	0.97 Mile	52 Feet	128 Feet	Lattice	1 Line	52 Feet	+ 78 Feet
MP 6.70	MP 6.82	0.12 Mile	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet
MP 6.82	MP 7.08	0.26	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet
MP 7.08	MP 7.21	0.13	85 Feet	128 Feet	Lattice	1 Line	85 Feet	+45 Feet

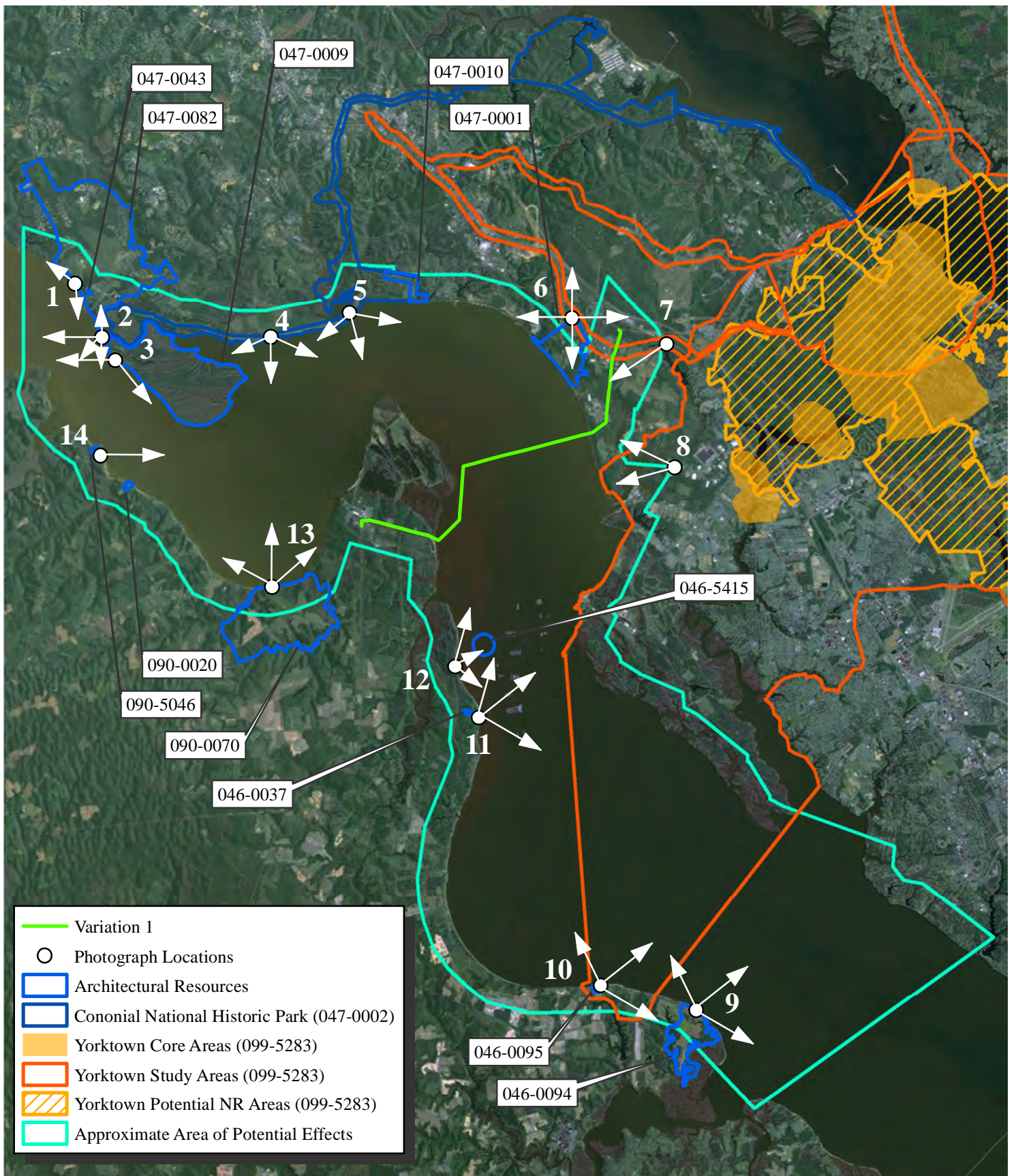
### **Individual Cultural Resources**

#### *Yorktown Battlefield (VDHR #099-5283)*

The Yorktown Battlefield (VDHR #099-5283) comprises an area of approximately 63,960 acres. The initial visual effects assessment for the battlefield was conducted in conjunction with the Stage I Pre-Application Analysis completed in 2012. This assessment was limited to the portion of the battlefield that was identified within the DHR-defined buffers for the route. Since that time, the APE has expanded and a larger portion of the battlefield now lies within the APE. The following summarizes the 2012 assessment. Additional information for the portion of the battlefield now located within the APE follows.

Only a very small portion of the battlefield was assessed for potential visual effects (Figure 3). This area is located south of Route 60 and adjacent to Skiffes Creek and forms the western boundary of the resource in this area. This portion of the Battlefield is not a core engagement area, but rather a portion of the larger Battlefield Study Area as defined by the American Battlefield Protection Program (ABPP). The portion of the battlefield within view of the proposed line was generally not accessible for photographs as it is located largely in a forested area as well as along Skiffes Creek and the associated swamp. A second portion of the battlefield is located within the 1.5- mile buffer near Route 60 and the Skiffes Creek Reservoir and is also heavily wooded and low- lying. Additionally, a residential subdivision is located within the battlefield boundary immediately to the east. The overall landscape within the defined project area consists of modern residential and commercial development, I-64 as well as other major transportation corridors, forested areas, reservoirs and other lakes and watercourses. Portions of the battlefield to the east and north of the project area have been compromised by numerous modern intrusions such as residential and commercial areas, power lines, and industrial development.

The current Surry to Skiffes Creek 500 kV transmission line is the original Proposed Route with the James River Crossing Variation 1 as described in the Stage I Pre-Application analysis (Leithoff et al. 2012). Three lines of sight analyses (Appendix A) utilizing ArcGIS were prepared



0 6,500 13,000 26,000 Feet



Figure 2. Map Showing Resources Included in the Assessment as well as Photo Locations and Directions.





Figure : Map of Photo Locations, Line of Sight Locations, and Showing the Yorktown Battlefield (VDHR #099-5283) Assesse D ing the e-A llocation Analysis.

because access to the portions of the Yorktown Battlefield where visibility may occur was not possible. The lines of sight were prepared by NRG on behalf of Dominion in 2012. The three points were chosen to provide a sufficient overview of potential visibility. Photographs were also taken from two locations that were accessible in order to provide additional information.

The battlefield is bound by Skiffes Creek and is largely characterized by undeveloped land and swamp. Photos were taken from Executive Drive at a point (Figure 4) within the battlefield and also along Route 60, north of the battlefield boundary, in the vicinity of the Skiffes Creek Reservoir (Figure 5). Additional photos were not taken due to extensive residential development along the Route 60 corridor and the fact that visibility would not be likely from these areas. The existing transmission line was not visible from either of the photograph locations. The line of sight analyses from Point 1 and Point 2 were prepared to assess the potential visibility of the land-based portions of the Updated Proposed Route with respect to Yorktown battlefield. The land based portion is located approximately between transmission line milepost 5.73 and 7.08. The existing towers within the Updated Proposed Route range in height from about 52 feet to 85 feet. The proposed towers associated with the 500 kV transmission line would be constructed at a maximum height of 128 feet. For purposes of the line of sight analyses, a maximum height of 134 feet was utilized. The results of the line of sight analyses from Points 1 and 2 indicated that the land-based portion of the route would not be visible from the Yorktown Battlefield. ***It is recommended that the Yorktown Battlefield (VDHR #099-5283) would not be adversely impacted by the land-based portions of the transmission line in James City County.*** The land-based portion of this route will not be visible from the portion of the Yorktown Battlefield under consideration for this alternative. The path between the boundary of the battlefield and the proposed land-based portion of this route is obscured by the presence of the Skiffes Creek Reservoir, which is bounded by mature trees on both banks as well as some residential and commercial development. Therefore the land-based portion of the updated proposed route would have no impact on the Yorktown Battlefield.

Potential impacts of the river crossing to the Yorktown Battlefield were assessed first in 2012 and again in 2014 upon the determination that the project APE should be expanded to include an area wide enough to address the maximum potential visual impact to the project. This expansion extends south approximately eight miles to a peninsula south of Burwell's Bay and now encompasses an additional portion of the Study Area for the Yorktown Battlefield. The assessment conducted in 2012 focused on the portion of the Battlefield located in James City County and adjacent to the proposed transmission line corridor and where the corridor leaves land and crosses the river. A large portion of the river crossing may be visible from Point 3 which is located near the mouth of Skiffes Creek as it enters the James River. The tower heights as the line crosses the river range from 161 feet to a maximum of 295 feet as the line approaches the center of the river crossing. The height of the structure at Tower 29 is 161 feet, is 176 feet at Tower 25, is 295 feet at towers 23 and 24, and is 158 feet as the line parallels the shoreline and approaches the Surry Power Plant from Tower 21 until the line goes ashore. A line of sight analysis completed from this point indicates that there will be no visibility due to the dense forested conditions and distance between the point and the tower locations. However, during winter months, or if standing on the bank of the river, the towers will most likely be visible from this location.





**Figure 4. View from Executive Drive West toward Transmission Line, Yorktown Battlefield (VDHR #099-5283).**



**Figure 5. View from Yorktown Battlfield at the Intersection of Route 60 and Skiffes Creek Reservoir, View to the West.**

It is unlikely, though, that this one view would adversely affect the Yorktown Battlefield as a whole. The portion of the battlefield located within the APE for this portion of the route has been developed primarily for commercial use, as well as military and residential use, and the portions of the battlefield that have not been developed are mostly in wetland and are generally inaccessible and on privately held property.

In addition to the assessment of Visual Effects from the portion of the Yorktown Battlefield in close proximity to the actual line, an assessment of visual effects from the southernmost point of the battlefield in Isle of Wight County was also conducted upon determination that the APE for the project should be expanded. A majority of the battlefield now included in the APE for the visual effects is over water and could not be formally assessed. Because of the extreme distance between the river crossing and this point, several points of reference were utilized to illustrate the potential views of the line from this portion of the resource. Photographs were taken from the shore line of Fort Boykin (VDHR #046-0095) which is located within the boundary of the Yorktown Battlefield. Fort Boykin is mapped incorrectly in the VCRIS system, however it is reflected in its correct location on report maps. Photographs were taken from to the northwest towards the proposed line (Photo Location 10; see Figure 2) and northeast across the James River to illustrate the potential visual impacts (Figures 6-7). Additionally a line of site model generated in ArcGIS was prepared to assess the potential for visibility from this point (Figure 8). Photographs indicate that although there is a generally unobstructed view of the proposed line up river from this location, it is unlikely that the view would have significant impacts to historic resources. As noted in Figure 8, the view of the Ghost Fleet, moored in the center of the James River approximately 6.1 miles upriver from this location, is minimal. As one looks up river toward the Ghost Fleet the fleet appears small and disappears into the horizon. It could be anticipated that only the largest towers associated with the proposed transmission line may be visible from this location on a clear day. Additionally, the view across the river and toward Fort Eustis, a distance of approximately four miles, is similar in that it is difficult to pick out details along the shoreline (Figure 8, Photo Location 10). Line of Sight Analysis indicates a clear, unobstructed view of the proposed line, however, the model cannot account for the distance or the visual horizon.

While it is possible that the towers would be distantly visible from this location, it is unlikely that this view would adversely affect those characteristics which qualify the Yorktown Battlefield for inclusion in the National Register. The portion of the battlefield located within the APE for this route has been developed primarily for commercial use, as well as military and residential use, and the portions of the battlefield that have not been developed are mostly in wetland and are generally inaccessible and on privately held property. ***Therefore it is recommended that the Yorktown Battlefield (VDHR #099-5283) as a whole, would not be adversely effected by the addition of the transmission line both on land and as it crosses the James River.***



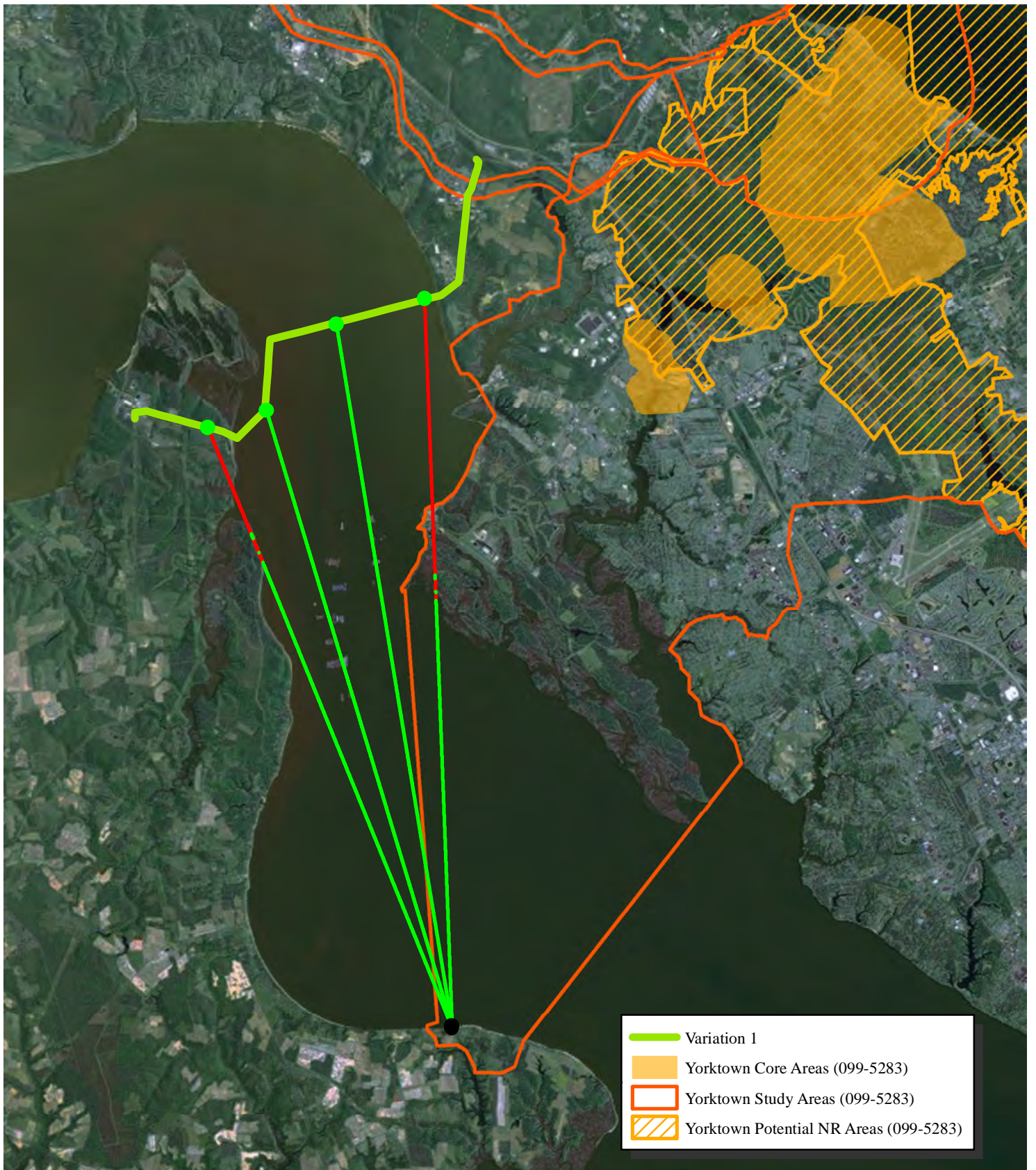


**Figure 6. View from Yorktown Battlefield (099-5283) from Fort Boykin (046-0095) Northwest Toward the Proposed Transmission Line. Note the Ghost Fleet (6.1 miles upriver; denoted by red arrow) in the Distance. Transmission Line would be an Additional Two miles North of the Ghost Fleet.**



**Figure 7. View from Yorktown Battlefield (099-5283) from Fort Boykin (046-0095) East Across the River Toward Fort Eustis.**





0 5,000 10,000 20,000 Feet



Figure 8. Line of Sight Analysis for Southern Portion of Yorktown Battlefield and Fort Boykin.

*Carter's Grove (VDHR #047-0001)*

The visual effects analysis for Carter's Grove was conducted in 2012 during the Pre-Application Analysis for the project. The following assessment has been summarized to include only those portions relevant to the current project and the effects of Variation 1. Carter's Grove is a well preserved example of a two-story, seven-bay, mid-eighteenth century Georgian dwelling (Figures 9-12) located on an elevated landform on an approximately 400-acre parcel. The landform is terraced as it approaches the large open field located between the mansion and the James River. Flanking the main block are one-story brick dependencies thought to have been constructed prior to the main dwelling, although at an unknown date. The main block features a hipped roof, two large interior chimneys and hipped-roof dormers. Other features include rubbed brick quoins, a modillioned cornice, nine-over-nine wood double-hung sash windows, hipped-roof dormers and a rubbed brick belt course.

Carter's Grove was listed on the NRHP in 1969 and as a NHL in 1970 (VDHR Site Files). According to the site form and NRHP nomination, it is "one of the best documented of Virginia's colonial mansions." The construction of Carter's Grove was begun circa 1750 for Carter Burwell, grandson of Robert "King" Carter and son of Nathaniel Burwell. According to the plantation's account book of 1751-1753, the house was constructed by David Minitree of Williamsburg" (NRHP Nomination 1969). After Burwell's death, Carter's Grove was inherited by Burwell's son, Carter Burwell II who sold the plantation circa 1790. Carter's Grove changed hands several times between 1790 and 1927 but remained as a well-preserved example of a colonial mansion and plantation. According to the site file information, the exterior of the house was radically altered and enlarged in 1927-1928 to appear larger and more grandiose, however the interior woodwork was still largely intact (NRHP Nomination 1969).

The last resident of Carter's Grove passed away in 1964 and the mansion and 400-acre property associated with it were acquired by the Colonial Williamsburg Foundation through a gift from the Rockefeller Foundation in 1969. Carter's Grove was open to tourists for many years and included reconstructed slave cabins and an archaeology museum, but closed its doors to the public in 2003. The foundation announced in late 2006 that it would be offered for sale, under specific restrictive conditions and it was purchased in 2007.

The Carter's Grove property measures approximately 400 acres and is characterized by broad open agricultural fields and large stands of mature trees. There are several drainages/ravines located across the property which are densely wooded with mature oak, poplar, pine, and other varieties of trees and vegetation. The eastern and western boundaries of the parcel are wooded as are sections of the James River water front. In some places the trees reach heights of nearly 150 feet. The property includes reconstructed slave cabins, the closed archaeology museum, several reconstructed dependencies, and the grave site of Susanna Burwell, the wife of Nathaniel Burwell dated 1788. Adjacent to her marked grave are two smaller graves, presumably her children.





**Figure 9. Carters Grove (VDHR #047-0001), Facing Southwest.**



**Figure 10. Carters Grove (VDHR #047-0001), view to the North from the James River.**





**Figure 11. Approach to Carter's Grove, Facing South.**



**Figure 12. View of Open Agricultural Fields Banked by Trees in the Northwestern portion of the Carters Grove Property, Facing North.**

### Visual Effects Analysis, Carter's Grove

A site visit was made to Carter's Grove on May 11, 2012 and all photographs were taken on that day. Also included in this discussion of visual effects are photo simulations prepared by TrueScape on behalf of Dominion as well as a line of sight analyses from the main dwelling prepared by NRG, for each alternative. Additional photo simulations and view points are also utilized for the visual effects analysis however line of sight graphics were not prepared for all; just for the view from the main house. The line of sight exhibits and photo simulations are located in Appendices B and C in order to facilitate viewing at full size.

The Carter's Grove plantation house, as noted above sits on an elevated landform, at an elevation of approximately 50 feet above mean sea level (amsl) and approximately 2000 feet from the James River shoreline. The house is located approximately two miles to the northeast of the center point of the proposed transmission line as it crosses the James River. At its closest point to the transmission line as it crosses the river, the edge of the property is approximately 4300 feet to the north. This portion of the property is heavily wooded and would provide buffering between the proposed transmission line and the plantation house. However, visibility will increase as the towers get larger at the center of the river crossing.

To assess potential visibility of the transmission line structures that would be used for the river crossing from the main Carter's Grove house, a combination of ground photography, photo simulations, and line of sight analysis was utilized. Photographs were taken from seven locations within the bounds of the Carter's Grove property to assess the potential visual effects the proposed transmission line may have on the property as a whole. Line of sight analysis was based on Viewpoint 15 (P4), the front stoop of the main house as it faces the river, however photo simulations were prepared for Viewpoints 16, and 17 (P5 and P7) (Figure 13). These three viewpoints will be discussed in detail as they are generally representative of the property where the views are the greatest.

Additionally, NRG used a combination of both a TrueScape photo simulation and Line of Sight Profiles constructed using LIDAR digital elevation data (5-foot cell size resolution) obtained from the College of William and Mary that represented both the ground and vegetation (tree) surface elevations. These elevation data were used in combination with ArcGIS 3D Analyst to prepare cross-sectional Line of Sight (LOS) profiles to each tower location from a point 6 feet off the ground (eye level) from directly in front of the main house (VP 15) facing the river and from a location between the main house and Route 60 (Pocohontas Trail) facing southeast to northeast for the onshore portion of the route. The same tower heights and locations across the river used for this visual assessment, while estimated, were also used by Dominion for modeling span lengths for channel and pipeline crossings in the river and to conduct an FAA and DOD non-precision approach obstruction analysis associated with Felker Airfield at Fort Eustis.





Figure 13. Key to Photograph Locations on Carter's Grove Property.



### Variation 1 – Land Based Route

The northeastern corner of the property as it intersects Route 60 is approximately 2,900 feet west of the extant transmission line ROW corridor and the Skiffes Creek Substation. The southeastern portion of the property at the dead end of Endeavor Drive is approximately 1950 feet from the proposed power line transmission corridor and adjacent to an industrial complex. Between the northeastern property boundary on the east and the proposed transmission line corridor from the Skiffes Creek Switching Station to the point at which the corridor spans the James River in James City County is characterized by modern residential development as well as industrial development and several stands of mature trees.

A series of photographs taken from the public ROW and along the edges of the property in the vicinity of the industrial development to the east indicate that visibility will be nil (Figures 14-17). Additionally, the plantation house itself is set back on the property nearer to the river and is buffered from the modern development, transmission line ROW corridor and Skiffes Creek Switching Station. While the land-based route for the James River Crossing Variations is closer to the Carter's Grove property, the dense stands of trees and the natural topography effectively shield this portion of the power line from view. Immediately adjacent to the property boundary on the east are areas of industrial development; no components of which are currently visible from the Carter's Grove property.

Photographs taken from photo locations 18, 20 and 21 within the Carter's Grove Property all indicated that the power line will not be visible from the northern, agricultural portion of the property (see Figure 14; Figures 18-21). The distance to the river coupled with the natural terrain and the large, dense stands of mature trees effectively shield this portion of the property from any view of the power line; either land based or crossing the river. The only potential visibility from this section of the property is that described above; where the property intersects Route 60 at the end of the drive to the resource.

A Line of Sight profile was also prepared and evaluated from a location between the main house and Route 60 (Pocahontas Trail) facing southeast to northeast for the onshore portion of the route (Figure 22). It was determined that no towers associated with Variation 1 would be visible between the river and Skiffes Creek Switching Station from this side of Carters Grove Main House. This is due primarily to heavily forested areas between the house and the transmission line route. ***Existing transmission line ROW corridors and associated structures near the northern terminus of the alternative and as it approaches the James River, under current landscape conditions, were only visible from Location 19 (the end of the driveway of this resource) and were invisible from the interior of the property. It is recommended therefore, that Carters Grove (VDHR #047-0001) will not be impacted by the land-based of Variation 1.***

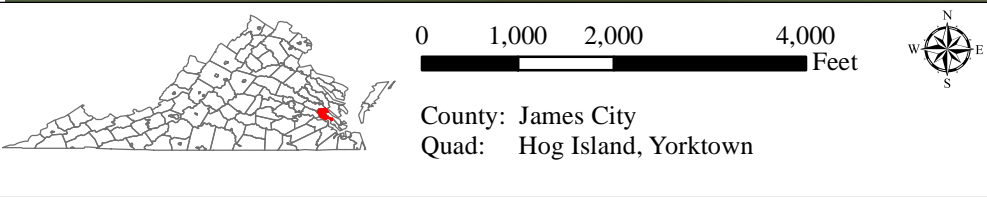
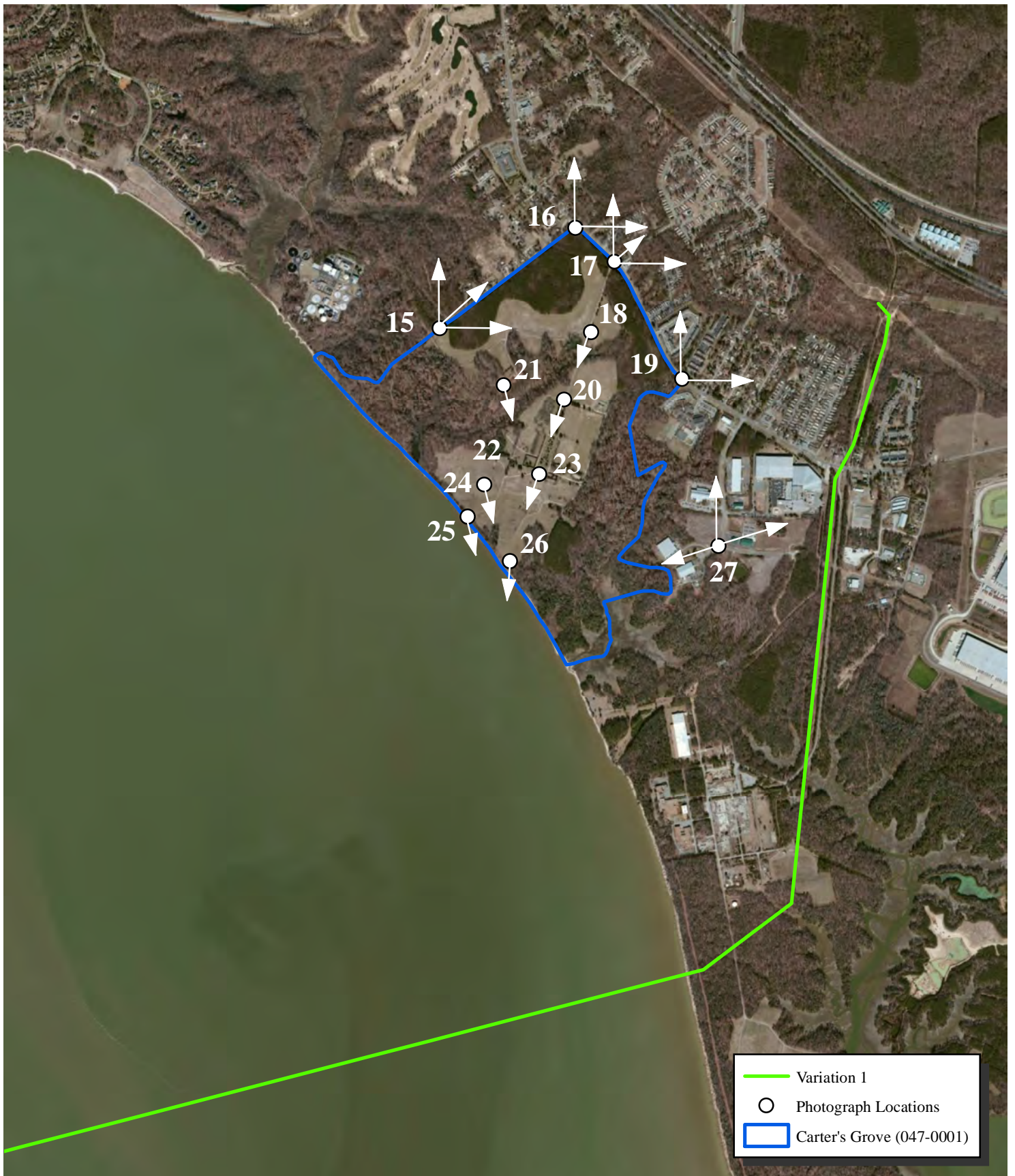


Figure 14. Map Showing Photograph Locations within the Carter's Grove Property.





**Figure 15. Carters Grove (VDHR #047-0001), view from Location 17 looking southwest towards resource (Photograph taken from public ROW).**



**Figure 16. Carters Grove (VDHR #047-0001), view from Location 19 looking northwest towards Skiffes Creek Switching Station and existing development (Photograph taken from public ROW).**





**Figure 17. Carters Grove (VDHR #047-0001), view from Location 27, near eastern boundary of resource looking northwest towards proposed power line corridor (Photograph taken from public ROW).**



**Figure 18. View from Photo Location 18, Facing South Toward Carter's Grove Mansion and Proposed Transmission Line. There will be no visibility from this location.**





**Figure 19. View from Photo Location 21, Facing Southeast Toward Carter's Grove Mansion and Proposed Transmission Line. There will be no visibility from this location.**



**Figure 20. View of Carter's Grove from Photo Location 20. Facing South towards proposed transmission line corridor. There will be no visibility from this location.**





**Figure 21. View Facing Southeast from Photo Location 20 toward the Land-Based portion of the Proposed transmission line. The distance, dense tree cover and natural terrain will shield this location from view.**

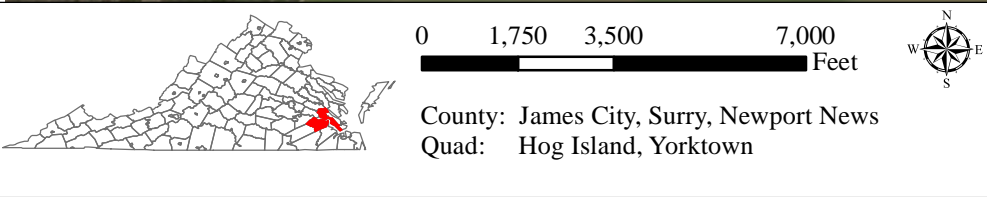
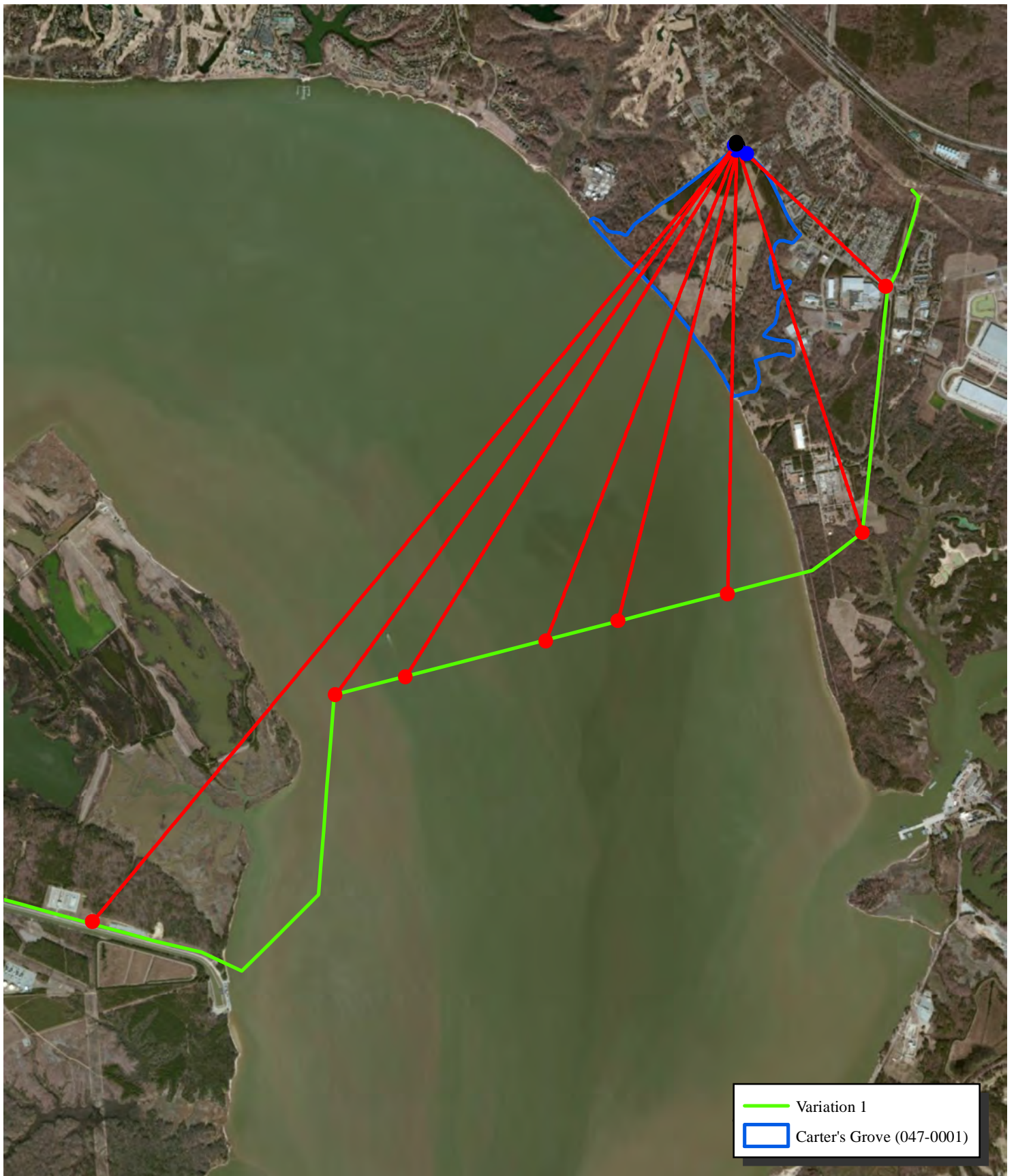


Figure 22: Line of Sight for Western Side (Photo Location 16) of Carter's Grove and Land Based Portion of Variation 1.



*Variation 1 – River Crossing Route*

Photographs taken from locations within the Carter’s Grove property all indicated that the power line as it crosses the James River will be visible at varying degrees (Figure 14; Figures 23-26) However, only a portion of the towers are visible there is no direct view of all structures within the river crossing. Representative views from three locations P4 (VP15), P7 (VP17), and P5 (VP16) were simulated for this resource.



**Figure 23. View from Photo Location 4, the Front Stoop of the Main House, Facing South toward Proposed Power line Crossing. This view will be discussed in greater detail below.**



**Figure 24. View from Photo Location 5, Facing Southeast toward the Proposed River Crossing. Power line will be slightly visible from this location and is shielded by tree cover. The view will also be minimized by distance.**





**Figure 25. View from Photo Location 6, the Bank of the James River, Facing Southeast toward proposed transmission line crossing. Transmission towers will be visible from this location. However, view will be minimized by distance and tower style.**





**Figure 26. View from Photo Location 7, the Bank of the James River, South of the Main House, Facing Southeast toward proposed transmission line crossing. Transmission towers will be visible from this location. However, view will be minimized by distance and tower style.**

## Line of Sight and Photo Simulations

NRG used a combination of both a TrueScape photo simulation and Line of Sight Profiles constructed using LIDAR digital elevation data (5-foot cell size resolution) obtained from the College of William and Mary that represented both the ground and vegetation (tree) surface elevations. These elevation data were used in combination with ArcGIS 3D Analyst to prepare cross-sectional Line of Sight (LOS) profiles to each tower location from a point 6 feet off the ground (eye level) from directly in front of the main house (VP 15, P4) facing the river (Figures 31-33).

### *Viewpoint 15 (Location 23)*

The same process was used to determine visibility of towers along the Variation 1 river crossing. The LOS elevation profiles from Carter's Grove show that because of the dense tree line on the southeast side of the house and along portions of the shoreline, only a small number of the towers crossing the river would be visible from VP15, depending on which crossing variation is being viewed. For Variation 1, 3 of the 16 towers in the river would be all or partially visible. While all of tower 25 would be visible at a distance of about 2.0 miles, the top 246 feet of tower 26 would be visible at about 1.7 miles, and only the top 40 feet of tower 18 would be visible at 3.5 miles. Consequently, views from the main house would be limited to two towers, and the very top of a third tower, through breaks in the trees or over the top of trees. The photo simulation from VP15 to the James River Crossing Variation 1 indicates that only tower 25 and about the upper half of Tower 26 would be seen from this location (Figures 132-134). Because the towers are located between 1.75 and 2.0 miles from the Main House at Carter's Grove, the views on a clear day would be distant and limited to one and one half towers, but apparent.

### *Viewpoint 16 (Location 24)*

Line of sight analyses were not prepared for this view from the open field west of the main house looking southeast toward the proposed river crossings. This photo location is located on an elevated hill within the open agricultural fields west of the main house. This location is also in proximity to the gravesite of Susanna Burwell, wife of Nathaniel Burwell who passed away in 1788. This location is at an elevation of approximately 40 feet amsl, providing a "worst case scenario" view for this portion of the property.

The photo simulation prepared for the view from VP16 (P5) indicates that three full towers associated with this alternative will be visible from the open, agricultural fields located in this vicinity. These towers appear to be Towers 22-24 located at the northernmost point in this variation before it turns south to tie in to the route to the Power Station. These towers range in height from 160 feet to 295 feet tall as the line spans the shipping channel. Additional towers may also be visible as the route turns to the south, but in only minor capacity. Towers 16-20 along the line as it turns south are 160 feet in height and would be only minimally visible on the horizon from this location. The top of Towers 26 and 27 may also be partially visible from this viewpoint with Towers 26 and 27 measuring 275 feet in height as they span the shipping channel. The proposed transmission line as it approaches James City County from Towers 28 to 30 will not be visible from this viewpoint due to stands of mature trees along the James River shoreline.. A large portion of this alternative is visually similar to that of the Surry Alternative except where it turns sharply to the north toward Hog Island. It is in this northernmost point that

the towers would be visible. Three towers would be fully visible from this location while the remainder would be shielded from view.

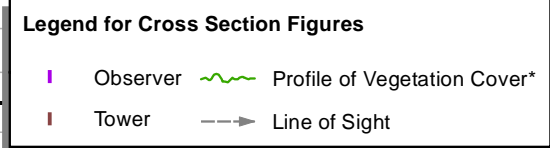
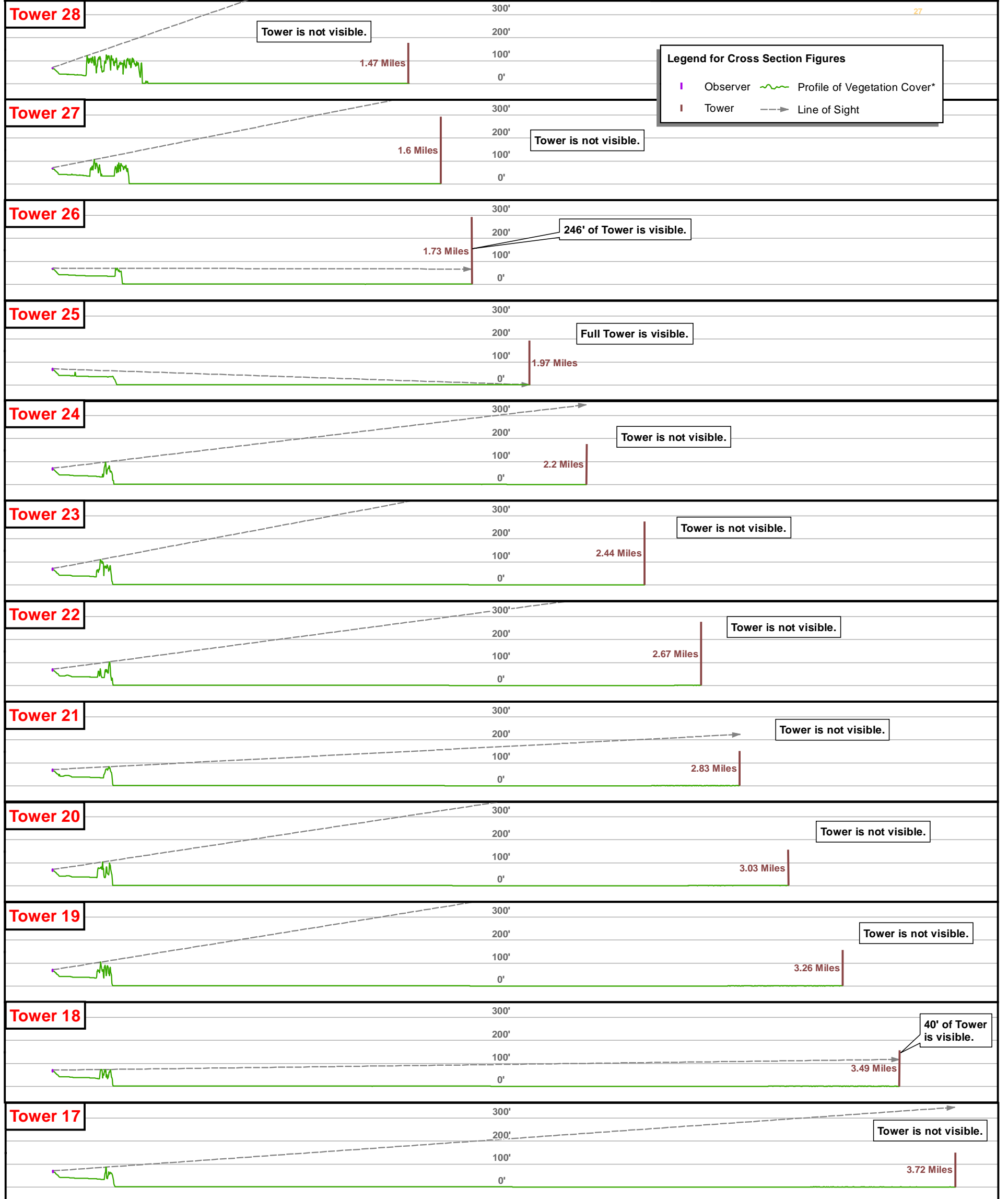
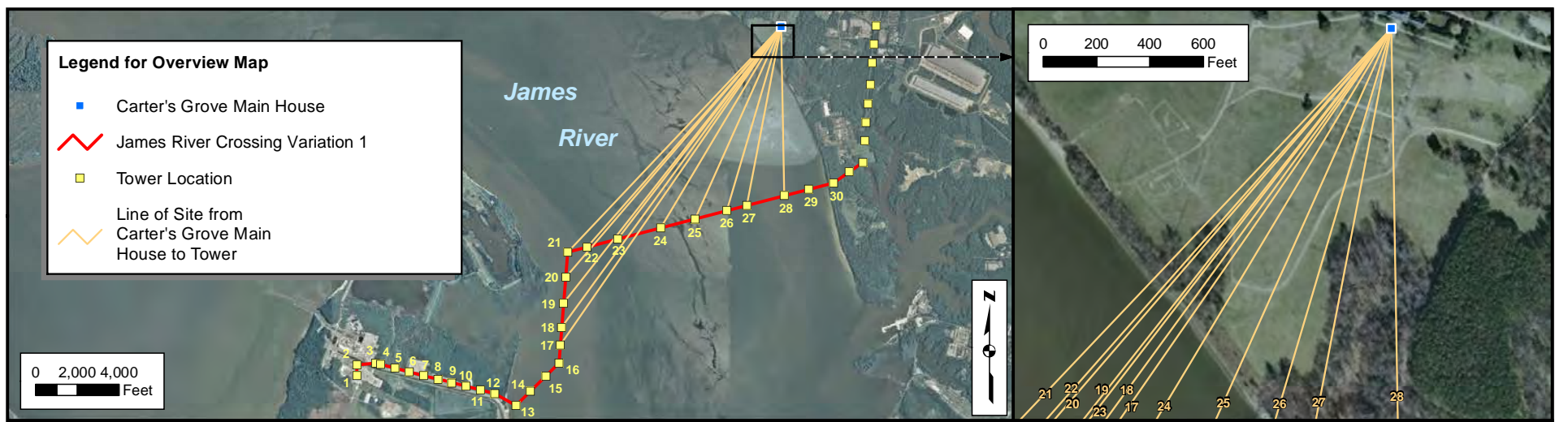
Viewpoint 17 (Location 26)

The view from this location is an unobstructed view of the power line structures as they cross the river between Surry and James City County. Therefore, nearly all of the structures will be visible from this location. This location along the shoreline is nearly 2000 feet south of the main house and is comprised of open agricultural fields surrounded by stands of mature trees. The trees marking the eastern property boundary measure nearly 150 feet tall in some places. While all of the alternatives will have views, the significance of the impact will vary due to the placement of towers and distance away from the shoreline.

The photo simulation for this alternative from VP 17 indicate that nearly all of the towers will be visible for this alternative by virtue of the unobstructed view of the River. This alternative turns to the north as it leaves the shoreline in James City County and turns sharply across the James River to a point just offshore of Hog Island. This angle affords a greater, closer view of the towers associated with this alternative from VP 17. The tower structures as they approach the Surry side of the River will fade from view due to distance the wooded shoreline as a backdrop, but will still likely be visible. The transmission line along this alternative would be visually distinct.

The results of the visual effects analysis, including both ground photography, photo simulations, and line of sight analysis indicates that Variation 1 towers will be visible from both the Main House and points south and west of the house. The northern portion of the property will not have visibility of the river crossings due to the presence of large stands of mature trees, measuring nearly 150 feet tall in some places. The views from the shoreline (VP17) pose the most significant visual effect to the property at the edge of the James River. Variation 1 is largely located between 1.5 miles and 3.5 miles from the main house. The view of this line from the shoreline would be generally unobstructed although the majority of the towers would be located approximately 1.5 miles away. The portion of the line that may be more significantly visible is that section that trends to the north as it approaches the Surry side of the transmission line corridor. Tower views from the main house on a clear day would be distant and limited, but views from the open agricultural field significant to the Carter's Grove property would be greater. ***Therefore it is recommended the James River Crossing Variation 1 will have an adverse visual impact to Carter's Grove.***










**Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest - Existing View**



**Viewpoint 15 - View from Main House at Carter's Grove - Looking Southwest - James River Crossing Variation 1 - Proposed View**

**Figure 28. Photo Simulation, VP 15, Variation 1.**




**Dominion**  
 Surry-Skiffes Creek 500 kV Transmission Line  
 Skiffes Creek-Wheaton 230 kV Transmission Line  
 Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 15**

View from Main House at Carter's Grove  
 Looking Southwest  
 James River Crossing Variation 1  
 Existing and Proposed

● Viewpoint Location  
● Tower Position  
 James River Crossing Variation 1



Easting position (Virginia South Zone NAD83) **12028981.5**  
 Northing position (Virginia South Zone NAD83) **3604320.9**  
 Elevation of viewpoint position (NAD 83 / ft): **68.0**  
 Height of camera above ground (ft): **5.4**  
 Date of photography: **11-May-12 at 1:22 p.m.**  
 Orientation of view: **SW**  
 Horizontal field of view: **124°**  
 Vertical field of view: **55°**  
 Distance to Closest Visible Tower (miles) **1.75**

**NOTES:**

Viewpoint locations have been precision surveyed by  
**Dominion Virginia Power**  
 Coordinator - Survey Services  
 Larry Hedblom, L.S.  
 701 East Cary Street  
 Richmond, Va. 23219

No part of this photosimulation shall be altered in any way.

Visual Assessments should be made from the full size TrueView™ only.

Photosimulation Created Using  
 TrueView™ Technology

Provided by  
**TRUESCAPE**  
 VISUAL COMMUNICATION   
 www.truescape.com

**DATE** **December 19, 2012**

**Tower placement in simulations is preliminary - final tower locations may change upon final design and survey**





**Viewpoint 15** - View from Main House at Carter's Grove - Looking Southwest – **James River Crossing Variation 1 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

**Figure 29. Zoomed in View of Proposed View, VP 15, Variation 1.**






**Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - Existing View**



**Viewpoint 16 - View from field west of Main House at Carter's Grove - Looking Southwest - James River Crossing Variation 1 - Proposed View**



**Dominion**  
 Surry-Skiffes Creek 500 kV Transmission Line  
 Skiffes Creek-Wheaton 230 kV Transmission Line  
 Skiffes Creek 500-230-115 kV Switching Station

**Viewpoint 16**  
 View from field west of Main House at Carter's Grove  
 Looking Southwest  
 James River Crossing Variation 1  
 Existing and Proposed

- Viewpoint Location
- Tower Position
- James River Crossing Variation 1



Easting position (Virginia South Zone NAD83) 12028059.2  
 Northing position (Virginia South Zone NAD83) 3604351.7  
 Elevation of viewpoint position (NAD 83 / ft): 57.7  
 Height of camera above ground (ft): 5.4  
 Date of photography: 11-May-12 at 2:08 p.m.  
 Orientation of view: SW  
 Horizontal field of view: 124°  
 Vertical field of view: 55°  
 Distance to Closest Visible Tower (miles) 1.65

**NOTES:**  
 Viewpoint locations have been precision surveyed by  
**Dominion Virginia Power**  
 Coordinator - Survey Services  
 Larry Hedblom, L.S.  
 701 East Cary Street  
 Richmond, Va. 23219  
 No part of this photosimulation shall be altered in any way.  
 Visual Assessments should be made from the full size TrueView™ only.

Photosimulation Created Using  
 TrueView™ Technology  
 Provided by  
**TRUESCAPE**  
 VISUAL COMMUNICATION  
 www.truescape.com

DATE **January 15, 2013**

Tower placement in simulations is preliminary - final tower locations may change upon final design and survey

**Figure 30. Photo Simulation, VP 16, Variation 1.**





**Viewpoint 16** - View from field west of Main House at Carter's Grove - Looking Southwest - **James River Crossing Variation 1 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

**Figure 31. Zoomed In View of Proposed View, VP 16, Variation 1.**






**Viewpoint 17 - View from James River Shoreline at Carter's Grove – Looking South - Existing View**



**Viewpoint 17 - View from James River Shoreline at Carter's Grove – Looking South - James River Crossing Variation 1 - Proposed View**

**Figure 32. Photo Simulation, VP 17, James River Crossing Variation 1.**



Surry-Skiffes Creek 500 kV Transmission Line  
 Skiffes Creek-Wheaton 230 kV Transmission Line  
 Skiffes Creek 500-230-115 kV Switching Station

---

**Viewpoint 17**


View from James River Shoreline at Carter's Grove  
Looking South

James River Crossing Variation 1  
Existing and Proposed

---

● Viewpoint Location  
● Tower Position  
 James River Crossing Variation 1

---




---

Easting position (Virginia South Zone NAD83) 12028351.1  
 Northing position (Virginia South Zone NAD83) 3603163.3  
 Elevation of viewpoint position (NAD 83 / ft): 37.4  
 Height of camera above ground (ft): 5.4  
 Date of photography: 11-May-12 at 2:56 p.m.  
 Orientation of view: 5  
 Horizontal field of view: 124°  
 Vertical field of view: 55°  
 Distance to Closest Visible Tower (miles) 1.33

---

NOTES:

Viewpoint locations have been precision surveyed by  
**Dominion Virginia Power**  
 Coordinator - Survey Services  
 Larry Hedblom, L.S.  
 701 East Cary Street  
 Richmond, Va. 23219

No part of this photosimulation shall be altered in any way.

Visual Assessments should be made from the full size TrueView™ only.

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Photosimulation Created Using  
 TrueView™ Technology  
 Provided by  
**TRUESCAPE**  
 VISUAL COMMUNICATION

www.truescape.com

---

DATE January 15, 2013

---

Tower placement in simulations is preliminary - final tower locations may change upon final design and survey





**Viewpoint 17** - View from James River Shoreline at Carter's Grove – Looking South - **James River Crossing Variation 1 - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

**Figure 33. Zoomed in View of Proposed View, VP 17, James River Crossing Variation 1.**



*Colonial National Parkway (VDHR #047-0002)*

The Colonial National Parkway was constructed between 1930 and 1958 as a scenic roadway connecting Jamestown, Williamsburg, and Yorktown. The portion of the Colonial Parkway within the APE for Variation 1 is located along the shoreline of the James River east of Jamestown Island. The Parkway in this area connects Jamestown Island to Colonial Williamsburg.

Photographs were taken at several points along the Parkway (Photo Locations 4 and 5) to illustrate the potential views of the proposed transmission line from the Parkway. Photography suggests that along the stretch of Colonial Parkway adjacent to the shoreline between Jamestown and where the parkway turns north to cross College Creek (at Photo Location 5) the proposed transmission line crossing will be visible (Figures 34-36). The line will be less visible along the western end of this section of the parkway due to wooded areas and shoreline topography. The line will be visible along several stretches of the eastern portion of this section of parkway where there are few trees, the parkway runs very close to the shore along a narrow isthmus, there are several interpretive pull offs adjacent to the shoreline, and where the north end of Hogs Island does not interfere with the view down river.

Simulated views were prepared by TrueScape for the SCC application in 2012 and illustrate the potential view from the Colonial Parkway in the vicinity of Photo Location 5 (Figure 35 and Appendix A). The simulation indicates that the river crossing will be visible, but will be distant. The Colonial National Parkway is a 23-mile scenic roadway that was constructed between 1930 and 1958 and connects Jamestown, Williamsburg, and Yorktown. The portion of the Colonial Parkway within the APE for Variation 1 is located along the shoreline of the James River east of Jamestown Island and connects Jamestown Island to Colonial Williamsburg. An assessment of potential visual effects from this portion of the Parkway indicated that there will be a visual impact, however it is recommended that this impact would not be adverse. The proposed line is approximately 3.2 miles downriver of one section of the Parkway as it approaches College Creek where visibility was determined to be likely. The remaining portions of the Parkway and significant locations within Jamestown, Williamsburg, and Yorktown would not be affected by this proposed transmission line project. ***Therefore CRI, now Stantec, recommends that the project would not have an adverse effect to the Colonial Parkway.***



**Figure 34. View toward Proposed Transmission Line from Photo Location 5 Along the Colonial Parkway (047-0002). Line would Cross the River in Vicinity of Red Arrow. This view is also Simulated in Figure 35.**





**Viewpoint 09** - Colonial Parkway – Looking South East - **James River Crossing Variation - Proposed View**

*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

**Figure 35. Photo Simulation (Zoomed View) Prepared by TrueScape in 2012 for Potential Views in the Vicinity of Current Photo Location 5.**





**Figure 36. View from Photo Location 4 Along the Colonial Parkway South toward the Proposed Transmission Line. Line would be visible from this location. Line would Cross in Vicinity of Arrow.**

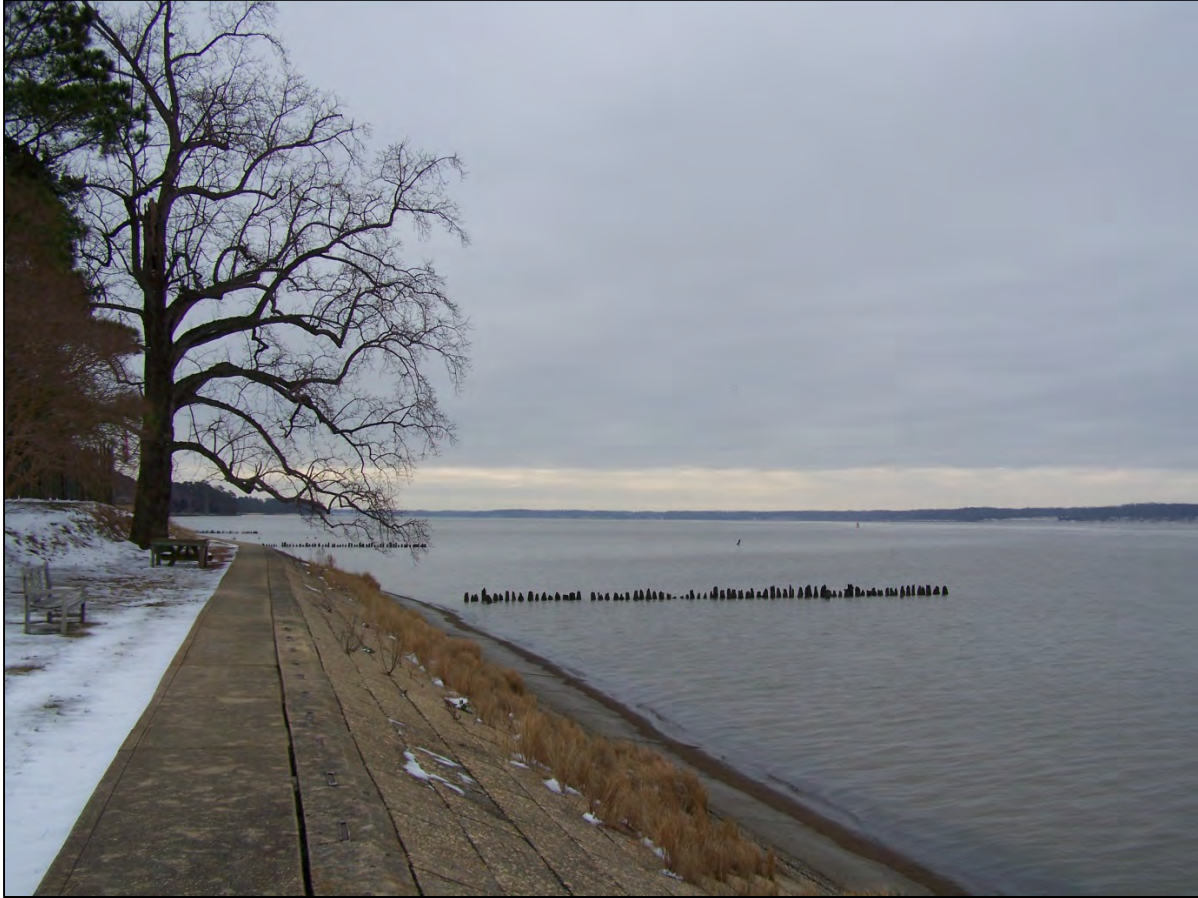
*Jamestown Island (VDHR # 047-0009)*

Jamestown Island was listed on the NRHP in 1966 and the VLR in 1983. The island contains both above ground elements as well as archaeological sites related to the first permanent settlement in the New World. The Island is maintained by the National Park Service and is open to the public. The proposed transmission line would not be visible from the entire west shoreline of the island, including the historic park areas (see Figure 2; Figure 38). Photographs taken from two accessible locations within the APE indicate that there would be no or limited visibility of the transmission line (Figures 38-40). The James River Crossing Variation 1 would not be visible from this section of road due to the narrow angle presented by wooded stands to the north and south. Line of sight analysis further confirms that the visibility from Jamestown Island would be limited.

The east end of the island is largely undeveloped marsh and wooded areas, with Island Drive accessing the east end at Black Point. Based on aerial images, the view down river is visible from only one point on Island Drive where it crosses a marsh area near Black point. Island Drive was closed and gated during the current survey, however at the time of the 2012 SCC application, a simulation was prepared for this location (Figure 40). The simulation indicates that the transmission line would be visible from this location, however the view from this location has as its backdrop, Hog Island, which minimizes the potential impacts of the proposed transmission line towers.

The very east end of the James River Crossing Variation 1 where it crosses onto the northern shore would be visible from a small section of the north east tip of the island north of Black Point. This area is inaccessible and undeveloped. ***Therefore it is recommended that the proposed transmission line would have no adverse effect to Jamestown Island (VDHR # 047-0009).***



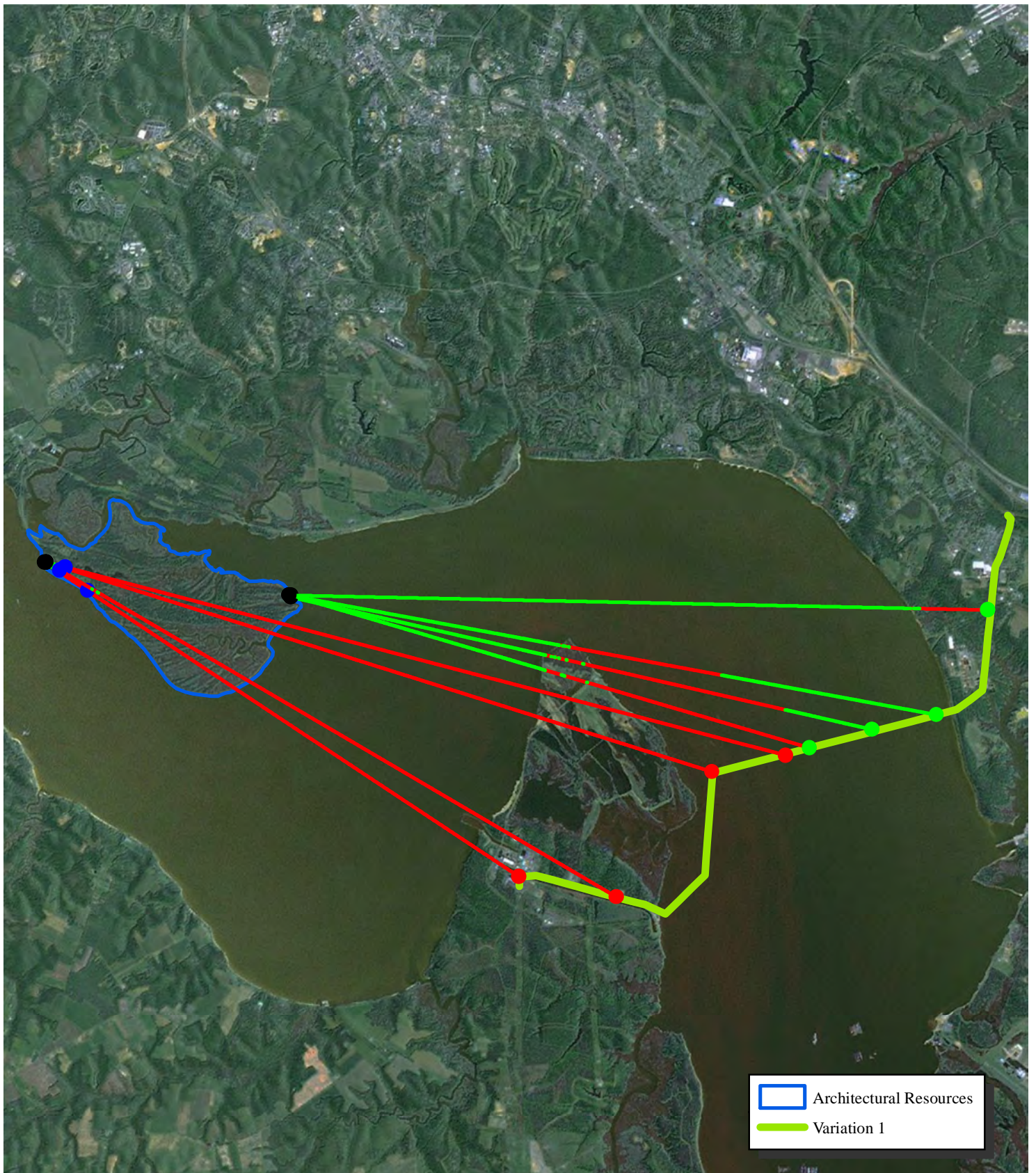


**Figure 37. View Downriver from Jamestown Island (VDHR # 047-0009) and Photo Location 2. View to the Southeast. Point of Land to Rear of Photo is Hog Island. Transmission Line would not be Visible.**



**Figure 38. View Downriver from Jamestown Island and Archaeological Site (Photo Location 3). View to the Southeast.**





0 3,500 7,000 14,000  
 Feet



County: Williamsburg, York, James City,  
 Surry, Newport News  
 Quad: Norge, Williamsburg, Clay Bank, Surry, Hog Island  
 Yorktown, Runnymede, Bacons Castle, Mulberry Island



Figure 39. Line of Sight Analysis for Jamestown Island (VDHR #047-0009).





**Viewpoint 12** - East End of Jamestown Island - Looking South East - **James River Crossing Variation - Proposed View**  
*Enlargement Area of previous page - enlarged to a representative view when printed on a 11 x 17 " page and viewed from approx. 20" distance.*

**Figure 40. Simulated View (Zoomed) of the Proposed Variation 1 Transmission Line Corridor from Black Point, Jamestown Island (VDHR #047-0009).**



### *Kingsmill Plantation (VDHR #047-0010)*

The Kingsmill area was first patented in approximately 1619, 12 years after the landing at Jamestown. In the vicinity of Kingsmill were several large plantations likely named after the longest staying tenants (Kelso 1984). These included Farley's plantation, Utopia, the land of John Utie, Hartrop's for possibly Edward Hartrop and Tuttey's Neck likely named for Thomas Tutty, and Kingsmill, most likely named for its original tenant Richard Kingsmill. By 1640, Kingsmill had become divided into two large plantations and nearly all the aforementioned lands had been acquired by Humprey Higginson and combined except for Littletown and Utopia, purchased and combined by Colonel Thomas Pettus (Kelso 1984). Eventually, Thomas Pettus would acquire all the land encompassing the current Kingsmill resort by the end of the seventeenth century.

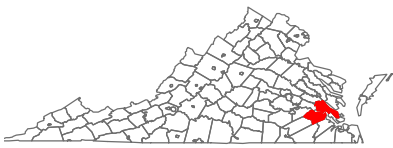
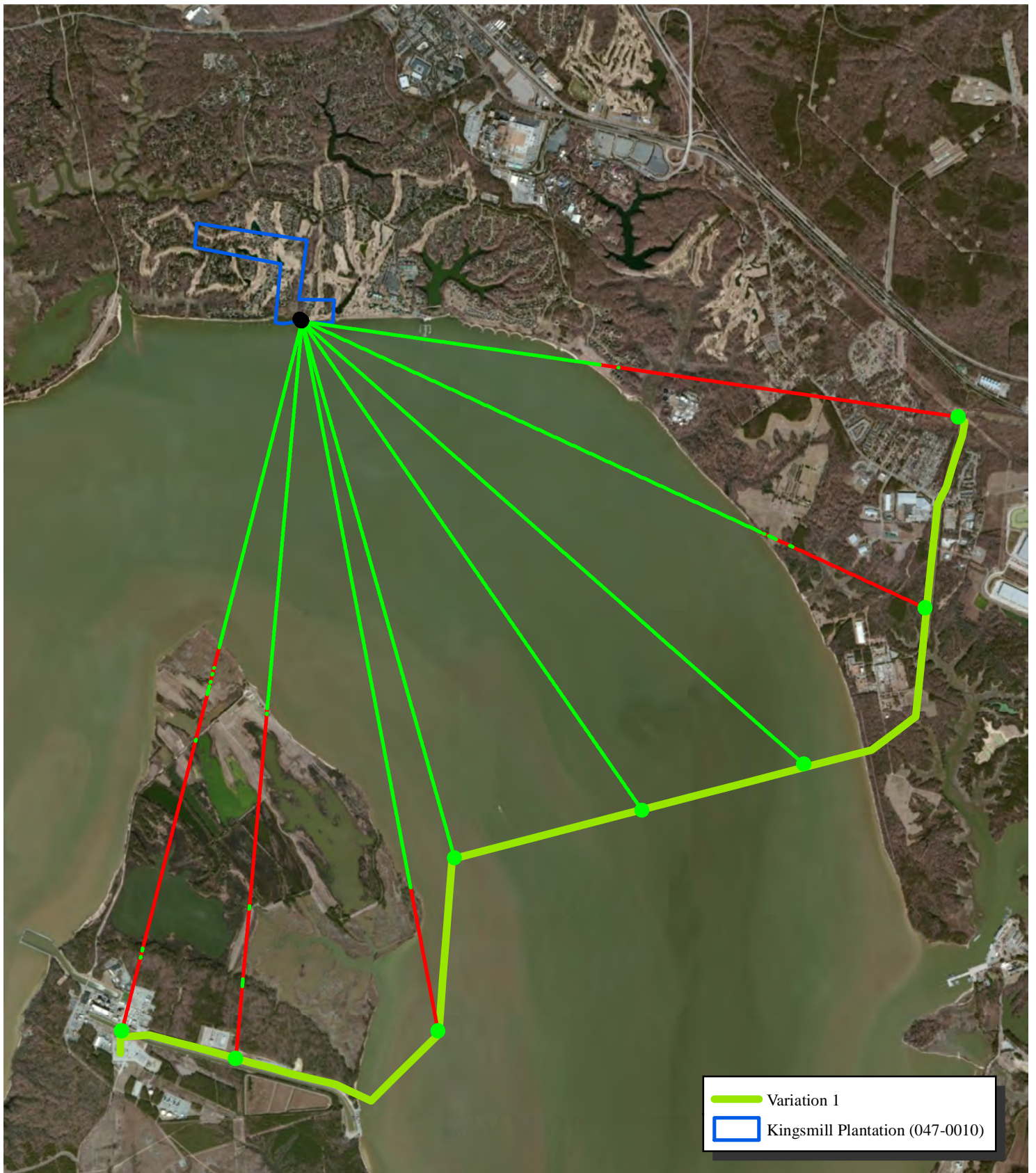
Kingsmill Plantation (VDHR #047-0010) was listed on the NRHP and the VLR in 1972. The site currently encompasses both archaeological elements associated with the Colonial period occupation of the site as well as the remains of two brick dependencies and the filled remains of the main house cellar and several other outbuilding foundations. A historic marker is located off Frances Thacker Drive adjacent to the extant dependencies. The architectural remains are surrounded by modern development associated with the Kingsmill Resort.

Photographs were not taken during the current investigation. The accessible portion of this resource is located approximately 2000 feet north of the shoreline and within the Kingsmill Resort property. Line of Sight analysis indicates that the line will not be visible from the interpreted resource (Figure 41). ***Therefore, it is recommended that the proposed transmission line will have no adverse effect to the Kingsmill Plantation historic site.***

### *Amblers and Coke-Watts House (VDHR # 047-0043)*

This resource is located within the bounds of the Governor's Land Archaeological District but has been recommended eligible for listing on the NRHP as an individual resource. The resource spans a period of significance from 1852-1954 and is largely associated with the tenure of John Coke (VCRIS File). The house and grounds (Figure 45; Photo Location 1) have been recommended eligible for listing under Criterion C for Architecture and Criterion D for archaeology. Archaeological deposits associated with this resource were identified in 2012 (VCRIS File).

This resource is located within the APE as defined by the Corps for this project, however there will be no visibility of the proposed transmission line. Photographs taken from this resource toward the proposed transmission line crossing as well as line of sight analysis confirms that there will be no visibility. The resource is located on the western boundary of the APE, north of Jamestown (see Figures 1 and 2). ***Therefore it is recommended that this proposed project will have no effect on Amblers and Coke-Watts House (VDHR #047-0043).***



0 2,000 4,000 8,000 Feet



County: York, James City, Surry  
 Quad: Hog Island, Yorktown



 Variation 1  
 Kingsmill Plantation (047-0010)



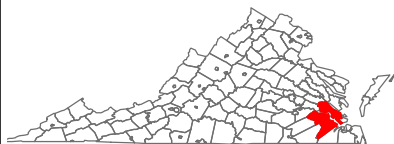
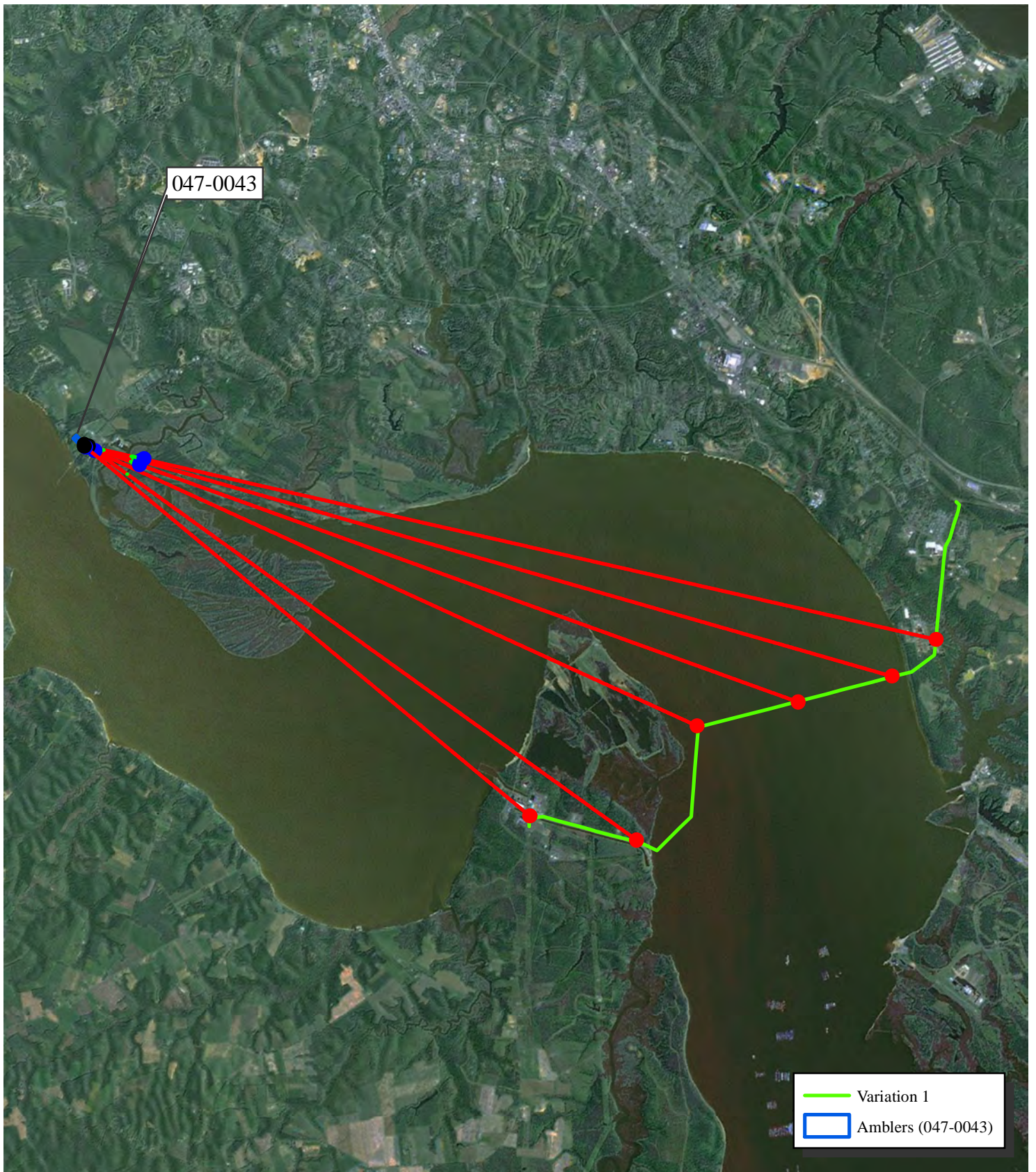
Figure 41. Line of Sight Analysis for Kingsmill Plantation (VDHR #047-0010).





**Figure 42. View of Coke-Watts House (VDHR #047-0043) (Photo Location 1).**





0 4,000 8,000 16,000 Feet



County: Williamsburg, York, James City, Surry,  
Newport News, Isle of Wight  
Quad: Norge, Williamsburg, Clay Bank, Surry, Hog Island  
Yorktown, Runnymede, Bacons Castle,  
Mulberry Island



Figure 43. Line of Sight Analysis for Amblers and Coke-Watts House (VDHR #047-0043).



*Governor's Land Archaeological District (VDHR # 047-0082)*

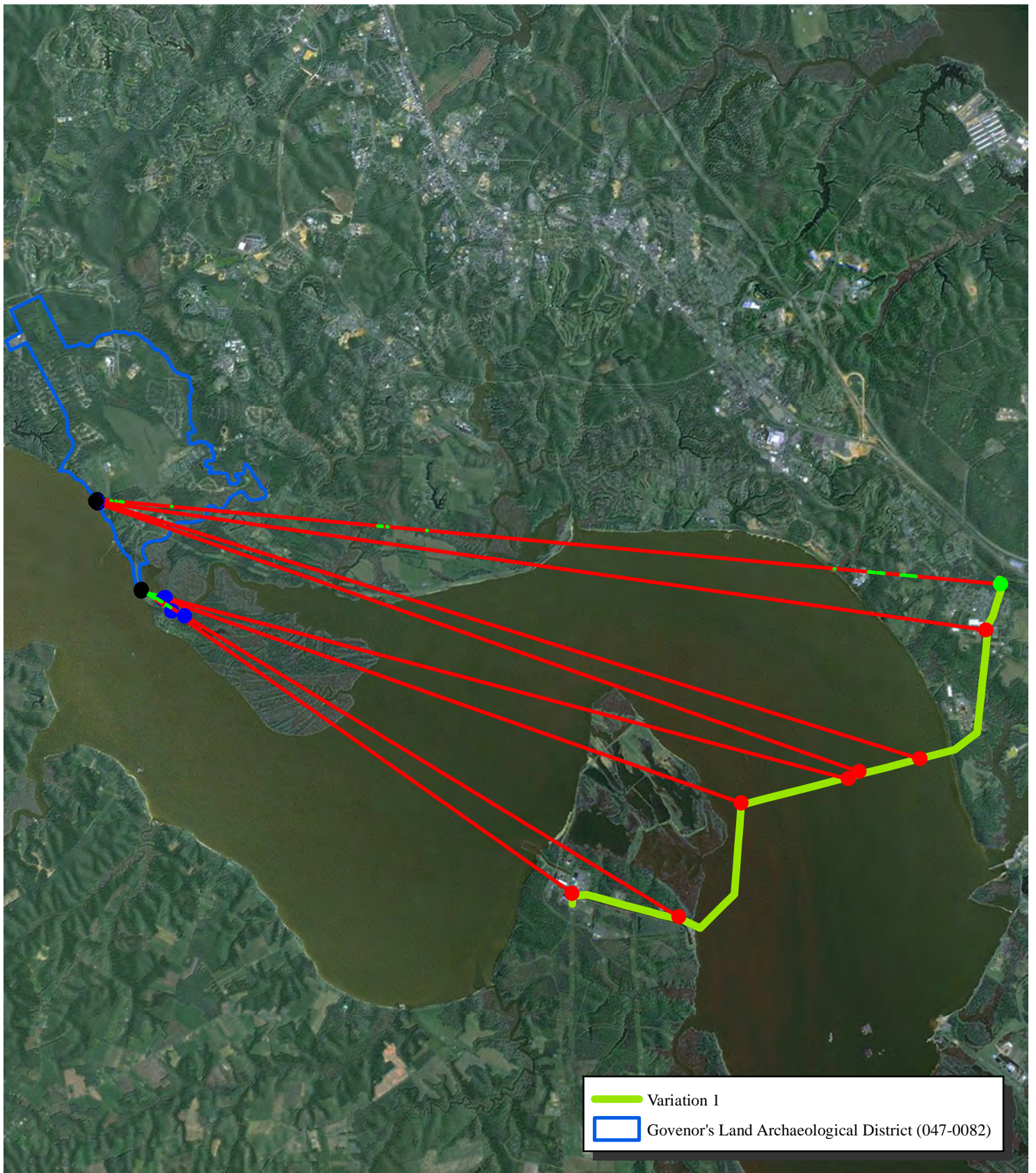
The Governor's Land Archaeological District was listed on the NRHP and VLR in 1973. The district is a collection of archaeological sites dating to the 17<sup>th</sup> and 18<sup>th</sup> centuries most notably of which include the Virginia Company Settlement (44JC0298) and Pasphegh (44JC0308).

The Governor's Land Archaeological District will not be affected by the proposed transmission line project. The line will not be visible as evidenced by line of sight analysis and photographs taken from Photo Location 1 along the shoreline of the James River (Figures 44 and 45). ***Therefore it is recommended that the proposed project will have no effect on this resource.***



**Figure 44. View Downriver from Governor's Land Archaeological District (VDHR #047-0082) (Photo Location 1).**





0 4,000 8,000 16,000 Feet



County: Williamsburg, York, James City, Surry, Newport News  
 Quad: Norge, Williamsburg, Clay Bank, Surry, Hog Island Yorktown, Runnymede, Bacons Castle, Mulberry Island



Figure 45. Line of Sight Analysis, Governor's Land Archaeological District (VDHR #047-0082).



*Fort Huger (VDHR #046-0037)*

Fort Huger is an archaeological site characterized by the presence of extant Civil War period earthworks along the cliff edge looking over the James River. The fort was listed on the NRHP in 2008 and on the VLR in 2007. The Fort Huger site and the associated encampment were listed on the NRHP under Criterion A for the site's importance and association with the Civil War in Virginia and Criterion D for its potential to provide important archaeological data relating both to the fort and the lives of Civil War soldiers residing there in 1861-1862.

The fort has been developed as a historical park with gravel paths and reconstructed gun emplacements. Although trees have been removed across the Fort site, new growth pines and other trees grow at the cliff edge and impede the view of the river from the Fort site and the interpretive trail. Photographs taken from the shoreline and in the vicinity of the fortifications indicate that the proposed transmission line would be slightly visible as it crosses the James River from Surry to James City County (Figures 46-49; Photo Location 12). From the shoreline, the transmission line would be visible. In an effort to quantify the potential visibility, photographs were taken downriver toward the James River Bridge and existing, similar, transmission line towers. The bridge is nearly 12 miles south of Fort Huger was faintly visible from this location. Views taken toward the proposed transmission line indicated that it would be visible from the immediate shoreline, but not likely noticeably visible from within Fort Huger and the park. ***Therefore it is recommended that the proposed transmission line will have no adverse effect on Fort Huger.***



**Figure 46. View of Fort Huger Parade Ground and the Interpretive Park.**





**Figure 47. View to the Northeast and Toward the Transmission line from Fort Huger (VDHR #046-0037).**





**Figure 48. View Northeast Toward the Proposed Transmission Line from the Fort Huger Shoreline. Ghost Fleet is in the Immediate Viewshed. Transmission line would be slightly visible from this location. Transmission Line Crossing would be in Vicinity of Red Arrow.**

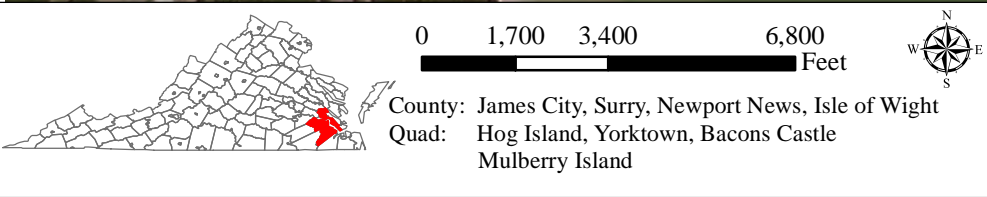
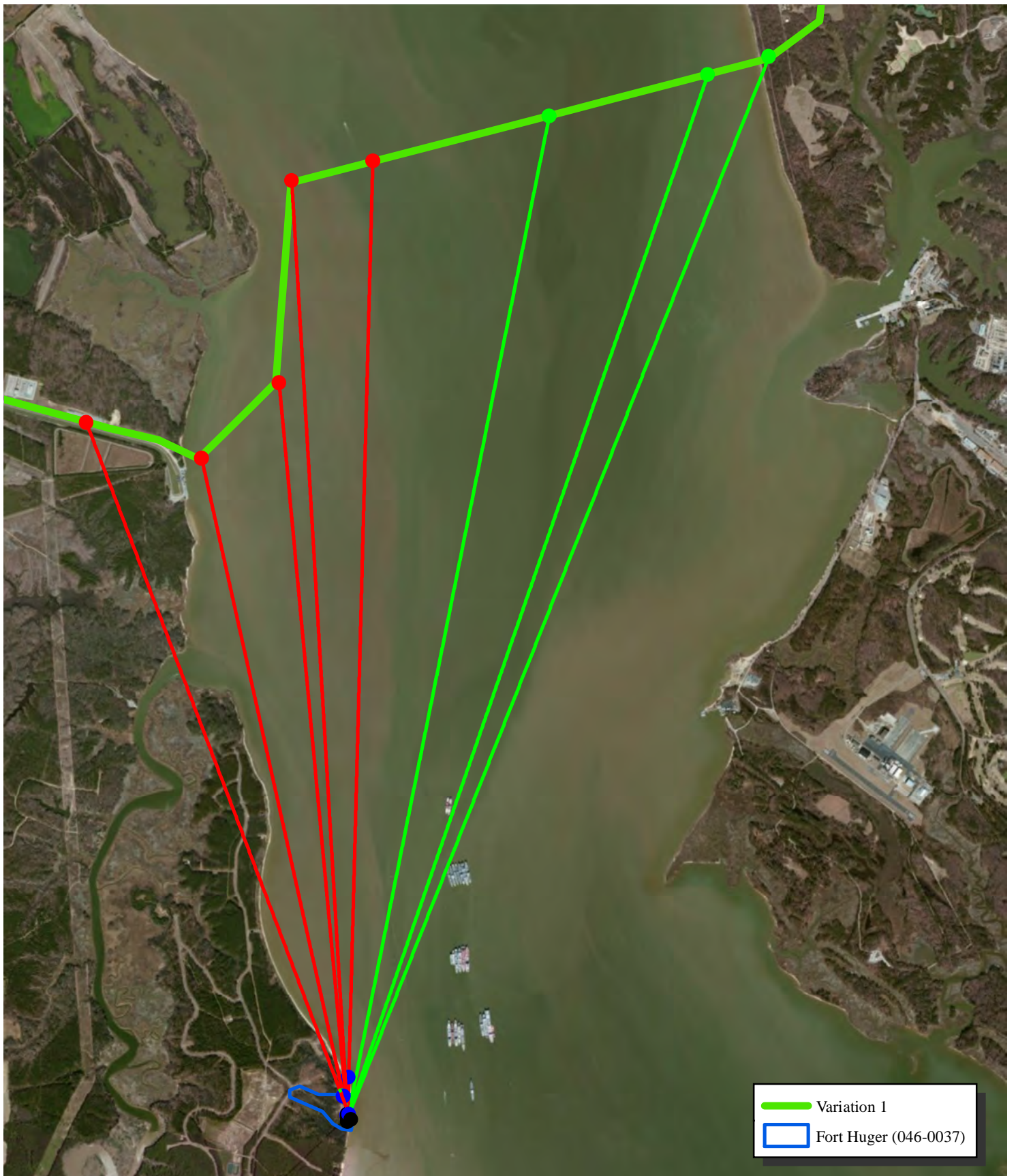


Figure 49. Line of Sight Analysis for Fort Huger (VHDR #046-0037).



*Basses Choice/Days Point Archaeological District (VDHR #046-0094)*

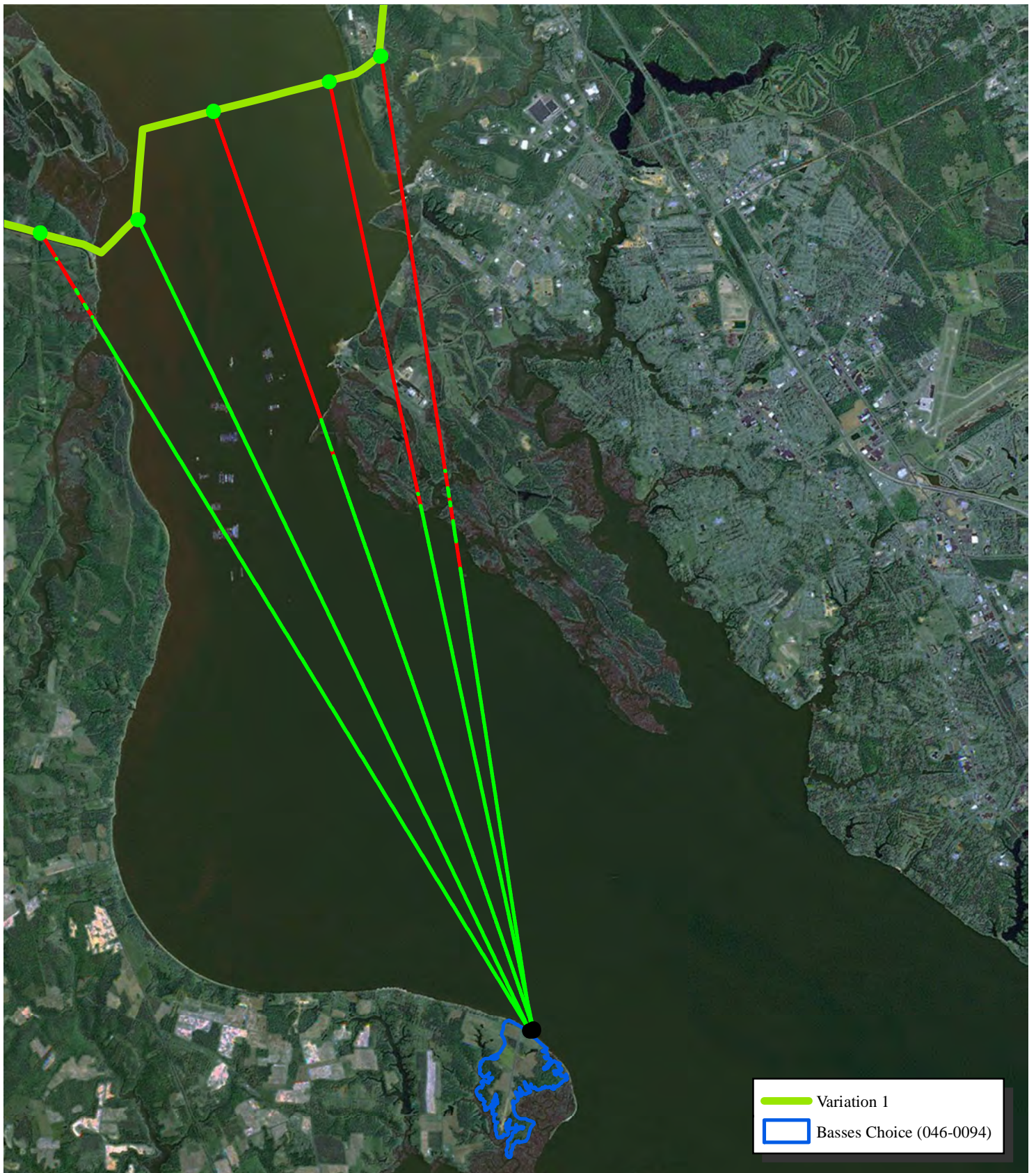
The Basses Choice/Days Point Archaeological District is located at the confluence of the James and Pagan rivers and includes 28 archaeological sites dating from circa 4000 B.C. through the 19th century. The property consists of primarily flat, open fields which are farmed. A notable environmental feature is a sheer thirty foot cliff along the James River frontage. There are no historic buildings or above-ground remains associated with this resource and it is located on private property. The existing structures on the property are non-historic. Photos taken from Photo Location 9 (Figure 50) and from the public ROW in proximity to the James River side of the resource indicate that the proposed transmission line will be distantly visible from this location. This location is nearly equidistant between the proposed line and the extant James River Bridge and adjacent power lines. Although not illustrated in a photograph, the Bridge and power lines were visible indicating a similar view would be probable for the proposed crossing.

Line of sight modeling was also conducted for this location as it was largely inaccessible for photographs (Figure 51). The majority of the resource is located on privately held property. Line of Sight Analysis indicates a clear, unobstructed view of the proposed line, however, the model cannot account for the distance or the visual horizon. It could be anticipated that only the largest towers associated with the proposed transmission line may be visible from this location on a clear day. Additionally, the view across the river and toward Fort Eustis, a distance of approximately four miles, is similar in that it is difficult to pick out details along the shoreline. ***However, because the site is an archaeological resource, was listed on the NRHP for its archaeological potential, and there are no above ground remains, it is recommended that the proposed transmission line would have no adverse effect to this resource.***



**Figure 50. View to the North from the Closest Accessible Point to Basse's Choice District (VDHR #046-0094).**





0 4,000 8,000 16,000 Feet



County: Surry, James City, York  
 Newport News, Isle of Wight  
 Quad: Hog Island, Yorktown, Poquoson West,  
 Bacons Castle, Mulberry Island, Newport News North



Figure 51: Line of Sight Analysis Basse's Choice (VDHR #046-0094).

*Fort Boykin (VDHR #046-0095)*

Fort Boykin, located within the Study Area boundaries of Yorktown Battlefield is an archaeological site characterized by extant earthworks along the western bank of the James River. The Fort, like Fort Huger, has been developed as a historical park with reconstructed gun emplacements. Extensive gardens were developed throughout the Fort during the 20<sup>th</sup> century. A 20<sup>th</sup> century residence was also present within the bounds of the resource but has been recently destroyed by fire.

Although trees have been removed across the Fort site, new growth pines and other trees grow at the cliff edge and impede the view of the river from the Fort site and park area. Photographs indicate that although there is a generally unobstructed view of the proposed line up river from this location, it is unlikely that the view would have significant impacts to historic resources. As noted in Figure 52, the view of the Ghost Fleet, moored in the center of the James River approximately 6.1 miles upriver from this location, is minimal. As one looks up river toward the Ghost Fleet the fleet appears small and disappears into the horizon. It could be anticipated that only the largest towers associated with the proposed transmission line may be visible from this location on a clear day. Additionally, the view across the river and toward Fort Eustis, a distance of approximately four miles, is similar in that it is difficult to pick out details along the shoreline (Figure 53, Photo Location 10). Line of Sight Analysis indicates a clear, unobstructed view of the proposed line, however, the model cannot account for the distance or the visual horizon (Figure 54).

While it is possible that the towers would be distantly visible from this location, it is unlikely that this view would adversely affect those characteristics which qualify the Yorktown Battlefield for inclusion in the National Register. The portion of the battlefield located within the APE for this route has been developed primarily for commercial use, as well as military and residential use, and the portions of the battlefield that have not been developed are mostly in wetland and are generally inaccessible and on privately held property. ***Therefore it is recommended that the Yorktown Battlefield (VDHR #099-5283) as a whole, would not be adversely effected by the addition of the transmission line both on land and as it crosses the James River.***



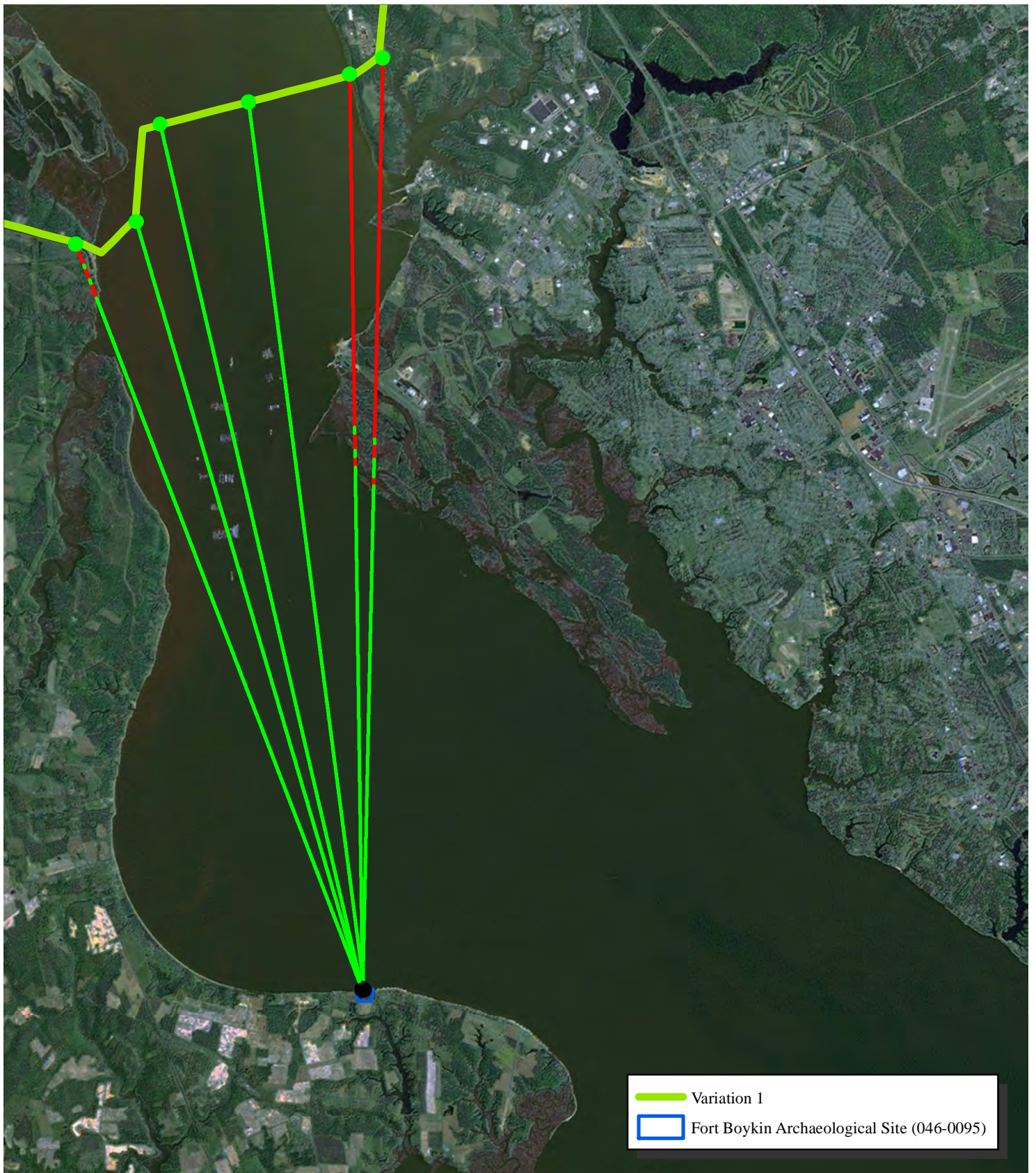


**Figure 52. View Upriver toward the Proposed Transmission line from Fort Boykin (VDHR # 046-0095). Note the Ghost Fleet on the Horizon. Red Arrow Denotes Ghost Fleet. Proposed Transmission Line Crossing is an Additional Two Miles to the North.**



**Figure 53. View from Fort Boykin (046-0095) East Across the River Toward Fort Eustis.**





0 4,000 8,000 16,000 Feet



County: Surry, James City, York  
 Newport News, Isle of Wight  
 Quad: Hog Island, Yorktown, Poquoson West,  
 Bacons Castle, Mulberry Island, Newport News North



Figure 52. Line of Sight Analysis for Fort Boykin (VDHR #046-0095).

### *The Ghost Fleet (VDHR 121-5070) and Associated Maritime Resources*

The maritime resources include the *SS Charles H. Cugle/MH-1A Sturgis* (VDHR #046-5415/121-5070-0004) and the James River Reserve Fleet, known as the Ghost Fleet (VDHR #121-5070) anchored in the James River between the City of Newport News and Isle of Wight County. Also included is *the SS John Brown* (VDHR # 121-0045), which is included within the Ghost Fleet and has been listed on the NRHP. The *Sturgis*, constructed in June 1945, is recognized as one of the last Liberty Ships constructed during World War II, although never saw action. Instead the ship was sent to Mobile Alabama as part of the Navy's Reserve Fleet. The *Sturgis* is also notable as the first floating nuclear power facility (VDHR Site Files).

The *SS John W. Brown* is a World War II general cargo ship that would have had minimal capacity for carrying troops. It is a large vessel with a length of approximately 441 feet. It was individually listed on the NRHP in 1984 and is anchored with the Ghost Fleet. The remaining ships, known as the Ghost Fleet, were constructed post 1935 and served as cargo and transport ships during World War II. Two of the ships in the Ghost Fleet were built as attack transport class vessel and one was utilized as an oil tanker. Currently the ships are still part of the Maritime Administration non-retention inventory (VDHR Site Files).

The Ghost Fleet is previously denoted in the VCRIS system as unevaluated, however it could be considered potentially eligible for listing on the NRHP under Criterion A for the fleet's contribution to the World War II efforts and engineering. Therefore it was considered for potential visual effects. Although the proposed transmission line will be plainly visible from the Ghost Fleet, it is recommended that the potential visual impact would not be adverse. ***However, because of the nature of the resource, it is recommended that the proposed line will have no adverse effect to The Ghost Fleet. The construction of the transmission line will not detract from or adversely affect those characteristics which make the resource eligible for listing on the NRHP.***

#### *SS Charles H. Cugle/STURGIS (VDHR #046-5415)*

*The SS Charles H. Cugle/STURGIS* is anchored in the James River as part of the James River Reserve Fleet (Ghost Fleet) (Figure 55). The *SS Charles H. Cugle* was one of over 2,700 Liberty Ships built during World War II to serve as cargo and troop transport ships. The Liberty Ships were built according to a standardized plan and were manned by merchant seamen (VCRIS 2014). During the the period following the War, efforts were made to develop a mobile nuclear power plant in an effort to better serve military needs at home and abroad. he *Cugle*, renamed *Sturgis* was selected as the carrier of one such facility. *STURGIS* has been recommended potentially eligible for listing on the NRHP under Criterion A as the first floating nuclear power plant in the world. *STURGIS*, because it is less than 50 year of age must also meet Criteria Consideration G. It has been recommended that this resource does meet Criteria Consideration G as the first floating nuclear power plant (VCRIS Form 2014).

Current photographs of this resource were not obtained due to its location in the James River. Additionally, the mapped location of this resource in VCRIS does not coincide with an extant ship or the limits of the Ghost Fleet. The resource is moored with the Ghost Fleet and is located on the western side of the fleet at the Newport News and Isle of Wight County division in the



River, according to the mapped location in VCRIS. It is assumed that the *STURGIS* is one of the smaller ships moored in the central grouping of ships, on the western side. It is clear that the proposed transmission line will be visible from this resource as it has a clear, unobstructed view of the proposed crossing. ***However, because of the nature of the resource, it is recommended that the proposed line will have no adverse effect to The SS Charles H. Cogle/STURGIS. The construction of the transmission line will not detract from or adversely affect those characteristics which make the STURGIS eligible for listing on the NRHP.***

*SS John W. Brown (VDHR # 121-0045)*

The SS John W. Brown is a World War II general cargo ship that would have had minimal capacity for carrying troops. It was individually listed on the NRHP in 1984 and is anchored with the Ghost Fleet. This resource is a Liberty Ship which during 1939 and 1945 was a design that assisted the Maritime Commission in fulfilling the need for a standardized cargo steamer that could be massed produced. During this period, the Maritime Commission building program constructed nearly 5,095 non-military vessels were built to help fill the maritime needs associated with World War II. It is clear that the proposed transmission line will be visible from this resource as it has a clear, unobstructed view of the proposed crossing. ***However, because of the nature of the resource, it is recommended that the proposed line will have no adverse effect to SS John W. Brown or other resources associated with the Ghost Fleet. The construction of the transmission line will not detract from or adversely affect those characteristics which make the SS. John W. Brown eligible for listing on the NRHP.***



**Figure 55. View of the Ghost Fleet from the Shoreline at Fort Huger, just South of the Mapped Location of the *STURGIS* (VDHR #047-5415).**

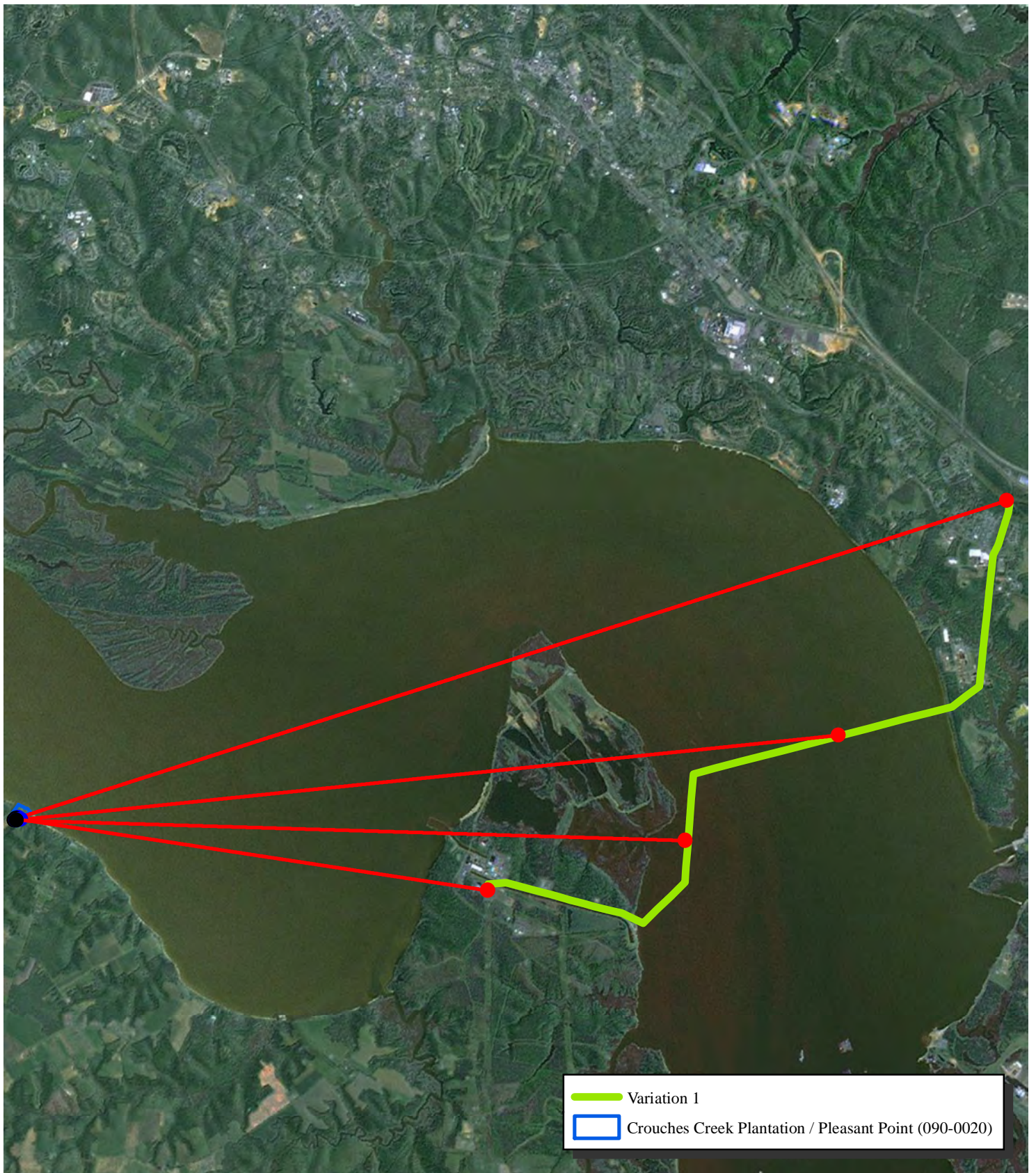
*Crouches Creek Plantation/Pleasant Point (VDHR #090-0020)*

Crouches Creek/ Plantation/Pleasant Point dates to circa 1765 and was listed on the NRHP in 1976 and the VLR in 1973. The house is a frame house with brick gables which is not overly common in Surry County (Figure 56). The house was altered to its current appearance in the 1950s but does retain some of the original elements of its 18<sup>th</sup> century design. According to the VCRIS form, Pleasant Point is reminiscent of a time of high prosperity in Surry County during the late 18<sup>th</sup> century. There will be no visibility of the proposed transmission line from this resource. A line of sight analysis was completed for this resource to confirm the lack of visibility and assessment of no visual impact (Figure 57). The resource is located east of Hogs Island and the Surry Plant. ***It is therefore recommended that there will be no effect to this resource.***



**Figure 56. View of Pleasant Point (VDHR # 090-0020).**





0 3,300 6,600 13,200 Feet

County: Williamsburg, York, James City, Surry, Newport News  
 Quad: Norge, Williamsburg, Clay Bank, Surry, Hog Island, Yorktown, Runnymede, Bacons Castle, Mulberry Island



Figure 52. Line of Sight Analysis for Crouches Creek/Pleasant Point (VDHR #090-0020).



*Chippokes Plantation (VDHR #090-0070)*

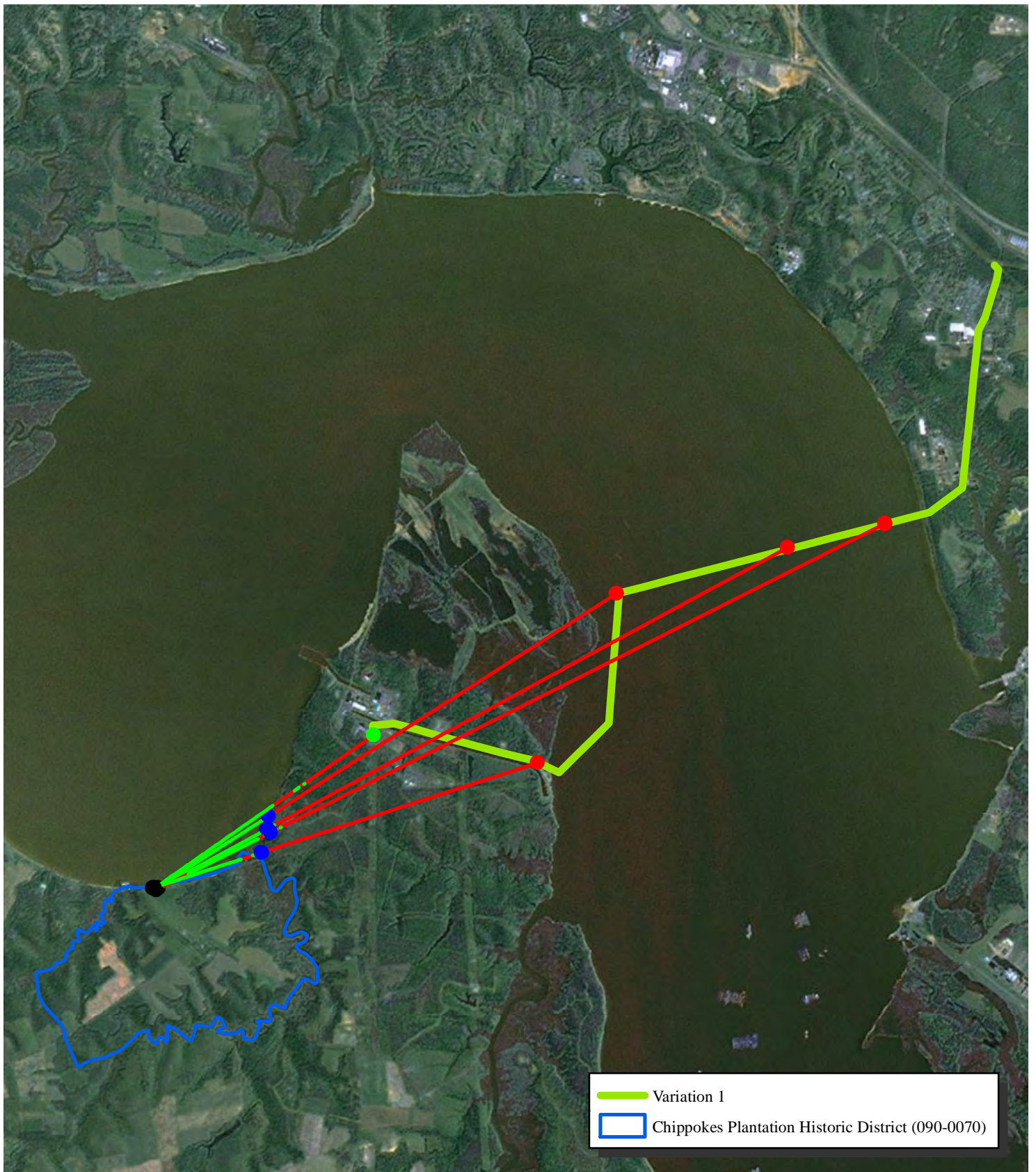
Chippokes Plantation is a 1,403-acre parcel located on the James River in Surry County, south of and across the river from Jamestown. The historic resource, VDHR #090-0070, is located entirely within the boundaries of Chippokes State Park. The Plantation comprises nearly all of the park save for approximately 150 acres. There are 37 buildings and/or structures associated with the district and located with the park. Of note are two largely unaltered plantation houses dating to circa 1830 and 1860 (Figure 58). There are also several 19<sup>th</sup> century outbuildings and slave quarters as well as more modern early twentieth century farm buildings. All buildings or structures over 50 years of age at the time of the district's nomination were included as contributing to the historic significance of the site (VCRIS Form). In addition to the architectural features of the property, there are 34 identified archaeological sites dating to prehistoric time periods through the nineteenth century. Chippokes was listed on the NRHP and the VLR in 1969.

Line of sight analysis indicates that no portion of Chippokes Plantation will be affected visually by the proposed transmission line project (Figure 59). Chippokes is located to the south and west of Hog Island and the Surry Power Plan and views of the proposed transmission line improvements on land and crossing the river are impeded by dense stands of mature trees, topography, and distance. ***It is recommended that the project will have no effect on Chippokes Plantation.***



**Figure 58. The River House at Chippokes Plantation (VDHR #090-0070-0003).**





0 2,750 5,500 11,000  
 Feet



County: York, James City,  
 Surry, Isle of Wight  
 Quad: Hog Island, Yorktown  
 Bacons Castle, Mulberry Island



Figure 59. Line of Sight Analysis, Chippokes Plantation (VDHR #090-0070).



*Scotland Wharf Historic District (VDHR #090-5046)*

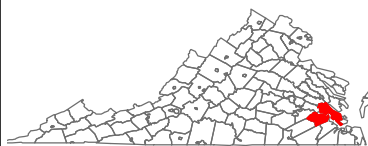
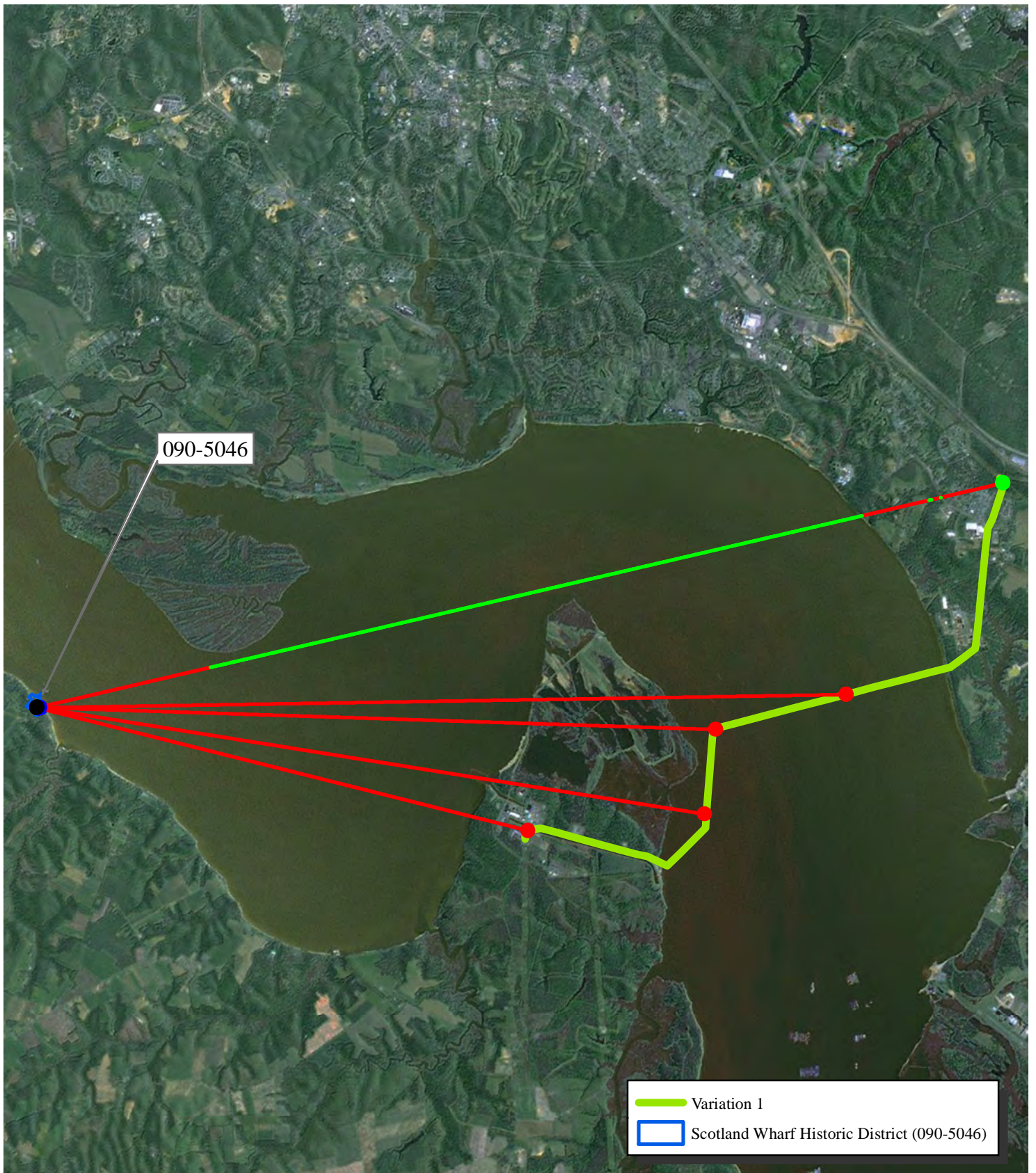
The Scotland Wharf District (VDHR #090-5046) is located off Route 31 in Surry County and overlooks the James River and Jamestown-Scotland Ferry wharf. Most roads within the district are unpaved private streets and lanes (Figure 60). The district was recommended eligible for listing on the NRHP in 2006 under Criteria A and C. The district resources date from 1890 with a period of significance from 1890 to approximately 1920. The community was platted by Captain Albert Jester, a Scotland Ferry Captain and was focused on the ferry and wharf and developed largely in part due to the Surry Lumber Company's shipping operations. The Surry Lumber Company utilized the wharf, located southeast of the present ferry dock, to ship its goods. Lumber was transported to the wharf via the Surry, Sussex, and Southampton Railroad which operated from 1886 to circa 1930. The community, along with the neighboring Scotland Heights community grew rapidly in the mid-20<sup>th</sup> century (VCRIS Form).

Line of sight analysis indicates that no portion of the Scotland Wharf District will be affected visually by the proposed transmission line project (Figure 61). The district is located well to the northwest of Hog Island and the Surry Plant and views of the proposed transmission line improvements on land and crossing the river are impeded by dense stands of mature trees, topography, and distance. *It is recommended that the project will have no effect on the Scotland Wharf District.*



**Figure 60. View of Scotland Wharf Historic District (VDHR #090-5046) from John Rolfe Highway, Looking South.**





0 3,600 7,200 14,400 Feet



County: Williamsburg, York, James City, Surry, Newport News  
 Quad: Norge, Williamsburg, Clay Bank, Surry, Hog Island, Yorktown, Runnymede, Bacons Castle, Mulberry Island



Figure 61 Line of Sight Analysis for Scotland Wharf Historic District (VDHR #090-5046).

### *National Historic Water Trails*

In addition to the traditional architectural resources identified within the corridor, one additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail has not been recorded as resources in the VDHR database. However, it has been recommended by the VDHR that resources such as these should be considered as a NRHP-eligible resource for purposes of review for the projects associated with this transmission line.

#### *Captain John Smith National Historic Water Trail*

In December 2006 the U.S. Congress designated the routes of Smith's explorations of the Chesapeake as the first national historic water trail. The Trail follows the early explorations of John Smith as depicted in his numerous maps and writings and covers approximately 3,000 miles in parts of present-day Virginia, Maryland, Delaware, and the District of Columbia. The development of the Comprehensive Management Plan for the Trail resulted in a determination that the Trail should be managed in segments. The current project area and proposed transmission line corridor crosses the James River in the James River Segment of the Trail (NPS 2011). This segment of the Trail is noted as having five focus areas to serve as primary locations for directing users of the Trail to a variety of available Trail opportunities and resources. One of the focus areas, the Chippokes Plantation/Hog Island Wildlife Management Area falls within the ROW for the proposed Skiffes Creek to Surry 500 kV transmission line (Figure 62-63).

The proposed Variation 1 crosses the James River and thus the Trail just south of a heavily industrialized area within James City County and enters the Surry Nuclear Power Station after traversing a portion of Hog Island Wildlife Refuge. While it is certain that the proposed transmission line corridor will have an impact to the Trail in this location the full breadth of the impacts should be determined via discussion with the National Park Service and other identified agencies. This Trail has not been identified as a historic resource with respect to the VDHR database of historic resources, but it has been recommended by the VDHR that the Trail be considered as a NRHP-eligible resource. The guidance from the DHR indicates that the resource should be considered for visual effects, however, an assessment of direct effects to the recreational aspect of the Trail should also be considered. This section of the James River is a commercial shipping channel and the river bank to the east, heavily industrialized. The Surry Power Plant is located immediately adjacent to Hog Island and within the vicinity of the Chippokes Plantation/Hog Island Wildlife Management Area. Therefore while it is certain that the Trail will be affected by the proposed transmission line, the full breadth of those affects should be further investigated as the project progresses.



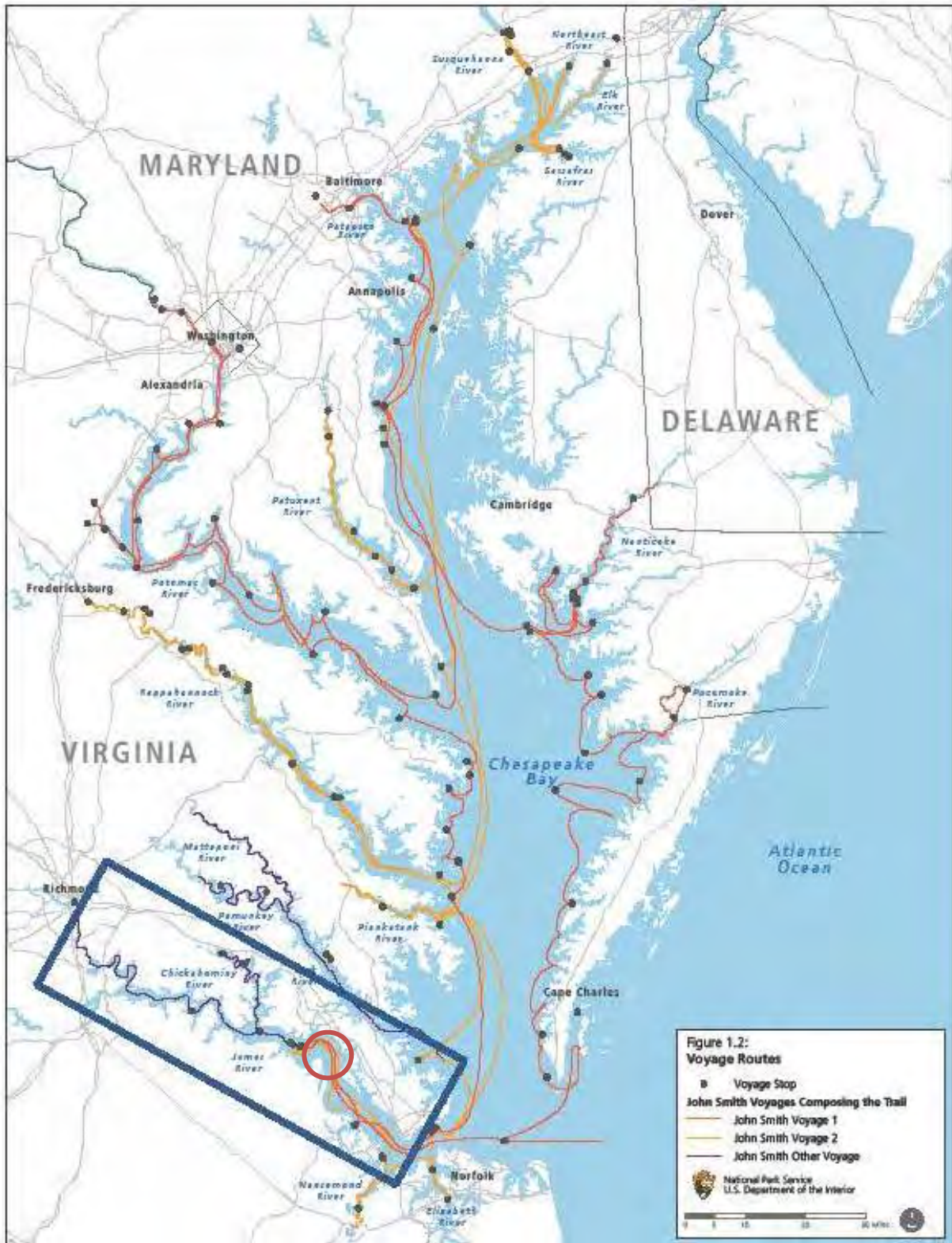


Figure 62. James River Segment of the Captain John Smith Water Trail ([www.nps.gov](http://www.nps.gov)). Red Circle Denotes Vicinity of Project Area.





**Figure 63. Zoomed in View from Kingsmill Plantation illustrating the Potential View/Impact to the Captain John Smith Trail. Full sized photo simulations with existing and proposed views are located in Appendix C. Photo Simulation Prepared by TrueScape.**



## IV. SUMMARY AND RECOMMENDATIONS

Cultural Resources, Inc. (CRI), now Stantec Consulting Services, Inc. (Stantec) was retained by Dominion Virginia Power (Dominion) to conduct a Stage I Pre-Application Analysis for the proposed Surry to Skiffes Creek 500 kV Transmission Line Project (Leithoff et al. 2012). This analysis was completed during October and November 2011 and January 2012. CRI conducted preliminary background research and a field study pursuant to the *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008) for proposed transmission line improvements in Charles City, Surry, James City and York Counties, and the City of Williamsburg, Virginia. Two alternatives were investigated and associated with that project.

Since that time, a single alternative has been identified and approved by the State Corporation Commission (SCC). This alternative, Surry to Skiffes Creek 500 kV Transmission Line, Variation 1 (Variation 1) is 7.42 miles long (Figure 1). The total length of the Surry to Skiffes Creek 500 kV Transmission line with Variation is 7.95 miles.

### **Area of Potential Effect**

This alternative, among others, were included in a formal Stage I Pre-Application Analysis 2011 and 2012. Since that time, and the selection of Variation 1 as the final route, a U.S. Army Corps of Engineers (Corps) Permit has been filed. At that time, an expanded Area of Potential Effect (APE) for the project was identified, particularly with respect to potential visual effects associated with the James River crossing. In an email dated November 12, 2013, the Corps representative for the project described the APE as follows:

“Boundaries whose western extent is Grays Creek and just west of Jamestown Island. From these two reference points the northern boundary should capture all of Jamestown Island and extend east along the northern shoreline; while the southern boundary can extend east to the Power Plant and continue across land parallel to the corridor with the ½ mile landside buffer. South of the JRV1 (and other variations), the APE should extend on both the western and eastern shorelines extending down to Burwell’s Bay to the mouth of the Pagan River. At some point on the eastern shoreline, south of Ft. Eustis, the boundary may not have to follow the shoreline exactly. Keep visual perspective in mind when drafting the limits.” Based on this description, Williamsburg Environmental Group (WEG), now Stantec developed a map showing the boundaries of the Corps defined APE above.

### **View Shed Assessment**

In light of the information presented above and the need to conduct additional visual effects assessments for the expanded APE as defined by the Corps, CRI, now Stantec has prepared this visual effects assessment to include resources previously addressed during the Stage I Pre-Application Analysis prepared in 2012 as well as for resources identified within the recently expanded APE. This combined document is intended to assist with the review of this project pursuant Section 106 of the National Historic Preservation Act.

## Resources Identified for Visual Effects Assessment

A total of 16 resources were identified during the 2012 Pre-Application Analysis and a current review of the resources on file at the VDHR for the visual effects assessment. This review included all previously recorded resources within the 0.5-mile wide expanded APE as currently defined as well as those resources identified during the Stage I assessment. The resources considered for potential visual effects are listed in Table 3. Concurrent with the current visual effects assessment, a Phase I Reconnaissance Level Architectural Survey was also conducted for the expanded APE. No additional resources were identified that would qualify for visual effects assessment. The results of the architectural survey will be presented in a revised document entitled *Phase I Cultural Resources Survey for the Proposed Surry to Skiffes Creek 500 kV Transmission Line* prepared by CRI in 2012 and updated in 2014.

<b>Table 4. Architectural Resources Considered for Visual Effects.</b>				
<b>VDHR #</b>	<b>Resource</b>	<b>Date</b>	<b>Reference</b>	<b>VDHR/NRHP Status</b>
099-5283	Battle of Yorktown	1862	NPS 1993 and 2009	NRHP-Listed Date Unknown
047-0001	Carter's Grove	c. 1750	VHLC 1969	NRHP-Listed 1969; NHL-Listed 1970
047-0002	Colonial Parkway	c. 1931	NPS 1966	NRHP-Listed 1966
047-0009	Jamestown Island	c. 1600	NPS 1966	NRHP-Listed 1966; VLR-Listed 1983
047-0010	Kingsmill Plantation	c.1736	VHLC 1972	NRHP-Listed 1972; VLR-Listed 1972
047-0043	Amblers and Coke Watts House	c. 1770	Outlaw 2012	DHR Determined Eligible 2013
047-0082	Governor's Land Archaeological District	c. 1642	VDHR 1973	NRHP-Listed 1973; VLR-Listed 1973
046-0037	Fort Huger	1861	CRI 2009	NRHP-Listed 2009; VLR Listed 2009
046-0094	Basses Choice/Days Point Archaeological District	Woodland – 19 <sup>th</sup> century historic	VHLC1983	NRHP-Listed 1983; VLR Listed 1983
046-0095	Fort Boykin	1861	DHL RCA 1985	NRHP-Listed 1985; VLR Listed 1985
046-5415	SS Charles H Cugle/Sturgis	1945	JMA 2012	DHR Determined Potentially Eligible-2013
090-0020	Crouches Creek Plantation/Pleasant Point	c. 1756	Herman 1965	NRHP-Listed 1976; VLR-Listed 1974; Easement 1998
090-0070	Chippokes Plantation	c. 1829	O'Dell 1986	NRHP-Listed 1986; VLR-Listed 1986
090-5046	Scotland Wharf Historic District	c. 1886	Cook 2006	DHR Determined Potentially Eligible
121-0045	SS John W. Brown	1942	VDHR 1984	NRHP Listed 1984
121-5070	The Ghost Fleet	c. 1935	Stantec 2014	Potentially Eligible, Stantec 2014



## Captain John Smith National Historic Water Trail

In addition to the traditional architectural resources identified within the corridor, an additional resource has been identified within the ROW corridor where it crosses the James River. This resource, the Captain John Smith National Historic Water Trail, has not been recorded as a resource in the VDHR database. However, it has been recommended by the VDHR to be considered as a NRHP-eligible resource for purposes of review for the projects associated with this transmission line. It is clear that the proposed transmission line will have an effect to this resource, however, the full breadth of these effects along with potential mitigation of those effects should be examined and explored through consultation with the US Army Corps of Engineers as the lead federal agency for the project.

### Recommendations

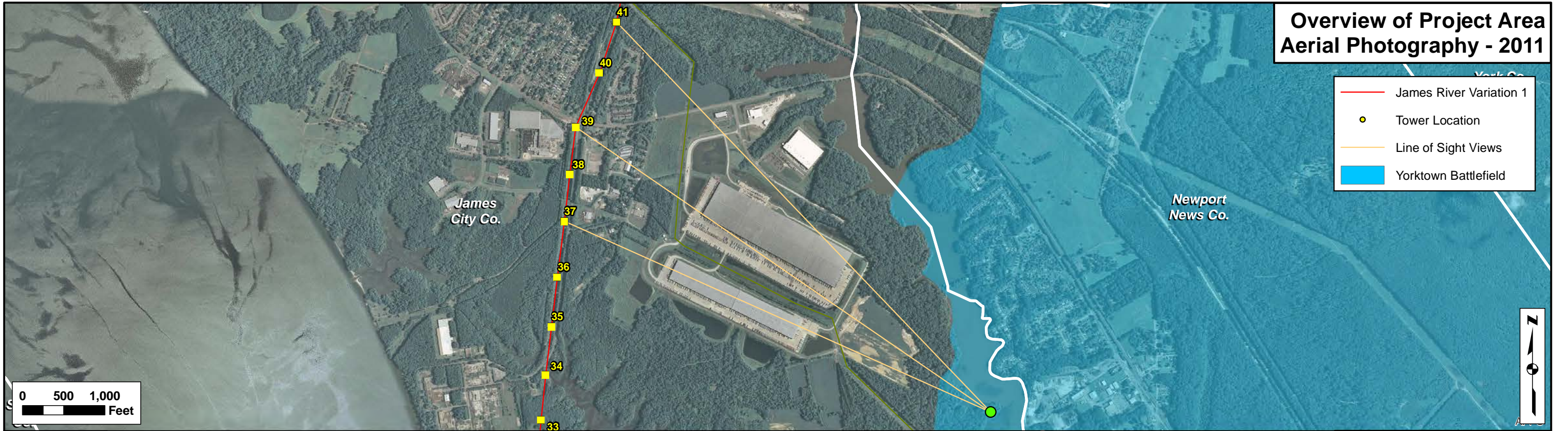
The view shed analysis was conducted for 16 resources within the APE for the proposed Surry to Skiffes Creek 500 kV Transmission Line. The results of the investigation are summarized in the following table. Additional research may be required for a formal assessment of the Captain John Smith Trail as has been noted. Of the 16 resources included in the visual effects assessment for the project, it is recommended that the proposed project will have an **Adverse Effect** on one resource – Carter’s Grove. Additional investigation will be required to mitigate these adverse effects according to Federal guidelines. It is recommended that six resources will not be affected by the project and that the remaining nine will not be adversely affected by the project.

<b>VDHR #</b>	<b>Resource</b>	<b>No Effect</b>	<b>No Adverse Effect</b>	<b>Adverse Effect</b>
047-0001	Carter’s Grove			X
047-0002	Colonial Parkway		X	
047-0009	Jamestown Island		X	
047-0010	Kingsmill Plantation	X		
047-0043	Amblers and Coke Watts House	X		
047-0082	Governor’s Land Archaeological District	X		
046-0037	Fort Huger		X	
046-0094	Basses Choice/Days Point Archaeological District		X	
046-0095	Fort Boykin		X	
046-5415	SS Charles H Cugle/Sturgis		X	
090-0020	Crouches Creek Plantation/Pleasant Point	X		
090-0070	Chippokes Plantation	X		
090-5046	Scotland Wharf Historic District	X		
099-5283	Battle of Yorktown		X	
121-0045	SS John W. Brown		X	
121-5070	The Ghost Fleet		X	

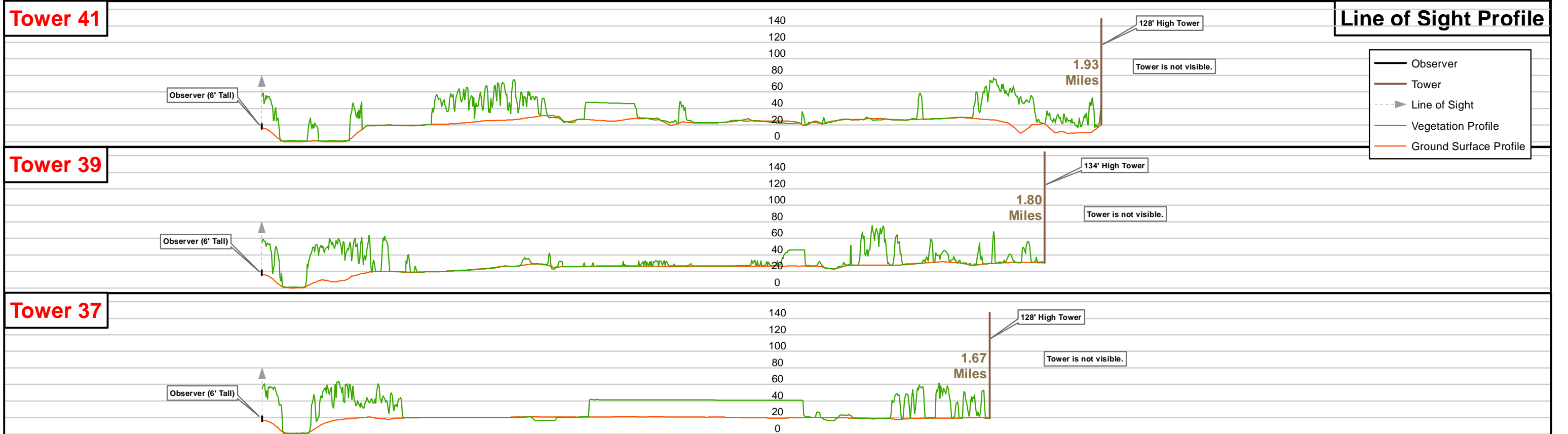
**APPENDIX A: LINE OF SIGHT GRAPHICS – YORKTOWN BATTLEFIELD**



**Overview of Project Area  
Aerial Photography - 2011**



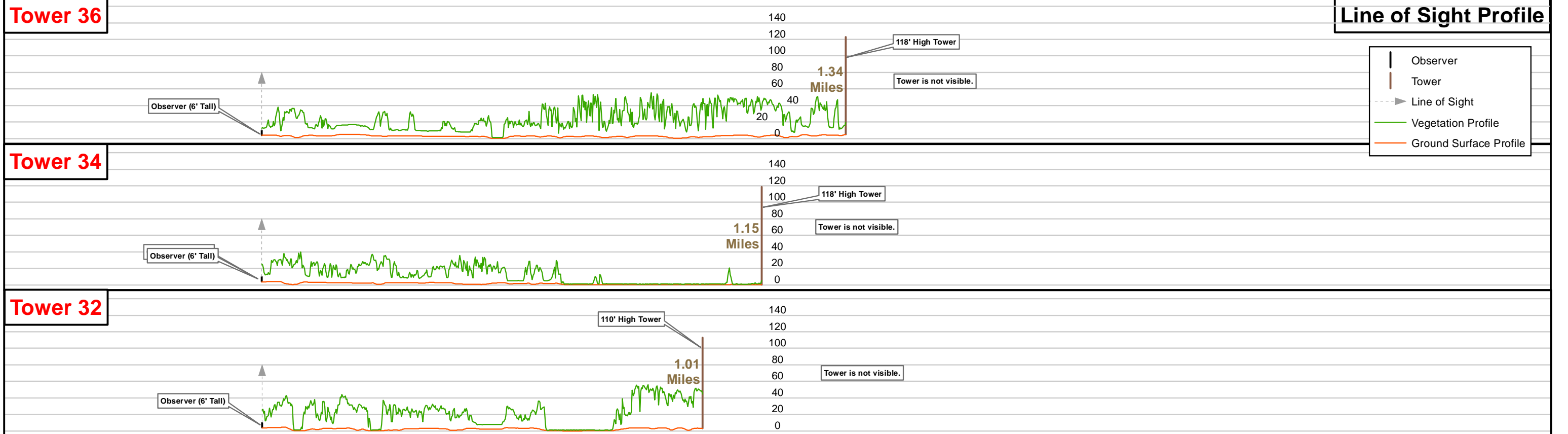
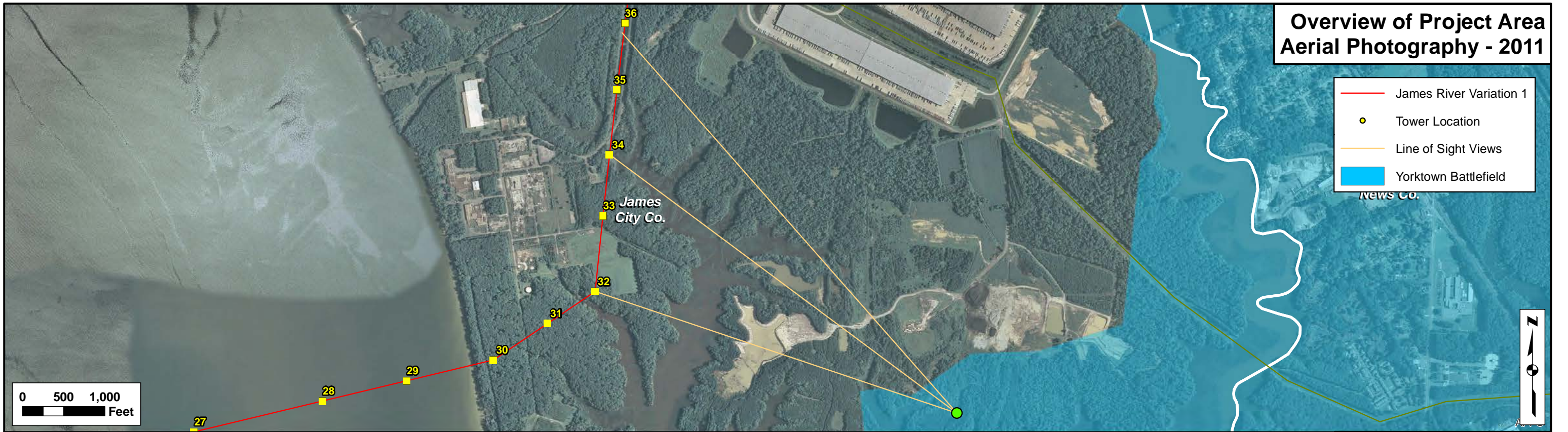
- James River Variation 1
- Tower Location
- Line of Sight Views
- Yorktown Battlefield



**Figure -  
Surry to Skiffes Creek 500 kV Transmission Line  
James River Crossing Variation 1  
Location 1 of Yorktown Battlefield  
Vertical Exaggeration X 10**

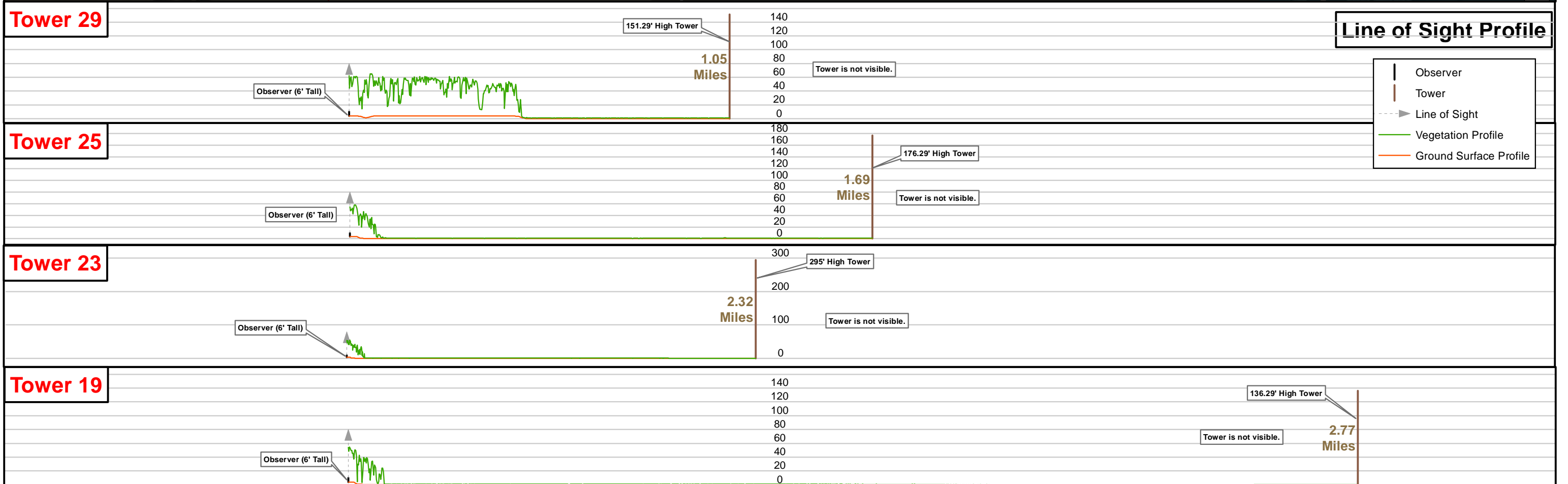
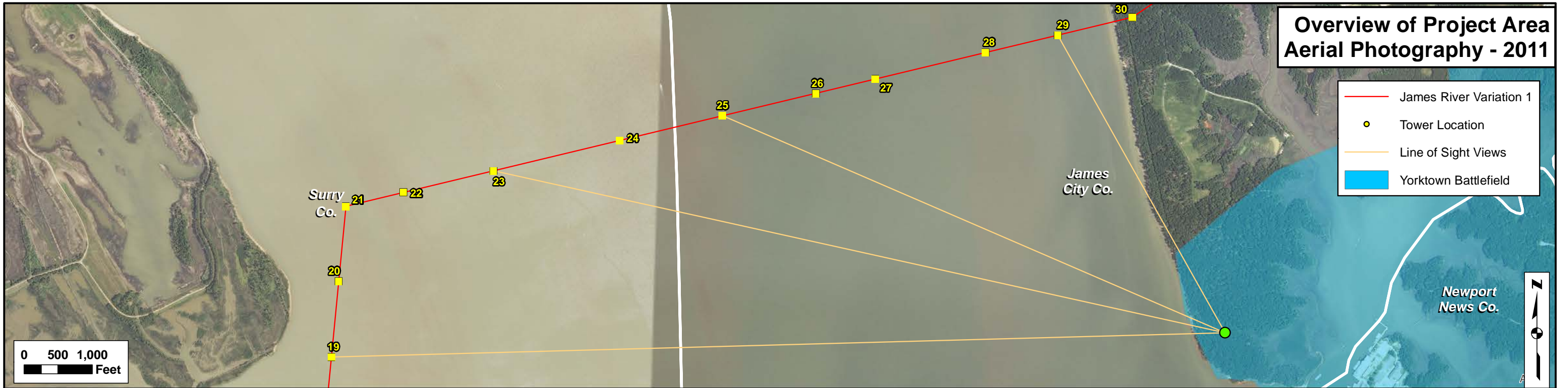


# Overview of Project Area Aerial Photography - 2011



**Figure %\$**  
**Surry to Skiffes Creek 500 kV Transmission Line**  
**James River Crossing Variation 1**  
 Location 2 of Yorktown Battlefield  
 Vertical Exaggeration X 10





**Figure 11**  
**Surry to Skiffes Creek 500 kV Transmission Line**  
**James River Crossing Variation 1**  
 Location 3 of Yorktown Battlefield  
 Vertical Exaggeration X 10