

APPENDIX V

IMPACT SPREADSHEET

AND

INTERROGATORY RESPONSES

Haymarket Substation and 230 kV Transmission Line Project
Environmental Routing Study

TABLE 4-1 Haymarket Substation and 230 kV Transmission Line Project Environmental Features Comparison Table									
Environmental Features	Unit	Carver Road Alternative	I-66 Hybrid Alternative	I-66 Overhead Alternative	Madison Alternative	New Road Alternative	Northern Alternative	Railroad Alternative	Wheeler Alternative *
Land Use Features / Constraints									
Land Ownership Crossed (total length)	miles	6.7	5.3	5.0	8.2	21.2	6.1	5.7	8.6
State Owned Lands	miles	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
Local Government Lands	miles	<0.1	0.1	0.1	0.0	<0.1	0.0	0.0	<0.1
Prince William County Dedicated Roads	miles	<0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Town of Manassas	miles	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	0.1
Private Lands Crossed (total)	miles	4.7	2.6	1.8	5.4	20.7	4.1	3.7	8.5
Prince William County	miles	4.7	2.3	1.5	5.4	16.9	4.1	3.5	3.2
Fauquier County	miles	0.0	0.0	0.0	0.0	3.2	0.0	0.0	5.3
Loudoun County	miles	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
Haymarket Township	miles	0.0	0.3	0.3	0.0	0.0	0.0	0.2	0.0
Virginia DOT Crossings (roads) ^b	miles	2.0	2.6	3.1	2.8	0.5	1.1	2.0	0.1
Private Parcels Crossed by Right-of-Way (total)	number	75	35	36	75	175	26	43	72
Prince William County	number	75	24	23	75	137	26	39	45
Fauquier County	number	0	0	0	0	27	0	0	27
Loudoun County	number	0	0	0	0	11	0	0	0
Town of Haymarket	number	0	11	13	0	0	0	4	0
Recreational Areas Crossed									
County, Municipal, or Private Recreation Areas Crossed	miles (number)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	<0.1 (1)	1.8 (3)	0.0 (0)	0.0 (0)
Virginia Birding and Wildlife Trail Crossed	number	2	6	4	2	3	2	2	2
Existing Land Use (VDOF)									
Open Land	miles	0.1	0.1	<0.1	0.1	0.5	0.0	0.1	0.3
Cropland	miles	<0.1	0.1	0.2	0.3	5.6	0.3	0.1	2.0
Developed	miles	2.8	3.5	3.4	3.4	5.4	2.2	2.6	2.2
Forested	miles	3.8	1.6	1.4	4.4	9.6	3.6	2.9	4.1
Water	miles	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Zoning									
Agricultural	miles	4.0	2.8	3.3	6.0	19.6	2.7	2.7	8.1

Haymarket Substation and 230 kV Transmission Line Project
Environmental Routing Study

TABLE 4-1 (cont'd)

Haymarket Substation and 230 kV Transmission Line Project
Environmental Features Comparison Table

Environmental Features	Unit	Carver Road Alternative	I-66 Hybrid Alternative	I-66 Overhead Alternative	Madison Alternative	New Road Alternative	Northern Alternative	Railroad Alternative	Wheeler Alternative*
Business/Commercial	miles	0.9	0.7	0.2	1.0	0.0	0.1	0.7	0.0
Conservation	miles	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Industrial	miles	0.8	0.5	0.4	0.8	0.0	<0.1	0.8	0.0
Planned Business District	miles	0.2	0.1	0.1	0.2	0.9	0.4	0.2	0.5
Planned Mixed District	miles	0.1	0.1	0.3	0.1	0.0	0.4	0.1	0.0
Planned Mixed Residential	miles	0.0	0.2	0.1	0.0	0.0	2.2	0.0	0.0
Residential	miles	0.7	0.2	<0.1	0.1	0.7	0.3	1.0	0.0
Uncategorized/ROW	miles	0.0	0.7	0.6	0.0	0.0	0.0	0.0	0.0
Existing Subdivisions/Homeowners Associations Crossed (PWC)	miles	0.3	0.7	0.5	0.3	3.7	1.9	0.9	1.3
Planned Developments Crossed	(number)	4	8	3	3	13	11	8	5
	miles	1.6	0.2	0.4	2.5	1.4	0.5	1.2	0.8
	(number)	8	3	4	10	2	4	6	2
Proposed Commuter Rail stations Crossed	miles	0.3	<0.1	<0.1	0.3	0.1	<0.1	0.3	0.1
	(number)	(2)	(1)	(1)	(2)	(1)	(1)	(2)	(1)
Rural Crescent (PWC)	miles	0.2	0.0	0.0	0.4	15.8	0.9	0.2	4.6
Other Land Use Constraints									
Residences within 500 feet ^c									
Single Family Homes	number	82	128	114	99	149	254	47	50
Townhomes/Condos (structures)	number	4	86	109	4	0	33	28	0
Townhomes/Condos (units)	number	32	442	565	32	0	191	167	0
Apartment buildings	number	9	0	0	9	0	1	0	0
Residences within 200 feet ^d									
Single Family Homes	number	12	27	15	25	39	31	0	15
Townhomes/Condos (structures)	number	0	35	32	0	0	1	0	0
Townhomes/Condos (units)	number	0	165	151	0	0	6	0	0
Apartment buildings	number	2	0	0	2	0	1	0	0
Residences within 100 feet ^e									
Single Family Homes	number	2	13	5	3	6	0	0	2
Townhomes/Condos (structures)	number	0	21	17	0	0	0	0	0
Townhomes/Condos (units)	number	0	94	68	0	0	0	0	0
Apartment buildings	number	1	0	0	1	0	0	0	0
Buildings within Right-of-Way (total)	number	3	0	0	0	6	0	1	2

Haymarket Substation and 230 kV Transmission Line Project
Environmental Routing Study

TABLE 4-1 (cont'd)									
Haymarket Substation and 230 kV Transmission Line Project Environmental Features Comparison Table									
Environmental Features	Unit	Carver Road Alternative	I-66 Hybrid Alternative	I-66 Overhead Alternative	Madison Alternative	New Road Alternative	Northern Alternative	Railroad Alternative	Wheeler Alternative ^a
Residences	number	0	0	0	0	3	0	0	0
Industrial/Commercial	number	0	0	0	0	0	0	1	0
Outbuildings	number	3	0	0	0	3	0	0	2
Cemeteries within 500 feet	number	1	0	0	1	0	0	1	0
Churches within 500 feet	number	1	0	0	1	2	0	1	0
Schools within 500 feet	number	1	1	1	2	0	0	0	0
Environmental Constraints									
Wetlands Crossed in Right-of-Way (total)	miles	0.9	0.5	0.5	0.9	3.4	2.9	1.5	1.0
	(acres)	(11.5)	(5.1)	(5.9)	(11.3)	(36.9)	(34.8)	(20.8)	(11.5)
Palustrine Emergent	miles	0.2	0.1	0.1	0.2	0.8	1.1	0.1	0.2
	(acres)	(2.4)	(1.1)	(1.4)	(2.7)	(8.8)	(13.7)	(1.4)	(2.5)
Forested	miles	0.7	0.3	0.3	0.7	2.3	1.8	1.4	0.7
	(acres)	(8.3)	(3.6)	(3.9)	(7.8)	(24.5)	(21.1)	(18.9)	(8.4)
Palustrine Scrub Shrub	miles	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
	(acres)	(0.0)	(0.0)	(0.0)	(0.0)	(2.4)	(0.0)	(0.0)	(0.0)
Palustrine Unconsolidated	miles	<0.1	<0.1	0.1	<0.1	0.1	0.0	<0.1	<0.1
	(acres)	(0.8)	(0.4)	(0.6)	(0.8)	(1.0)	(0.0)	(0.5)	(0.4)
Riverine/Open Water	miles	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	<0.1
	(acres)	(0.0)	(0.0)	(0.0)	(0.0)	(0.2)	(0.0)	(0.0)	(0.2)
Waterbody Crossings (total)	number	8	5	5	9	36	26	10	10
Perennial	number	2	0	0	2	19	20	5	3
Intermittent	number	4	5	5	5	14	6	5	5
Section 10 Navigable	number	0	0	0	0	0	0	0	0
Open Waters	number	2	0	0	2	3	0	0	2
Forested Lands Crossed ¹	miles	3.8	2.7	2.8	5.0	11.0	4.1	2.8	4.7
	(acres)	(46.2)	(23.5)	(31.3)	(61.6)	(124.8)	(50.1)	(38.2)	(57.8)
VDOF High Forest Conservation Value 5	miles	0.0	0.0	0.0	0.0	0.9	<0.1	0.0	0.1
	(acres)	(0.0)	(0.0)	(0.0)	(0.0)	(10.7)	(0.4)	(0.0)	(0.7)
VDOF High Forest Conservation Value 4	miles	<0.1	0.0	0.0	<0.1	1.3	0.0	0.1	0.6
	(acres)	(0.3)	(0.1)	(0.1)	(0.3)	(15.3)	(0.2)	(1.2)	(7.2)
Resource Protection Areas Crossed (PWC)	miles	0.6	0.0	0.0	0.8	2.8	2.2	0.9	0.9
	(acres)	(6.7)	(0.0)	(0.0)	(9.4)	(31.7)	(25.8)	(13.1)	(10.9)
Conservation Easements Crossed									

Haymarket Substation and 230 kV Transmission Line Project
Environmental Routing Study

TABLE 4-1 (cont'd)

Haymarket Substation and 230 kV Transmission Line Project Environmental Features Comparison Table									
Environmental Features	Unit	Carver Road Alternative	I-66 Hybrid Alternative	I-66 Overhead Alternative	Madison Alternative	New Road Alternative	Northern Alternative	Railroad Alternative	Wheeler Alternative ^a
Permanently Protected Open Space (PWC)	miles	0.0	0.2	0.1	0.0	0.7	3.1	0.8 ^a	0.1
	(number)	(0)	(2)	(1)	(0)	(3)	(6)	(1)	(1)
Fauquier County Non-Common Open Space Easements	miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(number)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
VDCR Conservation Lands	miles	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
	(number)	(0)	(0)	(0)	(0)	(0)	(1)	(0)	(0)
Northern Virginia Conservation Trust	miles	0.0	0.0	0.0	0.6 ^b	0.5	0.0	0.0	0.4
	(number)	(0)	(0)	(0)	(1)	(1)	(0)	(0)	(1)
Cultural Resources Constraints									
Archaeology (VDHR)									
Archaeological Sites Within Right-of-Way	number	3	2	3	2	6	5	3	1
Architectural Resources (VDHR)									
Architectural Resources Within Right-of-Way (Battlefields listed below)	number	0	0	0	2	4	0	1	3
National Register-Eligible and -Listed Properties, Battlefields, Historic Landscapes, and National Historic Landmarks within 0.5 mile ^c	number	11	11	11	9	14	8	12	11
National Register-Listed Properties, Battlefields, Historic Landscapes, and National Historic Landmarks between 0.5 and 1.0 mile ^c	number	5	5	5	7	10	7	5	9
National Historic Landmarks between 1.0 and 1.5 miles	number	0	0	0	0	0	0	0	0
Historic Districts (VDHR) Crossed	miles	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.4
	(number)	(0)	(0)	(0)	(0)	(1)	(0)	(0)	(1)
NRHP-Listed Battlefield (VDHR) Crossed	miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(number)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
NRHP-Eligible Battlefield (VDHR) Crossed	miles	2.9	2.0	1.9	3.6	9.1	1.7	2.9	6.7
	(number)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Easements (VDHR) Crossed	miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(number)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Historic High Sensitivity Areas (PWC only)	miles	0.4	0.3	0.0	0.4	0.0	0.0	0.9	0.0
	(number)	(1)	(1)	(0)	(1)	(0)	(0)	(3)	(0)
Prehistoric Sensitivity Areas (PWC only)	miles	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0

Haymarket Substation and 230 kV Transmission Line Project
Environmental Routing Study

TABLE 4-1 (cont'd)

Haymarket Substation and 230 kV Transmission Line Project
Environmental Features Comparison Table

Environmental Features	Unit	Carver Road Alternative	I-66 Hybrid Alternative	I-66 Overhead Alternative	Madison Alternative	New Road Alternative	Northern Alternative	Railroad Alternative	Wheeler Alternative*
	(number)	(0)	(0)	(0)	(0)	(2)	(0)	(0)	(0)
Battlefields (NPS ABPP)									
Core Areas Crossed	miles	0.5	0.4	0.4	0.5	2.5	0.2	0.7	2.1
	(number)	(2)	(2)	(2)	(2)	(1)	(2)	(2)	(1)
Study Areas Crossed	miles	4.2	3.3	3.1	4.9	6.6	3.0	4.2	5.2
	(number)	(4)	(4)	(4)	(4)	(3)	(4)	(4)	(3)
Potential NRHP Boundary Crossed	miles	1.7	1.1	1.0	2.5	6.4	1.9	1.6	5.2
	(number)	(3)	(3)	(3)	(3)	(2)	(3)	(3)	(2)
NRHP-Listed Boundary Crossed	miles	0	0	0	0	0	0	0	0
	(number)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Geological or Physical Constraints									
Mines or Mining Areas Crossed	miles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Visual Features/Constraints									
Length Parallel to Scenic Byway/Road	miles	0.7	0.6	0.6	2.1	2.4	0.4	0.7	1.4
Engineering Constraints									
Total Length	miles	6.7	5.3	5.0	8.2	21.2	6.1	5.7	8.6
Prince William County	miles	6.7	4.3	4.1	8.2	17.4	6.1	5.5	5.4
Fauquier County	miles	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.2
Loudoun County	miles	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
Town of Haymarket	miles	0.0	1.0	0.9	0.0	0.0	0.0	0.2	0.0
Roads Crossings (total)	number	25	25	20	28	25	18	22	9
U.S. or State Highways (including on/off ramps)	number	16	20	16	16	7	13	16	2
County or Local Roads	number	9	5	4	12	18	5	6	7
Length Within VDOT Limited Access Right-of-Way	miles	1.5	2.4	3.2	1.5	0.1	1.0	1.5	0.0
Railroad Crossings	number	2	0	0	2	3	0	2	1
Existing Electric Facilities Crossed	number	0	1	1	0	15	1	0	3
Routing Opportunities									
Collocation Opportunities (total)	miles	4.4	5.0	4.5	5.7	14.3	2.8	4.5	2.9
	(percent)	(66)	(94)	(90)	(70)	(67)	(46)	(80)	(34)
Railroad	miles	0.4	0.0	0.0	0.4	1.1	0.0	1.4	0.6
Road	miles	3.6	5.0	4.5	5.1	1.7	2.5	3.1	0.9
Pipeline	miles	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Electric Line	miles	0.3	0.0	0.0	0.2	5.9	0.3	0.0	0.9

Haymarket Substation and 230 kV Transmission Line Project
Environmental Routing Study

TABLE 4-1 (cont'd)

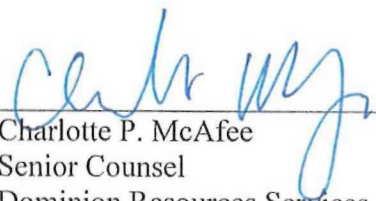
Haymarket Substation and 230 kV Transmission Line Project Environmental Features Comparison Table									
Environmental Features	Unit	Carver Road Alternative	I-66 Hybrid Alternative	I-66 Overhead Alternative	Madison Alternative	New Road Alternative	Northern Alternative	Railroad Alternative	Wheeler Alternative*
Electric Line and Road	miles	0.0	0.0	0.0	0.0	5.4	0.0	0.0	0.3
Road and Railroad	miles	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Length of Greenfield Route Required	miles	2.3	0.3	0.5	2.5	6.9	3.3	1.2	5.7
<p>a Impacts quantified for the Wheeler Alternative do not include impacts along the up to five miles of additional transmission line that would be required for the alternative to be electrically feasible. See section 2.1.8.</p> <p>b This includes Virginia DOT right-of-way and may include state-, county-, and locally owned roads.</p> <p>c Residences within 500 feet includes; Carver Road Alternative (82 houses and 140 multi-family units), I-66 Hybrid Alternative (128 houses and 442 multi-family units), I-66 Overhead Alternative (114 houses and 565 multi-family units), Madison Alternative (99 houses and 140 multi-family units), New Road Alternative (149 houses), Northern Alternative (254 houses and 311 multi-family units), Railroad Alternative (47 houses and 167 multi-family units), and Wheeler Alternative (50 houses).</p> <p>d Residences within 200 feet includes; Carver Road Alternative (12 houses and 24 multi-family units), I-66 Hybrid Alternative (27 houses and 165 multi-family units), I-66 Overhead Alternative (15 houses and 151 multi-family units), Madison Alternative (25 houses and 24 multi-family units), New Road Alternative (39 houses), Northern Alternative (31 houses and 126 multi-family units), Railroad Alternative (none), and Wheeler Alternative (15 houses).</p> <p>e Residences within 100 feet includes; Carver Road Alternative (2 houses and 12 multi-family units), I-66 Hybrid Alternative (13 houses and 94 multi-family units), I-66 Overhead Alternative (4 houses and 68 multi-family units), Madison Alternative (3 houses and 12 multi-family units), New Road Alternative (6 houses), Northern Alternative (none), Railroad Alternative (none), and Wheeler Alternative (2 houses).</p> <p>f Based on aerial photograph review.</p> <p>g The protected open space crossing length is 0.8 miles; 0.6 miles are new Prince William County open space easement.</p> <p>h Crossing length is calculated based on right-of-way crossing, not centerline crossing.</p> <p>i Historic districts and landscapes include a number of contributing and non-contributing resources. Unless a resource located within a historic district or landscape is individually recorded as NRHP-eligible or -listed, the resource was not counted in the constraints table</p> <p>j The crossing lengths represent the length of the route within a battlefield area, rather than the combined crossing lengths for each battlefield. This was done to avoid double counting in areas where the route crossed multiple battlefields in the same location.</p> <p>Note: All ROW acreages are based on the specifications below for each alternative: Carver Road – 100 feet wide from Gainesville to Haymarket. Interstate 66 Hybrid – 100 feet wide from Gainesville to Highway 29 Transition Station, then 50 feet wide underground thereafter. Interstate 66 Overhead – 100 feet wide from Gainesville to Haymarket. Madison – 100 feet wide from Gainesville to Haymarket. New Road – 100 feet wide from New Road to Haymarket to Wheeler. The in/out segment to Haymarket is 140 feet wide. Northern – 100 feet wide from Gainesville to Haymarket Railroad – 100 feet wide from Gainesville to Highway 29, then 120 feet wide thereafter. Wheeler – 100 feet from Wheeler to Haymarket.</p>									

Virginia Electric and Power Company
Case No. PUE-2015-00107
Virginia State Corporation Commission Staff
Fourth Set

The following response to Question No. 41 of the Fourth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 6, 2016 has been prepared under my supervision.

Jon Berkin
Routing Specialist
Natural Resource Group, LLC

The following response to Question No. 41 of the Fourth Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on May 6, 2016 has been prepared under my supervision as it pertains to legal matters.



Charlotte P. McAfee
Senior Counsel
Dominion Resources Services, Inc.

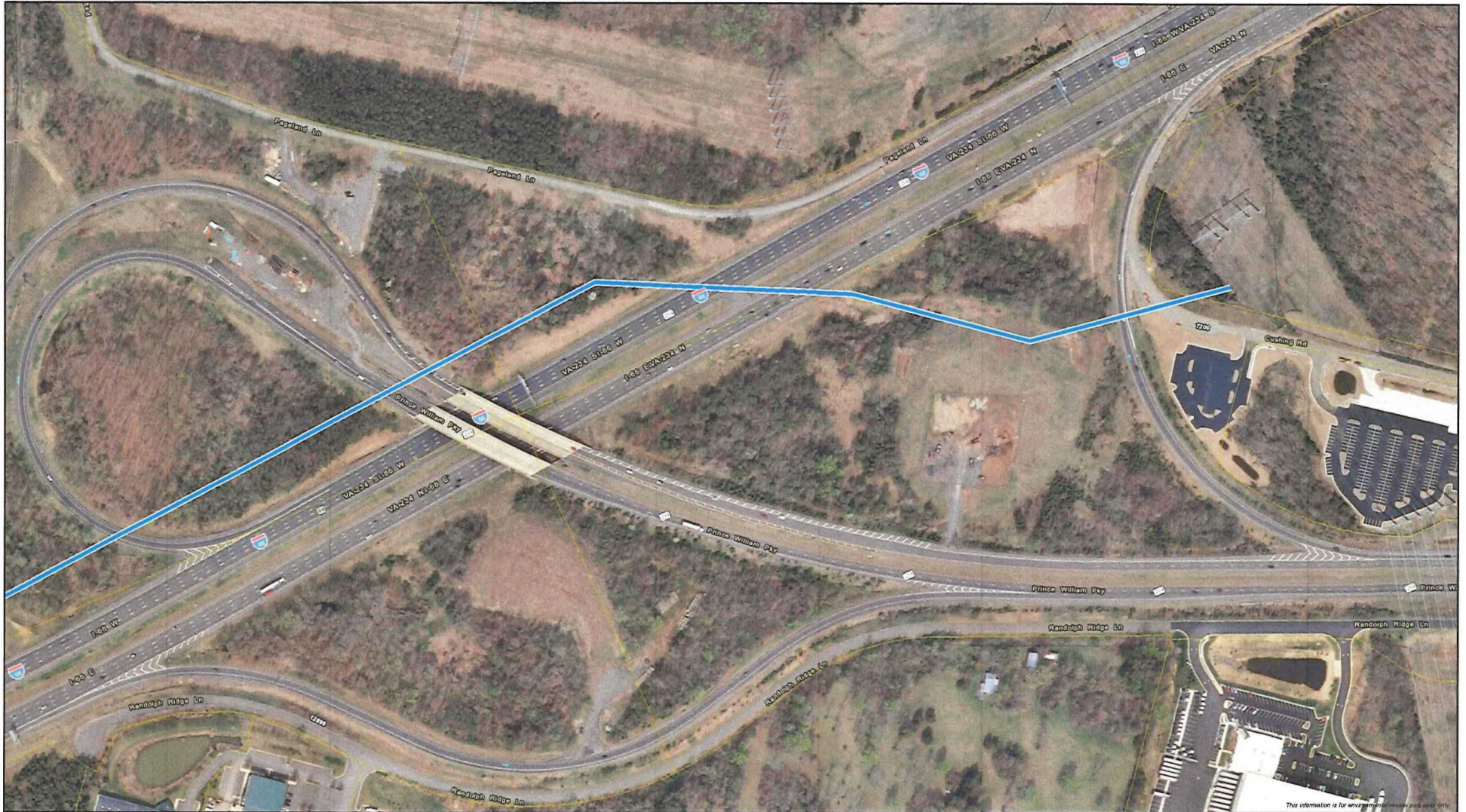
Question No. 41

Please identify and quantify the number of individual residences (apartments, townhomes and single family homes) and commercial facilities that directly face the I-66 Interstate corridor along the route of the proposed Project. Please include both the north and south sides of I-66.

Response:

The Company objects to this request because it requires original work. Notwithstanding and subject to the foregoing objection, the Company states as follows:

Dominion Virginia Power identified the number of individual residences and commercial facilities directly facing the proposed I-66 Overhead Route, both north and south of I-66. Dominion Virginia Power determined that there are 37 single family home residences, 249 townhome residences, and 13 commercial structures that face or abut the proposed Project route along I-66. Attachment Staff Set 4-41(a) shows the residences and commercial facilities that were identified and included in the counts provided above.



— I-66 Overhead Alternative
 — Parcel Boundary

0 250 500
 Feet

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Attachment Staff Set 4-41a
Residential and Commercial Buildings Along the I-66 Overhead Alternative
 Gainesville to Haymarket 230kV
 Transmission Line and Substation Project

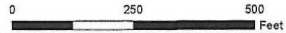




This information is for informational purposes only.



- I-66 Overhead Alternative
- Parcel Boundary

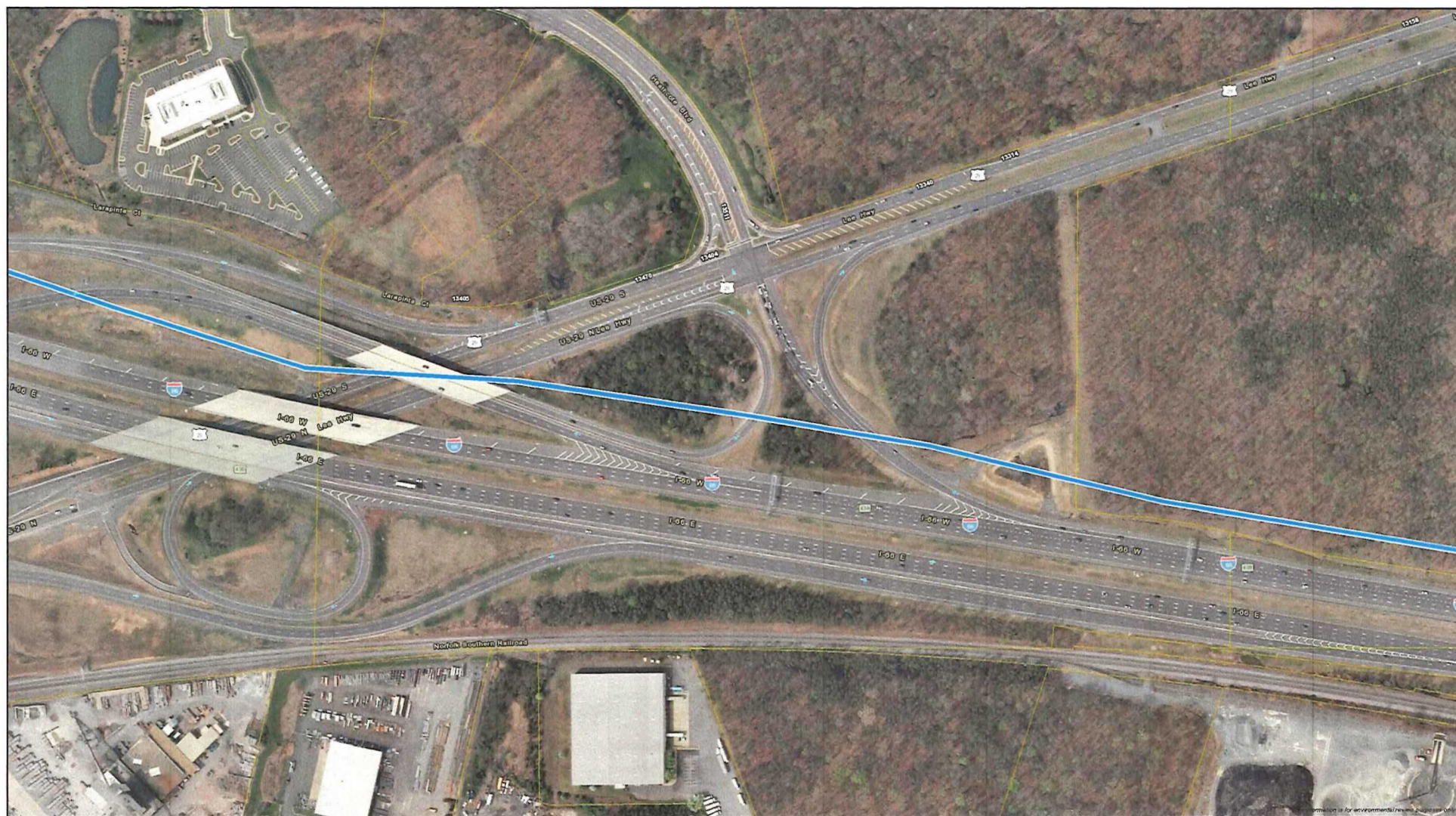


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Attachment Staff Set 4-41a
Residential and Commercial Buildings Along the I-66 Overhead Alternative
 Gainesville to Haymarket 230kV
 Transmission Line and Substation Project





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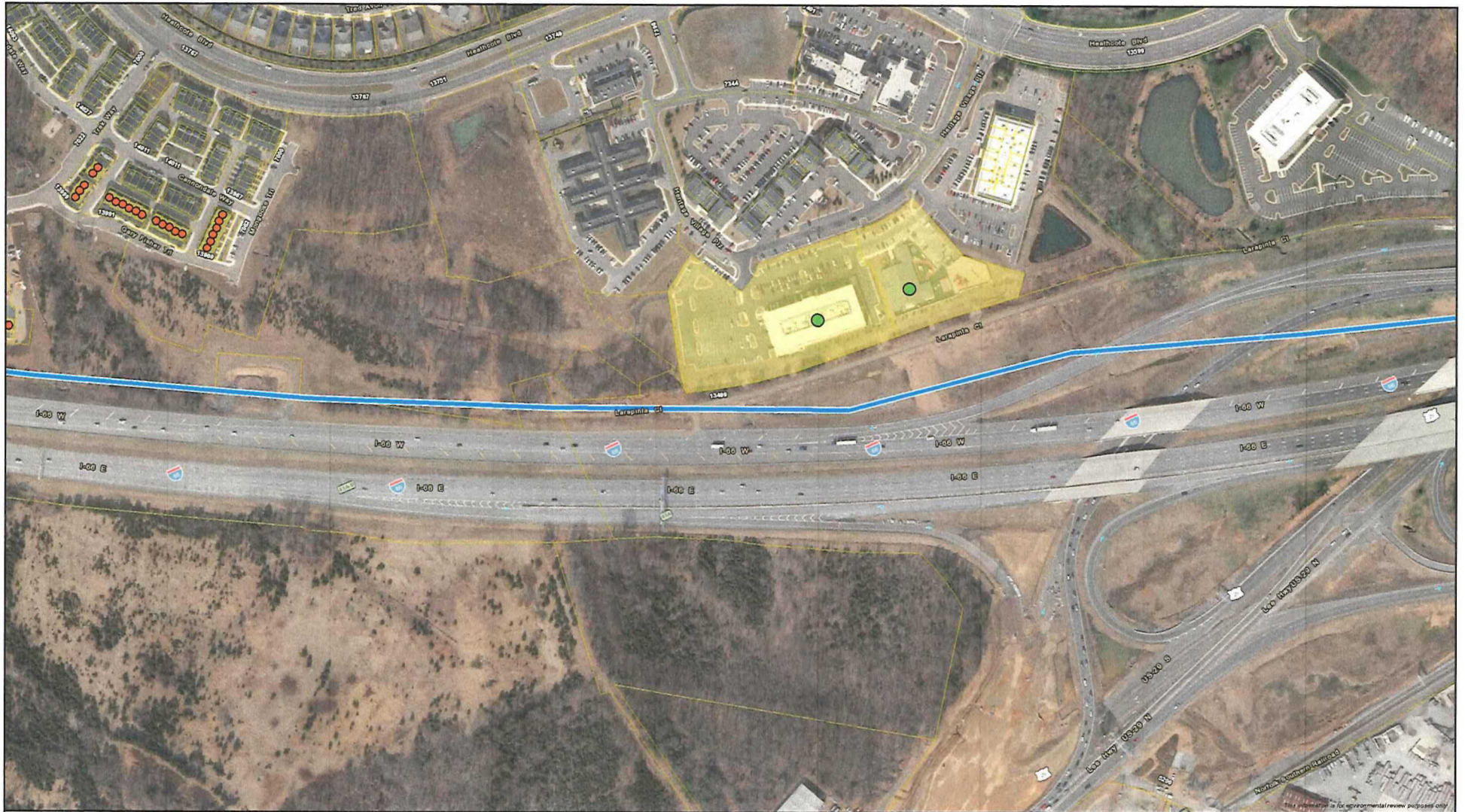


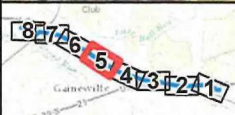
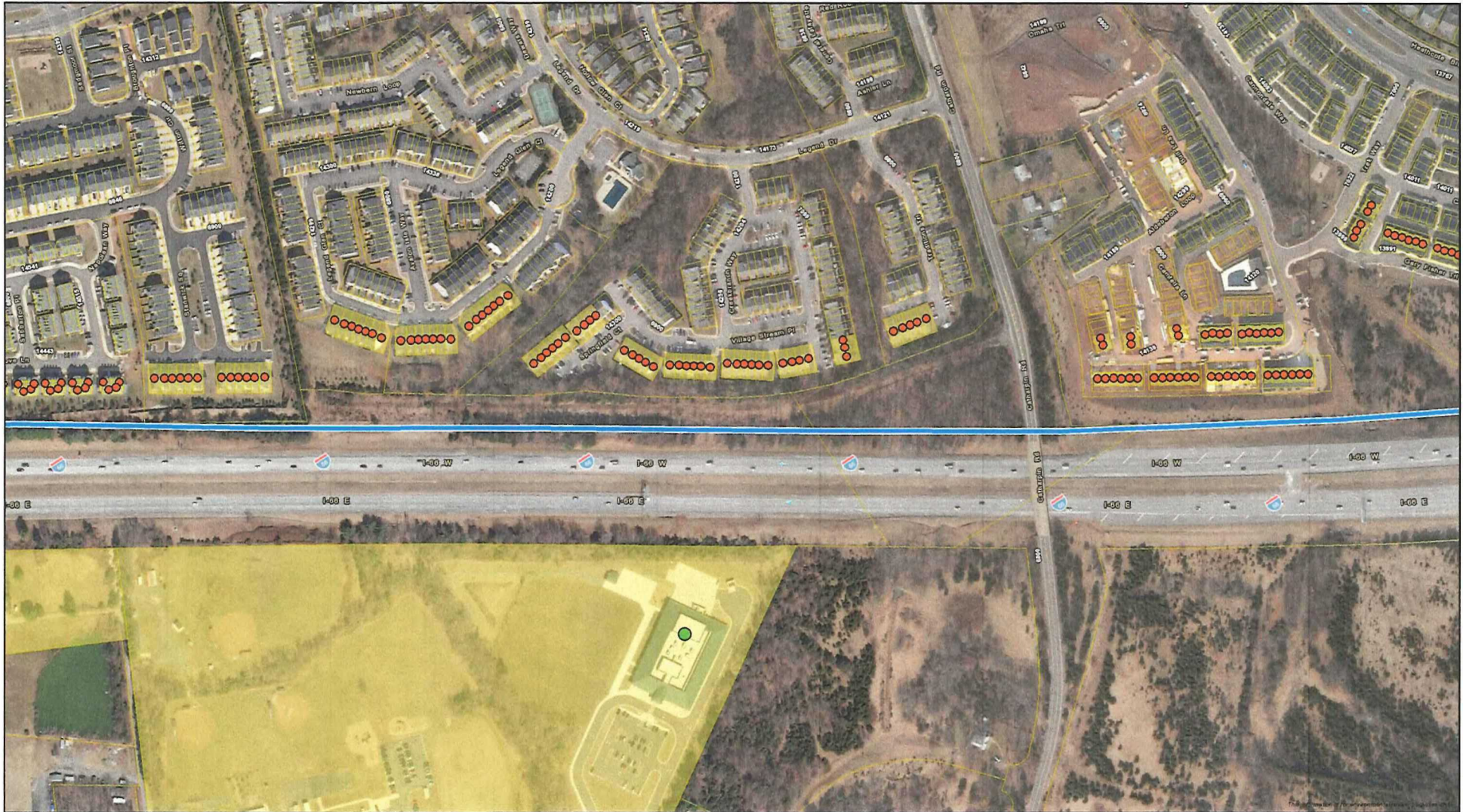
NATURAL
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GROUP

Attachment Staff Set 4-41a
Residential and Commercial Buildings Along the I-66 Overhead Alternative
Gainesville to Haymarket 230kV
Transmission Line and Substation Project



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- I-66 Overhead Alternative
- Parcel of Interest
- Parcel Boundary
- Commercial Building
- Residence - Townhome

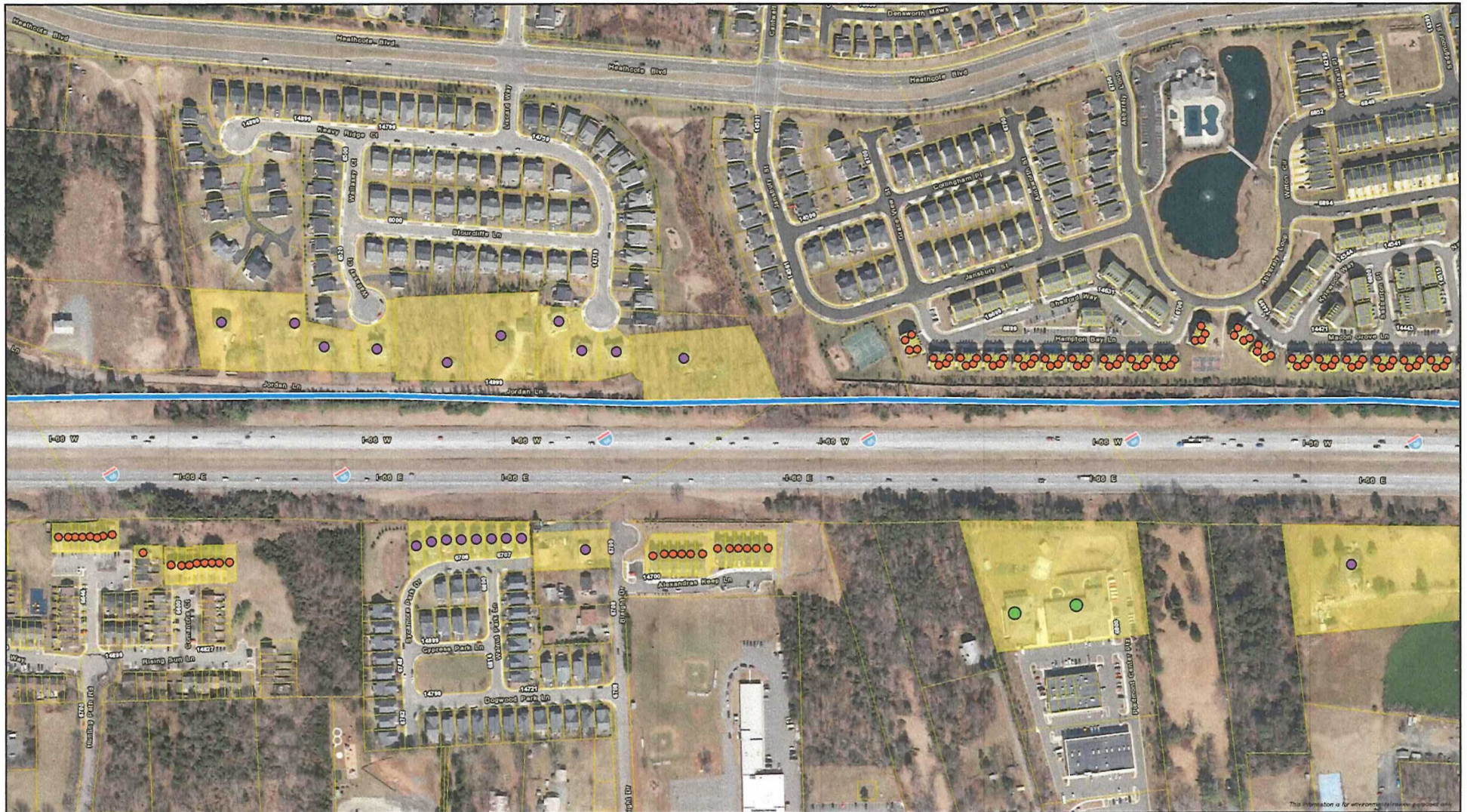
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Attachment Staff Set 4-41a
Residential and Commercial Buildings Along the I-66 Overhead Alternative
 Gainesville to Haymarket 230kV
 Transmission Line and Substation Project





- I-66 Overhead Alternative
- Parcel of Interest
- Parcel Boundary

- Commercial Building
- Residence - Single Family
- Residence - Townhome

0 250 500 Feet

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Attachment Staff Set 4-41a
Residential and Commercial Buildings Along the I-66 Overhead Alternative
 Gainesville to Haymarket 230kV
 Transmission Line and Substation Project





I-66 Overhead Alternative	Commercial Building	<p>Page 7 of 8</p>
Parcel of Interest	Residence - Single Family	
Parcel Boundary	Residence - Townhome	

0 250 500 Feet



Attachment Staff Set 4-41a
Residential and Commercial Buildings Along the I-66 Overhead Alternative
 Gainesville to Haymarket 230kV
 Transmission Line and Substation Project





— I-66 Overhead Alternative ● Commercial Building
 Parcel of Interest
 Parcel Boundary

0 250 500 Feet

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Attachment Staff Set 4-41a
Residential and Commercial Buildings Along the I-66 Overhead Alternative
 Gainesville to Haymarket 230kV
 Transmission Line and Substation Project



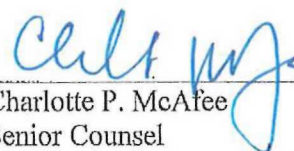
Virginia Electric and Power Company
Case No. PUE-2015-00107
Virginia State Corporation Commission Staff
Third Set

The following response to Question No. 3-24 of the Third Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on April 19, 2016 has been prepared under my supervision.



Jon Berkin
Routing Specialist
Natural Resource Group, LLC

The following response to Question No. 3-24 of the Third Set of Interrogatories and Requests for Production of Documents Propounded by the Virginia State Corporation Commission Staff received on April 19, 2016, has been prepared under my supervision as it pertains to legal matters.



Charlotte P. McAfee
Senior Counsel
Dominion Resources Services, Inc.

Question No. 24

In the Company's response to Staff Interrogatory No. 2-22, a process of evaluation was described; however, no quantitative analysis was offered. Please quantify in numerical terms the number of Homes and Commercial Structures that will continue to be visually impacted by the I-66 Overhead Line and its towers from the proposed location of the transition station to the Haymarket Substation once construction is completed.

Response:

The Company objects on the basis that this request requires original work. The Company has not conducted an analysis of the number of homes and commercial structures that "continue to be visually impacted by the I-66 Overhead Line....," and to do so would be voluminous and

unduly burdensome as further explained below. The Company also objects to this request to the extent that it seeks information that is not relevant or reasonably calculated to lead to the admission of relevant information in this proceeding.

Notwithstanding and subject to the foregoing objections, the Company provides the following response.

The Company's response to Staff Interrogatory No. 2-22 presented a Visual Impact Analysis Matrix of the residences within 100, 200, and 500 feet of the Overhead and Hybrid Routes for the Gainesville to Haymarket 230 kV Transmission Line and Substation Project. The Company defined the significance of visual impacts as a product of the sensitivity of affected resources and the magnitude of change associated with the Project. The analysis concluded that although the I-66 Overhead Alternative would have a "slight/moderate" visual impact on the closest residences, it would be generally visually compatible with the existing landscape.

The number of single family residential, multi-family residential, and commercial structures within 500 feet of the centerline of the I-66 Overhead Alternative Route and located between the proposed locations of the switching/terminal station for the I-66 Hybrid Alternative Route and the Haymarket Substation are presented in Table 1 below. These structures also are depicted on the map Attachment Staff Set 3-24. Please note proximity to the proposed project does not necessarily mean the residence or commercial structure will be "visually impacted" by proposed project.

<p align="center">Table 1</p> <p align="center">Gainesville to Haymarket 230kV Transmission Line Project</p> <p align="center">Residential and Industrial/Commercial Structure Counts Along the I-66 Overhead Alternative Route</p> <p align="center">Between the Proposed Switching/Terminal Station and Haymarket Substation</p>		
Residential and Industrial/Commercial Structures	Unit	Count^a
Single family Residential		
Single Family Residential within 500 feet	number	118
Single Family Residential within 200 feet	number	15
Single Family Residential within 100 feet	number	4
Multi-unit Residential		
Multi-unit Residential within 500 feet ^a	number	110
Multi-unit Residential within 200 feet	number	32
Multi-unit Residential within 100 feet	number	17
Industrial/Commercial Structures		
Industrial/Commercial within 500 feet	number	12
Industrial/Commercial within 200 feet	number	3
Industrial/Commercial within 100 feet	number	1
^a The structure counts for each buffer distance are cumulative. Total structure counts are equal to the number of structures within 500 feet of the route centerline. The structure counts presented in this table in some cases differ from those presented in Table 4-1 of the Environmental Routing Study. The counts presented in this table are based on more recent aerial photography which became available after the completion of the Environmental Routing Study.		
^b Multi-unit Residential structures represent building counts, not individual dwelling units. The multi-unit residential category includes apartments, condos, and townhomes.		

As indicated in Table 1, there are a total of 228 single family and multi-unit residential and 12 commercial structures within 500 feet of the centerline of the I-66 Overhead Alternative Route between the proposed locations of the switching/terminal station for the I-66 Hybrid Alternative Route and the Haymarket Substation.

It would be extremely labor intensive, costly, and time consuming to attempt to quantify the number of residences and commercial structures that would be "visually impacted" by the I-66 Overhead Alternative transmission line and its associated structures (the Project). In addition, it is debatable whether such an analysis would yield a meaningful and measureable result, especially since the assessment of visual impacts is not a completely objective metric.

This analysis would require the Company to obtain recent LIDAR data for the project area that included the heights of all surrounding structures in the vicinity of the project area. The Company would next have to construct an analytical model using geographic information software that would attempt to quantify the visual impacts on each structure in the project's viewshed. This model would also have to include the transmission structure heights, the heights of the wires between the structures, the current ground elevation, and the heights and locations of other features in the visual landscape (e.g., the sound walls associated with I-66, trees, signage, etc.).

Current LIDAR data is not available for Prince William County. Therefore, the Company would need to collect this data by flying the route and using specialized equipment designed to acquire the LIDAR data. In addition, it is uncertain whether such a model as described above would be effective, since it would have to be precisely calibrated and require the input of a significant amount of data. It would take several months to acquire the appropriate data and then develop, run, and test such a model.

In addition, as illustrated by the map included as Attachment Staff Set 3-24, this segment of the I-66 Overhead Alternative Route between the proposed locations of the transition station for the I-66 Hybrid Alternative Route and the Haymarket Substation is heavily developed and already possesses extensive existing infrastructure features. The local viewshed already is dominated by both horizontal features (e.g., I-66, sound walls, etc.) and vertical features (e.g., road signs, interstate and off-ramp lights, etc.). Consequently, the visual effect of the Project on individual structures cannot be readily separated from the cumulative effect of the other development in the area. Given the extent of this development, the visual effect of the Project would be incremental and, as noted in the Company's response to Staff Interrogatory No. 2-22, would not contrast with the existing aesthetic conditions.

Notwithstanding and subject to the foregoing objections, the Company provides the following response.

The economic development websites for Prince William and surrounding counties (Loudoun, Stafford, Fauquier, and Fairfax) provide details and locations of potential data center locations as described below, however, as evidenced by the developments driving the Company's proposed Haymarket project in Prince William County and Poland Road project in Loudoun County, any location that is properly zoned for "data center use" is a potential data center location.

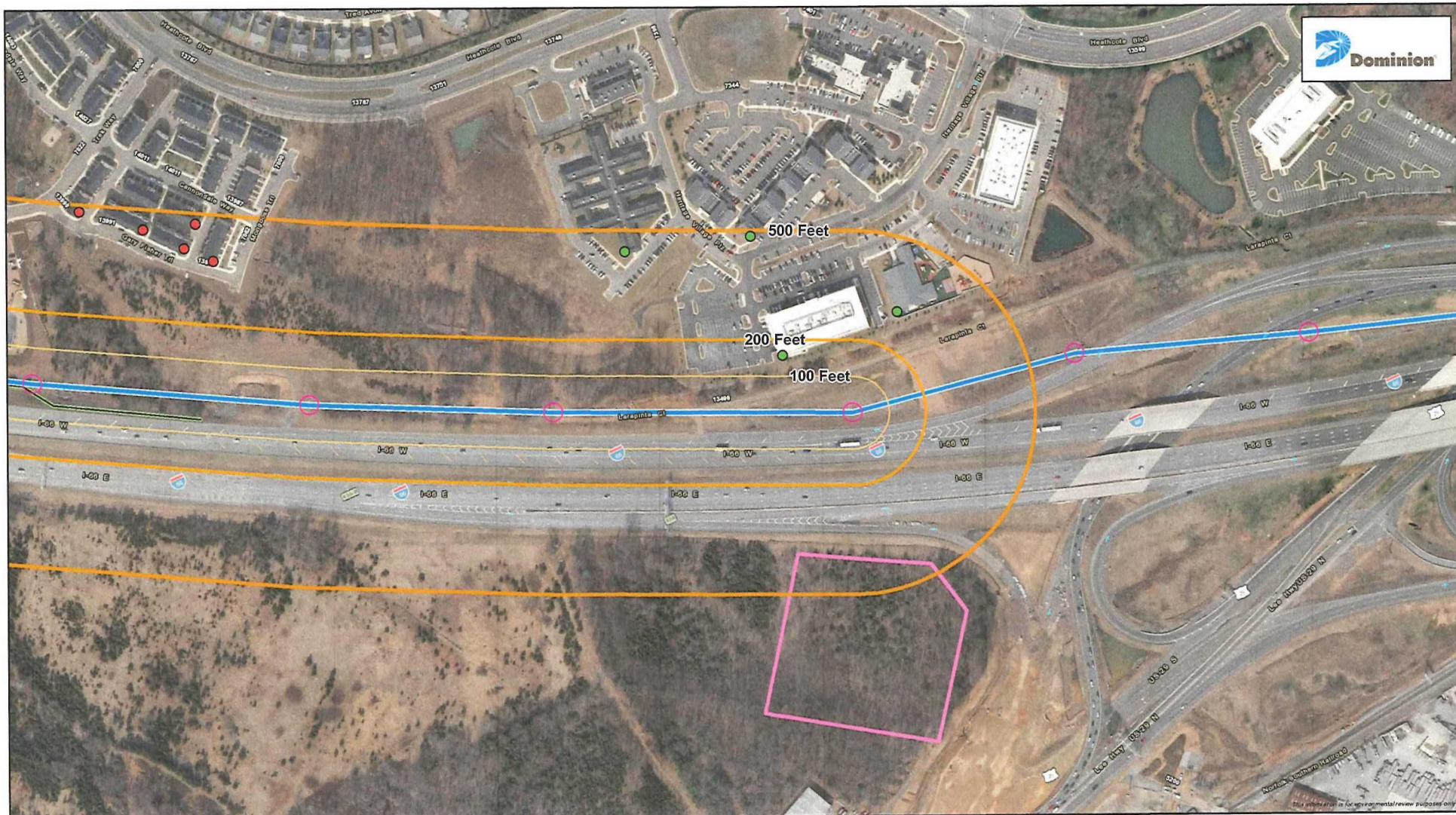
The Prince William County Department of Economic Development maintains a list of key development sites within Prince William County, organized by industry with site highlights and features, at the following website: <http://www.pwcecondev.org/key-development-sites>.

Loudoun County Economic Development offers a downloadable file of "a few of our most prominent data center sites" at the following website:
<https://biz.loudoun.gov/index.aspx?nid=115>.

The Stafford Economic Development Authority maintains a list of data center opportunities at the following website: <http://www.gostaffordva.com/real-estate-development-areas/data-center-initiative/>, including a Dominion Virginia Power "Certified site" at Quantico Corporate Center.

Fauquier County Department of Economic Development maintains a list of available space and land at the following website: <http://www.fauquierbusiness.com/available-space-and-land/>.

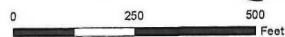
The Fairfax County Economic Development Authority website, <http://www.fairfaxcountypeda.org/>, does not contain a readily accessible list of available sites, however, the Virginia Economic Development Partnership's website, <http://www.yesvirginia.org/>, provides a search of available properties throughout the Commonwealth.



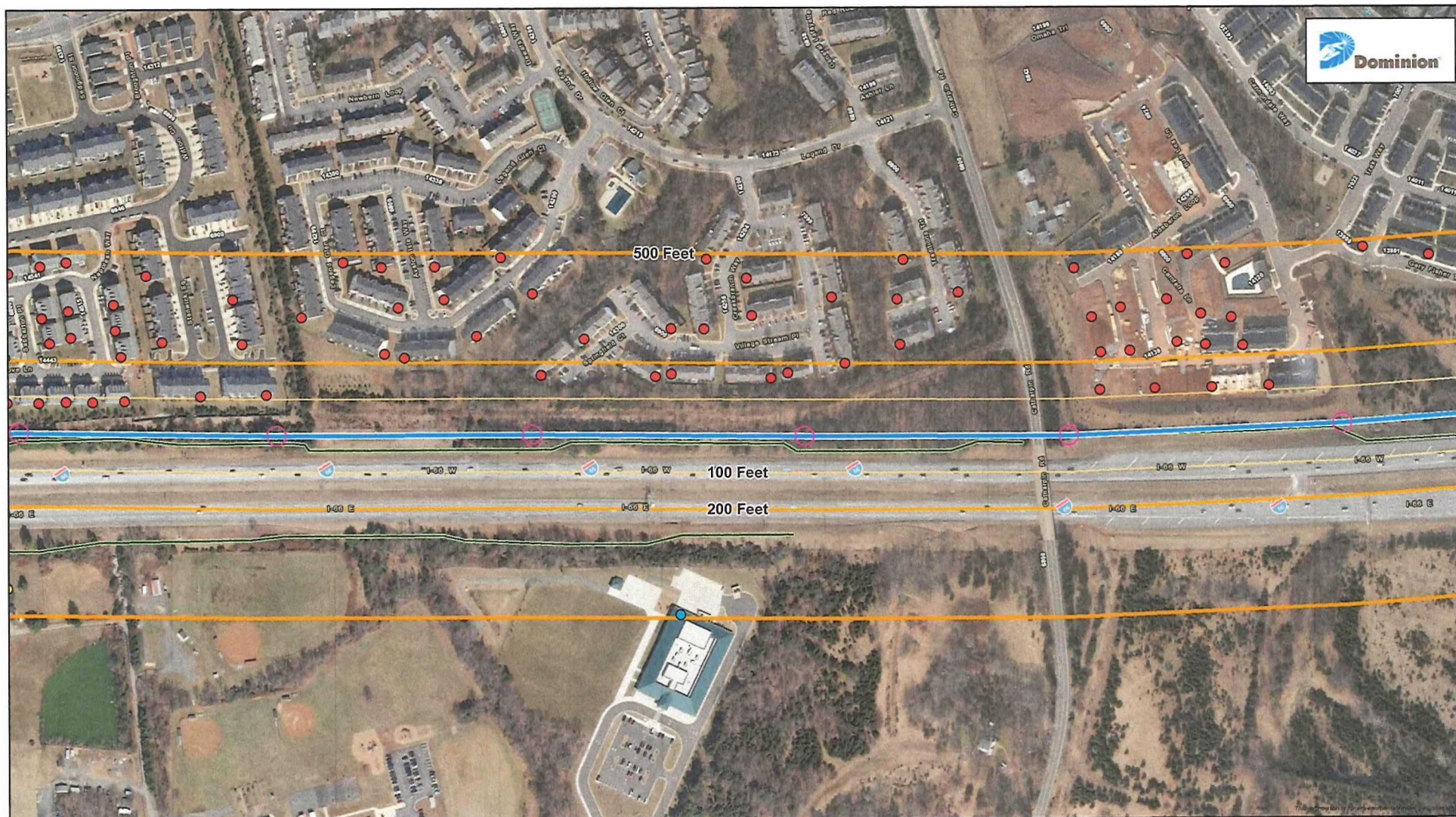
- I-66 Overhead Alternative
- Proposed Tower Location
- Proposed VDOT Sound Barrier

Route Buffer	Structure Type
100 Feet	Multi-unit Residential
200 Feet	Industrial/Commercial
500 Feet	

- Proposed Switching/Terminal Station for I-66 Hybrid Alternative



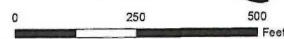
Attachment Staff Set 3-24
Residential and Commercial Buildings Located Between
the Switching/Terminal Station and Haymarket Substation
Gainesville to Haymarket 230kV
Transmission Line and Substation Project



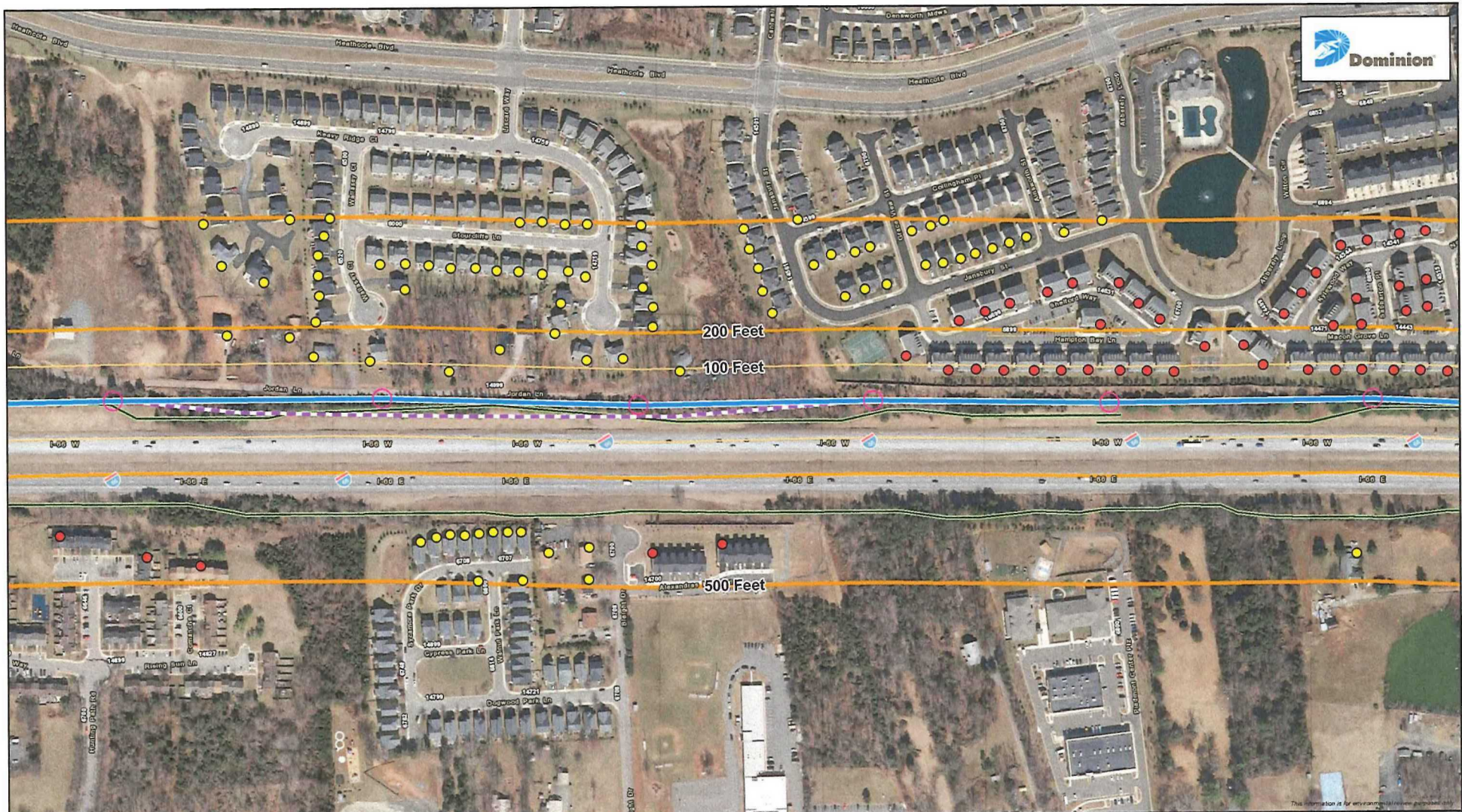
- I-66 Overhead Alternative
- Proposed Tower Location
- Proposed VDOT Sound Barrier

Route Buffer	Structure Type
100 Feet	Multi-unit Residential
200 Feet	Single Family Residential
500 Feet	School

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Residential and Commercial Buildings Located Between
the Switching/Terminal Station and Haymarket Substation
Gainesville to Haymarket 230kV
Transmission Line and Substation Project



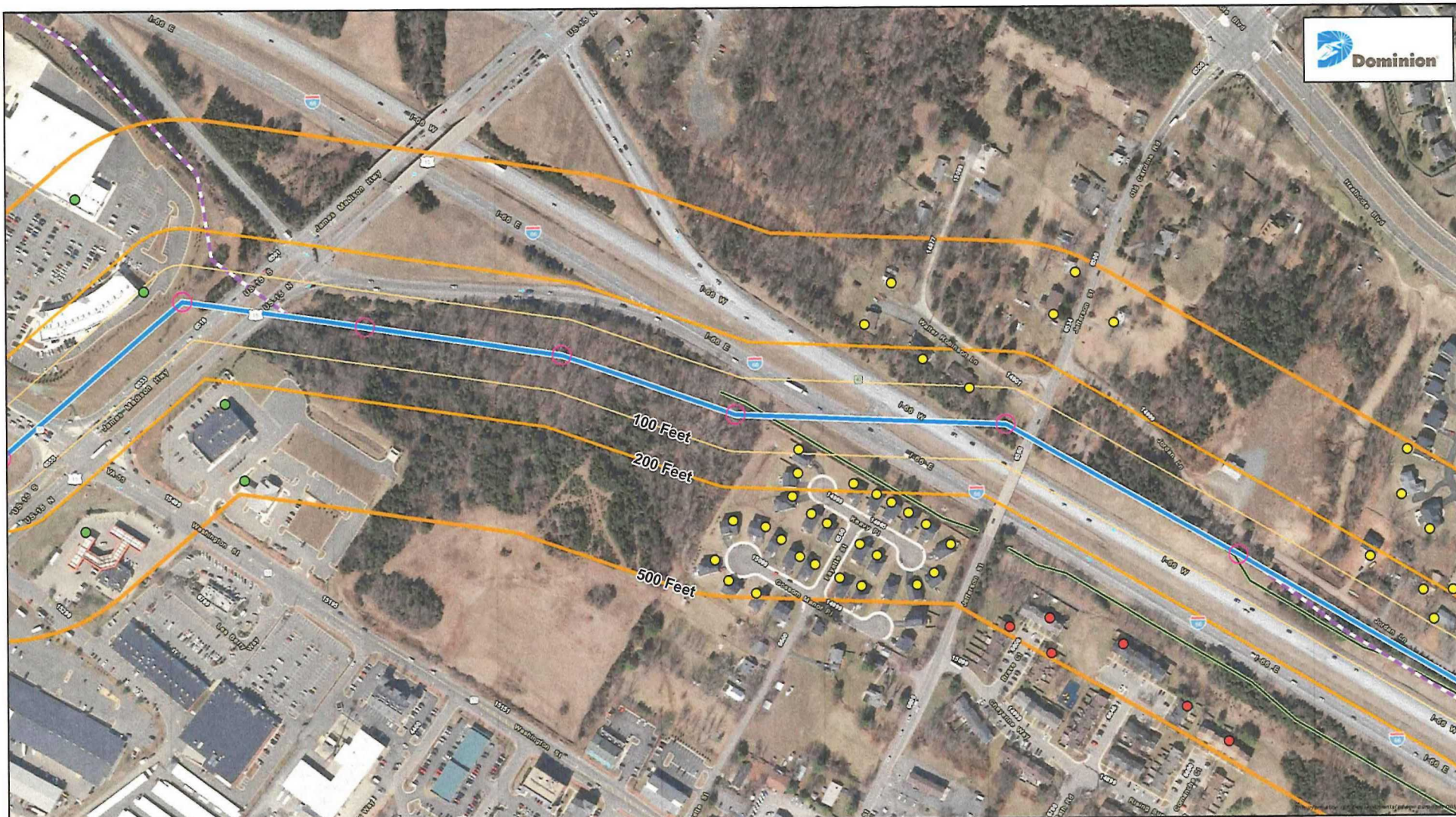
<ul style="list-style-type: none"> — I-66 Overhead Alternative ○ Proposed Tower Location - - - Route Variation - - - Proposed VDOT Sound Barrier 	<table border="0"> <tr> <th colspan="2">Route Buffer</th> <th colspan="2">Structure Type</th> </tr> <tr> <td></td> <td>100 Feet</td> <td>●</td> <td>Multi-unit Residential</td> </tr> <tr> <td></td> <td>200 Feet</td> <td>●</td> <td>Single Family Residential</td> </tr> <tr> <td></td> <td>500 Feet</td> <td></td> <td></td> </tr> </table>	Route Buffer		Structure Type			100 Feet	●	Multi-unit Residential		200 Feet	●	Single Family Residential		500 Feet		
Route Buffer		Structure Type															
	100 Feet	●	Multi-unit Residential														
	200 Feet	●	Single Family Residential														
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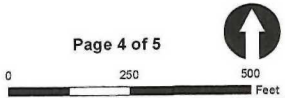
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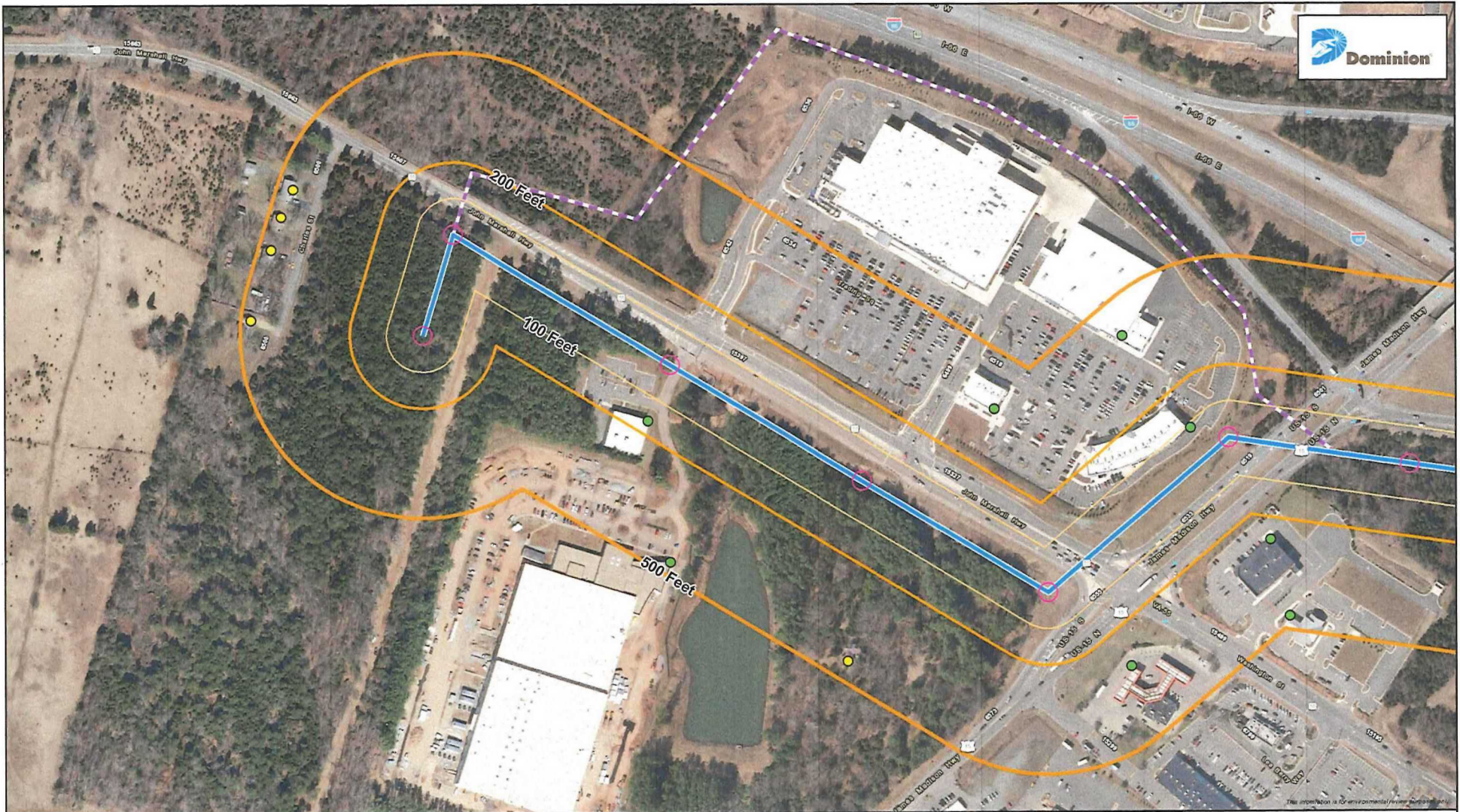


- I-66 Overhead Alternative
- Proposed Tower Location
- Route Variation
- Proposed VDOT Sound Barrier

- | Route Buffer | Structure Type |
|--------------|---------------------------|
| 100 Feet | Multi-unit Residential |
| 200 Feet | Single Family Residential |
| 500 Feet | Industrial/Commercial |



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the Switching/Terminal Station and Haymarket Substation
Gainesville to Haymarket 230kV
Transmission Line and Substation Project



<p>I-66 Overhead Alternative</p> <p>Proposed Tower Location</p> <p>Route Variation</p>	<p>Route Buffer</p> <p>100 Feet</p> <p>200 Feet</p> <p>500 Feet</p>	<p>Structure Type</p> <p>Single Family Residential</p> <p>Industrial/Commercial</p>
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0 250 500 Feet

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Attachment Staff Set 3-24
Residential and Commercial Buildings Located Between
the Switching/Terminal Station and Haymarket Substation
Gainesville to Haymarket 230kV
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