MVP Southgate Project

Docket No. CP19-XX-000

Resource Report 8 – Land Use, Recreation and Aesthetics

November 2018

MVP Southgate Project
Resource Report 8 – Land Use, Recreation and Aesthetics

Resource Report 8 Filing Requirements	
Information	**Location in Resource Report**
Minimum Filing Requirements	
1. Classify and quantify land use affected by: (§380.12(j)(1))	Section 8.2
a. Pipeline construction and permanent rights-of-way (§380.12(j)(1));	Sections 8.2.1.1
b. Extra work / staging areas (§380.12(j)(1));	Section 8.2.1.3
c. Access roads (§380.12(j)(1));	Section 8.2.1.4
d. Pipe and contractor yards (§380.12(j)(1)); and	Section 8.2.1.5
e. Aboveground facilities (§380.12(j)(1)). • For aboveground facilities, provide the acreage affected by construction and operation, and the acreage leased or purchased; and describe the use of the land not required for operation.	Section 8.2.2 and Table 8.2-2
2. Identify by milepost all locations where the pipeline right-of-way would at least partially coincide with existing right-of-way, where it would be adjacent to existing rights-of-way, and where it would be outside of existing right-of-way. (§380.12 (j)(1))	Resource Report 1, Appendix 1-E1
3. Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way. (§380.12 (j)(1))	Resource Report 1, Appendix 1-C1
4. Summarize the total acreage of land affected by construction and operation of the project. (§380.12 (j)(1)) • This applies to offshore as well.	Table 8.2-2
5. Identify by milepost all planned residential or commercial / business development and the time frame for construction. (§380.12 (j)(3)) • Identify all planned development crossed or within 0.25 mile of proposed facilities.	Section 8.3.1
6. Identify by milepost special land uses (e.g., maple sugar stands, specialty crops, natural areas, national and state forests, conservation land, etc.). (§380.12 (j)(4)) • This applies to the offshore as well, where it may include oyster and other shellfish beds, special anchoring or lightering areas, and shipping lanes.	Sections 8.2.3.1, 8.2.3.9 and 8.4
7. Identify by beginning milepost and length of crossing all land administered by Federal, state, or local agencies, or private conservation organizations. (§380.12(j)(4)) • This applies to the offshore as well.	Section 8.4 and Table 8.4-1
8. Identify by milepost all natural, recreational, or scenic areas and all registered natural landmarks crossed by the project. (§380.12(j)(4&6)) • This applies to the offshore as well. • Identify areas within 0.25 mile of any proposed facility.	Section 8.4 and Table 8.4-1
9. Identify all facilities that would be within designated coastal zone management areas. Provide a consistency determination or evidence that a request for a consistency determination has been filed with the appropriate state agency. (§380.12(j)(4&7))	Section 8.4.3
10. Identify by milepost all residence that would be within 50 feet of the construction right-of-way or extra work area. (§380.12(j)(5))	Section 8.3.2 and Table 8-D in Appendix 8-D

Resource Report 8 Filing Requirements	
Information	**Location in Resource Report**
11. Identify all designated or proposed candidate National or State Wild and Scenic Rivers crossed by the project. (§380.12(j)(6))	Section 8.4.1
12. Describe any measures to visually screen aboveground facilities, such as compressor stations. (§380.12(j)(11))	Section 8.5.2
13. Demonstrate that applications for rights-of-way or other proposed land use have been or soon will be filed with Federal land-managing agencies with jurisdiction over land that would be affected by the project. (§380.12 (j)(12))	Section 8.6
Additional Information Often Missing and Resulting in Data Requests	
14. Identify all buildings within 50 feet of the construction right-of-way or extra work areas.	Table 8-D in Appendix 8-D
15. Describe the management and use of all public lands that would be crossed.	Section 8.4 and Table 8.4-1
16. Provide a list of landowners by milepost or tract number that corresponds to information on alignment sheets.	Resource Report 1, Appendix 1-M (CUI//PRIV)
17. Provide a site-specific construction plan for residences within 25 feet of construction or as requested by Federal Energy Regulatory Commission staff. .	Appendix 8-C

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LAND USE, RECREATION AND AESTHETICS
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LIST OF ACRONYMS AND ABBREVIATIONS

AC	alternate current
ATWS	additional temporary workspace
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
EDR	Environmental Data Resources, Inc.
FERC or Commission	Federal Energy Regulatory Commission
FERC Plan	*FERC (2013) Upland Erosion Control, Revegetation, and Maintenance Plan*
FERC Procedures	FERC (2013) *Wetland and Waterbody Construction and Mitigation Procedures*
FRPP	Farm and Ranchland Protection Program
FSA	Farm Service Agency
GRP	Grassland Reserve Program
MLV	mainline valve
MP	milepost
Mountain Valley	Mountain Valley Pipeline, LLC
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRI	Nationwide Rivers Inventory
Project or Southgate Project	MVP Southgate Project
U.S.	United States
USDA	U.S. Department of Agriculture
VOF	Virginia Outdoors Foundation
WRP	Wetlands Reserve Program

RESOURCE REPORT 8
LAND USE, RECREATION AND AESTHETICS

8.1 INTRODUCTION

Mountain Valley Pipeline, LLC ("Mountain Valley") is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission ("FERC" or "Commission") pursuant to Section 7(c) of the Natural Gas Act to construct and operate the MVP Southgate Project ("Southgate Project" or "Project"). The Southgate Project facilities will be located in Pittsylvania County, Virginia and Rockingham and Alamance counties, North Carolina. See Resource Report 1 (General Project Description) for additional Project information.

8.1.1 Environmental Resource Report Organization

Resource Report 8 is prepared and organized according to the FERC *Guidance Manual for Environmental Report Preparation* (February 2017). This report is organized into five major sections and a separate section listing the sources used to prepare this report. Section 8.2 describes existing land uses in the Southgate Project area and the potential impacts associated with construction and operation of the Project. The Project area consists of the limits of disturbance for all workspace areas associated with the Project. Residential and commercial areas, including planned developments within 0.25 mile of the Project, are described in Section 8.3. Public and recreational areas within 0.25 mile of the Project are described in Section 8.4. Visual resources are discussed in Section 8.5. Applications for rights-of-way are discussed in Section 8.6.

8.2 LAND USE

Land use classification for the Southgate Project area was completed using information gathered and observations made from field surveys conducted in 2018, discussions with landowners, and through interpretation of 2018 Project aerial imagery. Field surveys were conducted in 2018 within a 300 to 400–foot-wide survey corridor associated with the pipeline, access roads, additional temporary workspace ("ATWS"), contractor yards, and aboveground facility sites where land access was granted. The Project has completed field surveys along approximately 77 percent of the pipeline alignment. The remainder of the alignment has either not been surveyed or is located within parcels where survey access permission has not been granted. Land use types along the Project route are herein classified into the following eight classifications based on predominant land uses (special land uses discussed below in Section 8.2.3.9 are subsets of these classifications):

- Upland Forest / woodland: upland forest not being used for specific commercial purposes;
- Upland Open land: utility rights-of-way, open field, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land;
- Agricultural: cultivated land (e.g., tobacco, soybeans, hay, corn);
- Commercial / industrial: manufacturing or industrial plants, paved areas, landfills, mines, quarries electric power or natural gas utility facilities; developed areas, roads, railroads and railroad yards, and commercial or retail facilities;
- Wetland: palustrine forested, palustrine scrub-shrub, and palustrine emergent wetlands as identified in Resource Report 2;
- Silviculture: wooded lands being managed for forest products (i.e., pine plantations);

- Residential: existing developed residential areas and planned residential developments. This may include large developments, low, medium, and high density residential neighborhoods, urban and suburban residential, multi-family residences, ethnic villages, residentially zoned areas that have been developed or short segments of the route at road crossings with homes near the route alignment; and
- Open water: field delineated waterbodies with a bank width of greater than six feet, and waterbodies visible on aerial photography where field delineation has not been completed. Major waterbody crossings greater than 100 feet wide are discussed in detail in Resource Report 2.

A summary of the Southgate Project's overall land impacts is provided in Resource Report 1.

8.2.1 Pipeline Facilities

8.2.1.1 Temporary Workspace and Permanent Right-of-Way

The typical construction right-of-way width for the Southgate Project will be 100 feet. Following construction, the Project will retain 50 feet of new permanent right-of-way, and the remaining 50 feet of construction right-of-way will be restored to pre-construction conditions. The Interstate Natural Gas Association of America recommends the use of a 95-foot baseline width and increasing or decreasing this baseline width for special conditions (Gulf Interstate Engineering 1999). The Project's 100-foot construction right-of-way width will allow for construction in steep terrain and for full right-of-way topsoil segregation in agricultural areas. Workspace within wetlands will be reduced to 75 feet to minimize impacts in accordance with the FERC *Wetland and Waterbody Construction and Mitigation Procedures* ("FERC Procedures") (2013). Specific deviations from the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* ("FERC Plan") (2013) and the FERC Procedures are described in Resource Report 1 (General Project Description) and Resource Report 2 (Water Use and Quality).

Following construction, vegetation within the 50-foot permanent right-of-way will be maintained in an herbaceous state, except in wetlands and locations adjacent to perennial waterbodies, where maintenance clearing of woody vegetation will be limited to a 10-foot-wide strip centered directly over the pipeline (with selective removal of trees within 15 feet of either side of the pipeline with roots that could compromise the integrity of the pipeline coating). Tree clearing and vegetation maintenance within the permanent right-of-way will result in the conversion of forested upland to open land within forested upland portions of the permanent right-of-way and the permanent conversion of forested wetland to emergent or scrub-shrub wetland where the permanent right-of-way is maintained across forested wetlands. Pasture, hayfields, and row crop production will be allowed to continue in agricultural areas; therefore, permanent conversion of existing agricultural lands to a different land use is not anticipated.

Pipeline right-of-way workspace configurations and dimensions are indicated on the alignment sheets, as well as on the typical, conceptual right-of-way configuration drawings, both of which are included in Resource Report 1. Table 8.2-1 identifies land uses crossed by the pipeline (including percent of total Project) and Table 8.2-2 identifies acreage affected by land use type during construction and operation of the Southgate Project. Land uses crossed by milepost ("MP") along the pipeline are identified in Table 8-A in Appendix 8-A.

Table 8.2-1

Land Uses Crossed by the Southgate Project Pipeline

Facility	County, State	Upland Forest / Woodland a/		Upland Open Land b/		Agricultural c/		Commercial / Industrial d/		Wetland e/		Silviculture f/		Residential g/		Open Water h/		Total i/
		Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
H-605 Pipeline	Pittsylvania, VA	0.3	75	0.0	0	0.1	25	0.0	0	0.0	0.0	0.0	0	0.0	0	0.0	0	0.4
H-650 Pipeline	Pittsylvania, VA	12.2	47	7.8	30	4.3	16	0.2	1	1.2	4.6	0.1	0	0.2	1	0.1	0	26.1
	Rockingham, NC	14.6	55	7.0	26	3.4	13	0.4	2	0.6	2.3	0.2	1	0.1	0	0.2	1	26.5
	Alamance, NC	11.1	54	5.3	26	2.8	14	0.3	1	0.4	2.0	0.3	1	0.2	1	0.1	0	20.5
TOTAL		38.2	52	20.1	27	10.6	14	0.9	1	2.2	3.0	0.6	1	0.5	1	0.4	1	73.5

Source: Project aerial photography April 2018

a/ Upland forest not being used for specific commercial purposes.

b/ Utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land.

c/ Cultivated land (e.g., tobacco, soybeans, hay, corn).

d/ Manufacturing or industrial plants, paved areas, landfills, mines, quarries, electric power or natural gas utility facilities; developed areas, roads, railroads and railroad yards, and commercial or retail facilities.

e/ Palustrine forested, Palustrine scrub-shrub, and Palustrine emergent wetlands as identified in Resource Report 2.

f/ Wooded lands being managed for forest products (i.e., pine plantations).

g/ Existing developed residential areas and planned residential developments. This may include large developments, low, medium, and high density residential neighborhoods, urban and suburban residential, multi-family residences, ethnic villages, residentially zoned areas that have been developed or short segments of the route at road crossings with homes near the route alignment.

h/ Field delineated waterbodies with a bank width of greater than six feet, and waterbodies visible on aerial photography where field delineation has not been completed.

i/ Sum of addends may not equal the totals due to rounding.

Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed Southgate Project

Facility County, State	Upland Forest / Woodland a/		Upland Open Land b/		Agricultural Land c/		Commercial / Industrial d/		Wetland e/		Silviculture f/		Residential g/		Open Water h/		Total i/	
	Construction j/	Operation k/	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
H-605 Pipeline Right-of-Way l/	**3.3**	**1.7**	**0.5**	**0.2**	**1.3**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**5.1**	**2.6**
Pittsylvania, VA	3.3	1.7	0.5	0.2	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**5.1**	**2.6**
H-650 Pipeline Right-of-Way l/	**427.2**	**219.1**	**244.0**	**122.2**	**123.0**	**62.3**	**11.1**	**5.7**	**19.5**	**5.2**	**7.9**	**3.8**	**7.5**	**3.4**	**3.0**	**0.0**	**843.1**	**421.6**
Pittsylvania, VA	136.4	68.6	96.3	48.3	52.0	26.3	2.6	1.3	11.0	2.5	1.3	0.6	2.8	1.2	1.3	0.0	**303.7**	**148.7**
Rockingham, NC	168.1	86.0	83.9	42.0	36.6	19.2	5.3	2.7	5.1	1.5	2.8	1.4	1.2	0.5	1.2	0.0	**304.1**	**153.3**
Alamance, NC	122.7	64.5	63.7	31.9	34.3	16.9	3.3	1.6	3.4	1.2	3.9	1.8	3.5	1.7	0.5	0.0	**235.3**	**119.7**
Additional Temporary Workspace m/	**127.6**	**0.0**	**79.9**	**0.0**	**46.4**	**0.0**	**0.7**	**0.0**	**1.0**	**0.0**	**2.3**	**0.0**	**2.4**	**0.0**	**0.0**	**0.0**	**260.3**	**0.0**
Pittsylvania, VA	43.3	0.0	30.3	0.0	15.6	0.0	0.0	0.0	0.5	0.0	0.4	0.0	0.4	0.0	0.0	0.0	**90.6**	**0.0**
Rockingham, NC	52.9	0.0	25.8	0.0	17.6	0.0	0.2	0.0	0.4	0.0	0.0	0.0	0.8	0.0	0.0	0.0	**97.7**	**0.0**
Alamance, NC	31.4	0.0	23.9	0.0	13.2	0.0	0.4	0.0	0.1	0.0	1.8	0.0	1.2	0.0	0.0	0.0	**72.0**	**0.0**
Cathodic Protection Groundbeds n/	**0.6**	**0.6**	**3.5**	**3.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.0**	**4.0**
Pittsylvania, VA	0.6	0.6	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**1.7**	**1.7**
Rockingham, NC	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.6**	**0.6**
Alamance, NC	0.0	0.0	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**1.7**	**1.7**
Permanent Aboveground Facilities	**4.9**	**1.3**	**13.1**	**2.5**	**12.7**	**2.3**	**0.0**	**0.0**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**30.9**	**6.1**
Pittsylvania, VA	4.6	1.1	1.4	0.5	12.7	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**18.6**	**3.9**
Lambert Compressor Station / Interconnect / MLV 1	4.6	1.1	1.4	0.5	12.6	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**18.6**	**3.8**
MLVs 2 and 3	0.0	0.0	0.0	0.0	<0.1	<0.1	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**<0.1**	**<0.1**
Rockingham, NC	0.3	0.2	8.2	1.3	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**8.7**	**1.5**
LN 3600 Interconnect	0.3	0.2	3.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.5**	**0.7**
T-15 Dan River Interconnect / MLV 4	0.0	0.0	5.0	0.8	0.0		0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**5.2**	**0.8**
MLV 5	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**<0.1**	**<0.1**
Alamance, NC	0.0	0.0	3.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.6**	**0.7**

Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed Southgate Project

Facility County, State	Upland Forest / Woodland a/		Upland Open Land b/		Agricultural Land c/		Commercial / Industrial d/		Wetland e/		Silviculture f/		Residential g/		Open Water h/		Total i/	
	Construction j/	Operation k/	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
T-21 Haw River Interconnect / MLV 8	0.0	0.0	3.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.6**	**0.7**
MLVs 6 and 7	0.0	0.0	<0.1	<0.1	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**<0.1**	**<0.1**
Contractor Yards	**41.5**	**0.0**	**96.0**	**0.0**	**0.0**	**0.0**	**43.2**	**0.0**	**0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**181.3**	**0.0**
Pittsylvania, VA	35.9	0.0	15.5	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**65.3**	**0.0**
Rockingham, NC	1.0	0.0	62.2	0.0	0.0	0.0	29.3	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**93.1**	**0.0**
Alamance, NC	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**8.5**	**0.0**
Guilford, NC	4.7	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**14.5**	**0.0**
Temporary and Permanent Access Roads	**15.1**	**0.4**	**69.6**	**6.2**	**16.8**	**0.9**	**11.5**	**1.2**	**0.3**	**0.0**	**0.7**	**0.0**	**9.0**	**1.0**	**0.1**	**0.0**	**123.1**	**9.7**
Pittsylvania, VA	6.0	0.1	26.4	0.6	7.2	0.9	4.7	0.8	0.2	0.0	0.0	0.0	3.2	0.3	0.0	0.0	**47.8**	**2.7**
Rockingham, NC	5.2	0.1	32.5	4.5	5.9	0.0	2.5	0.2	0.1	0.0	0.0	0.0	4.2	0.0	0.0	0.0	**50.4**	**4.7**
Alamance, NC	3.9	0.2	10.6	1.1	3.7	0.0	4.2	0.2	0.0	0.0	0.7	0.0	1.6	0.7	0.0	0.0	**24.7**	**2.3**
Guilford, NC	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**	**0.0**
Project Total	**620.1**	**223.0**	**506.6**	**134.6**	**200.1**	**66.2**	**66.5**	**6.9**	**21.7**	**5.2**	**10.9**	**3.8**	**18.8**	**4.4**	**3.1**	**0.0**	**1,447.8**	**444.0**

Source: Project aerial photography April 2018.

Note: Pig launchers and receivers will be within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreages calculations for the pig launchers and receivers are included with those facilities. Mainline valves (MLVs) 1, 4, and 8 will be located within other aboveground facility sites (i.e., the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect), therefore, acreage calculations for MLVs 1, 4, and 8 are included with those facilities.

a/ Upland forest not being used for specific commercial purposes.

b/ Utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land.

c/ Cultivated land (e.g., tobacco, soybeans, hay, corn).

d/ Manufacturing or industrial plants, paved areas, landfills, mines, quarries, electric power or natural gas utility facilities; developed areas, roads, railroads and railroad yards, and commercial or retail facilities.

e/ Palustrine forested, Palustrine scrub-shrub, and Palustrine emergent wetlands as identified in Resource Report 2.

f/ Wooded lands being managed for forest products (i.e., pine plantations).

g/ Existing developed residential areas and planned residential developments. This may include large developments, low, medium, and high density residential neighborhoods, urban and suburban residential, multi-family residences, ethnic villages, residentially zoned areas that have been developed or short segments of the route at road crossings with homes near the route alignment.

h/ Field delineated waterbodies with a bank width of greater than six feet, and waterbodies visible on aerial photography where field delineation has not been completed.

i/ Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.

j/ Construction acres includes the area affected by construction (i.e., temporary and additional temporary workspace, contractor yards, and access roads) and the area affected by operation of the Southgate Project (i.e., facility operation footprint and 50-foot pipeline permanent right-of-way). The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points and within railroad rights-of-way are not included in this acreage.

k/ Includes only the operation footprint of the Southgate Project facilities, the 50-foot-wide permanent pipeline right-of-way in uplands, except in wetland areas where the operation width has been reduced to 10 feet in emergent wetlands, scrub shrub wetlands, and within 25 feet of waterbodies; and 30 feet in forested wetlands. The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points and within railroad rights-of-way are not included in this acreage.

l/ Includes the 50-foot-wide permanent right-of-way and temporary workspace areas.

m/ includes ATWS areas for the pipeline facilities. ATWS areas to be used for construction of aboveground facilities are included in the acreage calculations for the applicable aboveground facilities.

n/ Acreage includes alternative groundbed locations, which have been identified in the event that the primary locations are deemed unsuitable. Final groundbed locations will be determined prior to the commencement of construction

8.2.1.2 Existing Rights-of-Way

Resource Report 1 summarizes the locations where the Southgate Project is collocated with existing rights-of-way. Collocation includes areas where workspace is located immediately adjacent to or partially within existing utility rights-of-way. Where collocation with existing electric utility rights-of-way is proposed, the Southgate Project will strive to design the workspace such that the permanent right-of-way for the pipeline will be located immediately adjacent to or partially within the existing right-of-way of the pipeline or electric transmission utility where feasible. The Project continues discussions with electric transmission companies collocated with the pipeline and will coordinate the proposed schedule for construction activities with those companies.

Natural gas transmission pipelines and high voltage Alternate Current ("AC") powerlines have safely shared right-of-way for decades. The original National Association of Corrosion Engineers Recommended Practice (1977) addressed the impact of AC on below ground metallic structures. It is common for natural gas transmission pipelines and high voltage AC power lines to share adjacent right-of-ways in highly populated areas to utilize space effectively.

8.2.1.3 Additional Temporary Workspace

In addition to the typical construction right-of-way, ATWS will be required to facilitate construction at road, railroad, utility, wetland, and waterbody crossings as well as for areas requiring specialized construction techniques such as trenchless technologies. A list of locations where ATWS will be required is included in Resource Report 1. The ATWS area will be restricted to the minimum size necessary to safely construct the pipeline with respect to the existing conditions anticipated at the time of construction. In the case of crossings of wetlands and waterbodies, the ATWS will be located outside of the wetlands and waterbodies and in accordance with the setback requirements per the FERC Procedures to the extent practicable with the exception of site-specific areas as identified in Resource Report 2, Appendix 2-F. Additional temporary workspace areas are also depicted on the Southgate Project alignment sheets included in Appendix 1-A of Resource Report 1.

8.2.1.4 Access Roads

During construction, existing public and private road crossings along the pipeline route will be used, to the extent practicable, as the primary means of accessing the right-of-way. The Southgate Project will also use existing public and private roads to the extent practicable to access the aboveground facilities. The majority of the existing access roads proposed for use will require minor improvements (i.e., the addition of stone and widening) to allow for passage of construction vehicles. The existing access roads are generally built on fill materials and have previously been developed for other land uses. In some locations with limited existing access, the Project may need to create new temporary access roads during construction. The Project has identified locations of new temporary access roads, which are provided in Resource Report 1. New temporary access roads may require modification of existing land use for access road use during construction. Following construction, new temporary access roads will be restored to their pre-construction condition, unless the landowner requests otherwise.

During operation, the Southgate Project will continue to use certain access roads along the pipeline to access permanent facilities such as mainline valves ("MLV"), meter stations, pig launcher and receiver facilities, or to access the pipeline right-of-way at other locations where access along the pipeline right-of-way is not practicable after temporary bridges are removed, fencing replaced, or terrain conditions (e.g., wetlands or

waterbodies, etc.) inhibit access. Generally, permanent access roads will be up to 25 feet wide to accommodate vegetation clearing setbacks, pull offs, and road shoulder, and stormwater management features. Permanent construction access roads identified to date for use during construction of the pipeline are shown on the alignment sheets included in Resource Report 1.

The Southgate Project will construct an approximately 0.7-mile-long permanent access road (PA-PI-001A and PA-PI-001B) to provide access to the new Lambert Compressor Station from Route 692 (Transco Road). The access road utilizes an existing dirt road that will be widened and surfaced with stone for operational access to the Station. The permanent access road will not cross any wetlands or waterbodies. Additional information on this permanent access road is included in Resource Report 1.

Additionally, the Southgate Project will construct six new permanent access roads to provide access to the permanent right-of-way, MLVs 3, 5, and 6, and cathodic protection beds for operational maintenance. Construction of these new permanent access roads will convert minor areas of upland open land, agricultural land, and upland forest / woodland to commercial / industrial land during operation of the Southgate Project (see Resource Report 1, Appendix 1-F).

8.2.1.5 Contractor Yards

The Southgate Project has identified potential contractor yards, and equipment staging and storage areas for temporary use during construction. The Project will use contractor yards to stage construction operations, store materials, park equipment, and set up temporary construction offices. Pipe storage yards will be used to stockpile pipe, fabricate facilities, and concrete-coat joints, as necessary. The Project has identified potential locations for these areas and has attempted to locate them within previously disturbed commercial / industrial land or within upland open land (see Resource Report 1) where practicable. Upon completion of the Project, yards, staging areas, and storage areas will be restored as necessary and allowed to revert to pre-construction land uses. Location of contractor yards, staging areas, and storage areas, and land use that will be affected by each, are included in Resource Report 1. Additionally, contractor yards and staging and storage areas are depicted on the 7.5-Minute U.S. Geological Survey Topographic Map Excerpts in Resource Report 1, Appendix 1-B.

8.2.2 Aboveground Facilities

Aboveground facilities for the Southgate Project will consist of the new Lambert Compressor Station and four new meter (interconnect) stations. Minor aboveground facilities include two pig launchers, two pig receivers, and eight MLVs. Table 1.2-2 of Resource Report 1 provides a summary by location of the aboveground facilities for the Project, and these facilities are depicted on the plot plans provided in Appendix 1-C2 (Critical Energy Infrastructure Information). Table 1.2-3 of Resource Report 1 provides the location of MLVs, and these facilities are depicted on the Project alignment sheets provided in Appendix 1-A. Construction and operational impacts on existing land uses from the Project's aboveground facilities are included Table 8.2-2 above.

8.2.2.1 Lambert Compressor Station

The Southgate Project includes one new compressor station designed to increase the pipeline pressure to transport natural gas to the desired delivery points. The compressor station was designed in accordance with Code of Federal Regulations ("CFR") 49, Part 192 along with other federal regulations. The compressor will include the necessary noise control equipment to meet the FERC standards and comply

with applicable local ordinances. The facilities will be located within the fenced-in property to provide security and prevent uncontrolled entry.

The Lambert Compressor Station has been sited on an undeveloped 127.5-acre site owned by the Southgate Project located at MP 0.0 in Pittsylvania County, Virginia. Existing land use on and adjacent to the property is upland forest / woodland, agricultural land, upland open land, and commercial / industrial land. Construction of the compressor station will result in the permanent conversion of upland forest / woodland, agricultural land, and upland open land to commercial / industrial land use. No impacts on wetlands or waterbodies will occur from construction or operations of the facility. Approximately 108.9-acres of the 127.5-acre parcel will remain undisturbed during construction and operation of the Lambert Compressor Station.

8.2.2.2 Pig Launchers and Receivers

Pig launching and receiving facilities will be designed to accommodate in-line inspection tools (smart pigs) for periodic internal inspection of the pipeline during operations. A pig launcher will be installed at the Lambert Compressor Station / Interconnect, in Pittsylvania County, Virginia. The corresponding pig receiver will be located at MP 30.4 at the T-15 Dan River Interconnect in Rockingham County, North Carolina. A second pig launcher will also be located at this site. A second pig receiver will be located at the terminus of the pipeline at approximate MP 73.1 at the T-21 Haw River Interconnect near Graham, North Carolina. The pig launcher and receiver facilities will be located inside the fenced areas for the meter (interconnect) and compressor station and will therefore not require any additional land disturbance (see Section 8.2.2.1 above and Section 8.2.2.3 below).

8.2.2.3 Mainline Valves and Meter Stations

MLVs and meter (interconnect) stations will be installed at various locations along the pipeline route. The Southgate Project will have four interconnects along the pipeline alignment including delivery interconnects with East Tennessee and PSNC Energy.

Mainline Valves

MLVs will be installed at the beginning and end of the pipeline and at intermediate locations as necessary to meet operational needs and the design and installation requirements described in 49 CFR Part 192.179(a) – Transmission Line Valves, requiring minimum distances to the nearest valve based on pipeline location class. MLVs will be located within the pipeline permanent right-of-way. MLVs at launcher and receiver locations will be buried with valve gearing extending aboveground. There are eight MLV locations, including three in Virginia and five in North Carolina. Each of the MLVs will be contained within a fenced, gated, and locked area. MLVs 2, 3, 5, 6, and 7 will be located within the permanent right-of-way associated with the pipeline, and acreage impacts for these MLVs are counted separately from the permanent right-of-way in Table 8.2-2. Mainline valves 1, 4, and 8 will be located within the area for the Lambert Compressor Station, T-15 Dan River Interconnect, and T-21 Haw River Interconnect, respectively. Acreage impacts for MLVs 1, 4, and 8 are included within these aboveground facility sites in Table 8.2-2 (i.e., MLV sites are not double counted within the total Project impacts).

Meter Stations

The Lambert Interconnect will be located at MP 0.0 in Pittsylvania County, Virginia. The Lambert Interconnect will be located within the site for the Lambert Compressor station; therefore, land use for the Lambert Interconnect are the same as those described above for the Lambert Compressor Station.

The LN 3600 Interconnect has been sited on a parcel at MP 28.2 in Rockingham County, North Carolina. Within the parcel, the interconnect is located adjacent to existing development and the Mountain Valley Pipeline right-of-way. The Southgate Project will obtain an additional permanent easement or purchase the area from the landowner for construction and operation of the LN 3600 Interconnect. Existing land use on and adjacent to the property is upland open land, upland forest / woodland, and commercial / industrial land. Construction of the interconnect will result in the permanent conversion of upland open land and upland forest/woodland to commercial / industrial land use. No wetlands or waterbodies will be affected by construction or operation of the LN 3600 Interconnect (see Resource Report 2).

The T-15 Dan River Interconnect has been sited on a parcel at MP 30.4 in Rockingham County, North Carolina. The parcel is developed with existing utility infrastructure and the Southgate Project will obtain a permanent easement or purchase the area required for construction and operation of the T-15 Dan River Interconnect on the parcel. Existing land use on and adjacent to the property is upland open land, wetland, upland forest / woodland, and commercial / industrial land. Construction of the interconnect will result in the permanent conversion of upland open land to commercial / industrial land use. Information on wetlands and waterbodies affected by construction and operation of the interconnect are discussed in Resource Report 2.

The T-21 Haw River Interconnect has been sited on a parcel located at MP 73.1 in Alamance County, North Carolina. Existing land use on and adjacent to the property is upland open land and commercial / industrial land. Construction of the interconnect will result in the permanent conversion of upland open land to commercial / industrial land use. Information on wetlands and waterbodies affected by construction and operation of the Interconnect are discussed in Resource Report 2.

8.2.2.4 Cathodic Protection

The Southgate Project will install four rectifiers for cathodic protection. Groundbeds (approximate dimensions of 50 feet wide by 500 feet long) will be located perpendicular to the permanent right-of-way. Deep wells, if used, may be contained within the 50-foot permanent right-of-way or adjoining (if required, 25 feet by 25 feet additional permanent right-of-way). Rectifier and groundbed locations are identified in Table 1.3-3 of Resource Report 1 and are shown on the alignment sheets included in Resource Report 1.

The Southgate Project will obtain a new permanent right-of-way for the groundbed areas. The groundbed areas are located primarily within upland open land and will be maintained as open land during operation of the Project.

8.2.3 Land Use Impact and Mitigation

The primary Project-related impacts on existing land uses will be associated with vegetation clearing during construction. Following construction, most existing land uses will be allowed to continue within temporary workspace areas as well as within the permanent operational right-of-way for the pipeline. However, to ensure operational safety and allow for routine maintenance of the facilities following construction, no structures will be allowed within the 50-foot permanent right-of-way. Additionally, vegetation on the

permanent right-of-way will be maintained by mowing, cutting, and trimming. The right-of-way will be allowed to revegetate; however, large brush and trees will be periodically removed in accordance with the FERC Plan and Procedures. Vegetation on the 50-foot-wide permanent right-of-way will be maintained by mowing, cutting, and trimming. In uplands, routine vegetation mowing or clearing over the full width of the permanent right-of-way will occur no more than once every 3 years. However, to facilitate periodic corrosion and leak surveys, the Southgate Project may clear a corridor not exceeding 10 feet in width centered on the pipeline at a frequency necessary to maintain the 10-foot corridor in an herbaceous state.

In wetlands, routine vegetation mowing or clearing over the full width of the permanent right-of-way will not occur. However, to facilitate periodic corrosion and leak surveys, the Southgate Project may clear a corridor centered on the pipeline up to 10 feet in width at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees within 15 feet of the pipeline may be selectively cut and removed from the permanent right-of-way to ensure that root systems do not affect the exterior coating of the pipeline.

The following sections provide a discussion of the impacts associated with construction and operation of the Southgate Project as well as mitigation measures that will be implemented to reduce those impacts on the various land use types to be crossed by the Project. The Project determined the amount of each land use type affected by the Project using observations made during field surveys, discussions with landowners, and aerial imagery. Table 8-A in Appendix 8-A provides linear distance crossings of each land use by MP, and Table 8.2-2 above provides the acres of various land uses that will be impacted during construction and operation of the Project.

8.2.3.1 Agricultural Land

Agricultural land in the Southgate Project counties is used predominantly for crop production (e.g., corn, wheat, oats, barley, sorghum, soybeans, and tobacco), forage (i.e., land used for hay, haylage, grass silage, and greenchop), vegetables (i.e., potatoes and sweet potatoes), orchards, livestock, and poultry (USDA NASS, 2012). Construction methods to be implemented on agricultural lands affected by the Project are described in Resource Report 1. The Project has consulted with the U.S. Department of Agriculture ("USDA") Natural Resources Conservation Service ("NRCS") Virginia and North Carolina offices regarding agricultural resources, farmland easements, and restoration measures applicable to the Project area. The Project will incorporate the vegetation establishment guidelines and recommendations from the USDA NRCS (see Resource Report 1, Appendix 1-K) in the Project-specific Erosion and Sediment Control Plans, as applicable. The Project is preparing site-specific Erosion and Sediment Control plans which will comply with Virginia and North Carolina erosion control regulations and requirements.

Impacts from construction across agricultural lands will typically be limited to the growing season during which construction occurs. The Southgate Project has coordinated with landowners who will be directly affected by Project construction and will continue to coordinate with affected landowners throughout the easement negotiation process.

Following construction, the Southgate Project will restore impacted agricultural land to pre-construction conditions in accordance with the FERC Plan. Agricultural land affected by the construction right-of-way and ATWS will be allowed to revert to prior use. The Project will design the pipeline to allow continued farming activities, and will work with landowners to understand post-construction land use activity and identify specific areas where heavy machinery could cross the right-of-way without damaging the pipeline.

The Southgate Project will compensate landowners for crop losses and other damages caused by construction activities. The Project will negotiate with and reimburse landowners or producers of products for damages or loss to their product as a result of the construction of the Project. The reimbursement to these landowners or producers will be based on the market prices for the specific products at the time of right-of-way negotiations with each affected landowner.

Farmland Preservation Programs

The Virginia Century Farm Program recognizes and honors those farms that have been in operation for at least 100 consecutive years. Virginia Century Farms receive a signed certificate by the Governor of Virginia and the Commissioner of the Virginia Department of Agriculture and Consumer Services as well as a sign for outdoor display. There are 16 Virginia Century Farms in Pittsylvania County, Virginia (VDACS, 2018). No Virginia Century Farms have been identified as affected by the Southgate Project through landowner contacts or title searches completed to date. North Carolina does not have a Century Farm or other similar program.

Easement information for parcels under local and / or state farmland protection programs in Virginia is not publically available. Review of publically available information from the North Carolina Department of Agriculture and Consumer Services did not identify any farmland easements within 0.25 mile of the Southgate Project in North Carolina (NCDA&CS, 2018). The Project will continue to coordinate with affected landowners to determine if the Project will cross any farmland preservation easements and will negotiate compensation for individual parcels as necessary based on each individual easement and landowner requests.

Agricultural Drainage and Irrigation System

Pipeline construction could disrupt surface or subsurface drainage systems. To avoid or minimize this impact, the Southgate Project will survey landowners and local agricultural agency personnel regarding the potential presence of drain tiles and irrigation systems in affected agricultural fields. In addition, observations will be made before and during construction for evidence of the presence of drain tiles and irrigation systems. The Project will identify the known locations of drain tiles in the field prior to the commencement of construction.

In fields with drain tiles and irrigation systems, pipeline construction will be conducted in accordance with the FERC Plan. The pipe will be installed below agricultural drainage lines, except in the rare circumstance of a deep main drainage line. If agricultural drainage features must be modified during pipeline installation, these features will be restored to their original or better condition. Additionally, the Southgate Project will use qualified specialists for testing and repairing drain tiles. Where irrigation systems are present, the Project will maintain water flow in crop irrigation systems, unless shutoff is coordinated with the affected landowner. Operation of the pipeline following construction and repair of damaged tiles and irrigation lines is not expected to affect operation of drainage and irrigation systems. Agricultural drain tiles and irrigation systems located on parcels affected by the Project are identified in Table 8.2-3 below.

Table 8.2-3

Agricultural Drainage Tiles and Irrigation Systems Located on Parcels Affected by the Southgate Project

State, County	Approximate Mileposts	Tract ID	Feature Type
Virginia			
None identified to date			
North Carolina			
Rockingham	48.2	NC-RO-156.000	Irrigation Sprinkler System
Rockingham	50.3 / TA-RO-139	NC-RO-174.100.AR	Irrigation Sprinkler System
Rockingham	50.3 / TA-RO-139	NC-RO-174.200.AR	Irrigation Sprinkler System
Alamance	53.3	NC-AL-000.060	Irrigation Sprinkler System
Alamance	53.5	NC-AL-000.065	Irrigation Sprinkler System
Alamance	56.1	NC-AL-025.000	Pivot or Irrigation System
Alamance	60.9	NC-AL-076.000	Irrigation Sprinkler System
Alamance	61.7	NC-AL-081.000	Irrigation Sprinkler System
Alamance	62.8	NC-AL-093.000	Agricultural Drain Tile
Alamance	63.4 / TA-AL-171	NC-AL-101.000.AR	Irrigation Sprinkler System, Pivot or Irrigation System
Alamance	69.8	NC-AL-180.000	Irrigation Sprinkler System

Source: Landowner surveys conducted to date for the Southgate Project.

Livestock Watering

Field surveys and landowner consultations completed to date have not identified any livestock watering systems in the Southgate Project workspace areas. If any water systems for livestock are identified and would be affected by construction, the Project will work with the individual landowner to provide continued access to the existing water system or to provide alternate sources of water for livestock where necessary.

Specialty Crops

The Southgate Project reviewed the USDA, National Agricultural Statistics Services cropland data (USDA NASS, 2018) and no specialty crop areas were identified as crossed by the Project alignment. No specialty crop areas, including orchards, syrup-producing trees, bush crops, or apiaries, have been identified through landowner contacts or title searches completed to date. If identified as impacted by the Project, potential impacts on these specialty crop areas could include temporary or permanent loss of production. The Project will work with individual landowners during the right-of-way negotiation regarding specialty crop areas, and to avoid and minimize impacts as practicable.

Certified Organic Farms

Organic is a labeling term that indicates that the food or other agricultural product has been produced through approved methods, and do not use synthetic fertilizers, sewage sludge, irradiation, or genetic engineering. The Southgate Project recognizes that certified organic land is a unique feature of this landscape and is committed to treating this land with the same level of care as other sensitive environmental features. The Project reviewed the USDA Organic Integrity Database for locations of certified organic

farms in the Project area (USDA, 2018). No certified organic farms were identified within 0.25 mile of the Project through this review or through contacts conducted to date with directly affected landowners.

If properties affected by the Southgate Project are identified as certified organic under an accredited program, the Project will work with individual affected landowners and the regulatory and / or certifying agencies to avoid or minimize impact on the enrollment of the properties in certification programs during construction and operation of the Project. Potential impact on certification programs will be discussed with landowners during the negotiations for additional rights and damages.

8.2.3.2 Upland Open Land

Upland open land is defined as utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, golf courses, and municipal land. In general, impacts resulting from construction through open lands will be limited to the construction period. Following construction, open lands affected by the pipeline will be restored to their previous use, except for limited clearing of the permanent right-of-way for operation and maintenance of the pipeline.

8.2.3.3 Upland Forest / Woodland

Upland forest / woodland includes upland forest not being used for specific commercial purposes. Resource Report 3 provides a detailed discussion of the types of upland forests and woodlands crossed by the pipeline. The Southgate Project will restore and stabilize the approximate original grade of upland forest / woodland areas affected within the construction right-of-way and other temporary workspaces and will allow these areas to revert to forest through natural successional processes after construction. Upland forest / woodland areas within the 50-foot-wide permanent right-of-way will be maintained in an herbaceous state without trees to facilitate operation of the Project facilities.

8.2.3.4 Silviculture

Silviculture includes wooded lands being managed for forest products (e.g., pine plantations, sugar maple stands, or tree nurseries). Silviculture land identified to date as crossed by Project through field surveys and review of aerial photography is listed in Table 8.2-4 below by milepost.

Table 8.2-4

Silviculture Areas Crossed by the Southgate Project

Silviculture Type	Land Tract	Nearest Milepost	Pipeline Crossing Length (feet)	Construction Acres a/	Operation Acres b/
Pine Plantation	VA-PI-006.000	0.9	528	0.9	0.2
Pine Plantation	VA-PI-101.000	15.4	528	0.7	0.3
Pine Plantation	NC-RO-006.000	27.6	528	0.9	0.4
Pine Plantation	NC-RO-140.000	45.4	1,056	1.8	0.9
Pine Plantation	NC-AL-000.065	53.5	1,584	4.3	1.8
Pine Plantation	NC-AL-103.000	64.0	0	2.1	0.1
Pine Plantation	NC-AL-143.000	68.4	0	0.1	0
		Totals c/	4,224	10.9	3.8

Table 8.2-4

Silviculture Areas Crossed by the Southgate Project

Silviculture Type	Land Tract	Nearest Milepost	Pipeline Crossing Length (feet)	Construction Acres a/	Operation Acres b/

a/ Construction acres includes the area affected by construction (i.e., temporary and additional temporary workspace, contractor yards, and access roads) and the area affected by operation of the Southgate Project (i.e., facility operation footprint and 50-foot pipeline permanent right-of-way). The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points and within railroad rights-of-way are not included in this acreage.
b/ Includes only the operation footprint of the Southgate Project facilities that is the 50-foot-wide permanent pipeline right-of-way in uplands.
c/ Sums may not equal the total of addends due to rounding. Addends consist of six-decimal digits.

The Southgate Project will work with the landowner to maintain access to wooded portions of their property during the construction of the pipeline. The Project will compensate landowners for the value of trees felled within the construction work areas. At the request of the landowner, trees felled during clearing activities will be stacked outside of the work area alongside the edge of the right-of-way or ATWS. If impacted, existing logging roads will be restored after construction. Where the roads cross the pipeline right-of-way, landowners will be asked to submit information regarding the type of equipment to be used (type includes information such as, whether it is wheeled or tracked, weight) and the expected duration of the crossing. The Project will then perform an analysis based on this information to determine if and how the pipeline right-of-way can be safely crossed. Measures that may be implemented to accomplish this include timber mats, steel plates, or other padded crossing alternatives. During operation of the pipeline, affected landowners will be asked to contact the Project prior to any logging activities that include use of heavy equipment across the permanent right-of-way. Subsequent activities by the Project may include staking of the centerline and implementing measures to protect the pipe from logging equipment during harvesting (e.g., placement of timber mats over the pipeline at logging road crossings).

8.2.3.5 Commercial / Industrial Land

Measures that the Southgate Project will use to avoid or minimize impact on commercial / industrial areas will include timing of construction to avoid peak use periods, maintaining access to businesses at all times, and expediting construction across these areas. Additionally, the Project will utilize safety fence, Jersey barriers, and flashing light barricades near roadway crossing to ensure safety of the general public and the Project personnel throughout active construction areas. The Project will coordinate directly with affected commercial / industrial landowners on an individual basis to develop potential mitigation measures as appropriate.

Roadways

The number of public roadways crossed by the Southgate Project in each county is listed in Table 8.2-5. These roads range from maintained gravel municipal roads to state highways. A table listing each roadway crossed is included in Table 8-B in Appendix 8-B. Potential temporary impacts associated with roadway crossings by the pipeline include disruption of traffic flows and disturbance of existing underground utilities such as water and sewer lines. Construction techniques to minimize impacts on existing underground utilities are described in Resource Report 1, Section 1.4.1.1. There are no anticipated permanent effects on existing use of the roadways crossed by the Project.

Many hard surface public roadways will be crossed by conventional bore, where the pipeline is installed horizontally underneath the roadway with no disruption of the road surface and no disruption of traffic flow during pipeline installation. Other smaller, non-artery type hard surface roadways and drives will be crossed by open cut. Regardless of the method used, the Southgate Project will incorporate measures to maintain safety and minimize traffic disruption, and ensure that construction activities will not prevent the passage of emergency vehicles. Measures may include the creation of temporary travel lanes during construction or the placement of steel plate bridges to allow continued traffic flow during open trenching. Traffic lanes and residential access will be maintained, except for the temporary periods essential for pipeline installation. Provisions will be made to allow passage of emergency vehicles at all times. The Project will install safety fencing, at a minimum, around the limits of workspace at roadway crossings at night and on non-construction days. In areas where traffic volumes are high or other circumstances (e.g., congested areas) exist, the Project may employ traffic control measures to ensure the safety of pedestrians and vehicles. The Project will obtain all necessary permits for public road crossings or work within public road rights-of-way, including required road bonds necessary for construction vehicle usage and permits from the Virginia and North Carolina Departments of Transportation. The Project will work with the governing agency and facilitate repair of any significant damage caused by construction activities.

Table 8.2-5

Summary of Public Roadways Crossed by the Southgate Project

County, State	Number of Public Roadways Crossed
Pittsylvania, VA	24
Rockingham, NC	22
Alamance, NC	28
Project Total	**74**

Railroads

The Southgate Project will cross four active railroads. Use of the conventional bore construction method will avoid impacts on the normal operation of the active railroads during construction and operation of the Project. All activities within the railroad easement will be closely coordinated with the respective railroad owner. Table 8.2-6 identifies the location and ownership of railroads crossed by the Project.

Table 8.2-6

Railroads Crossed by the Southgate Project

County , State	Milepost	Railroad	Active or Abandoned	Proposed Crossing Method
Pittsylvania, VA	5.3	Southern Railroad	Active	Conventional Bore
Pittsylvania, VA	25.9	Southern Railroad	Active	Conventional Bore
Rockingham, NC	39.7	Norfolk Southern	Active	Conventional Bore
Alamance, NC	69.8	Southern Railroad	Active	Conventional Bore

8.2.3.6 Wetland

Wetland includes palustrine emergent, palustrine scrub-shrub, and palustrine forested wetlands as identified in Resource Report 2. Resource Report 2 provides a description of the wetland types and their typical vegetation species composition, and summarizes the amount of each wetland type that will be affected by the Southgate Project. Construction procedures to minimize impacts on wetlands are summarized in Section 1.4.1.1 of Resource Report 1. The permanent easement will predominantly be maintained with mechanized clearing. Herbicide will only be used to control for invasive species, as necessary. Herbicides and pesticides will not be used in or within 100 feet of a wetland or waterbody, unless specified by a federal or state agency.

8.2.3.7 Residential Land

Section 8.3 below provides detail on existing residences within 50 feet of the Southgate Project area and planned developments within 0.25 mile of the Project area, as well as measures that the Project will implement to minimize impacts where the construction workspace is located on land in active residential use. Site-specific Residential Construction Plans for residences located within 25 feet of the proposed workspace are included in Appendix 8-C. These show the construction area to be disturbed and safety measures that will be implemented as discussed in Section 8.3 below.

8.2.3.8 Open Water

Open water includes field delineated waterbodies with a bank width of greater than six feet, and waterbodies visible on aerial photography where field delineation has not been completed. Major waterbody crossings and proposed crossing methods are identified in Resource Report 2. Resource Report 2 also provides detailed information on potential waterbody impacts associated with construction and operation of the Southgate Project as well as impact minimization measures.

8.2.3.9 Special Land Uses

Special land uses include areas such as land associated with schools, parks, places of worship, cemeteries, sports facilities, campgrounds, golf courses, and recreational fields. Special land uses may also be included within other land use cover types as classified by the Southgate Project (e.g., golf courses are included within Open Land). Public lands and designated recreational areas are discussed in detail in Section 8.4 below.

The Southgate Project identified one school within 0.25 mile of the Project. The pipeline alignment crosses the Alamance Community College property along its western boundary from MP 71.4 to MP 71.8 in Alamance County, North Carolina. Additionally, temporary access road TA-AL-190 is located on the community college parcel. Impacts on the community college are not anticipated during construction or operation of the Project, as the Project is located along the western property line behind the college buildings and parking lots. The Project will consult with the college to coordinate construction activities and will employ traffic control measures, as appropriate, to ensure the safety of pedestrians and vehicles. Several cemeteries were identified within 0.25 mile of the Project (see Resource Report 4). The Project will avoid impacting identified cemeteries within the survey corridor through alignment and workspace deviations. Additional information on impact avoidance and mitigation related to cemeteries identified to date is included in Resource Report 4.

Places of worship identified within 0.25 mile of the Southgate Project in Pittsylvania County, Virginia include:

- Fairview Chapel (0.2 mile southeast of ATWS-1026 (near MP 3.0);
- Banister Springs Church (0.1 mile northwest of approximate MP 4.5);
- Belle Grove Church (0.1 mile southeast of approximate MP 4.3);
- Silver Creek Church (0.2 mile northwest of temporary access road TA-PI-045); and
- Triumph Church (0.1 mile southwest of temporary access Road TA-PI-006).

Places of worship identified within 0.25 mile of the Southgate Project in Rockingham County, North Carolina include:

- Greenwood Presbyterian Church (0.1 mile northwest of approximate MP 40.5);
- Lawsonville Road Baptist Church (0.2 mile northwest of approximate MP 42.5);
- Eastside Church (0.2 mile southeast of Contractor Yard CY-08); and
- Garrett's Grove United Church (0.2 mile northeast of approximate MP 49.5).

Additionally, the Southgate Project identified the following places of worship within 0.25 mile of the Project in Alamance County, North Carolina:

- Gilliam Church (0.2 mile southeast of MP 55.0);
- Altamahaw Baptist Church (0.2 mile west of ATWS 1536 near MP 57.8);
- First Baptist Church Haw River (0.1 mile east of approximate MP 69.6); and
- Riverside Baptist Church (0.1 mile northwest of approximate MP 72.7).

No workspace is proposed within these properties, and no impact is anticipated on the places of worship from construction or operation of the Southgate Project based on the distances from the places of worship to the pipeline alignment, the low relief of the Project area, and the presence of a vegetation buffer between the facilities and the Project.

One potential contractor yard (CY-04) for the Southgate Project is located on a parcel with a church (i.e., First Baptist Church of Draper) in Rockingham County, North Carolina. The Project has received permission to survey this parcel and will coordinate further with the landowner regarding use of this parcel for a contractor yard.

The pipeline alignment at MP 64.9 was originally located 0.1 mile north of Arches Grove United Church of Christ in Burlington, North Carolina. The Southgate Project incorporated an alignment modification in this location, and the pipeline alignment is currently located 0.5 mile east of the church. Based on the distance of the Project from the Arches Grove Church, no impact on the church is anticipated from construction or operation of the Project.

Husky Solar Farm, owned by Husky Solar, LLC, located in Reidsville, North Carolina is a 35–acre, 7.02 megawatt Direct Current solar photovoltaic facility located on both sides of North Carolina Highway 87. The Southgate Project is adjacent to the solar farm between approximate MPs 48.7 and 48.9. Duke Energy has a 15-year agreement to purchase the electricity generated by the solar array (Thomas USAF Group,

LLC, 2018). The solar arrays are not located within the workspace areas for the Project; therefore, no impact on the solar farm is anticipated from construction or operation of the Project.

8.3 RESIDENTIAL AND COMMERCIAL AREAS

8.3.1 Planned Residential and Commercial Areas

Planned development is defined as any development that is included in a master plan or is on file with the local planning board or county. The Southgate Project has initiated consultation with county and municipal planning agencies for the Project area to request information regarding proposed future development within a 0.25-mile radius of the Project facilities. A 0.25 mile radius was chosen based on the FERC *Guidance Manual for Environmental Report Preparation* (2017). Additionally, information on planned residential and commercial development was obtained through research of publicly-available online databases, review of public comments submitted to FERC, and discussions with landowners and municipalities during the survey process. The Project is aware of multiple residential and commercial areas in their early stages of planning or development located within 0.25 mile of the Project. The Project is consulting with developers and municipal officials regarding those plans and is committed to working with the project proponent(s).

8.3.2 Existing Residences and Buildings

The Southgate Project has minimized impacts on residential properties by routing the pipeline away from residential developments to the extent practicable. However, because of other siting considerations, including topography, road crossings, waterbody crossings, and the desire to collocate with existing rights-of-way where feasible, the pipeline is sited in proximity to residences in several locations along the pipeline alignment. Table 8-D in Appendix 8-D lists structures that are within 50 feet of the proposed construction workspace for the pipeline. Site-specific Residential Construction Plans for residences located within 25 feet of the proposed workspace are included in Appendix 8-C. As identified in Table 8-D, a total of 39 residences are located within 50 feet of the edge of the proposed construction right-of-way for the pipeline including temporary workspace, ATWS, access roads, pipe / contractor yards, and staging areas. For any residences located within 10 feet of any construction work space, the Project will present a residential construction and mitigation plan to landowners for concurrence. Written landowner concurrences will be provided to FERC prior to construction. Written landowner concurrences obtained to date are included in Appendix 8-F. [*Note: The Southgate Project continues to work with landowners to obtain written agreements for all residences that would be within 10 feet of any construction workspace for the Project. For each location where a residence is within 10 feet of the construction workspace, and the landowner has not yet provided a written agreement, a discussion on why measures to maximize the offset between the residence and the construction work areas are not feasible will be provided in a supplemental filing.*]

Impacts during construction on existing residences and buildings, including those within 50 feet of the construction work areas, would include noise and dust from construction equipment, temporary visual impacts from construction equipment, and temporary and / or permanent visual impacts from removal of vegetation. Post-construction disturbance will be minimal and related to maintenance activities including periodic right-of-way vegetation maintenance and inspection. For any residences located within 50 feet of the construction work space, the Southgate Project intends to implement the following general practices (actual techniques may vary based upon site specific issues and permit requirements):

- Access to homes and driveways will be maintained except for the brief periods essential for laying the new pipeline. In the vicinity of streets and homes, temporary safety fences will be erected to limit access to the construction area. This fence will extend at least 100 feet on either side of the home along the right-of-way and will be maintained in place throughout the open trench phase of construction;
- Metal plates or matting will be installed across affected driveways so landowners can access their home to minimize impacts on the residences. Construction coordination will occur with the affected landowners;
- Avoid removal of mature trees and landscaping to the extent possible;
- Techniques such as stovepipe and drag-section construction will be used to minimize the impacts of construction in residential areas on a site-specific basis (see below describing these special construction techniques);
- Homeowners will be notified prior to any scheduled disruption of household utilities, and the duration of the interruption will be kept as brief as possible;
- Representatives of the local utility companies will be notified prior to construction when necessary;
- The Southgate Project's contractor will minimize the time the trench is left open;
- The Southgate Project's contractor will control dust during construction by applying water to the disturbed construction work areas as necessary; and
- After backfilling, residential areas will be cleaned up, construction debris will be removed from the area, and the right-of-way restored within 10 days of backfilling as close as practicable to "as before or better" condition.

Site-specific plans have been developed (Appendix 8-C) for any of those residences within 25 feet that depicts the residence in relation to:

- The new pipeline;
- The edge of the construction workspace;
- The edge of the permanent right-of-way; and
- Other nearby residences, structures, roads, wetlands, or waterbodies.

If necessary to minimize impacts while constructing in residential areas, the Southgate Project will use specialized stove-pipe or drag-section construction techniques. The stove-pipe construction method typically is used when the pipeline is to be installed in very close proximity to an existing structure and an open trench would have an adverse impact. The technique involves installing one joint of pipe at a time, in which the welding, weld inspection, and coating activities are all performed in the open trench, thereby reducing the width of the construction right-of-way. The drag-section construction method is another method that reduces the width of the construction right-of-way and is normally preferred over the stove-pipe method. This technique involves trenching, installation of a prefabricated length of pipe containing several segments, and backfilling, all in one day. Both stove-pipe and drag-section methods result in the trench being backfilled and / or covered with steel plates or equipment mats or protected by fencing, as necessary, to ensure safety at the end of each day, though the length of excavation performed each day typically will not exceed the amount of pipe installed.

The Southgate Project has engineered the alignment to minimize the impact to, and ultimate removal of existing dwellings, barns, or structures for construction of the Project. If the removal of a structure is required, the Project will compensate the landowner for any relocation or removal.

If dwellings are purchased by Mountain Valley as part of this Project, the valuation will be determined by the market value of the property, as determined by independent sources, such as county deed and tax records, local appraisers, real estate brokers, and other real estate professionals, considering such factors as existing condition and comparable dwelling sales in the area. Easement valuation will be determined by the market value of land in the area, by independent sources, considering such factors as length, width, existing use, and comparable land sales in the area. Impacts on the remaining property also may be considered. Mountain Valley will pay fair market value for any rights it seeks in connection with this Project.

Based on landowner contacts to date, two septic system features (septic tank and water line) were identified within the Southgate Project workspace. One septic tank was identified within the original workspace. The Project incorporated a modification in this location, which reduced the size of ATWS 1483 at MP 53.9, avoiding impacts on the septic tank. The water line feature was identified within the workspace at MP 57.7. The Project will use matting to protect the line from damage during construction. If additional septic system features are identified that may be affected by construction, the Project will first attempt to identify a minor pipeline deviation to avoid direct impact on the septic system. If avoidance is not possible, the Project will work with the individual landowner to coordinate relocation and / or replacement of the septic system prior to construction to minimize impacts on the landowner. As discussed in Resource Report 2, the Project will identify drinking water wells within 150 feet of the construction area and work with landowners to establish baseline data and pre-construction water quality.

Landowners will be notified of planned construction activities a minimum of seven days prior to the scheduled construction. The Southgate Project's standard work schedule will be six days per week (Monday through Saturday) and 10 hours per day; although completion of some critical tasks may be required outside of normal working hours and if needed will coordinate with FERC. Traffic in residential areas will be managed as described in Section 8.2.3.5., and speed limits will be strictly controlled for construction equipment and associated vehicles. Water trucks will be used to spray down the construction area if dust control is needed. The Project will continue to work with directly affected landowners to gather input regarding impact minimization and mitigation measures in residential land.

8.4 PUBLIC LAND, RECREATION, AND OTHER DESIGNATED AREAS

Table 8.4-1 lists public lands, recreational lands, and other designated areas, including ownership of those lands, that are crossed by or located within 0.25 mile of the Southgate Project. Public and recreational lands are also depicted on topographical mapping in Appendix 8-E. A discussion federal and state lands crossed, including impacts and mitigation, is provided below. The Project will continue to work with public and recreational land owners/managers to avoid and minimize interference with use of public and recreational areas during construction of the Project. U.S. Geological Survey topographic maps, aerial photographs, public land databases, and field reconnaissance were used to identify parks, recreation areas, scenic areas, and other specially-designated areas at the federal, state and local level within 0.25 mile of the Project facilities.

Public and recreational lands also provide a base for tourism in the Southgate Project counties. Area waterways and forestlands bring visitors to the area for outdoor activities including but not limited to rafting, tubing, hunting, fishing, hiking, and wildlife viewing. Tourism involving natural areas such as waterways and forestland are also referred to as "ecotourism". Areas identified in Section 8.4 and Table 8.4-1 below that provide locations for ecotourism include the Banister River, Sandy River, Dan River, Haw River, and the Mountains-To-Sea Trail. The Blueways Master Plan (Upper Reach RRBA, 2011) is an initiative to promote ecotourism in southern Virginia, consisting of planning and development of river trails and paddling events in the Roanoke River Basin. Blueways proposed in the plan are located in Halifax and Mecklenburg counties more than 0.25 mile east if the Project in Virginia. The section of the Banister River crossed by the pipeline at MP 4.9 is identified on the Blueways Master Plan as a future Blueway. Other tourist areas identified in the vicinity of the Project include the Ace Speedway and the Challenge Golf Course. Impacts and mitigation associated with these areas used for tourism and ecotourism are described in the following sections. Project-related activities are not expected to significantly affect the overall recreation and tourism experiences of residents and visitors to the region. Impacts to important recreation resources on public lands would be minimized through consultation with the appropriate land management agencies.

8.4.1 Public or Conservation Land

The following section includes a discussion of Project-related impacts and mitigation measures for public or conservation lands crossed by the Southgate Project. The Project will coordinate with the applicable county or municipality on a site-specific basis regarding restoration and revegetation of the pipeline workspace areas on these lands to achieve consistency to the greatest extent practicable with preconstruction conditions on the impacted parcels. The Project has initiated discussions with the land management agencies in the Project area and will continue to coordinate with these agencies throughout construction and operation of the Project. A list of agencies contacted for information, consultation, or technical assistance during preparation of this Resource Report and copies of correspondence received to date are provided in Resource Report 1, Appendix 1-K. The Project will continue to identify conservation easements during right-of-way negotiations with each affected landowner and will mitigate and / or compensate as necessary based on each individual easement.

Table 8.4-1

Federal, State, Recreation, and Conservation Lands Crossed by or Located within 0.25 mile of the Southgate Project

County, State	Milepost	Name of Area	Land Ownership / Management	Pipeline Crossing Length (feet)	Land Use a/	Area Affected (Acres)		Distance and Direction from Pipeline or Facility (feet)	Crossing Method / Special Construction Measures
						Construction	Operation		
H-605 Pipeline									
None Identified									
H-650 Pipeline									
Pittsylvania, Virginia	4.3	Designated Banister River Segment / Future Blueway	State Designated	N/A	N/A	N/A	N/A	1,162 feet southeast of MP 4.3	N/A
Pittsylvania, Virginia	4.9	Banister River Future Blueway	Upper Reach Roanoke River Basin Association	48	OW	0.1	0.0	0	Open cut – Dam and pump, Flume
Pittsylvania, Virginia	5.5 – 6.6	Pittsylvania County Parcels	Pittsylvania County	5,721	CI, FW, OL, OW, WL	18.0	6.5	0	Conventional open-cut
Pittsylvania, Virginia	14.1	Easement	Virginia Outdoors Foundation	N/A	N/A	N/A	N/A	914 feet southeast of MP 14.0	N/A
Pittsylvania, Virginia	17.7	Designated Sandy River Segment	State Designated	85	OW	0.2	0.0	0	Open cut – Dam and pump Flume
Pittsylvania, Virginia	22.3 – 24.8	Berry Hill Industrial Park	Pittsylvania Regional Industrial Facility Authority (i.e., Commonwealth of Virginia)	12,952	FW, OL, OW, WL	37.7	14.5	0	Conventional open-cut
Rockingham, North Carolina	30.1	Dan River Trail / Nationwide Rivers Inventory	North Carolina Watercraft Trail	N/A (HDD)	OW	0.0	0.0	0	HDD
Rockingham, North Carolina	37.7 – 38.0	Conservation Easement	Piedmont Land Conservancy	139	FW, OL, OW	0.3	0.1	0	Conventional open-cut

Table 8.4-1

Federal, State, Recreation, and Conservation Lands Crossed by or Located within 0.25 mile of the Southgate Project

County, State	Milepost	Name of Area	Land Ownership / Management	Pipeline Crossing Length (feet)	Land Use a/	Area Affected (Acres)		Distance and Direction from Pipeline or Facility (feet)	Crossing Method / Special Construction Measures
						Construction	Operation		
Rockingham, North Carolina	38.8 – 39.0	None	City of Reidsville	1,207	FW, OL	4.2	1.4	0	Conventional open-cut
Alamance, North Carolina	56.9	Ace Speedway	Private	N/A	N/A	N/A	N/A	94 feet west of MP 56.9	N/A
Alamance, North Carolina	58.7	AOI Study Area – Land being considered during the master planning process	North Carolina Division of Parks and Recreation	N/A	N/A	N/A	N/A	1,1340 feet southwest of MP 58.7	N/A
Alamance, North Carolina	60.7	Mitigation Easement	North Carolina Division of Mitigation Services	N/A	N/A	N/A	N/A	551 feet north of MP 60.7	N/A
Alamance, North Carolina	65.6	Conservation Easement	Private	0	FW, OL	0.3	<0.1	0	Conventional open-cut
Alamance, North Carolina	68.6	Planned Regional Trail	North Carolina Division of Parks and Recreation	Unknown	FW, OL	Unknown	Unknown	0	Conventional open-cut
Alamance, North Carolina	69.9 – 73.1	Planned Haw River Trail / Nationwide Rivers Inventory	Haw River Trail Partnership	N/A	N/A	N/A	N/A	190 feet west of MP 71.6	N/A
Alamance, North Carolina	69.7 – 69.8	Town of Haw River	Town of Haw River	593	CI, FW, OL, RD	2.2	0.6	0	Conventional open-cut and conventional bore
Alamance, North Carolina	69.8	Mountains-To-Sea Trail	North Carolina Division of Parks and Recreation	N/A (conventional bore)	CI	0.0	0.0	0	Conventional Bore
Alamance, North Carolina	70.0	Unknown	Town of Haw River	N/A	N/A	N/A	N/A	234 feet west of MP 70.0	N/A
Alamance, North Carolina	70.0 – 71.3	Challenge Golf Club	Private	N/A	N/A	N/A	N/A	440 feet west of MP 71.3	N/A

Table 8.4-1

Federal, State, Recreation, and Conservation Lands Crossed by or Located within 0.25 mile of the Southgate Project

County, State	Milepost	Name of Area	Land Ownership / Management	Pipeline Crossing Length (feet)	Land Use a/	Area Affected (Acres)		Distance and Direction from Pipeline or Facility (feet)	Crossing Method / Special Construction Measures
						Construction	Operation		
Alamance, North Carolina	70.2	Haw River Sanitary District Facility	Town of Haw River	186	FW	0.3	0.2	0	Conventional open-cut
Alamance, North Carolina	71.4 – 71.7	Easement	North Carolina Clean Water Trust Fund	N/A	N/A	N/A	N/A	177 feet west of MP 71.6	N/A
Alamance, North Carolina	71.8	Easement	North Carolina Clean Water Trust Fund	N/A	N/A	N/A	N/A	446 feet west of MP 71.8	N/A
Alamance, North Carolina	72.9	Graham Paddle Access – Haw River Trail	City of Graham	N/A	N/A	N/A	N/A	421 feet northwest of ATWS 1692 near MP 72.9	N/A
Contractor Yards									
Rockingham, North Carolina	28.6	Municipal parcel	City of Eden	N/A	OL	N/A	N/A	Abutting CY-04	N/A
Rockingham, North Carolina	30.7	Municipal parcel	City of Eden	N/A	CI, FW, OL	8.8	0.0	CY-07	Restore post-construction
Rockingham, North Carolina	44.8	Mitigation Easement	North Carolina Division of Mitigation Services	N/A	N/A	N/A	N/A	508 feet west of CY-08	N/A
Access Roads									
Pittsylvania, Virginia	5.6 – 5.8	Pittsylvania County Parcel	Pittsylvania County	N/A	FW, OL	0.6	0.0	TA-PI-015	Stone and Widening
Pittsylvania, Virginia	5.9	Pittsylvania County Parcel	Pittsylvania County	N/A	CI, FW, OL	1.6	0.0	TA-PI-016	Stone and Widening
Pittsylvania, Virginia	6.2	Pittsylvania County Parcel	Pittsylvania County	N/A	CI, OL	0.5	0.0	TA-PI-017	Stone and Widening

Table 8.4-1

Federal, State, Recreation, and Conservation Lands Crossed by or Located within 0.25 mile of the Southgate Project

County, State	Milepost	Name of Area	Land Ownership / Management	Pipeline Crossing Length (feet)	Land Use a/	Area Affected (Acres)		Distance and Direction from Pipeline or Facility (feet)	Crossing Method / Special Construction Measures
						Construction	Operation		
Pittsylvania, Virginia	14.2	Easement	Virginia Outdoors Foundation	N/A	N/A	N/A	N/A	TA-PI-035	N/A
Pittsylvania, Virginia	23.0	Berry Hill Industrial Park	Pittsylvania Regional Industrial Facility Authority (i.e., Commonwealth of Virginia)	N/A	FW, OL, OW, WL	2.4	0.0	TA-PI-061	Stone, Widening, and Culverts
Pittsylvania, Virginia	24.0	Berry Hill Industrial Park	Pittsylvania Regional Industrial Facility Authority (i.e., Commonwealth of Virginia)	N/A	FW, OL, OW, WL	1.6	0.0	TA-PI-063	Stone, Widening, and Culverts
Pittsylvania, Virginia	24.6	Berry Hill Industrial Park	Pittsylvania Regional Industrial Facility Authority (i.e., Commonwealth of Virginia)	N/A	FW, OL	1.5	0.0	TA-PI-064	Stone and Widening
Rockingham, North Carolina	38.8 – 38.9	None	City of Reidsville	N/A	FW, OL	0.2	0.0	TA-RO-106	Stone and Widening
Rockingham, North Carolina	N/A	Municipal parcel	City of Eden	N/A	CI, FW, OL	<0.1	0.0	TA-RO-082B	Construction entrance
Alamance, North Carolina	56.9	Ace Speedway	Private	N/A	CI, OL	0.3	0.0	TA-AL-159A	Stone and Widening

Notes:
ATWS = additional temporary workspace; HDD = horizontal directional drill; MP = milepost; CY = Contractor Yard; N/A = not applicable.
a/ FW = Upland Forest / Woodland; CI = Commercial / Industrial, OL = Upland Open Land; OW = Open Water; RD = Residential; WL = Wetland.

8.4.1.1 Pipeline Facilities

Federal Land

No federal lands were identified within 0.25 mile of the proposed construction work areas associated with the pipeline. The Southgate Project reviewed publicly available information on websites of the National Park Service ("NPS") "Find a Park" tool, National Register of Historic Places National Archives, Land and Water Conservation Fund grant sites, and protected NPS affiliated sites. This review determined that no National Parks, National Natural Landmarks, National Park Service Wilderness Areas, National Wild and Scenic Rivers, or National Scenic Byways are crossed or located within 0.25 mile of the pipeline (Bureau of Land Management, 2018; NPS, 2018a, 2018b, 2018c, 2018d; Wild and Scenic Rivers, 2018; USDA FS, 2013; USGS, 2018; USDOT, 2018). Additionally, no National Forest Lands or trails were identified within 0.25 mile of the Project through review of the U.S. Forest Service Land Status and Encumbrance web viewer (USFS, 2018). Correspondence from the NPS confirmed that no federal designated wild or scenic rivers, lands administered by federal agencies, federal-designated natural, recreational, or scenic areas, or federal-designated or administered natural landmarks or visually-sensitive areas would be crossed or within a 0.5 mile of the Project. Additionally, the NPS stated that no American battlefields are located within 0.5 mile of the Project and no Land and Water Conservation Fund sites are located in the Project area (Krueger, 2018) (see Resource Report 1, Appendix 1-K).

A segment of the Dan River crossed by the Southgate Project in North Carolina is listed on the Nationwide Rivers Inventory ("NRI"), and is therefore a candidate river for the National Wild and Scenic Rivers System. The segment is identified on the NRI as possessing outstandingly remarkable values of cultural, fish, geologic, historic, recreational, scenic, and wildlife (NPS, 2018e). The Project proposes to cross the Dan River using horizontal directional drill; therefore, no impact on the candidate river is anticipated from construction or operation of the Project (see Section 8.4.2 below for additional information on the Dan River crossing).

The segment of the Haw River within 0.25 mile of the Southgate Project in North Carolina is also listed on the NRI (NPS, 2018e), and is therefore a candidate river for the National Wild and Scenic Rivers System. The Project will not cross the Haw River; therefore, no significant impacts on the Haw River are anticipated from construction or operation of the Project (see Section 8.5.1 below for additional information on visual resources).

Virginia State Land

The Southgate Project reviewed Virginia state land databases to identify land owned or managed by the State of Virginia within 0.25 mile of the Project. No Virginia Conservation Lands or Virginia Conservation Easements were identified within 0.25 mile of the Project based on review of available databases (VDCR, 2018a). Correspondence from the Virginia Department of Conservation and Recreation confirmed that the Project will not affect any existing state parks (Duffey, 2018). The nearest state-owned conservation land to the Project is the White Oak Mountain Wildlife Management Area located approximately one mile east of the pipeline right-of-way at approximate MP 1.2 (VDCR, 2018a). The White Oak Mountain Wildlife Management Area is a 2,683 acre parcel managed by the Virginia Department of Game and Inland Fisheries. The area is used by the public for hunting, fishing, wildlife viewing, and hiking (VDIF, 2018). No impacts from construction or operation of the Project are anticipated on the area based on the distance

of the area from the Project, the low relief of the Project area, and the presence of wooded vegetation between the area and the Project.

Review of the Virginia Department of Conservation and Recreation scenic rivers map identified a legislatively designated section of the Banister River located approximately 0.2 mile east of MP 4.3 (VDCR, 2018b). This segment of the Banister River in Halifax County is used for canoeing, kayaking, and rafting. The alignment crosses the Banister River at MP 4.9. The segment of the Banister River crossed by the pipeline is identified as a future Blueway on the Blueways Master Plan (Upper Reach RRBA, 2011). Project construction is anticipated to be complete prior to development of the future Blueway; therefore, no impacts on the Blueway are anticipated from construction of the Southgate Project. No impacts on use of the Banister River as a Blueway are anticipated from operation of the Project. The pipeline will be located beneath the river and, aside from the construction period, will not obstruct passage on the river. To minimize impacts on the natural setting along the Blueway during operation, the Project will limit routine vegetation mowing or clearing adjacent to the Banister River to a 10-foot wide corridor centered on the pipeline, within 25 feet of the mean high water mark of the river, in accordance with the FERC Procedures. In addition, trees that are located within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the permanent right-of-way.

Additionally, the pipeline alignment crosses a segment of the Sandy River at MP 17.7 that has been identified as being worthy of future study for a scenic designation (VDCR, 2018b). No impact on the scenic quality or recreational use of the designated Banister River segment is anticipated from construction or operation of the Southgate Project based on the distance of the segment from the Project and the presence of U.S. Highway 29 between the Project and the river segment. Impacts on the potentially-scenic quality of the Sandy River may include temporary visual and noise impacts from construction equipment. Long-term, operation of the pipeline in this location is not anticipated to affect any potential designation of the Sandy River segment based on the presence of an existing maintained right-of-way at the proposed crossing location.

The Southgate Project identified Virginia state-owned land crossed by the pipeline alignment in Pittsylvania County from MP 22.3 to MP 24.8. The parcels are owned by a subdivision of the Commonwealth of Virginia, the Pittsylvania Regional Industrial Facility Authority, and are known collectively as the Berry Hill Industrial Park (see Resource Report 1, Section 1.10). The purpose of the parcels is for the development of an industrial park. Phase I of the industrial park development began in March 2017 and includes approximately 133 acres of site preparation. Based on the early phase of development for the industrial park, and collocation of the pipeline across the state-owned parcels, no impacts on development or use of the industrial park are anticipated from construction or operation of the Project.

Temporary access roads TA-PI-061, 063, and 064 are also located on the Virginia state-owned parcels. Use of the access roads may temporarily increase traffic on the roads during construction of the Southgate Project, and could cause road maintenance to be required from Project-related heavy equipment traffic. The Project will coordinate with the state regarding use of the access roads during construction of the Project, and will restore the temporary access roads as necessary to maintain existing conditions, post-construction.

No other state-owned, state-managed, or state-designated scenic or recreational areas were identified as crossed or within 0.25 mile of the Southgate Project in Virginia (VDCR, 2018a; VDCR, 2018b; VDOF, 2018).

North Carolina State Land

The Southgate Project reviewed North Carolina state land databases to identify lands owned or managed by the State of North Carolina within 0.25 mile of the Project. A North Carolina Ecosystem Enhancement Program Easement is located approximately 0.1 mile from MP 60.7 in Alamance County, North Carolina. The 13-acre easement is owned by the State and is managed by the North Carolina Department of Environment and Natural Resources for biodiversity (NCNHP, 2018). Based on the distance of the easement from the Project, and the presence of wooded vegetation between the easement and the Project, no impacts from construction or operation of the Project are anticipated on the easement or any management plans for biodiversity.

The Clean Water Management Trust Fund is a non-regulatory organization that focuses on protection and restoration of North Carolina's land and water resources. The fund awards grants to non-profit and governmental organizations to protect land for natural, historical, and cultural benefit. Two Clean Water Management Trust Fund easements are located within 0.25 mile of the pipeline right-of-way in Alamance County, North Carolina. These easement lands are owned by the State and are managed by North Carolina Department of Environment and Natural Resources for biodiversity. One of the easements consists of 26.7 acres and is located less than 0.1 mile from MP 71.6. The second easement consists of 1.7 acres and is located less than 0.1 mile from MP 71.8. The easements are located on the opposite (west) bank of the Haw River from the Southgate Project. No Project-related land disturbance is proposed within the parcels; therefore, impacts from construction and operation of the Project are not anticipated on the easement or any management plans for biodiversity.

Review of the North Carolina Conservation Planning Tool (2018) identified the pipeline right-of-way is located 0.25 mile from four contiguous land parcels being considered as designated state park land by the North Carolina Division of Parks and Recreation. The parcels are located west of approximate MP 58.7 in Alamance County, North Carolina and consist of a combined area of approximately 113.5 acres. No impact on the potential-designated parkland is anticipated from construction or operation of the Southgate Project based on the distance of the parcels from the Project, and the presence of wooded vegetation between the Project and the parcels.

No other state-owned, state-managed, or state-designated scenic or recreational areas were identified as crossed or within 0.25 mile of the Southgate Project in North Carolina (NCNHP, 2018; North Carolina Conservation Planning Too, 2018, 2018; NCDNCR, 2018).

County and Municipality Land

The pipeline alignment crosses two parcels owned by Pittsylvania County from approximate MP 5.5 to 6.6 in Virginia. A portion of the property, west of the pipeline crossing, is currently used as a municipal solid waste landfill (Pittsylvania County, 2018). Within the parcels, the pipeline alignment is located parallel to a Williams Transco existing maintained pipeline transmission right-of-way. Based on the location of the pipeline adjacent to existing underground natural gas pipelines, no impacts on the County parcels are anticipated from construction or operation of the Southgate Project. Temporary access roads TA-PI-015, 016, and 017 are also associated with the county parcels. Use of the county access roads may temporarily increase traffic on the roads during construction of the Project, and could cause road maintenance to be required from Project-related heavy equipment traffic. The Project will coordinate with the county

regarding use of the access roads during construction of the Project, and will restore the temporary access roads as necessary to maintain existing conditions, post-construction.

Contractor Yard CY-04 abuts a parcel owned by the City of Eden west of MP 28.6 in Rockingham County, North Carolina. The parcel is primarily undeveloped with a building located at the entrance to the property off Fieldcrest Road. The yard is located in an open field on the adjacent, privately-owned parcel. The yard is not located on the municipal parcel; therefore, no impact on the municipal parcel is anticipated from use of CY-04 during construction of the Southgate Project.

Contractor Yard CY-07 and temporary access road TA-RO-82B are located on a parcel owned by the City of Eden west of MP 30.7 in Rockingham County, North Carolina. The parcel consists of open land associated with an existing maintained utility right-of-way and a water tower. Eden City Park and Freedom Park are located across the road from the parcel and include a walking track, nature trail, picnic shelter, restrooms, horseshoe courts, sand volleyball courts, athletic fields, playground, amphitheater, and skate park (Eden North Carolina, 2018). Based on the current use and previously disturbed nature of the parcel, no significant impacts on the parcel are anticipated from use of the parcel for staging and storage of materials during construction of the Southgate Project. Temporary impacts on park visitors could include visual and noise disturbance from activities at the yard site. However, Eden City Park and Freedom Park are located adjacent to a large commercial / industrial building; therefore, activity associated with construction is not anticipated to significantly affect park visitors. Additionally, an existing row of trees between the yard site and the roadway would screen activities from view. Use of the yard site could temporarily increase traffic at the park entrance and could prevent use of the site for additional or overflow parking. The Project will coordinate with the City of Eden for use of the parcel during construction, including planning for high use events at the park, and will implement its traffic control plan to minimize disturbance to park visitors.

The pipeline alignment crosses a parcel owned by the City of Reidsville from approximate MP 38.8 to 39.0 in Rockingham, North Carolina. The property is currently forested with a small pit area (located outside of the proposed workspace) and an existing maintained Duke Power electric transmission permanent right-of-way crosses through the property. Temporary access road TA-RO-106 is also associated with the City of Reidsville parcel. Based on the presence of the existing maintained right-of-way, no impacts on use of the City parcel are anticipated from construction or operation of the Southgate Project.

The pipeline alignment crosses parcels owned by the Town of Haw River from MP 69.7 to MP 69.8 in Alamance County, North Carolina. The Town parcels include the Haw River Fire Department (Alamance County Station 4), wooded areas, and other municipal buildings. The Southgate Project will continue to coordinate with the Town of Haw River for use of the parcels during construction and operation of the Project. During construction, impacts will include use of a portion of the fire department parking lot, and the secondary station entrance off Route 49. Ingress and egress to the station will not be obstructed during construction. The parking lot and entrance will be restored post-construction in coordination with the Town, and no impact on use of the station parking lot or Route 49 entrance are anticipated during operation of the Project. Additionally, a portion of the pipeline alignment is within 0.25 mile of a parcel owned by the Town of Haw River east of MP 70.0 developed with the Haw River Sanitary District wastewater treatment facility. Construction and operation of the Project is not anticipated to affect operations at this facility. The Project crosses a corner of a wooded parcel owned by the Town of Haw River at MP 70.2 in

Alamance County, North Carolina. Impacts on use of the parcel are not anticipated based on the location of the alignment on a small portion of the interior corner of the property.

A public boat access to the Haw River owned by the City of Graham (i.e., Graham Paddle Access – Haw River Trail) is located 0.1 mile (420.9 feet) northwest of ATWS 1692 near MP 72.9 in Alamance County, North Carolina. Additional temporary workspace 1692 is proposed for use during construction of the pipeline and T-21 Haw River Interconnect. The paddle access is located 0.2 mile (1,236.6 feet) northwest of the operation area for the T-21 Haw River Interconnect. The area is used for paddle craft access to the Haw River, and is part of the Haw River Trail (see Section 8.4.2.1 below). No impact on use of the access is anticipated from construction or operation of the Southgate Project. The access would not be restricted or blocked for construction; therefore, no impact on use of the access is anticipated from construction or operation of the Project. No visual or noise disturbance is anticipated on the access from construction or operation of the Project based on the distance of the access point from the workspace and the access's proximity to North Carolina Highway 54.

Graham Regional Park is located 0.9 mile east of the T-21 Haw River Interconnect and pipeline (MP 73.1) on a 118 acre parcel in Haw River, Alamance County. The regional park opened in April 2017 with the first 18 acres featuring a youth challenge course, zip line, multipurpose trail, swing set, slides, climbing boulders, water feature, workout equipment, and open space for recreational activities. Additionally, the City of Graham has plans to expand the park (City of Graham, 2018). The park entrance is off a local road (North Jim Minor Road). Use of North Jim Minor Road is not anticipated to be necessary to access the Southgate Project by construction equipment or materials delivery as main roads such as Route 54 and Interstate 85 are in the vicinity of the Project in this location. Based on the distance of the Project from the park parcel, and the entrance location on a minor roadway, no impact on the Graham Regional Park is anticipated from construction or operation of the Project.

Non-Governmental Organization Land

The Southgate Project reviewed the Virginia Outdoors Foundation ("VOF") to identify Virginia conservation easements. One easement (PIT-VOF-3215) was identified 0.2 mile from the pipeline alignment at approximate MP 14.1 in Pittsylvania County, Virginia. This conservation easement is privately owned, and managed by VOF. The easement does not allow for public access. Temporary access road TA-PI-035 is located adjacent to the VOF easement parcel. The access road is not located within the VOF parcel; therefore, no impacts on the easement from use of the access road is anticipated from construction of the Project. No VOF reserves or Special Project Areas were identified within the Project area (VOF, 2016).

A second conservation easement was identified by the Southgate Project crossed by the pipeline from approximate MP 37.7 to MP 38.0 in Rockingham County, North Carolina. The easement is privately owned, is managed for multiple uses, and is subject to extractive activities including mining and logging (NCNHP, 2018). The Project will continue to coordinate with the easement holder to ensure use of this area during construction and operation of the Project is consistent with the conditions of the conservation easement.

An additional conservation easement was identified by the Southgate Project affected by the Project workspace at MP 65.6 in Alamance County, North Carolina. Additional temporary workspace, temporary workspace, and permanent right-of-way are located at the edge of the affected parcel and the conservation

easement is held by a private entity. The purposes of the conservation easement are to maintain, restore, enhance and create wetland and/or riparian resources in the easement area; to maintain the easement area in its natural condition consistent with the purposes of the easement; and to prevent uses in the easement area that will significantly impair or interfere with the purposes of the easement. Originally, the pipeline alignment bisected the easement. The Project incorporated a route deviation in this location which moved the alignment to the edge of the parcel, significantly reducing the amount of workspace located within the easement. The Project will continue to coordinate with the easement holder to ensure use of this area during construction and operation of the Project is consistent with the conditions of the conservation easement.

A North Carolina Division of Mitigation Services easement was identified west of Contractor Yard CY-08 (NCNHP, 2018). No impacts from construction or operation of the Project are anticipated on the easement since no workspace is located within the easement parcel.

8.4.1.2 Aboveground Facilities

No federal or state-owned or managed lands were identified within 0.25 mile of the aboveground facilities through review of the above-referenced databases (see Section 8.4.1.1). A public paddle access to the Haw River owned by the City of Graham is located 0.1 mile northwest of the T-21 Haw River Interconnect in Alamance County, North Carolina. The paddle access area is described in Section 8.4.1.1 above. No impact on use of the access is anticipated from construction or operation of the Southgate Project. The access would not be restricted or blocked for construction; therefore, no impact on use of the access is anticipated from construction or operation of the Project. No visual or noise disturbance is anticipated on the access from construction or operation of the Project based on the distance of the access point from the workspace and the access's proximity to North Carolina Highway 54.

8.4.2 Natural, Recreational, or Scenic Areas

8.4.2.1 Pipeline Facilities

Review of the North Carolina Conservation Planning Tool database (2018) identified the Dan River Trail as a North Carolina watercraft trail. The pipeline alignment crosses the Dan River at MP 30.1 in Rockingham County, North Carolina. The Dan River Trail provides boating recreation opportunities. The Southgate Project proposes to cross the Dan River using horizontal directional drill; therefore, no impact on use of the river for recreational watercraft is anticipated during construction or operation of the Project. Temporary visual and noise impacts may occur for a short-duration during construction. Temporary visual impacts are not anticipated to be significant due to the presence of a wooded buffer along the both banks of the river; that will provide visual screening of equipment in the staging areas located on either side of the river crossing.

The pipeline alignment crosses a planned regional trail near MP 68.6 in Alamance County, North Carolina. No direct effects on recreational use of the planned trail are anticipated. Temporary indirect impacts on trail users may include construction-related noise and dust and will be short in duration.

The pipeline alignment is located within 0.25 mile of the planned Haw River Trail corridor from MP 69.9 to MP 73.1 in Alamance County, North Carolina. The planned Haw River Trail corridor extends approximately 80 miles along the Haw River from Haw River State Park on the Rockingham-Guilford County line through Alamance County to Jordan Lake State Recreational Area in Chatham County (TheHaw.Org, 2018). The Haw River Trail is part of the Mountains-to-Sea Trail, described below. The

Southgate Project does not cross the Haw River Trail corridor; therefore, no impact on use of the trail during construction or operation of the Project is anticipated. Temporary visual impacts are not anticipated to be significant due to the presence of a wooded buffer along the east bank of the Haw River; which will provide visual screening of equipment during construction of the Project.

The Mountains-to-Sea Trail is North Carolina's state hiking trail managed by the North Carolina Division of Parks and Recreation. The trail consists of a 1,175-mile-long footpath from the Great Smoky Mountains to the Outer Banks in North Carolina (Friends of MST, 2018). The pipeline alignment crosses the Mountains-to-Sea Trail in a location where the trail is coincident with an existing public roadway that the Southgate Project will cross via conventional bore (MP 69.8). Based on the use of conventional bore at the crossing, and the presence of the existing public roadway, no direct effects on recreational use of the Mountains-to-Sea Trail are anticipated from construction or operation of the Project.

Private Recreational Areas

The Southgate Project reviewed publicly available databases, field surveys where access was obtained, and aerial photography to identify private recreational areas located within 0.25 mile of the Project. These areas could include campgrounds, golf courses, race tracks, and other private recreational areas.

The Southgate Project identified the Ace Speedway affected by the Project west of MP 56.9 in Alamance County, North Carolina. Ace Speedway is a 0.4 mile asphalt track featuring stock car racing from late March through September. Kart racing, all-terrain vehicle drags, tractor pulls, mud bog, and other special event are also held throughout the year (Burlington / Alamance County Convention & Business Bureau, 2018). Originally, an ATWS area was located within and across an access road for the race track. The Project has subsequently removed the ATWS area, and no direct impacts on the track are anticipated from construction or operation of the Project. Temporary access road TA-AL-159A is an existing access road on the Ace Speedway property. Use of the access road may temporarily increase traffic on the road during construction of the Project, and could cause road maintenance to be required from Project-related heavy equipment traffic. The Project will coordinate with the landowner regarding use of the access road during construction of the Project, and will restore the temporary access road as necessary to maintain existing conditions, post-construction.

Additionally, Mountain Valley identified one golf course within 0.25 mile of the Southgate Project, the Challenge Golf Club, 0.1 mile west of MP 71.3 in Alamance County, North Carolina. The golf course is located on the opposite (west) bank of the Haw River from the Project. No Project-related land disturbance is proposed within the golf course as the golf course is not crossed by the pipeline. Temporary visual impacts from the presence of construction equipment on the construction right-of-way are anticipated to be insignificant, if present, based on the distance of the Project from the golf course, the low relief in the Project area, and the presence of wooded vegetation between the golf course and the Project.

Natural Resources Conservation Service and Farm Service Agency Programs

Agricultural landowners in the Southgate Project area may be enrolled in USDA programs managed through the NRCS and the Farm Service Agency ("FSA"). The NRCS negotiates easements with landowners for a variety of land and habitat conservation priorities. The Agricultural Act of 2014 established the Agricultural Conservation Easement Program. It repealed the Farm and Ranchland Protection Program ("FRPP"), the Grassland Reserve Program ("GRP"), and the Wetlands Reserve Program ("WRP") but does not affect the validity or terms of any FRPP, GRP, or WRP contract, agreement

or easement entered into prior to the date of enactment on February 7, 2014 or any associated payments required to be made in connection with an existing FRPP, GRP, or WRP contract, agreement or easement. NRCS offers easement programs to landowners who want to maintain or enhance their land in a way beneficial to agriculture and / or the environment. All NRCS easement programs are voluntary and NRCS provides technical help and financial assistance to participating landowners (USDA NRCS, 2018a).

The Agricultural Conservation Easement Program provides financial and technical assistance to help conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements component, NRCS helps Native American tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements component, NRCS helps to restore, protect and enhance enrolled wetlands. The Healthy Forests Reserve Program helps landowners restore, enhance and protect forestland resources on private lands through easements and financial assistance. Through the Healthy Forests Reserve Program, landowners promote the recovery of endangered or threatened species, improve plant and animal biodiversity and enhance carbon sequestration (USDA NRCS, 2018a).

The Conservation Reserve Program ("CRP") is a land conservation program administered by the FSA and is the country's largest private-land conservation program. In exchange for a yearly rental payment, farmers enrolled in the program agree to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality. Contracts for land enrolled in CRP are 10 to 15 years in length. The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat. The Conservation Reserve Enhancement Program ("CREP") is an offshoot of the CRP. Also administered by the FSA, CREP targets high-priority conservation issues identified by local, state, or tribal governments or non-governmental organizations (USDA FSA, 2018).

Review of the USDA NRCS easement data layer (USDA NRCS, 2018b) did not identify any easement properties that would be crossed by the Southgate Project. To further ensure identification of USDA NRCS easements, Mountain Valley includes easement information in its landowner surveys and also requested easement information from the USDA NRCS in July 2018. Consultation with the USDA NRCS is ongoing. No USDA NRCS easements have been identified as crossed by the Project to date. The Project will continue to research affected parcel land titles for USDA NRCS easements, including FRPP. If USDA NRCS easements are identified as affected by the Project workspace through ongoing landowner discussions and / or consultation with USDA NRCS and Virginia and North Carolina state offices, the Project will work with landowners and local FSA and USDA NRCS officials to develop restoration programs that will ensure that affected enrolled acreage will be eligible to continue participation in the program(s). If identified, the Project will provide the identified easements and any mitigation for fees or penalties.

Hazardous Waste Sites

The Southgate Project conducted database research to identify, to the extent feasible, properties within 0.25 mile of the Project facilities previously impacted with oil and / or hazardous materials. A search was completed by Environmental Data Resources, Inc. ("EDR") to identify potential and actual sources of contamination to nearby groundwater resources along the Project facilities. Information from EDR is a compilation of a variety of available federal, state, and local government databases. A summary of the

environmental database sites of interest identified within 0.25 mile of the Project is included in Resource Report 2, Appendix 2-D.

Additionally, the Eden North Carolina Coal Ash Spill was identified more than 0.25 mile from the Southgate Project in Eden, North Carolina (EDR, 2018). On February 2, 2014, an estimated 39,000 tons of coal ash spilled from Duke Energy's Dan River Steam Station into the Dan River in Eden, North Carolina. The Dan River Steam Station is located approximately 2.3 river miles upstream from the Project's Dan River crossing at MP 30.1 in Rockland County, North Carolina. On May 22, 2014 the United States Environmental Protection Agency and Duke Energy entered into an Administrative Order on Consent. Under the requirements of the Administrative Order on Consent, Duke Energy removed coal ash that had accumulated at the Schoolfield Dam, Town Creek Sand Bar, and at both the Danville and South Boston water treatment facilities (located downstream of the Project's Dan River crossing). The removal action was completed in July 2014, and an estimated 4,000 cubic yards of coal ash were removed. USEPA's January 27, 2015 information update on long-term monitoring for the ash spill stated that, "following extensive surface water and sediment sampling, no further ash removal is planned. There have been no exceedances of human health screening thresholds, or any recent exceedances of ecological screening thresholds, for contaminants associated with ash" (USEPA, 2017). Based on the USEPA's January 27, 2015 status of the of the spill cleanup, and the Project's proposed HDD for the Dan River, which will avoid in-stream disturbance of stream bottom sediments, no impact on Project-related construction or operation activities associated with the coal ash spill are anticipated.

The Southgate Project does not anticipate any potential concerns associated with hazardous materials during construction and operation of the Project. If any hazardous materials are encountered during pipeline construction, the Project will dispose of and / or implement mitigation measures for the hazardous materials in accordance with applicable regulations.

8.4.2.2 Aboveground Facilities

Review of the North Carolina Conservation Planning Tool database (2018) identified the Dan River Trail as a North Carolina watercraft trail. The T-15 Dan River Interconnect is within 0.25 mile of the Dan River in Rockingham County, North Carolina. The Dan River Trail is described in Section 8.4.2.1 above. Based on the distance of the Dan River Trail from the Interconnect, the low relief in the Southgate Project area, and a wooded buffer along the banks of the Dan River, no significant temporary or long-term visual or noise impacts are anticipated from construction or operation of the T-15 Dan River Interconnect on the Dan River Trail.

Additionally, the aboveground facilities have not been identified as located on any NRCS or FSA easement program parcels based on landowner consultations completed to date.

8.4.3 Coastal Zone Management Areas

The Southgate Project is not located within a Coastal Zone Management Area (VADEQ, 2018; NCDEQ, 2018a).

8.4.4 Agency and Landowner Consultation

Resource Report 1 provides an overview of the agency and public participation process for the Southgate Project. Additionally, the Project Public Participation Plan was provided to the Commission in its May 3, 2018 Pre-Filing Request letter. A list of agencies contacted for information, consultation, or technical

assistance during preparation of this Resource Report and copies of correspondence received to date are provided in Resource Report 1, Appendix 1-K.

8.5 VISUAL RESOURCES

Visual resources include visually sensitive areas and residential areas. A discussion of residential areas and mitigation is included in Section 8.3.2 above. Visually sensitive areas include scenic roads, rivers, and trails, which may be designated at the federal, state, or local level, as well as public parks and recreation areas. A discussion of public lands, parks, and trails is provided in Section 8.4 above. Potential adverse effects on visual resources occur from any noticeable change to the visual quality of a landscape setting, and more noticeable in sensitive areas such as recreation areas, natural areas, or parks. One of the primary concerns of pipeline crossings and the siting of aboveground facilities, is the alteration of the visual landscape through removal of existing vegetation and disturbance of soils. Construction also generates dust and noise that could be an annoyance to recreational users, and could affect wildlife movement. However, these effects are temporary and occur only for the duration of construction activities in any one area.

Long-term effects on visual resources from operation of the pipeline, and aboveground facilities include the permanent removal of trees in the permanent right-of-way and permanent alteration of vegetation at the aboveground facility sites. Visual effects also can occur associated with vegetation removal in designated scenic areas, sites, or corridors if activities cannot be mitigated to meet the regulatory objectives of the associated management plans. The Federal Highway Administration America's Byways program and the Virginia and North Carolina State Scenic Byways programs were reviewed to identify any designated scenic sites, vistas, roads and corridors potentially affected by the Southgate Project. The pipeline crosses one Virginia Scenic Byway (Route 58) in Pittsylvania County at MP 20.0 (VDOT, 2018). A second scenic byway, the Colonial Heritage Byway (Route 150), is crossed by the pipeline at MP 48.4 in Rockingham County, North Carolina (NCDOT, 2008).

The Scenic Route 58 crossing in Virginia is located in a landscape consisting of a patchwork of agricultural fields and forested land. The pipeline crosses the Colonial Heritage Byway in North Carolina in a location where agricultural fields are present. At the scenic byway crossings, construction operations would be visible for a relatively short duration of time, and would temporarily affect the scenic quality of the byways. Once the pipeline is installed, there would be no long-term effect to significant natural, historic, or cultural features, and scenic or pastoral views along the scenic byways. The pipeline will be buried underground, thus avoiding effects to scenic resources in the area. No visually sensitive areas were identified within 0.25 mile of the Project aboveground facilities.

8.5.1 Pipeline Facilities

Visual impacts associated with construction and operation of the pipeline may result from the removal of vegetation, particularly in forested areas. These impacts may be most observable where the pipeline parallels or crosses roads and where vegetation is removed between the right-of-way and residences. To the extent practicable, the Southgate Project will not significantly change the topographical landscape from its current profile. Following construction, the Project will seed disturbed areas in non-agricultural lands in accordance with the Project-specific Erosion and Sediment Control Plans. The Project is preparing site-specific Erosion and Sediment Control plans which will comply with Virginia and North Carolina erosion control regulations and requirements. Where the pipeline traverses forested areas, visual impact will be longer term due to vegetation maintenance within the 50-foot-wide permanent right-of-way. These effects

are typically most noticeable where the pipeline crosses roads or cuts through wood lots, or where vegetation is removed between the permanent right-of-way and residences. To the extent practicable, the Project has attempted to avoid large tracts of forest land to reduce potential visual impacts on the landscape.

The majority of the pipeline alignment is located within open land and forest / woodland. In open lands the maintained pipeline will not significantly alter the visual characteristic of the area following revegetation and reversion of the land to pre-construction cover types. In areas where the pipeline is located in forested areas, the maintained right-of-way may be visible from certain viewpoints on roadways and at nearby residences. Since a significant portion of the pipeline will be located adjacent to and collocated with existing utility rights-of-way, and because of the existing field and forest patchwork landscape, and the generally low relief in the Southgate Project area, visual impacts during operation of the pipeline are expected to be minimal.

8.5.2 Aboveground Facilities

Effects on visual resources for each Project aboveground facility are discussed in the sections below. To reduce visual impacts from aboveground facilities within 500 feet of residential areas or public roads, including MLVs 2, 3, 5, 6, 7, the T-15 Dan River Interconnect, and the T-21 Haw River Interconnect, the Southgate Project will employ measures when designing and constructing the facilities to minimize visual impacts from construction and operation of the facilities. Such measures may include, and are not limited to:

- maintaining existing foliage, to the maximum extent practicable, around the facility;
- installing vegetative screening around the facility boundaries;
- painting buildings and equipment inside the stations in colors that reduce contrast with the natural or adjacent developed environment;
- installing downward-facing, shielded lights to mitigate off-site exposure; and,
- installing visual slats in facility fencing.

8.5.2.1 Lambert Compressor Station

The Lambert Compressor Station is a located at MP 0.0 in Pittsylvania County, Virginia. Equipment at the compressor station includes but is not limited to gas filter separators, gas coolers, inlet air filters, exhaust silencers, tanks, blowdown silencers, heaters, auxiliary generators, and typical filtration and separation equipment to protect the operating equipment. The Southgate Project will commercially purchase electric power for the compressor station from the local distribution company as back-up electric power while a series of generators will serve as primarily power for the station. Connection to the local distribution company will require installation of an electric service line, and suction piping will be required to connect the station to the pipeline. Additionally, the Project will widen an existing dirt road to the station site, and will surface the road with stone for permanent access during operation of the station.

The site for the Lambert Compressor Station is off-set from the nearest public roadway (Transco Road / Route 692) and will be accessed via an existing access road (PA-PI-001A / Transco Lane). The site consists of forested land and agricultural field and is located adjacent to existing industrial development associated with Transcontinental Gas Pipe Line Company, LLC's existing natural gas transmission system**.** The

facility will be set back from the road far enough so that the grade of the terrain and existing wooded vegetation provides adequate visual screening for the facility from the road. The outdoor lighting for the new compressor station will be limited to the minimum required for operation and security. The station security system incorporates outdoor video cameras that must have sufficient outdoor lighting to record clear images at night. The station main gate along with the station yard and all building entry and exit doors will have lighting for security. These lights will have directional control. No significant effect on visual resources is anticipated from the construction and operation of the facility.

8.5.2.2 Pig Launchers and Receivers

A pig launcher facility is located within the Lambert Compressor Station site in Pittsylvania County, Virginia. Visual effects from the pig launcher are the same as those discussed for the Lambert Compressor Station in Section 8.5.2.1 above.

A pig receiver and launcher facility is located at approximate MP 30.4 at the T-15 Dan River Interconnect in Rockingham County, North Carolina. Visual effects from the pig receiver and launcher are the same as those discussed for the T-15 Dan River Interconnect in Section 8.5.2.3 below.

A pig receiver facility is located at the terminus of the pipeline alignment at approximate MP 73.1 at the T-21 Haw River Interconnect in Alamance County, North Carolina. Visual effects from the pig receiver are the same as those discussed for the T-21 Haw River Interconnect in Section 8.5.2.3 below.

8.5.2.3 Mainline Valves and Meter Stations

Mainline Valves

The Southgate Project will install eight MLVs at intermediate locations along the pipeline alignment (see Resource Report 1). MLV 1 will be located within the footprint of the Lambert Compressor Station (MP 0.0), MLV 4 will be located within the footprint of the Dan River Interconnect (MP 30.4) and MLV 8 will be located within the footprint of the T-21 Haw River Interconnect (MP 73.1). Visual effects from these MLVs are the same as those discussed for the Lambert Compressor Station (section 8.5.2.1 above) and the Dan River and T-21 Haw River Interconnects (below).

The remaining MLVs will be located within the permanent right-of-way for the pipeline, and each location consists of an approximate 50-foot by 50-foot area. MLV facilities will include minor, aboveground piping surrounded by chain link fence. MLVs 2 and 3 are located adjacent to existing minor aboveground facilities associated with the existing pipeline system and will utilize existing permanent access roads during operation. MLVs 5, 6, and 7 will be accessed from public roadways and along the permanent right-of-way for the pipeline. Similar to effects on visual resources from construction of the pipeline, visual effects from construction of the mainline valves are anticipated to be short-term. The MLVs are not located directly adjacent to or across the roadway from any residences. Additionally, the MLVs are not located within 0.25 mile of any public parks, recreation areas, or scenic byways; therefore, no significant long-term visual effects are anticipated from these minor aboveground facilities.

Meter Stations

The Southgate Project will install meter (interconnect) stations consisting of a custody-transfer flow meter, pressure / flow regulator, over pressure protection, isolation block valves, and associated instrumentation and controls at the proposed gas receipt and delivery points to measure the flow of natural gas between the

Project and the interconnecting facility (see Resource Report 1). Each interconnect will consist of one or more meter runs located inside a fenced and gated site and will contain flow or pressure control.

The Lambert Interconnect will be located within the site for the Lambert Compressor Station (MP 0.0 in Pittsylvania, Virginia). Visual effects from the Lambert Interconnect are the same as those discussed for the Lambert Compressor Station (see Section 8.5.2.1 above).

The LN 3600 Interconnect will be located at MP 28.2 in Rockingham County, North Carolina. While construction may be visible from the roadway, impacts will be short-term, and will not be significantly greater than existing, adjacent agricultural operation activities. There are no residences directly adjacent to or across the road from the station site. Additionally, the station is not located within 0.25 mile of any public parks, recreation areas, or scenic byways; therefore, no significant long-term visual effects are anticipated from operation of the facility.

The T-15 Dan River Interconnect will be located at MP 30.4 in Rockingham County, North Carolina. The station is located adjacent to existing minor industrial facilities associated with utility infrastructure and will be accessed from an existing permanent access road (PA-RO-082) off Route 709. While construction may be visible from the roadway, impacts will be short-term, and will not be significantly greater than existing, adjacent agricultural operation activities. There are no residences directly adjacent to or across the road from the station site. Additionally, the station is not located within 0.25 mile of any public parks, recreation areas, or scenic byways; therefore, no significant long-term visual effects are anticipated from operation of the facility.

The T-21 Haw River Interconnect will be located at MP 73.1 at the terminus of the pipeline alignment in Alamance County, North Carolina. The station is located adjacent to existing industrial facilities associated with utility infrastructure and will be accessed from an existing permanent access road (PA-AL-194) off North Carolina Highway 54. While construction may be visible from the roadway, impacts will be short-term, and are not anticipated to significantly affect visual resources. There are no residences directly adjacent to or across the road from the station site. Additionally, the station is not located within 0.25 mile of any public parks or scenic byways; therefore, no significant long-term visual effects are anticipated from operation of the facility. No visual or noise impacts from construction or operation of the interconnect are anticipated on the Graham Paddle Access identified in Section 8.4 above based on the proximity of the water access to North Carolina Highway 54.

8.5.2.4 Cathodic Protection

The Southgate Project will install four groundbeds for cathodic protection (see Resource Report 1). Groundbeds (approximately 50 feet wide by 500 feet long) will be located perpendicular to the permanent right-of-way. Deep wells, if used, may be contained within the 50-foot permanent right-of-way or adjoining (if required, 25 feet by 25 feet additional permanent right-of-way required). Groundbeds are located primarily within upland open land, within or at the edge of existing open fields, and are not anticipated to result in any significant visual impact on the landscape. Maintained groundbeds will be installed subsurface and will blend with the existing landscape in the Project area.

8.6 APPLICATIONS FOR RIGHTS-OF-WAY AND OTHER LAND USE

No land under the jurisdiction of federal land-managing agencies will be affected by the Southgate Project; therefore, no applications for rights-of-way or other land use will be filed with federal land-managing agencies for the Project.

8.7 REFERENCES

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MVP Southgate Project

Docket No. CP19-XX-000

Resource Report 8

Appendix 8-A

Table 8-A
Land Use Crossed by Milepost by the MVP Southgate Project

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
H-605 Pipeline			
Upland Forest / Woodland	0.00	0.10	519.5
Upland Forest / Woodland	0.10	0.12	1,18.1
Wetland	0.12	0.12	11.7
Upland Open Land Water	0.12	0.12	6.0
Upland Forest / Woodland	0.12	0.28	836.2
Upland Open Land	0.28	0.29	44.7
Agriculture	0.29	0.35	333.9
Upland Open Land	0.35	0.39	164.9
Agriculture	0.39	0.44	278.3
H-650 Pipeline			
Upland Open Land	0.00	0.01	55.3
Agriculture	0.01	0.02	51.4
Upland Open Land	0.02	0.03	43.6
Agriculture	0.03	0.03	19.8
Upland Open Land	0.03	0.06	151.8
Upland Forest / Woodland	0.06	0.16	542.9
Wetland	0.16	0.17	57.5
Upland Forest / Woodland	0.17	0.32	750.2
Wetland	0.32	0.38	344.9
Upland Open Land	0.38	0.39	18.6
Upland Forest / Woodland	0.39	0.39	1.5
Wetland	0.39	0.39	11.4
Upland Forest / Woodland	0.39	0.39	18.3
Upland Open Land Water	0.39	0.40	21.4
Upland Forest / Woodland	0.40	0.42	113.4
Upland Open Land	0.42	0.44	132.8
Upland Forest / Woodland	0.44	0.52	399.5
Upland Open Land	0.52	0.55	152.7
Upland Forest / Woodland	0.55	0.55	16.4
Upland Open Land Water	0.55	0.55	14.1
Wetland	0.55	0.56	30.3
Upland Forest / Woodland	0.56	0.56	9.1
Upland Open Land	0.56	0.56	0.3
Wetland	0.56	0.60	194.4
Upland Open Land	0.60	0.71	573.1
Commercial / Industrial	0.71	0.71	25.4

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	0.71	0.87	830.6
Commercial / Industrial	0.87	0.87	26.7
Upland Open Land	0.87	0.92	225.0
Silviculture	0.92	0.96	252.6
Upland Forest / Woodland	0.96	0.98	86.3
Wetland	0.98	0.98	12.9
Upland Forest / Woodland	0.98	0.99	60.0
Upland Open Land	0.99	1.00	16.0
Agriculture	1.00	1.07	367.3
Upland Forest / Woodland	1.07	1.09	117.2
Agriculture	1.09	1.09	6.9
Upland Forest / Woodland	1.09	1.10	49.6
Upland Open Land Water	1.10	1.10	4.6
Upland Forest / Woodland	1.10	1.11	44.7
Agriculture	1.11	1.13	116.4
Upland Forest / Woodland	1.13	1.15	115.3
Upland Open Land	1.15	1.25	537.4
Upland Forest / Woodland	1.25	1.31	305.8
Upland Open Land	1.31	1.33	117.6
Upland Forest / Woodland	1.33	1.34	17.0
Upland Open Land	1.34	1.37	178.2
Wetland	1.37	1.40	155.7
Upland Forest / Woodland	1.40	1.41	61.5
Wetland	1.41	1.41	10.6
Upland Open Land Water	1.41	1.41	4.1
Wetland	1.41	1.46	254.8
Upland Forest / Woodland	1.46	1.47	35.9
Wetland	1.47	1.62	770.2
Upland Open Land	1.62	1.69	408.0
Wetland	1.69	1.70	55.3
Upland Open Land	1.70	1.70	8.0
Upland Forest / Woodland	1.70	1.71	46.4
Upland Open Land Water	1.71	1.72	29.6
Upland Forest / Woodland	1.72	1.73	34.6
Upland Open Land	1.73	1.79	331.1
Wetland	1.79	1.86	362.0
Wetland	1.86	1.91	289.6

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Wetland	1.91	2.18	1420.9
Upland Open Land	2.18	2.21	145.3
Wetland	2.21	2.22	48.7
Upland Forest / Woodland	2.22	2.22	12.5
Upland Open Land	2.22	2.30	407.8
Upland Forest / Woodland	2.30	2.43	685.2
Upland Open Land	2.43	2.45	95.9
Upland Forest / Woodland	2.45	2.51	361.1
Upland Open Land	2.51	2.52	53.2
Upland Forest / Woodland	2.52	2.53	41.7
Upland Open Land	2.53	2.53	14.7
Upland Forest / Woodland	2.53	2.54	48.4
Upland Open Land	2.54	2.55	21.6
Upland Forest / Woodland	2.55	2.57	143.3
Upland Open Land	2.57	2.78	1,093.0
Commercial / Industrial	2.78	2.79	27.2
Agriculture	2.79	2.91	672.7
Commercial / Industrial	2.91	2.92	24.6
Agriculture	2.92	2.98	297.5
Commercial / Industrial	2.98	2.98	28.6
Agriculture	2.98	3.17	999.2
Upland Open Land	3.17	3.23	294.5
Upland Forest / Woodland	3.23	3.23	3.7
Upland Open Land Water	3.23	3.23	7.8
Upland Forest / Woodland	3.23	3.24	52.4
Upland Open Land	3.24	3.26	110.6
Agriculture	3.26	3.40	748.8
Commercial / Industrial	3.40	3.40	15.2
Agriculture	3.40	3.56	813.2
Upland Forest / Woodland	3.56	3.58	92.5
Wetland	3.58	3.58	43.7
Upland Open Land Water	3.58	3.59	9.8
Wetland	3.59	3.59	1.4
Upland Forest / Woodland	3.59	3.60	80.0
Agriculture	3.60	3.82	1,169.7
Upland Forest / Woodland	3.82	3.83	61.6
Upland Open Land	3.83	3.92	439.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Agriculture	3.92	4.02	526.0
Upland Forest / Woodland	4.02	4.02	35.8
Wetland	4.02	4.02	5.1
Upland Open Land Water	4.02	4.03	5.7
Upland Forest / Woodland	4.03	4.03	18.3
Agriculture	4.03	4.11	444.8
Upland Forest / Woodland	4.11	4.12	50.0
Upland Open Land Water	4.12	4.12	3.8
Upland Forest / Woodland	4.12	4.13	32.7
Agriculture	4.13	4.24	556.9
Commercial / Industrial	4.24	4.24	21.7
Upland Open Land	4.24	4.27	186.2
Commercial / Industrial	4.27	4.28	16.3
Upland Forest / Woodland	4.28	4.31	159.3
Upland Forest / Woodland	4.31	4.32	72.7
Commercial / Industrial	4.32	4.34	117.4
Upland Open Land	4.34	4.35	35.6
Upland Forest / Woodland	4.35	4.41	330.6
Upland Open Land	4.41	4.50	436.2
Upland Forest / Woodland	4.50	4.50	11.9
Upland Open Land	4.50	4.53	144.6
Upland Forest / Woodland	4.53	4.53	6.1
Upland Open Land	4.53	4.54	87.6
Upland Forest / Woodland	4.54	4.56	95.1
Upland Open Land	4.56	4.62	308.8
Upland Forest / Woodland	4.62	4.78	859.7
Upland Open Land	4.78	4.83	245.9
Upland Forest / Woodland	4.83	4.84	46.6
Upland Open Land Water	4.84	4.84	4.0
Upland Forest / Woodland	4.84	4.84	9.0
Upland Open Land	4.84	4.85	63.7
Wetland	4.85	4.92	373.0
Wetland	4.92	4.92	9.1
Upland Open Land	4.92	4.93	50.9
Upland Open Land Water	4.93	4.94	48.4
Upland Open Land	4.94	4.99	267.2
Upland Forest / Woodland	4.99	5.01	78.3

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Wetland	5.01	5.01	13.5
Upland Open Land Water	5.01	5.02	32.7
Wetland	5.02	5.04	123.4
Upland Forest / Woodland	5.04	5.05	68.0
Upland Open Land	5.05	5.06	34.2
Upland Forest / Woodland	5.06	5.10	214.3
Upland Open Land	5.10	5.11	30.9
Upland Forest / Woodland	5.11	5.12	43.1
Wetland	5.12	5.13	86.5
Upland Open Land Water	5.13	5.14	23.0
Upland Forest / Woodland	5.14	5.14	46.1
Wetland	5.14	5.20	308.8
Upland Forest / Woodland	5.20	5.22	71.8
Wetland	5.22	5.24	122.4
Upland Forest / Woodland	5.24	5.25	30.4
Upland Open Land	5.25	5.25	19.9
Commercial / Industrial	5.25	5.26	53.4
Upland Open Land	5.26	5.27	40.0
Upland Forest / Woodland	5.27	5.42	800.0
Upland Open Land	5.42	5.43	54.9
Upland Forest / Woodland	5.43	5.45	128.5
Upland Open Land	5.45	5.49	199.0
Upland Forest / Woodland	5.49	5.55	312.9
Upland Open Land	5.55	5.56	62.6
Upland Forest / Woodland	5.56	5.58	101.5
Upland Open Land	5.58	5.72	708.6
Upland Forest / Woodland	5.72	5.76	216.0
Upland Open Land	5.76	5.76	18.8
Upland Forest / Woodland	5.76	5.79	155.8
Upland Open Land	5.79	5.94	818.2
Upland Forest / Woodland	5.94	5.95	30.2
Upland Open Land	5.95	5.98	163.6
Upland Forest / Woodland	5.98	6.00	90.2
Upland Open Land	6.00	6.11	569.0
Upland Forest / Woodland	6.11	6.15	225.4
Upland Open Land	6.15	6.15	14.5
Upland Forest / Woodland	6.15	6.19	223.1

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	6.19	6.21	69.3
Upland Forest / Woodland	6.21	6.22	67.6
Upland Open Land	6.22	6.40	926.9
Upland Forest / Woodland	6.40	6.40	19.3
Upland Open Land	6.40	6.44	232.2
Upland Forest / Woodland	6.44	6.47	165.7
Upland Open Land	6.47	6.55	385.8
Upland Forest / Woodland	6.55	6.56	72.7
Upland Open Land	6.56	6.57	50.6
Upland Forest / Woodland	6.57	6.57	10.3
Wetland	6.57	6.58	53.3
Upland Forest / Woodland	6.58	6.61	135.4
Upland Open Land	6.61	6.62	79.5
Upland Forest / Woodland	6.62	6.64	78.0
Upland Open Land	6.64	6.64	20.8
Upland Open Land Water	6.64	6.64	5.3
Upland Open Land	6.64	6.69	232.1
Upland Forest / Woodland	6.69	6.70	91.0
Upland Open Land	6.70	6.72	70.5
Upland Forest / Woodland	6.72	6.74	108.2
Upland Open Land	6.74	6.75	42.1
Upland Forest / Woodland	6.75	6.75	36.1
Upland Open Land	6.75	6.76	32.5
Upland Forest / Woodland	6.76	6.84	433.3
Upland Open Land	6.84	6.85	38.8
Upland Forest / Woodland	6.85	6.94	488.9
Upland Open Land	6.94	6.96	85.3
Upland Forest / Woodland	6.96	6.96	25.8
Upland Open Land Water	6.96	6.96	3.9
Upland Forest / Woodland	6.96	6.98	114.6
Upland Open Land Water	6.98	6.99	5.3
Upland Forest / Woodland	6.99	6.99	39.0
Upland Open Land	6.99	7.03	208.9
Upland Forest / Woodland	7.03	7.06	121.6
Agriculture	7.06	7.11	312.6
Upland Open Land	7.11	7.17	271.6
Commercial / Industrial	7.17	7.17	38.9

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	7.17	7.32	752.2
Upland Forest / Woodland	7.32	7.32	36.1
Upland Forest / Woodland	7.32	7.35	141.1
Upland Open Land	7.35	7.36	48.6
Upland Forest / Woodland	7.36	7.37	38.6
Upland Open Land	7.37	7.37	46.0
Commercial / Industrial	7.37	7.41	195.1
Commercial / Industrial	7.41	7.42	26.6
Upland Open Land	7.42	7.50	425.7
Upland Forest / Woodland	7.50	7.50	1.6
Upland Open Land	7.50	7.51	48.6
Upland Forest / Woodland	7.51	7.51	21.6
Upland Open Land	7.51	7.58	375.2
Upland Open Land Water	7.58	7.58	3.2
Upland Open Land	7.58	7.62	186.8
Upland Forest / Woodland	7.62	7.65	165.4
Upland Open Land	7.65	7.97	1,719.1
Wetland	7.97	7.98	3.2
Upland Open Land Water	7.98	7.98	9.1
Wetland	7.98	7.98	4.9
Upland Forest / Woodland	7.98	7.99	76.5
Upland Open Land	7.99	8.08	448.9
Commercial / Industrial	8.08	8.08	22.4
Upland Open Land	8.08	8.13	272.7
Upland Forest / Woodland	8.13	8.17	178.4
Upland Open Land	8.17	8.38	1,119.5
Upland Forest / Woodland	8.38	8.38	5.2
Upland Open Land	8.38	8.40	125.9
Wetland	8.40	8.42	97.5
Upland Open Land	8.42	8.43	35.9
Upland Forest / Woodland	8.43	8.45	125.6
Upland Open Land	8.45	8.52	357.3
Upland Forest / Woodland	8.52	8.52	11.6
Upland Open Land	8.52	8.53	24.2
Wetland	8.53	8.55	93.4
Upland Open Land Water	8.55	8.55	8.1
Wetland	8.55	8.55	32.4

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	8.55	8.56	18.9
Upland Forest / Woodland	8.56	8.56	14.2
Upland Open Land Water	8.56	8.56	9.3
Upland Open Land	8.56	8.57	33.0
Wetland	8.57	8.58	46.6
Upland Forest / Woodland	8.58	8.59	96.4
Upland Open Land	8.59	8.78	987.1
Upland Forest / Woodland	8.78	8.85	380.2
Upland Open Land	8.85	8.85	3.7
Upland Forest / Woodland	8.85	8.88	132.5
Upland Open Land	8.88	8.90	112.1
Upland Forest / Woodland	8.90	8.93	156.8
Upland Open Land	8.93	8.96	166.0
Upland Forest / Woodland	8.96	9.05	459.4
Upland Open Land Water	9.05	9.05	23.0
Upland Forest / Woodland	9.05	9.10	228.7
Upland Open Land	9.10	9.10	41.9
Upland Forest / Woodland	9.10	9.11	17.1
Upland Open Land	9.11	9.12	76.9
Agriculture	9.12	9.34	1,154.3
Commercial / Industrial	9.34	9.34	20.1
Upland Open Land	9.34	9.35	15.6
Upland Forest / Woodland	9.35	9.36	52.2
Upland Open Land	9.36	9.42	349.3
Upland Forest / Woodland	9.42	9.52	486.3
Agriculture	9.52	9.59	373.1
Upland Open Land	9.59	9.59	22.2
Upland Forest / Woodland	9.59	9.72	672.2
Upland Open Land	9.72	9.77	282.0
Upland Forest / Woodland	9.77	9.77	19.1
Upland Open Land	9.77	9.81	179.9
Agriculture	9.81	9.84	163.2
Upland Open Land	9.84	9.85	50.9
Upland Forest / Woodland	9.85	9.86	45.1
Upland Open Land	9.86	9.88	102.1
Agriculture	9.88	9.89	55.9
Upland Open Land	9.89	9.89	11.7

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	9.89	9.90	40.0
Upland Open Land Water	9.90	9.90	2.6
Upland Forest / Woodland	9.90	9.90	14.0
Wetland	9.90	9.91	26.7
Upland Forest / Woodland	9.91	9.92	89.8
Upland Open Land Water	9.92	9.93	13.9
Upland Forest / Woodland	9.93	9.94	75.7
Wetland	9.94	9.95	40.2
Upland Forest / Woodland	9.95	10.07	670.7
Upland Open Land	10.07	10.08	14.1
Upland Forest / Woodland	10.08	10.08	18.6
Wetland	10.08	10.08	3.3
Upland Forest / Woodland	10.08	10.13	272.4
Upland Open Land	10.13	10.14	36.0
Upland Forest / Woodland	10.14	10.20	322.7
Upland Open Land	10.20	10.21	26.4
Commercial / Industrial	10.21	10.21	33.3
Upland Open Land	10.21	10.22	58.2
Residential	10.22	10.26	193.7
Upland Open Land	10.26	10.34	401.6
Upland Forest / Woodland	10.34	10.44	530.6
Commercial / Industrial	10.44	10.44	9.3
Upland Forest / Woodland	10.44	10.71	1,456.2
Residential	10.71	10.74	146.2
Commercial / Industrial	10.74	10.75	27.9
Upland Open Land	10.75	10.76	54.7
Upland Forest / Woodland	10.76	10.79	157.3
Upland Open Land	10.79	10.99	1,068.0
Upland Forest / Woodland	10.99	11.03	220.1
Upland Open Land Water	11.03	11.04	27.0
Upland Forest / Woodland	11.04	11.04	11.5
Upland Open Land Water	11.04	11.04	4.3
Upland Forest / Woodland	11.04	11.04	18.1
Upland Open Land Water	11.04	11.04	8.8
Upland Forest / Woodland	11.04	11.06	108.8
Upland Open Land	11.06	11.17	554.2
Upland Forest / Woodland	11.17	11.24	353.9

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Agriculture	11.24	11.25	77.6
Upland Forest / Woodland	11.25	11.26	71.9
Upland Open Land	11.26	11.27	29.1
Upland Forest / Woodland	11.27	11.39	636.0
Upland Open Land Water	11.39	11.39	11.6
Upland Forest / Woodland	11.39	11.40	54.8
Upland Forest / Woodland	11.40	11.40	4.7
Upland Open Land	11.40	11.49	435.7
Upland Forest / Woodland	11.49	11.49	16.7
Upland Open Land	11.49	11.54	267.1
Upland Forest / Woodland	11.54	11.60	319.2
Upland Forest / Woodland	11.60	11.62	75.2
Wetland	11.62	11.62	29.0
Upland Open Land Water	11.62	11.62	4.2
Wetland	11.62	11.63	20.0
Upland Forest / Woodland	11.63	11.75	648.0
Upland Forest / Woodland	11.75	11.81	312.5
Upland Forest / Woodland	11.81	11.91	526.5
Upland Open Land Water	11.91	11.91	22.9
Upland Forest / Woodland	11.91	12.00	449.8
Upland Open Land	12.00	12.00	24.0
Upland Forest / Woodland	12.00	12.05	255.9
Upland Open Land	12.05	12.12	397.2
Upland Forest / Woodland	12.12	12.18	305.6
Agriculture	12.18	12.36	913.4
Commercial / Industrial	12.36	12.36	23.5
Agriculture	12.36	12.51	787.8
Upland Forest / Woodland	12.51	12.52	71.7
Agriculture	12.52	12.72	1,019.4
Upland Forest / Woodland	12.72	12.73	97.1
Upland Open Land	12.73	12.74	12.7
Upland Forest / Woodland	12.74	12.76	143.7
Wetland	12.76	12.77	7.5
Upland Open Land Water	12.77	12.77	15.3
Wetland	12.77	12.77	5.8
Upland Forest / Woodland	12.77	12.77	1.5
Upland Forest / Woodland	12.77	13.04	1,403.6

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	13.04	13.24	1,091.2
Upland Forest / Woodland	13.24	13.27	134.2
Upland Open Land	13.27	13.37	557.9
Commercial / Industrial	13.37	13.38	20.6
Upland Open Land	13.38	13.38	28.9
Upland Forest / Woodland	13.38	13.42	212.2
Wetland	13.42	13.43	56.3
Upland Forest / Woodland	13.43	13.44	22.9
Upland Open Land Water	13.44	13.44	16.2
Upland Forest / Woodland	13.44	13.46	82.7
Wetland	13.46	13.46	5.5
Upland Forest / Woodland	13.46	13.46	19.4
Wetland	13.46	13.47	24.2
Upland Forest / Woodland	13.47	13.52	264.9
Upland Open Land	13.52	13.52	8.4
Upland Forest / Woodland	13.52	13.54	111.4
Upland Open Land	13.54	13.55	36.1
Upland Forest / Woodland	13.55	13.55	7.8
Upland Open Land	13.55	13.65	547.6
Upland Forest / Woodland	13.65	13.76	560.0
Upland Open Land	13.76	13.76	23.9
Upland Forest / Woodland	13.76	13.99	1,206.3
Upland Open Land	13.99	14.15	842.9
Upland Forest / Woodland	14.15	14.24	486.2
Wetland	14.24	14.25	55.8
Upland Forest / Woodland	14.25	14.27	72.6
Upland Open Land Water	14.27	14.27	11.9
Upland Forest / Woodland	14.27	14.31	236.1
Upland Forest / Woodland	14.31	14.52	1,104.0
Upland Open Land	14.52	14.54	112.3
Upland Forest / Woodland	14.54	14.55	23.1
Upland Open Land	14.55	14.55	34.5
Upland Forest / Woodland	14.55	14.62	342.1
Upland Open Land	14.62	14.70	447.2
Upland Forest / Woodland	14.70	14.72	96.8
Upland Open Land Water	14.72	14.72	2.5
Wetland	14.72	14.72	3.3

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	14.72	14.75	122.8
Upland Open Land	14.75	14.85	536.7
Commercial / Industrial	14.85	14.85	24.0
Agriculture	14.85	15.21	1891.3
Upland Open Land	15.21	15.21	17.8
Upland Forest / Woodland	15.21	15.22	29.2
Upland Open Land Water	15.22	15.22	5.1
Upland Forest / Woodland	15.22	15.28	314.4
Agriculture	15.28	15.38	538.1
Upland Forest / Woodland	15.38	15.40	107.1
Silviculture	15.40	15.46	282.4
Upland Forest / Woodland	15.46	15.46	38.2
Upland Open Land	15.46	15.66	1,038.2
Upland Forest / Woodland	15.66	15.69	159.3
Upland Open Land Water	15.69	15.69	24.0
Upland Forest / Woodland	15.69	15.73	191.2
Upland Forest / Woodland	15.73	15.84	601.7
Upland Open Land	15.84	15.86	73.6
Upland Forest / Woodland	15.86	15.86	27.0
Upland Open Land Water	15.86	15.86	6.3
Upland Forest / Woodland	15.86	15.93	320.7
Upland Open Land	15.93	15.93	12.1
Commercial / Industrial	15.93	15.93	23.4
Upland Open Land	15.93	15.94	49.3
Upland Forest / Woodland	15.94	15.98	228.5
Upland Forest / Woodland	15.98	16.00	57.4
Upland Open Land Water	16.00	16.00	4.9
Upland Forest / Woodland	16.00	16.00	21.3
Upland Open Land Water	16.00	16.00	2.0
Upland Forest / Woodland	16.00	16.03	174.2
Upland Open Land	16.03	16.10	336.2
Upland Forest / Woodland	16.10	16.10	18.7
Upland Open Land	16.10	16.13	151.1
Upland Forest / Woodland	16.13	16.14	32.9
Upland Open Land	16.14	16.15	73.4
Upland Forest / Woodland	16.15	16.16	37.6
Upland Open Land Water	16.16	16.16	2.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Wetland	16.16	16.17	39.2
Upland Forest / Woodland	16.17	16.26	502.0
Agriculture	16.26	16.44	933.7
Commercial / Industrial	16.44	16.44	41.4
Agriculture	16.44	16.50	265.3
Upland Forest / Woodland	16.50	16.51	66.8
Agriculture	16.51	16.58	374.2
Upland Forest / Woodland	16.58	16.58	25.5
Agriculture	16.58	16.68	502.0
Upland Forest / Woodland	16.68	16.71	152.7
Upland Open Land	16.71	16.71	22.0
Agriculture	16.71	16.78	369.9
Upland Forest / Woodland	16.78	16.79	43.9
Upland Open Land Water	16.79	16.79	5.7
Upland Forest / Woodland	16.79	16.80	73.2
Agriculture	16.80	16.94	697.2
Upland Forest / Woodland	16.94	16.95	71.3
Upland Open Land Water	16.95	16.95	2.4
Upland Forest / Woodland	16.95	16.98	168.1
Agriculture	16.98	17.05	378.3
Upland Forest / Woodland	17.05	17.06	20.1
Agriculture	17.06	17.12	307.8
Upland Forest / Woodland	17.12	17.13	54.3
Agriculture	17.13	17.23	531.9
Upland Open Land	17.23	17.25	125.0
Upland Forest / Woodland	17.25	17.29	215.7
Upland Open Land Water	17.29	17.29	11.6
Upland Forest / Woodland	17.29	17.34	226.2
Upland Open Land	17.34	17.50	850.7
Upland Forest / Woodland	17.50	17.53	168.8
Upland Open Land	17.53	17.56	167.2
Upland Forest / Woodland	17.56	17.73	888.8
Upland Open Land Water	17.73	17.75	84.9
Upland Forest / Woodland	17.75	18.01	1415.9
Upland Open Land Water	18.01	18.02	6.0
Upland Forest / Woodland	18.02	18.11	477.7
Upland Open Land	18.11	18.12	85.1

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	18.12	18.23	550.7
Upland Open Land	18.23	18.25	148.2
Commercial / Industrial	18.25	18.26	26.2
Agriculture	18.26	18.43	908.9
Upland Forest / Woodland	18.43	18.51	424.5
Agriculture	18.51	18.63	618.0
Upland Forest / Woodland	18.63	18.68	247.6
Upland Open Land	18.68	18.89	1,114.8
Upland Forest / Woodland	18.89	18.96	361.3
Upland Open Land	18.96	19.00	241.9
Upland Forest / Woodland	19.00	19.01	70.7
Commercial / Industrial	19.01	19.03	66.4
Upland Open Land	19.03	19.05	109.9
Agriculture	19.05	19.20	828.2
Residential	19.20	19.23	155.4
Upland Open Land	19.23	19.24	46.8
Commercial / Industrial	19.24	19.25	37.6
Agriculture	19.25	19.33	444.0
Upland Forest / Woodland	19.33	19.34	3.3
Agriculture	19.34	19.42	434.2
Upland Open Land	19.42	19.43	88.9
Upland Open Land Water	19.43	19.43	3.8
Upland Open Land	19.43	19.44	21.0
Upland Forest / Woodland	19.44	19.44	18.4
Upland Open Land	19.44	19.45	34.2
Upland Forest / Woodland	19.45	19.45	4.3
Upland Forest / Woodland	19.45	19.50	240.8
Upland Open Land	19.50	19.51	58.5
Upland Forest / Woodland	19.51	19.54	170.3
Upland Open Land	19.54	19.55	58.9
Upland Forest / Woodland	19.55	19.56	44.2
Upland Open Land	19.56	19.56	25.7
Upland Forest / Woodland	19.56	19.59	154.0
Upland Open Land	19.59	19.60	18.3
Upland Forest / Woodland	19.60	19.60	18.3
Upland Open Land	19.60	19.62	126.5
Upland Forest / Woodland	19.62	19.63	57.2

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	19.63	19.67	207.0
Upland Forest / Woodland	19.67	19.68	41.0
Upland Open Land	19.68	19.68	3.3
Upland Forest / Woodland	19.68	19.71	170.0
Upland Open Land Water	19.71	19.72	8.9
Upland Open Land	19.72	19.72	50.9
Upland Forest / Woodland	19.72	19.73	26.8
Upland Open Land	19.73	19.79	309.2
Upland Forest / Woodland	19.79	19.79	12.1
Upland Open Land	19.79	19.87	443.6
Upland Forest / Woodland	19.87	19.93	310.2
Upland Open Land	19.93	19.94	35.3
Commercial / Industrial	19.94	19.97	181.4
Upland Open Land	19.97	20.09	613.3
Residential	20.09	20.12	147.0
Upland Open Land	20.12	20.14	109.5
Residential	20.14	20.17	151.0
Upland Open Land	20.17	20.17	19.9
Upland Forest / Woodland	20.17	20.19	87.9
Upland Open Land	20.19	20.23	213.7
Upland Forest / Woodland	20.23	20.28	283.8
Agriculture	20.28	20.37	441.1
Upland Forest / Woodland	20.37	20.38	72.5
Wetland	20.38	20.38	5.3
Upland Open Land Water	20.38	20.38	9.3
Wetland	20.38	20.38	3.0
Upland Open Land Water	20.38	20.38	4.3
Upland Forest / Woodland	20.38	20.39	7.7
Upland Open Land	20.39	20.49	533.5
Agriculture	20.49	20.58	469.5
Upland Forest / Woodland	20.58	20.60	152.1
Upland Open Land Water	20.60	20.61	6.2
Wetland	20.61	20.61	2.2
Upland Forest / Woodland	20.61	20.61	24.8
Upland Open Land	20.61	20.66	271.5
Upland Forest / Woodland	20.66	20.70	201.1
Upland Open Land	20.70	20.74	233.2

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	20.74	20.83	450.1
Upland Forest / Woodland	20.83	20.87	213.1
Agriculture	20.87	20.90	141.2
Upland Open Land	20.90	20.92	118.4
Agriculture	20.92	20.94	110.1
Upland Forest / Woodland	20.94	20.97	168.2
Upland Open Land Water	20.97	20.97	7.8
Upland Forest / Woodland	20.97	20.98	38.6
Wetland	20.98	20.99	53.6
Upland Forest / Woodland	20.99	21.07	441.0
Upland Open Land	21.07	21.16	463.4
Upland Forest / Woodland	21.16	21.18	120.0
Upland Open Land	21.18	21.22	192.1
Wetland	21.22	21.23	47.5
Wetland	21.23	21.23	6.6
Upland Forest / Woodland	21.23	21.24	29.1
Upland Open Land Water	21.24	21.24	4.4
Upland Forest / Woodland	21.24	21.24	13.1
Wetland	21.24	21.25	74.9
Wetland	21.25	21.26	7.7
Upland Forest / Woodland	21.26	21.29	189.6
Upland Open Land	21.29	21.34	262.8
Upland Forest / Woodland	21.34	21.81	2,498.6
Residential	21.81	21.85	209.1
Upland Forest / Woodland	21.85	21.91	305.0
Upland Open Land	21.91	21.92	18.8
Upland Forest / Woodland	21.92	21.97	287.1
Upland Forest / Woodland	21.97	22.00	166.3
Wetland	22.00	22.00	2.4
Upland Open Land Water	22.00	22.01	18.6
Wetland	22.01	22.01	4.8
Upland Forest / Woodland	22.01	22.02	53.4
Residential	22.02	22.04	107.7
Upland Open Land	22.04	22.04	2.1
Wetland	22.04	22.04	35.2
Upland Open Land	22.04	22.04	0.0
Commercial / Industrial	22.04	22.05	25.9

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	22.05	22.05	31.1
Upland Forest / Woodland	22.05	22.07	58.5
Upland Open Land Water	22.07	22.07	0.8
Upland Forest / Woodland	22.07	22.07	8.1
Wetland	22.07	22.07	18.8
Upland Forest / Woodland	22.07	22.10	126.9
Upland Forest / Woodland	22.10	22.10	6.4
Upland Open Land	22.10	22.10	12.2
Upland Forest / Woodland	22.10	22.17	396.3
Upland Open Land Water	22.17	22.18	8.3
Upland Forest / Woodland	22.18	22.27	490.5
Upland Open Land	22.27	22.27	14.7
Upland Forest / Woodland	22.27	22.34	385.3
Upland Open Land	22.34	22.35	6.2
Upland Forest / Woodland	22.35	22.43	468.6
Upland Open Land	22.43	22.44	13.2
Upland Forest / Woodland	22.44	22.61	908.6
Upland Open Land	22.61	22.61	27.9
Upland Forest / Woodland	22.61	22.74	683.2
Upland Open Land	22.74	22.75	23.6
Upland Forest / Woodland	22.75	22.85	545.1
Upland Forest / Woodland	22.85	22.93	419.2
Upland Forest / Woodland	22.93	22.98	265.5
Upland Open Land Water	22.98	22.98	3.8
Upland Forest / Woodland	22.98	23.00	112.6
Upland Forest / Woodland	23.00	23.07	365.4
Upland Forest / Woodland	23.07	23.09	94.5
Upland Forest / Woodland	23.09	23.14	271.0
Upland Forest / Woodland	23.14	23.15	62.1
Upland Open Land Water	23.15	23.15	10.5
Upland Forest / Woodland	23.15	23.20	223.4
Upland Open Land Water	23.20	23.20	21.9
Upland Forest / Woodland	23.20	23.26	308.0
Upland Forest / Woodland	23.26	23.50	1,284.9
Upland Forest / Woodland	23.50	23.52	106.8
Upland Open Land Water	23.52	23.52	4.1
Upland Forest / Woodland	23.52	23.55	143.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	23.55	23.55	5.9
Upland Forest / Woodland	23.55	23.56	17.1
Upland Forest / Woodland	23.56	23.69	726.4
Commercial / Industrial	23.69	23.70	29.2
Upland Open Land	23.70	23.70	30.5
Upland Forest / Woodland	23.70	23.77	321.6
Upland Forest / Woodland	23.77	23.79	124.6
Upland Open Land Water	23.79	23.79	6.9
Upland Forest / Woodland	23.79	23.82	134.6
Upland Forest / Woodland	23.82	23.89	375.8
Upland Forest / Woodland	23.89	23.93	208.5
Wetland	23.93	23.93	5.6
Upland Forest / Woodland	23.93	23.95	104.2
Upland Forest / Woodland	23.95	24.04	492.7
Upland Open Land	24.04	24.05	28.3
Upland Forest / Woodland	24.05	24.32	1,463.7
Upland Forest / Woodland	24.32	24.36	213.2
Upland Open Land Water	24.36	24.37	7.6
Upland Forest / Woodland	24.37	24.38	99.1
Upland Forest / Woodland	24.38	24.69	1,596.2
Upland Open Land	24.69	24.72	176.6
Upland Forest / Woodland	24.72	24.75	186.9
Upland Forest / Woodland	24.75	24.78	139.0
Upland Open Land Water	24.78	24.78	4.9
Upland Forest / Woodland	24.78	24.79	16.9
Upland Open Land Water	24.79	24.79	3.9
Upland Forest / Woodland	24.79	24.84	296.0
Upland Open Land	24.84	24.84	9.9
Upland Forest / Woodland	24.84	24.96	622.4
Upland Open Land	24.96	24.97	17.5
Commercial / Industrial	24.97	24.97	44.6
Upland Forest / Woodland	24.97	25.06	435.4
Upland Open Land	25.06	25.06	24.4
Upland Forest / Woodland	25.06	25.12	325.9
Upland Open Land Water	25.12	25.13	18.8
Upland Forest / Woodland	25.13	25.38	1,342.4
Upland Open Land	25.38	25.68	1,580.2

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	25.68	25.70	129.0
Upland Open Land Water	25.70	25.71	11.0
Upland Forest / Woodland	25.71	25.85	750.3
Wetland	25.85	25.85	3.9
Upland Open Land Water	25.85	25.85	6.3
Wetland	25.85	25.85	18.4
Upland Forest / Woodland	25.85	25.89	168.7
Upland Forest / Woodland	25.89	25.93	255.9
Upland Open Land	25.93	25.94	48.5
Upland Forest / Woodland	25.94	26.06	640.8
Wetland	26.06	26.08	96.5
Upland Forest / Woodland	26.08	26.08	3.6
Upland Forest / Woodland	26.08	26.18	517.8
Upland Open Land	26.18	26.20	79.1
Upland Forest / Woodland	26.20	26.21	75.3
Upland Open Land	26.21	26.22	23.1
Upland Forest / Woodland	26.22	26.22	35.6
Upland Open Land	26.22	26.23	53.1
Commercial / Industrial	26.23	26.24	34.0
Upland Forest / Woodland	26.24	26.53	1,551.4
Wetland	26.53	26.54	15.0
Upland Forest / Woodland	26.54	26.54	3.5
Upland Open Land	26.54	26.54	15.0
Commercial / Industrial	26.54	26.55	34.8
Upland Open Land	26.55	26.68	696.4
Upland Forest / Woodland	26.68	26.68	27.1
Upland Open Land	26.68	26.69	62.7
Wetland	26.69	26.71	77.3
Upland Forest / Woodland	26.71	26.71	7.3
Upland Open Land	26.71	26.83	607.2
Upland Forest / Woodland	26.83	26.94	611.9
Commercial / Industrial	26.94	26.94	17.9
Upland Open Land	26.94	26.95	23.3
Agriculture	26.95	27.08	666.8
Upland Open Land	27.08	27.11	168.3
Agriculture	27.11	27.28	934.0
Upland Open Land	27.28	27.28	2.1

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Wetland	27.28	27.29	30.5
Upland Open Land	27.29	27.32	175.6
Upland Forest / Woodland	27.32	27.33	48.6
Upland Open Land Water	27.33	27.34	15.2
Upland Forest / Woodland	27.34	27.37	181.6
Upland Open Land	27.37	27.38	43.3
Agriculture	27.38	27.48	536.0
Upland Open Land	27.48	27.49	54.1
Upland Forest / Woodland	27.49	27.50	59.7
Upland Open Land Water	27.50	27.51	24.9
Upland Forest / Woodland	27.51	27.52	55.2
Upland Open Land Water	27.52	27.52	35.8
Upland Forest / Woodland	27.52	27.52	7.4
Upland Open Land	27.52	27.60	389.8
Silviculture	27.60	27.62	132.5
Upland Forest / Woodland	27.62	27.64	111.1
Agriculture	27.64	27.76	615.6
Silviculture	27.76	27.78	112.9
Agriculture	27.78	27.86	436.2
Silviculture	27.86	27.89	137.4
Agriculture	27.89	27.97	437.0
Upland Open Land	27.97	28.02	252.1
Agriculture	28.02	28.04	71.6
Upland Open Land	28.04	28.11	379.7
Wetland	28.11	28.11	21.6
Wetland	28.11	28.12	21.0
Upland Open Land	28.12	28.22	557.2
Upland Forest / Woodland	28.22	28.23	41.7
Upland Open Land	28.23	28.23	33.3
Upland Forest / Woodland	28.23	28.25	85.2
Upland Open Land	28.25	28.30	253.5
Wetland	28.30	28.30	26.2
Upland Open Land	28.30	28.33	143.7
Upland Forest / Woodland	28.33	28.33	14.0
Wetland	28.33	28.33	5.1
Upland Forest / Woodland	28.33	28.38	226.3
Upland Open Land Water	28.38	28.38	6.6

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	28.38	28.47	466.4
Upland Open Land	28.47	28.53	316.7
Upland Forest / Woodland	28.53	28.65	627.1
Wetland	28.65	28.65	28.8
Upland Forest / Woodland	28.65	28.79	727.5
Upland Open Land	28.79	28.79	23.6
Upland Forest / Woodland	28.79	28.87	390.5
Upland Forest / Woodland	28.87	28.98	579.6
Upland Open Land	28.98	28.98	34.4
Upland Forest / Woodland	28.98	29.09	540.4
Upland Forest / Woodland	29.09	29.09	15.6
Wetland	29.09	29.09	23.4
Upland Forest / Woodland	29.09	29.15	296.5
Upland Forest / Woodland	29.15	29.18	164.6
Upland Open Land	29.18	29.18	13.4
Upland Forest / Woodland	29.18	29.19	18.4
Upland Open Land	29.19	29.19	13.4
Upland Forest / Woodland	29.19	29.23	227.1
Upland Open Land	29.23	29.24	36.3
Upland Forest / Woodland	29.24	29.27	168.1
Upland Open Land	29.27	29.28	44.4
Upland Forest / Woodland	29.28	29.30	109.3
Upland Open Land	29.30	29.31	33.9
Upland Forest / Woodland	29.31	29.59	1,489.7
Agriculture	29.59	29.67	419.3
Upland Forest / Woodland	29.67	29.68	64.2
Wetland	29.68	29.86	934.8
Wetland	29.86	29.87	49.5
Upland Open Land	29.87	29.87	12.2
Agriculture	29.87	30.04	920.9
Upland Forest / Woodland	30.04	30.05	58.8
Upland Open Land Water	30.05	30.10	247.3
Upland Forest / Woodland	30.10	30.11	62.8
Agriculture	30.11	30.19	398.3
Wetland	30.19	30.19	24.6
Agriculture	30.19	30.20	21.0
Wetland	30.20	30.21	40.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Agriculture	30.21	30.21	40.1
Wetland	30.21	30.22	29.9
Agriculture	30.22	30.22	21.3
Wetland	30.22	30.23	31.6
Agriculture	30.23	30.24	65.2
Wetland	30.24	30.25	36.4
Agriculture	30.25	30.26	44.7
Wetland	30.26	30.26	16.3
Wetland	30.26	30.27	31.8
Upland Forest / Woodland	30.27	30.31	244.5
Upland Open Land	30.31	30.32	33.3
Upland Forest / Woodland	30.32	30.32	6.9
Wetland	30.32	30.32	17.9
Upland Forest / Woodland	30.32	30.33	19.6
Upland Open Land	30.33	30.36	183.9
Wetland	30.36	30.37	26.7
Upland Open Land	30.37	30.43	360.6
Commercial / Industrial	30.43	30.44	19.6
Upland Open Land	30.44	30.44	3.1
Wetland	30.44	30.47	179.3
Upland Forest / Woodland	30.47	30.47	10.6
Upland Open Land	30.47	30.48	6.0
Commercial / Industrial	30.48	30.48	23.0
Upland Open Land	30.48	30.64	862.2
Commercial / Industrial	30.64	30.66	82.8
Residential	30.66	30.67	50.6
Upland Open Land	30.67	30.70	151.8
Wetland	30.70	30.70	11.2
Upland Open Land	30.70	30.85	777.2
Upland Forest / Woodland	30.85	30.85	18.3
Upland Open Land	30.85	30.91	306.7
Upland Forest / Woodland	30.91	30.96	295.0
Upland Forest / Woodland	30.96	30.97	37.1
Upland Forest / Woodland	30.97	31.14	884.4
Upland Forest / Woodland	31.14	31.16	93.0
Upland Forest / Woodland	31.16	31.20	240.6
Upland Forest / Woodland	31.20	31.21	27.3

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	31.21	31.22	67.6
Upland Forest / Woodland	31.22	31.23	72.3
Upland Forest / Woodland	31.23	31.25	72.2
Upland Forest / Woodland	31.25	31.27	125.8
Upland Forest / Woodland	31.27	31.29	108.1
Upland Open Land Water	31.29	31.30	28.3
Upland Forest / Woodland	31.30	31.39	469.4
Upland Forest / Woodland	31.39	31.39	25.1
Upland Forest / Woodland	31.39	31.48	459.0
Upland Forest / Woodland	31.48	31.51	173.4
Upland Forest / Woodland	31.51	31.55	191.6
Upland Forest / Woodland	31.55	31.57	144.6
Upland Forest / Woodland	31.57	31.62	244.7
Upland Open Land	31.62	31.63	53.6
Commercial / Industrial	31.63	31.64	27.6
Upland Open Land	31.64	31.66	115.6
Upland Forest / Woodland	31.66	31.68	128.5
Upland Open Land	31.68	31.69	54.7
Upland Forest / Woodland	31.69	31.73	201.5
Upland Open Land	31.73	31.77	207.7
Upland Forest / Woodland	31.77	31.96	1,006.2
Wetland	31.96	31.96	5.8
Upland Forest / Woodland	31.96	31.99	145.4
Wetland	31.99	32.02	176.8
Upland Forest / Woodland	32.02	32.03	32.2
Upland Open Land	32.03	32.03	31.3
Upland Forest / Woodland	32.03	32.15	618.7
Upland Open Land	32.15	32.16	60.7
Upland Forest / Woodland	32.16	32.18	61.5
Upland Open Land Water	32.18	32.19	102.6
Upland Forest / Woodland	32.19	32.20	51.1
Upland Open Land	32.20	32.22	68.9
Wetland	32.22	32.23	51.5
Wetland	32.23	32.24	53.0
Upland Open Land	32.24	32.47	1,219.7
Upland Forest / Woodland	32.47	32.48	37.6
Upland Open Land	32.48	32.50	149.6

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	32.50	32.52	74.3
Upland Open Land	32.52	32.58	336.1
Upland Forest / Woodland	32.58	32.61	171.4
Upland Open Land	32.61	32.62	15.3
Wetland	32.62	32.62	21.1
Upland Open Land	32.62	32.63	51.9
Upland Forest / Woodland	32.63	32.63	23.4
Wetland	32.63	32.64	29.4
Upland Forest / Woodland	32.64	32.65	70.4
Upland Open Land Water	32.65	32.66	55.4
Upland Open Land	32.66	32.66	2.0
Upland Forest / Woodland	32.66	32.74	398.3
Upland Forest / Woodland	32.74	32.84	526.1
Upland Forest / Woodland	32.84	32.86	122.2
Upland Open Land	32.86	32.87	46.7
Upland Forest / Woodland	32.87	32.88	24.5
Upland Open Land	32.88	32.88	16.2
Upland Forest / Woodland	32.88	32.93	252.1
Upland Open Land	32.93	32.93	13.7
Upland Forest / Woodland	32.93	32.93	16.3
Upland Open Land	32.93	32.94	13.7
Upland Forest / Woodland	32.94	32.98	215.5
Upland Open Land Water	32.98	32.99	47.9
Upland Forest / Woodland	32.99	33.03	221.9
Upland Open Land	33.03	33.10	409.6
Wetland	33.10	33.12	68.5
Upland Forest / Woodland	33.12	33.18	337.9
Upland Open Land	33.18	33.19	28.6
Commercial / Industrial	33.19	33.19	34.3
Upland Forest / Woodland	33.19	33.22	163.6
Upland Forest / Woodland	33.22	33.24	87.6
Upland Forest / Woodland	33.24	33.42	941.8
Wetland	33.42	33.43	42.6
Upland Forest / Woodland	33.43	33.56	707.4
Upland Open Land	33.56	33.59	138.9
Upland Forest / Woodland	33.59	33.69	556.6
Wetland	33.69	33.70	10.6

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	33.70	33.77	399.8
Upland Forest / Woodland	33.77	33.81	192.8
Upland Forest / Woodland	33.81	33.84	172.6
Upland Forest / Woodland	33.84	33.86	101.9
Upland Forest / Woodland	33.86	33.95	499.7
Upland Forest / Woodland	33.95	33.97	80.8
Upland Forest / Woodland	33.97	33.98	50.1
Upland Forest / Woodland	33.98	34.02	236.0
Upland Forest / Woodland	34.02	34.04	94.1
Upland Open Land	34.04	34.13	463.1
Upland Forest / Woodland	34.13	34.19	315.8
Upland Open Land	34.19	34.21	116.0
Upland Open Land Water	34.21	34.22	24.8
Upland Open Land	34.22	34.28	317.0
Upland Forest / Woodland	34.28	34.36	425.1
Upland Open Land	34.36	34.36	38.6
Upland Forest / Woodland	34.36	34.38	99.7
Upland Open Land	34.38	34.40	84.8
Upland Forest / Woodland	34.40	34.65	1,320.3
Upland Open Land Water	34.65	34.65	16.7
Upland Forest / Woodland	34.65	34.79	724.6
Upland Open Land Water	34.79	34.79	23.3
Upland Forest / Woodland	34.79	34.99	1,012.7
Upland Open Land	34.99	34.99	34.7
Upland Open Land Water	34.99	34.99	7.5
Upland Open Land	34.99	35.02	144.4
Upland Forest / Woodland	35.02	35.37	1,832.3
Upland Open Land	35.37	35.37	24.7
Upland Forest / Woodland	35.37	35.38	60.9
Upland Open Land	35.38	35.43	233.4
Upland Forest / Woodland	35.43	35.45	89.5
Agriculture	35.45	35.46	101.6
Upland Open Land	35.46	35.47	22.1
Upland Forest / Woodland	35.47	35.47	4.7
Upland Open Land	35.47	35.48	66.5
Upland Forest / Woodland	35.48	35.62	742.2
Agriculture	35.62	35.73	542.0

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	35.73	35.74	71.7
Upland Open Land	35.74	35.75	80.9
Upland Forest / Woodland	35.75	35.87	596.5
Upland Open Land	35.87	35.91	213.4
Upland Forest / Woodland	35.91	35.98	390.0
Upland Open Land Water	35.98	35.98	9.9
Upland Forest / Woodland	35.98	36.14	805.6
Upland Open Land	36.14	36.14	29.1
Upland Forest / Woodland	36.14	36.24	539.0
Upland Open Land	36.24	36.25	16.1
Agriculture	36.25	36.28	163.9
Commercial / Industrial	36.28	36.28	34.3
Agriculture	36.28	36.51	1,216.1
Upland Open Land	36.51	36.61	482.7
Commercial / Industrial	36.61	36.61	24.9
Upland Forest / Woodland	36.61	36.80	1,016.4
Agriculture	36.80	36.86	318.1
Upland Forest / Woodland	36.86	36.96	512.9
Upland Open Land	36.96	36.99	181.8
Upland Forest / Woodland	36.99	37.01	90.2
Wetland	37.01	37.01	7.6
Upland Forest / Woodland	37.01	37.04	133.2
Upland Open Land	37.04	37.11	402.2
Upland Forest / Woodland	37.11	37.33	1,117.9
Upland Forest / Woodland	37.33	37.33	45.5
Upland Forest / Woodland	37.33	37.37	206.5
Upland Forest / Woodland	37.37	37.43	295.8
Upland Open Land	37.43	37.45	117.3
Upland Forest / Woodland	37.45	37.50	239.3
Upland Forest / Woodland	37.50	37.52	125.4
Upland Open Land	37.52	37.58	325.3
Upland Open Land Water	37.58	37.58	1.7
Upland Open Land	37.58	37.72	736.7
Upland Forest / Woodland	37.72	37.74	93.4
Upland Open Land Water	37.74	37.74	9.8
Upland Forest / Woodland	37.74	37.81	336.2
Upland Open Land	37.81	37.82	75.8

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	37.82	38.05	1,224.5
Upland Open Land	38.05	38.18	691.8
Upland Forest / Woodland	38.18	38.19	18.6
Upland Open Land Water	38.19	38.19	20.5
Upland Forest / Woodland	38.19	38.23	218.1
Upland Open Land	38.23	38.27	225.8
Upland Forest / Woodland	38.27	38.31	172.0
Upland Forest / Woodland	38.31	38.41	548.6
Upland Forest / Woodland	38.41	38.43	72.5
Upland Forest / Woodland	38.43	38.44	100.5
Wetland	38.44	38.47	129.7
Upland Forest / Woodland	38.47	38.50	150.9
Upland Forest / Woodland	38.50	38.51	73.5
Wetland	38.51	38.53	91.7
Wetland	38.53	38.54	45.9
Upland Forest / Woodland	38.54	38.61	381.2
Upland Open Land	38.61	38.62	36.7
Wetland	38.62	38.63	75.8
Wetland	38.63	38.64	33.7
Upland Open Land	38.64	38.65	90.6
Wetland	38.65	38.66	16.3
Upland Open Land	38.66	38.67	91.0
Wetland	38.67	38.68	28.7
Upland Open Land	38.68	38.71	150.4
Wetland	38.71	38.71	16.1
Upland Open Land	38.71	38.74	129.4
Upland Forest / Woodland	38.74	38.75	54.7
Upland Open Land Water	38.75	38.75	41.9
Upland Forest / Woodland	38.75	38.81	300.8
Upland Open Land	38.81	38.82	21.5
Commercial / Industrial	38.82	38.82	23.0
Upland Open Land	38.82	38.83	50.8
Upland Forest / Woodland	38.83	38.93	513.4
Upland Open Land	38.93	38.94	50.1
Upland Forest / Woodland	38.94	39.15	1,120.3
Upland Forest / Woodland	39.15	39.33	961.1
Agriculture	39.33	39.36	162.4

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	39.36	39.40	190.0
Upland Open Land	39.40	39.45	278.1
Upland Forest / Woodland	39.45	39.51	336.1
Upland Open Land	39.51	39.55	207.4
Upland Forest / Woodland	39.55	39.58	123.9
Upland Open Land	39.58	39.58	7.0
Upland Forest / Woodland	39.58	39.62	215.9
Upland Open Land	39.62	39.62	0.6
Upland Forest / Woodland	39.62	39.65	144.1
Wetland	39.65	39.66	56.0
Upland Forest / Woodland	39.66	39.67	80.7
Upland Open Land	39.67	39.68	31.5
Commercial / Industrial	39.68	39.68	27.5
Upland Forest / Woodland	39.68	39.70	71.9
Commercial / Industrial	39.70	39.71	59.2
Upland Open Land	39.71	39.74	176.9
Upland Forest / Woodland	39.74	39.80	317.0
Upland Forest / Woodland	39.80	39.96	856.5
Upland Forest / Woodland	39.96	40.11	798.4
Upland Open Land	40.11	40.15	166.3
Upland Forest / Woodland	40.15	40.16	73.4
Upland Open Land Water	40.16	40.17	26.9
Upland Forest / Woodland	40.17	40.32	794.0
Residential	40.32	40.34	123.0
Commercial / Industrial	40.34	40.34	23.2
Upland Open Land	40.34	40.35	50.0
Upland Forest / Woodland	40.35	40.37	77.5
Agriculture	40.37	40.41	239.6
Upland Forest / Woodland	40.41	40.46	239.0
Agriculture	40.46	40.49	184.8
Upland Forest / Woodland	40.49	40.91	2,195.6
Upland Open Land	40.91	40.91	31.9
Upland Forest / Woodland	40.91	41.11	1,050.2
Wetland	41.11	41.12	33.5
Upland Forest / Woodland	41.12	41.12	9.9
Wetland	41.12	41.13	50.1
Upland Forest / Woodland	41.13	41.15	101.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land Water	41.15	41.16	39.1
Upland Forest / Woodland	41.16	41.41	1,338.8
Upland Open Land	41.41	41.42	30.7
Upland Forest / Woodland	41.42	41.58	884.5
Upland Open Land	41.58	41.59	51.8
Commercial / Industrial	41.59	41.62	154.5
Upland Open Land	41.62	41.63	12.6
Upland Forest / Woodland	41.63	41.66	162.8
Wetland	41.66	41.66	5.8
Upland Forest / Woodland	41.66	41.72	325.2
Upland Open Land	41.72	41.79	392.6
Upland Forest / Woodland	41.79	41.80	43.3
Upland Open Land Water	41.80	41.81	19.5
Upland Forest / Woodland	41.81	41.91	554.5
Upland Open Land	41.91	42.18	1,433.7
Commercial / Industrial	42.18	42.19	40.3
Upland Open Land	42.19	42.20	24.4
Upland Forest / Woodland	42.20	42.43	1,233.5
Upland Open Land	42.43	42.44	39.0
Upland Forest / Woodland	42.44	42.60	846.6
Upland Open Land	42.60	42.63	166.1
Upland Forest / Woodland	42.63	42.65	119.8
Upland Open Land	42.65	42.66	57.6
Upland Forest / Woodland	42.66	42.72	300.4
Upland Open Land	42.72	42.74	110.2
Upland Forest / Woodland	42.74	42.90	873.8
Upland Open Land	42.90	42.91	33.7
Upland Forest / Woodland	42.91	42.92	57.5
Upland Open Land	42.92	42.92	9.5
Upland Forest / Woodland	42.92	43.07	788.2
Upland Open Land Water	43.07	43.08	12.0
Upland Forest / Woodland	43.08	43.15	376.3
Upland Open Land	43.15	43.15	36.4
Commercial / Industrial	43.15	43.16	24.1
Upland Open Land	43.16	43.16	23.7
Upland Forest / Woodland	43.16	43.26	523.1
Upland Open Land Water	43.26	43.27	25.9

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	43.27	43.31	248.4
Upland Open Land	43.31	43.32	20.3
Upland Forest / Woodland	43.32	43.40	410.1
Upland Open Land	43.40	43.42	114.4
Commercial / Industrial	43.42	43.42	24.9
Upland Open Land	43.42	43.48	295.2
Upland Forest / Woodland	43.48	43.49	46.9
Upland Open Land	43.49	43.55	338.3
Upland Forest / Woodland	43.55	43.55	3.7
Upland Open Land	43.55	43.57	113.4
Upland Forest / Woodland	43.57	43.57	5.3
Upland Open Land	43.57	43.60	155.8
Upland Forest / Woodland	43.60	43.61	54.4
Upland Open Land	43.61	43.62	9.7
Upland Forest / Woodland	43.62	43.71	476.9
Upland Open Land Water	43.71	43.71	44.6
Upland Forest / Woodland	43.71	43.72	36.7
Upland Open Land Water	43.72	43.72	8.9
Upland Forest / Woodland	43.72	43.88	856.7
Upland Open Land	43.88	44.04	841.9
Upland Forest / Woodland	44.04	44.10	309.9
Upland Open Land	44.10	44.11	37.1
Upland Forest / Woodland	44.11	44.13	98.2
Upland Open Land	44.13	44.17	239.3
Upland Forest / Woodland	44.17	44.18	44.2
Upland Open Land	44.18	44.22	201.4
Upland Forest / Woodland	44.22	44.27	278.2
Residential	44.27	44.31	206.7
Upland Forest / Woodland	44.31	44.35	192.1
Upland Open Land	44.35	44.36	70.7
Upland Forest / Woodland	44.36	44.46	528.4
Agriculture	44.46	44.48	103.5
Upland Forest / Woodland	44.48	44.54	325.6
Upland Forest / Woodland	44.54	44.58	167.5
Upland Open Land	44.58	44.68	528.6
Upland Forest / Woodland	44.68	44.77	507.9
Upland Open Land	44.77	44.78	47.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Agriculture	44.78	44.90	615.8
Commercial / Industrial	44.90	44.90	21.7
Agriculture	44.90	45.31	2,144.9
Upland Forest / Woodland	45.31	45.38	404.6
Upland Open Land	45.38	45.39	22.3
Silviculture	45.39	45.44	288.0
Upland Open Land	45.44	45.45	29.2
Silviculture	45.45	45.54	507.9
Upland Open Land	45.54	45.56	92.9
Upland Forest / Woodland	45.56	45.70	744.7
Upland Open Land Water	45.70	45.70	1.7
Upland Open Land Water	45.70	45.71	11.6
Upland Forest / Woodland	45.71	45.71	37.0
Upland Open Land	45.71	45.79	408.1
Upland Forest / Woodland	45.79	45.80	38.3
Upland Open Land	45.80	45.81	78.4
Upland Forest / Woodland	45.81	45.89	428.2
Upland Open Land	45.89	45.99	515.1
Upland Forest / Woodland	45.99	46.00	49.0
Agriculture	46.00	46.06	334.3
Upland Open Land	46.06	46.07	17.9
Agriculture	46.07	46.10	190.3
Upland Open Land	46.10	46.11	27.2
Agriculture	46.11	46.23	652.2
Upland Open Land	46.23	46.25	80.4
Agriculture	46.25	46.26	65.3
Upland Forest / Woodland	46.26	46.27	78.1
Agriculture	46.27	46.28	39.8
Upland Forest / Woodland	46.28	46.28	4.1
Agriculture	46.28	46.31	127.1
Upland Forest / Woodland	46.31	46.47	882.7
Upland Open Land	46.47	46.54	375.0
Agriculture	46.54	46.59	239.0
Upland Open Land	46.59	46.69	504.9
Agriculture	46.69	46.69	32.5
Upland Open Land	46.69	46.71	76.8
Upland Forest / Woodland	46.71	46.74	166.1

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Agriculture	46.74	46.80	322.6
Upland Forest / Woodland	46.80	46.98	939.7
Upland Open Land Water	46.98	46.98	18.8
Upland Forest / Woodland	46.98	47.00	125.6
Wetland	47.00	47.01	46.6
Upland Forest / Woodland	47.01	47.02	32.6
Upland Open Land	47.02	47.15	672.8
Upland Forest / Woodland	47.15	47.15	40.6
Upland Open Land	47.15	47.23	420.5
Upland Forest / Woodland	47.23	47.27	200.9
Upland Forest / Woodland	47.27	47.36	451.8
Upland Forest / Woodland	47.36	47.41	253.4
Upland Forest / Woodland	47.41	47.55	790.2
Upland Forest / Woodland	47.55	47.60	264.7
Upland Forest / Woodland	47.60	47.67	340.3
Upland Forest / Woodland	47.67	47.68	30.7
Upland Forest / Woodland	47.68	47.71	183.5
Upland Forest / Woodland	47.71	47.73	119.6
Upland Open Land Water	47.73	47.74	19.1
Upland Forest / Woodland	47.74	47.76	115.0
Upland Forest / Woodland	47.76	47.89	718.0
Upland Forest / Woodland	47.89	47.91	64.3
Upland Forest / Woodland	47.91	47.96	260.4
Upland Forest / Woodland	47.96	47.98	115.5
Upland Forest / Woodland	47.98	48.06	426.8
Upland Forest / Woodland	48.06	48.07	56.3
Upland Forest / Woodland	48.07	48.12	292.1
Agriculture	48.12	48.30	914.2
Upland Forest / Woodland	48.30	48.35	257.3
Agriculture	48.35	48.41	343.2
Commercial / Industrial	48.41	48.42	28.0
Agriculture	48.42	48.46	219.0
Upland Forest / Woodland	48.46	48.47	72.1
Wetland	48.47	48.48	24.4
Upland Forest / Woodland	48.48	48.52	205.6
Agriculture	48.52	48.56	211.2
Upland Forest / Woodland	48.56	48.56	30.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	48.56	48.61	258.4
Wetland	48.61	48.62	39.5
Upland Forest / Woodland	48.62	48.66	204.8
Wetland	48.66	48.66	0.3
Upland Forest / Woodland	48.66	48.70	231.6
Upland Open Land	48.70	48.72	85.9
Commercial / Industrial	48.72	49.01	1,548.0
Upland Open Land	49.01	49.06	272.9
Upland Forest / Woodland	49.06	49.10	202.7
Upland Open Land	49.10	49.10	20.2
Commercial / Industrial	49.10	49.11	39.2
Upland Open Land	49.11	49.24	686.0
Upland Forest / Woodland	49.24	49.39	771.0
Upland Open Land	49.39	49.52	703.1
Commercial / Industrial	49.52	49.53	33.6
Upland Forest / Woodland	49.53	49.65	648.9
Upland Open Land	49.65	49.88	1,209.5
Wetland	49.88	49.89	57.0
Upland Open Land	49.89	50.44	2,896.5
Upland Forest / Woodland	50.44	50.46	116.5
Upland Open Land	50.46	50.47	65.1
Upland Forest / Woodland	50.47	50.51	210.8
Upland Open Land	50.51	50.63	633.0
Upland Forest / Woodland	50.63	50.71	415.0
Upland Open Land	50.71	50.76	240.2
Upland Open Land Water	50.76	50.76	16.1
Upland Open Land	50.76	51.10	1,812.9
Agriculture	51.10	51.18	387.5
Upland Open Land	51.18	51.25	391.7
Agriculture	51.25	51.35	512.2
Upland Open Land	51.35	51.38	178.6
Wetland	51.38	51.39	54.7
Wetland	51.39	51.39	15.5
Upland Open Land	51.39	51.53	693.4
Agriculture	51.53	51.65	654.0
Commercial / Industrial	51.65	51.65	29.0
Agriculture	51.65	51.83	920.0

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	51.83	51.85	114.0
Agriculture	51.85	51.96	584.4
Upland Open Land	51.96	51.98	81.4
Commercial / Industrial	51.98	51.98	25.0
Upland Open Land	51.98	52.05	338.3
Upland Forest / Woodland	52.05	52.14	501.8
Upland Open Land	52.14	52.15	45.9
Upland Forest / Woodland	52.15	52.17	94.7
Upland Open Land	52.17	52.19	116.2
Upland Forest / Woodland	52.19	52.24	261.2
Upland Open Land	52.24	52.26	103.1
Upland Forest / Woodland	52.26	52.27	66.4
Upland Open Land	52.27	52.30	153.9
Upland Forest / Woodland	52.30	52.30	20.4
Upland Open Land	52.30	52.32	98.7
Upland Forest / Woodland	52.32	52.33	52.3
Upland Forest / Woodland	52.33	52.35	111.3
Upland Open Land	52.35	52.38	158.6
Upland Open Land Water	52.38	52.38	4.8
Upland Open Land	52.38	52.41	149.1
Upland Forest / Woodland	52.41	52.53	638.2
Upland Open Land	52.53	52.54	27.9
Upland Forest / Woodland	52.54	52.60	340.8
Upland Open Land	52.60	52.62	70.4
Commercial / Industrial	52.62	52.62	11.9
Upland Open Land	52.62	52.62	29.9
Upland Forest / Woodland	52.62	52.63	43.3
Upland Forest / Woodland	52.63	52.73	511.0
Agriculture	52.73	52.73	28.2
Upland Forest / Woodland	52.73	53.05	1,646.3
Upland Open Land	53.05	53.05	8.5
Commercial / Industrial	53.05	53.05	29.5
Upland Forest / Woodland	53.05	53.12	359.9
Agriculture	53.12	53.17	257.7
Upland Forest / Woodland	53.17	53.25	397.1
Agriculture	53.25	53.28	177.5
Upland Forest / Woodland	53.28	53.32	216.4

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	53.32	53.33	48.7
Commercial / Industrial	53.33	53.34	34.4
Silviculture	53.34	53.35	65.3
Wetland	53.35	53.35	26.1
Silviculture	53.35	53.47	635.3
Residential	53.47	53.48	14.2
Silviculture	53.48	53.62	762.7
Residential	53.62	53.62	11.8
Silviculture	53.62	53.64	112.7
Upland Open Land	53.64	53.65	4.4
Wetland	53.65	53.65	9.0
Upland Open Land	53.65	53.66	53.3
Upland Forest / Woodland	53.66	53.76	549.0
Upland Open Land	53.76	53.77	25.6
Upland Forest / Woodland	53.77	53.81	206.6
Agriculture	53.81	53.83	152.9
Upland Open Land	53.83	53.88	262.0
Upland Forest / Woodland	53.88	53.90	80.5
Upland Open Land	53.90	53.96	340.6
Upland Forest / Woodland	53.96	53.99	161.4
Upland Open Land	53.99	54.00	43.7
Agriculture	54.00	54.09	486.6
Commercial / Industrial	54.09	54.11	59.7
Agriculture	54.11	54.21	528.2
Upland Forest / Woodland	54.21	54.23	137.5
Agriculture	54.23	54.30	350.7
Upland Forest / Woodland	54.30	54.31	66.8
Wetland	54.31	54.33	102.9
Upland Forest / Woodland	54.33	54.35	116.8
Agriculture	54.35	54.43	392.0
Upland Forest / Woodland	54.43	54.60	925.6
Upland Open Land	54.60	54.61	20.2
Upland Forest / Woodland	54.61	54.64	153.8
Agriculture	54.64	54.80	848.9
Upland Open Land	54.80	54.88	427.8
Upland Forest / Woodland	54.88	54.89	91.5
Upland Open Land	54.89	54.92	125.5

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	54.92	55.01	500.9
Agriculture	55.01	55.06	241.9
Upland Open Land	55.06	55.06	25.4
Commercial / Industrial	55.06	55.07	25.7
Upland Open Land	55.07	55.07	15.4
Agriculture	55.07	55.20	662.7
Upland Open Land	55.20	55.21	61.5
Upland Forest / Woodland	55.21	55.25	222.5
Wetland	55.25	55.26	37.0
Upland Forest / Woodland	55.26	55.42	840.0
Agriculture	55.42	55.50	453.2
Upland Forest / Woodland	55.50	55.53	171.1
Wetland	55.53	55.54	39.1
Upland Open Land	55.54	55.59	271.3
Upland Forest / Woodland	55.59	55.66	355.6
Agriculture	55.66	55.66	13.7
Upland Forest / Woodland	55.66	55.67	54.3
Agriculture	55.67	55.68	21.0
Upland Forest / Woodland	55.68	55.73	286.7
Upland Open Land	55.73	55.74	53.3
Commercial / Industrial	55.74	55.75	48.2
Agriculture	55.75	55.78	148.8
Upland Forest / Woodland	55.78	55.91	696.3
Agriculture	55.91	56.28	1,953.7
Upland Open Land	56.28	56.30	96.2
Upland Forest / Woodland	56.30	56.37	375.6
Upland Open Land	56.37	56.38	28.0
Commercial / Industrial	56.38	56.38	31.4
Upland Open Land	56.38	56.39	24.4
Upland Forest / Woodland	56.39	56.42	159.3
Wetland	56.42	56.43	95.3
Upland Forest / Woodland	56.43	56.46	119.2
Commercial / Industrial	56.46	56.46	20.7
Upland Forest / Woodland	56.46	56.49	164.1
Upland Open Land Water	56.49	56.50	31.4
Upland Forest / Woodland	56.50	56.51	51.3
Wetland	56.51	56.53	104.4

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	56.53	56.54	75.0
Wetland	56.54	56.58	192.8
Upland Forest / Woodland	56.58	56.64	301.6
Wetland	56.64	56.65	61.3
Upland Forest / Woodland	56.65	56.67	130.6
Upland Open Land	56.67	56.68	22.8
Agriculture	56.68	56.78	546.6
Upland Open Land	56.78	56.81	166.5
Upland Forest / Woodland	56.81	56.85	199.5
Wetland	56.85	56.85	17.0
Upland Forest / Woodland	56.85	56.93	418.1
Agriculture	56.93	56.97	185.0
Upland Forest / Woodland	56.97	57.03	338.2
Upland Open Land	57.03	57.03	10.7
Upland Forest / Woodland	57.03	57.06	131.4
Wetland	57.06	57.07	56.0
Upland Forest / Woodland	57.07	57.16	486.8
Wetland	57.16	57.19	145.8
Upland Forest / Woodland	57.19	57.26	385.1
Upland Open Land	57.26	57.27	22.8
Residential	57.27	57.28	58.0
Upland Open Land	57.28	57.28	38.2
Residential	57.28	57.29	41.7
Upland Open Land	57.29	57.34	231.7
Upland Forest / Woodland	57.34	57.34	47.7
Upland Open Land	57.34	57.46	631.2
Commercial / Industrial	57.46	57.47	50.2
Upland Open Land	57.47	57.52	236.0
Upland Forest / Woodland	57.52	57.54	134.9
Wetland	57.54	57.56	84.8
Upland Forest / Woodland	57.56	57.56	2.5
Wetland	57.56	57.57	66.8
Upland Forest / Woodland	57.57	57.58	26.1
Agriculture	57.58	57.62	244.4
Upland Forest / Woodland	57.62	57.76	707.4
Upland Open Land	57.76	57.78	135.6
Residential	57.78	57.81	163.3

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Commercial / Industrial	57.81	57.82	43.6
Upland Open Land	57.82	57.85	133.6
Wetland	57.85	57.85	13.1
Upland Open Land	57.85	57.85	2.0
Commercial / Industrial	57.85	57.86	33.7
Upland Open Land	57.86	57.86	34.5
Wetland	57.86	57.87	12.6
Wetland	57.87	57.87	7.6
Upland Forest / Woodland	57.87	57.89	93.4
Upland Open Land	57.89	58.01	675.9
Wetland	58.01	58.02	52.2
Upland Open Land	58.02	58.34	1,677.0
Upland Forest / Woodland	58.34	58.40	320.1
Upland Open Land	58.40	58.44	180.3
Upland Forest / Woodland	58.44	58.46	145.2
Agriculture	58.46	58.56	523.3
Upland Forest / Woodland	58.56	58.66	499.1
Upland Open Land Water	58.66	58.66	30.4
Upland Forest / Woodland	58.66	58.67	45.0
Upland Open Land Water	58.67	58.68	48.5
Upland Forest / Woodland	58.68	58.70	88.1
Upland Forest / Woodland	58.70	58.77	390.7
Upland Open Land	58.77	58.82	245.0
Upland Forest / Woodland	58.82	59.12	1,605.2
Residential	59.12	59.13	42.8
Upland Forest / Woodland	59.13	59.14	40.3
Residential	59.14	59.16	105.3
Commercial / Industrial	59.16	59.16	29.5
Upland Open Land	59.16	59.17	23.7
Residential	59.17	59.29	646.9
Upland Forest / Woodland	59.29	59.32	177.4
Upland Open Land	59.32	59.34	113.4
Upland Forest / Woodland	59.34	59.42	383.3
Commercial / Industrial	59.42	59.42	13.1
Upland Forest / Woodland	59.42	59.47	256.8
Upland Open Land	59.47	59.48	40.6
Upland Forest / Woodland	59.48	59.49	71.8

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	59.49	59.51	86.0
Upland Forest / Woodland	59.51	59.53	122.3
Upland Open Land	59.53	59.55	99.2
Upland Forest / Woodland	59.55	59.57	108.2
Upland Open Land	59.57	59.63	335.8
Upland Forest / Woodland	59.63	59.65	112.8
Upland Open Land	59.65	59.67	86.1
Upland Forest / Woodland	59.67	59.72	282.7
Upland Open Land	59.72	59.73	39.0
Upland Forest / Woodland	59.73	59.76	135.9
Upland Open Land	59.76	59.80	227.8
Upland Forest / Woodland	59.80	59.84	200.4
Upland Open Land	59.84	59.86	141.1
Upland Forest / Woodland	59.86	59.87	44.0
Upland Forest / Woodland	59.87	59.89	86.3
Upland Open Land	59.89	59.99	519.1
Commercial / Industrial	59.99	59.99	26.6
Upland Open Land	59.99	60.25	1,376.7
Commercial / Industrial	60.25	60.26	45.7
Upland Open Land	60.26	60.31	246.0
Upland Open Land	60.31	60.46	795.4
Upland Forest / Woodland	60.46	60.47	68.2
Upland Forest / Woodland	60.47	60.73	1,375.5
Upland Open Land Water	60.73	60.73	12.9
Wetland	60.73	60.76	154.8
Upland Forest / Woodland	60.76	60.78	61.8
Wetland	60.78	60.81	162.6
Upland Forest / Woodland	60.81	60.82	87.9
Upland Open Land	60.82	60.93	572.1
Agriculture	60.93	61.15	1,175.8
Upland Forest / Woodland	61.15	61.36	1,110.1
Upland Open Land	61.36	61.37	26.3
Commercial / Industrial	61.37	61.37	21.1
Upland Open Land	61.37	61.38	40.0
Upland Forest / Woodland	61.38	61.39	42.2
Upland Forest / Woodland	61.39	61.40	63.2
Upland Open Land	61.40	61.43	169.8

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Agriculture	61.43	61.59	827.4
Upland Open Land	61.59	61.61	95.4
Agriculture	61.61	61.64	173.3
Upland Open Land	61.64	61.69	234.8
Upland Forest / Woodland	61.69	61.83	770.6
Upland Open Land	61.83	61.91	423.0
Agriculture	61.91	62.21	1,583.0
Upland Open Land	62.21	62.39	933.7
Upland Forest / Woodland	62.39	62.44	270.8
Upland Forest / Woodland	62.44	62.45	53.7
Upland Open Land Water	62.45	62.45	19.7
Upland Forest / Woodland	62.45	62.52	364.9
Wetland	62.52	62.52	8.4
Upland Forest / Woodland	62.52	62.54	86.4
Upland Open Land	62.54	62.66	638.8
Wetland	62.66	62.67	63.7
Upland Open Land	62.67	62.82	748.0
Commercial / Industrial	62.82	62.82	23.8
Upland Open Land	62.82	62.89	371.1
Upland Forest / Woodland	62.89	63.03	742.2
Wetland	63.03	63.08	238.0
Upland Forest / Woodland	63.08	63.08	18.9
Wetland	63.08	63.09	75.5
Upland Forest / Woodland	63.09	63.09	2.8
Upland Open Land	63.09	63.10	27.2
Commercial / Industrial	63.10	63.10	28.6
Upland Open Land	63.10	63.11	18.7
Upland Forest / Woodland	63.11	63.21	520.5
Upland Open Land Water	63.21	63.21	21.0
Upland Forest / Woodland	63.21	63.53	1,663.9
Upland Open Land	63.53	63.53	28.9
Upland Forest / Woodland	63.53	63.59	304.4
Upland Open Land Water	63.59	63.62	165.1
Upland Open Land Water	63.62	63.65	139.6
Upland Forest / Woodland	63.65	63.84	1,035.3
Wetland	63.84	63.85	49.9
Upland Forest / Woodland	63.85	64.03	923.0

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land Water	64.03	64.03	8.4
Upland Forest / Woodland	64.03	64.09	315.2
Upland Open Land	64.09	64.34	1,332.4
Commercial / Industrial	64.34	64.34	11.5
Upland Open Land	64.34	64.41	368.7
Upland Forest / Woodland	64.41	64.43	67.3
Upland Forest / Woodland	64.43	64.44	101.2
Upland Forest / Woodland	64.44	64.47	117.3
Upland Forest / Woodland	64.47	64.51	240.7
Upland Forest / Woodland	64.51	64.53	108.0
Upland Forest / Woodland	64.53	64.54	31.9
Upland Forest / Woodland	64.54	64.55	82.6
Upland Forest / Woodland	64.55	64.63	382.8
Residential	64.63	64.64	73.5
Upland Forest / Woodland	64.64	64.66	87.3
Upland Forest / Woodland	64.66	64.78	668.6
Upland Open Land	64.78	64.79	14.5
Commercial / Industrial	64.79	64.79	22.8
Upland Open Land	64.79	64.82	156.3
Upland Forest / Woodland	64.82	64.85	151.7
Upland Open Land	64.85	64.85	25.0
Upland Forest / Woodland	64.85	64.86	39.4
Upland Open Land	64.86	65.09	1,190.9
Upland Forest / Woodland	65.09	65.10	72.7
Upland Forest / Woodland	65.10	65.16	292.1
Upland Open Land	65.16	65.26	555.3
Commercial / Industrial	65.26	65.27	21.2
Upland Open Land	65.27	65.27	43.4
Agriculture	65.27	65.32	267.1
Upland Open Land	65.32	65.33	18.6
Agriculture	65.33	65.47	734.0
Upland Forest / Woodland	65.47	65.53	336.0
Upland Forest / Woodland	65.53	65.54	53.5
Upland Forest / Woodland	65.54	65.57	132.6
Upland Open Land	65.57	65.57	37.6
Upland Forest / Woodland	65.57	65.60	148.8
Upland Forest / Woodland	65.60	65.76	833.3

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	65.76	65.78	98.9
Agriculture	65.78	65.82	246.6
Upland Open Land	65.82	65.83	19.3
Upland Forest / Woodland	65.83	65.89	350.6
Upland Open Land	65.89	65.98	431.9
Upland Forest / Woodland	65.98	65.98	23.3
Upland Open Land	65.98	66.00	116.8
Agriculture	66.00	66.08	407.1
Commercial / Industrial	66.08	66.08	23.3
Upland Open Land	66.08	66.09	34.9
Agriculture	66.09	66.21	621.7
Upland Forest / Woodland	66.21	66.27	322.3
Upland Forest / Woodland	66.27	66.32	266.6
Upland Open Land	66.32	66.38	330.4
Commercial / Industrial	66.38	66.39	22.0
Upland Open Land	66.39	66.47	444.1
Upland Forest / Woodland	66.47	66.49	116.3
Upland Forest / Woodland	66.49	66.51	73.8
Upland Forest / Woodland	66.51	66.51	29.6
Agriculture	66.51	66.59	383.3
Upland Open Land	66.59	66.60	79.9
Upland Forest / Woodland	66.60	66.62	106.8
Upland Open Land	66.62	66.68	332.4
Upland Forest / Woodland	66.68	66.79	577.2
Upland Open Land	66.79	66.84	229.0
Upland Forest / Woodland	66.84	66.85	51.3
Upland Open Land	66.85	66.89	239.6
Upland Forest / Woodland	66.89	66.90	38.5
Upland Open Land	66.90	66.91	37.9
Upland Forest / Woodland	66.91	66.94	199.6
Upland Forest / Woodland	66.94	67.02	394.5
Upland Forest / Woodland	67.02	67.02	17.4
Upland Open Land	67.02	67.04	85.7
Upland Forest / Woodland	67.04	67.06	118.4
Upland Forest / Woodland	67.06	67.11	239.1
Upland Forest / Woodland	67.11	67.20	514.3
Upland Forest / Woodland	67.20	67.21	32.2

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	67.21	67.25	206.1
Upland Open Land Water	67.25	67.25	14.2
Upland Forest / Woodland	67.25	67.38	664.6
Upland Forest / Woodland	67.38	67.40	135.7
Upland Forest / Woodland	67.40	67.45	240.9
Upland Forest / Woodland	67.45	67.47	136.2
Upland Forest / Woodland	67.47	67.50	125.7
Upland Forest / Woodland	67.50	67.52	103.6
Upland Forest / Woodland	67.52	67.60	432.3
Upland Open Land Water	67.60	67.60	24.8
Upland Forest / Woodland	67.60	67.63	158.6
Upland Open Land	67.63	67.73	516.8
Upland Forest / Woodland	67.73	67.95	1,149.4
Upland Open Land	67.95	68.07	618.7
Upland Forest / Woodland	68.07	68.22	817.1
Residential	68.22	68.22	16.7
Upland Open Land	68.22	68.25	114.0
Upland Forest / Woodland	68.25	68.36	607.2
Wetland	68.36	68.36	6.2
Upland Forest / Woodland	68.36	68.41	252.4
Upland Open Land Water	68.41	68.41	2.8
Upland Forest / Woodland	68.41	68.49	395.9
Upland Open Land	68.49	68.50	100.1
Upland Forest / Woodland	68.50	68.58	400.1
Upland Open Land	68.58	68.58	0.6
Upland Forest / Woodland	68.58	68.58	24.1
Upland Open Land	68.58	68.59	26.2
Upland Forest / Woodland	68.59	68.60	76.2
Upland Open Land	68.60	68.62	79.6
Upland Forest / Woodland	68.62	68.62	9.4
Upland Open Land	68.62	68.63	21.1
Upland Forest / Woodland	68.63	68.65	124.0
Upland Open Land	68.65	68.65	10.9
Commercial / Industrial	68.65	68.66	28.4
Upland Open Land	68.66	68.66	34.4
Upland Forest / Woodland	68.66	68.79	688.5
Upland Open Land Water	68.79	68.80	12.6

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	68.80	68.82	125.5
Upland Open Land	68.82	68.84	107.3
Upland Forest / Woodland	68.84	68.95	572.3
Upland Open Land	68.95	69.02	402.5
Upland Forest / Woodland	69.02	69.03	22.8
Upland Open Land	69.03	69.03	23.9
Upland Forest / Woodland	69.03	69.03	11.4
Commercial / Industrial	69.03	69.05	100.4
Upland Forest / Woodland	69.05	69.09	203.2
Upland Open Land	69.09	69.24	762.4
Upland Forest / Woodland	69.24	69.42	978.8
Residential	69.42	69.43	23.7
Upland Open Land	69.43	69.43	1.5
Upland Forest / Woodland	69.43	69.46	200.3
Upland Open Land	69.46	69.47	13.9
Upland Forest / Woodland	69.47	69.48	61.7
Upland Open Land Water	69.48	69.48	8.0
Upland Forest / Woodland	69.48	69.60	645.7
Residential	69.60	69.60	9.9
Upland Forest / Woodland	69.60	69.64	207.7
Commercial / Industrial	69.64	69.65	30.0
Residential	69.65	69.66	52.4
Commercial / Industrial	69.66	69.69	140.7
Residential	69.69	69.69	3.4
Upland Forest / Woodland	69.69	69.69	33.6
Commercial / Industrial	69.69	69.72	132.3
Upland Forest / Woodland	69.72	69.77	273.4
Upland Open Land	69.77	69.78	45.7
Commercial / Industrial	69.78	69.79	32.0
Upland Open Land	69.79	69.79	27.3
Commercial / Industrial	69.79	69.80	64.3
Upland Open Land	69.80	69.80	9.8
Upland Forest / Woodland	69.80	69.82	62.4
Upland Open Land	69.82	69.82	40.0
Commercial / Industrial	69.82	69.83	12.1
Upland Open Land	69.83	69.83	18.0
Upland Forest / Woodland	69.83	69.84	37.6

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Open Land	69.84	69.84	44.0
Upland Forest / Woodland	69.84	69.89	220.6
Upland Open Land Water	69.89	69.89	18.3
Upland Forest / Woodland	69.89	69.98	483.9
Upland Forest / Woodland	69.98	70.01	172.9
Upland Forest / Woodland	70.01	70.08	363.3
Upland Forest / Woodland	70.08	70.18	527.3
Upland Forest / Woodland	70.18	70.26	403.0
Upland Open Land Water	70.26	70.26	11.5
Upland Forest / Woodland	70.26	70.28	102.6
Upland Open Land	70.28	70.29	22.5
Upland Forest / Woodland	70.29	70.58	1,545.7
Upland Open Land	70.58	70.59	58.5
Upland Forest / Woodland	70.59	70.72	700.8
Upland Open Land Water	70.72	70.73	24.2
Upland Forest / Woodland	70.73	70.76	170.3
Upland Open Land	70.76	70.76	9.7
Upland Forest / Woodland	70.76	70.81	237.3
Upland Open Land	70.81	70.83	136.4
Upland Forest / Woodland	70.83	70.92	467.7
Upland Open Land	70.92	70.93	38.3
Upland Forest / Woodland	70.93	71.03	559.2
Upland Open Land	71.03	71.04	59.7
Upland Forest / Woodland	71.04	71.07	117.7
Upland Open Land	71.07	71.07	32.0
Upland Forest / Woodland	71.07	71.09	108.5
Upland Open Land	71.09	71.10	24.0
Upland Forest / Woodland	71.10	71.31	1,124.3
Upland Open Land	71.31	71.31	17.0
Commercial / Industrial	71.31	71.35	171.8
Upland Open Land	71.35	71.35	24.5
Upland Forest / Woodland	71.35	71.35	14.0
Upland Open Land	71.35	71.48	640.9
Upland Forest / Woodland	71.48	71.49	56.1
Upland Open Land Water	71.49	71.49	25.9
Upland Forest / Woodland	71.49	71.50	47.2
Upland Open Land	71.50	71.54	228.3

Table 8-A

Land Use Crossed by Milepost for the Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Upland Forest / Woodland	71.54	71.56	100.0
Upland Open Land	71.56	71.57	60.9
Upland Forest / Woodland	71.57	71.58	53.8
Upland Open Land	71.58	71.62	173.7
Upland Forest / Woodland	71.62	71.63	96.8
Upland Open Land	71.63	71.74	531.8
Upland Forest / Woodland	71.74	71.74	49.6
Wetland	71.74	71.75	43.9
Upland Forest / Woodland	71.75	71.93	930.8
Upland Open Land	71.93	72.01	404.3
Upland Forest / Woodland	72.01	72.03	120.5
Upland Open Land	72.03	72.05	85.3
Upland Forest / Woodland	72.05	72.07	116.3
Upland Open Land	72.07	72.07	12.4
Upland Forest / Woodland	72.07	72.08	45.9
Upland Open Land	72.08	72.11	150.5
Upland Forest / Woodland	72.11	72.22	605.6
Upland Open Land	72.22	72.24	76.5
Upland Forest / Woodland	72.24	72.40	845.5
Upland Open Land	72.40	72.40	22.5
Upland Forest / Woodland	72.40	72.41	56.1
Upland Open Land	72.41	72.44	161.8
Upland Forest / Woodland	72.44	72.62	950.1
Upland Open Land	72.62	72.63	40.5
Upland Forest / Woodland	72.63	72.76	668.1
Residential	72.76	72.78	140.8
Upland Forest / Woodland	72.78	72.91	662.6
Upland Open Land	72.91	72.92	70.0
Commercial / Industrial	72.92	72.94	84.8
Upland Open Land	72.94	72.95	71.4
Wetland	72.95	72.96	56.5
Upland Open Land	72.96	73.11	773.0

MVP Southgate Project

Docket No. CP19-XX-000

Resource Report 8

Appendix 8-B

Table 8-B
Roadways Crossed by the MVP Southgate Project

Table 8-B

Roadways Crossed by the Southgate Project

Facility, State, County	Milepost	Road Name	Surface Type	Jurisdiction	Public or Private	Crossing Method
H-605 Pipeline						
Virginia						
Pittsylvania	N/A	N/A	N/A	N/A	N/A	N/A
H-650 Pipeline						
Virginia						
Pittsylvania	0.7	County Road 703 / Fairview N	Asphalt	County	Public	Bore
Pittsylvania	0.9	Halifax Road / State Route 57	Asphalt	State	Public	Bore
Pittsylvania	2.9	County Road 694 / Davis Road	Asphalt	County	Public	Bore
Pittsylvania	3.0	County Road 703 / Fairview Road	Asphalt	County	Public	Bore
Pittsylvania	4.3	County Road 1437 / Woodlawn Academy Road	Asphalt	County	Public	Bore
Pittsylvania	4.3	County Road 1437 / Woodlawn Academy Road	Asphalt	County	Public	Bore
Pittsylvania	4.4	U.S. Highway 29	Asphalt	U.S.	Public	Bore
Pittsylvania	7.2	County Road 836 / White Oak Circle	Asphalt	County	Public	Bore
Pittsylvania	7.4	County Road 718 / Dry Fork Road	Asphalt	County	Public	Bore
Pittsylvania	8.1	County Road 1099 / Hylton Lane	Asphalt	County	Public	Bore
Pittsylvania	9.4	County Road 834 / Hopewell Road	Asphalt	County	Public	Bore
Pittsylvania	10.2	County Road 1071 / Tobacco Road	Gravel	County	Public	Open Cut
Pittsylvania	10.8	State Route 41 / Franklin Turnpike	Asphalt	State	Public	Bore
Pittsylvania	12.4	County Road 865 / Hutson Road	Asphalt	County	Public	Bore
Pittsylvania	13.4	County Road 866 / Sandy Creek Road	Asphalt	County	Public	Bore
Pittsylvania	14.9	County Road 750 / Whitmell School Road	Asphalt	County	Public	Bore
Pittsylvania	15.9	County Road 844 / Mount Cross Road	Asphalt	County	Public	Bore
Pittsylvania	16.5	County Road 868 / Silver Creek Road	Asphalt	County	Public	Bore
Pittsylvania	18.3	County Road 878 / Pine Lake Road	Asphalt	County	Public	Bore
Pittsylvania	19.0	County Road 876 / Cedar Spring Road	Asphalt	County	Public	Bore
Pittsylvania	19.3	County Road 869 / Stony Mill Road	Asphalt	County	Public	Bore

Table 8-B

Roadways Crossed by the Southgate Project

Facility, State, County	Milepost	Road Name	Surface Type	Jurisdiction	Public or Private	Crossing Method
Pittsylvania	20.0	U.S. Highway 58 / Martinsville Highway	Asphalt	U.S.	Public	Bore
Pittsylvania	22.1	County Road 875 / Horseshoe Road	Asphalt	County	Public	Bore
Pittsylvania	23.7	County Road 862 / Oak Hill Road	Asphalt	County	Public	Bore
North Carolina						
Rockingham	26.2	State Road 1745 / Buffalo Road	Asphalt	State	Public	Bore
Rockingham	26.6	State Road 770 / State Hwy 770	Asphalt	State	Public	Bore
Rockingham	30.5	State Hwy 700 / S Fieldcrest Road	Asphalt	State	Public	Bore
Rockingham	30.7	State Road 1951 / Quesinberry Road	Asphalt	State	Public	Bore
Rockingham	31.6	State Road 1951 / Quesinberry Road	Asphalt	State	Public	Bore
Rockingham	33.2	State Road 1945 / Moir Mill Road	Asphalt	State	Public	Bore
Rockingham	36.3	State Road 1980 / Mount Carmel Church Road	Asphalt	State	Public	Bore
Rockingham	36.6	State Road 1982 / Wolf Island Road	Asphalt	State	Public	Bore
Rockingham	38.8	State Road 1941 / Crutchfield Road	Asphalt	State	Public	Bore
Rockingham	39.7	U.S. Highway 29	Asphalt	U.S.	Public	Bore
Rockingham	40.4	State Road 2552 / Narrow Gauge Road	Asphalt	State	Public	Bore
Rockingham	41.6	U.S. Highway 29	Asphalt	U.S.	Public	Bore
Rockingham	42.2	U.S. Highway 158	Asphalt	U.S.	Public	Bore
Rockingham	43.2	State Road 2579 / Brooks Road	Asphalt	State	Public	Bore
Rockingham	43.4	State Road 2588 / Knowles Road	Asphalt	State	Public	Bore
Rockingham	44.9	State Road 2571 / Grooms Road	Asphalt	State	Public	Bore
Rockingham	48.4	State Road 150 / State Highway 150	Asphalt	State	Public	Bore
Rockingham	49.1	State Road 87 / State Highway 87	Asphalt	State	Public	Bore
Rockingham	49.5	State Road 2614 / High Rock Road	Asphalt	State	Public	Bore
Rockingham	51.7	State Road 2619 / Kernodle Road	Asphalt	State	Public	Bore
Rockingham	52.0	State Road 2658 / Parkdale Road	Asphalt	State	Public	Bore
Rockingham	52.6	Tri County Drive	Gravel	Private	Private	Open Cut

Table 8-B

Roadways Crossed by the Southgate Project

Facility, State, County	Milepost	Road Name	Surface Type	Jurisdiction	Public or Private	Crossing Method
Alamance	53.1	State Road 1578 / Troxler Mill Road	Asphalt	State	Public	Bore
Alamance	53.3	State Road 1577 / Lee Lewis Road	Asphalt	State	Public	Bore
Alamance	54.1	State Road 1576 / Jug House Road	Asphalt	State	Public	Bore
Alamance	55.1	State Road 1576 / Gilliam Church Road	Asphalt	State	Public	Bore
Alamance	55.8	State Highway 87	Asphalt	State	Public	Bore
Alamance	56.4	State Road 1571 / Altamahaw Race Track Road	Asphalt	State	Public	Bore
Alamance	56.4	State Road 1649 / Lonzie Foster Trail	Gravel	State	Public	Open Cut
Alamance	57.3	Hollyfield Road	Gravel	Private	Private	Open Cut
Alamance	57.5	State Road 1565 / Dodd Road	Asphalt	State	Public	Bore
Alamance	57.8	State Road 1002 / Altamahaw Union Ridge Rd	Asphalt	State	Public	Bore
Alamance	57.9	State Road 1561 / Hub Mill Road	Asphalt	State	Public	Bore
Alamance	59.2	State Road 1595 / Danieley Water Wheel Road	Asphalt	State	Public	Bore
Alamance	60.0	State Road 1593 / Burch Bridge Road	Asphalt	State	Public	Bore
Alamance	60.3	State Road 1598 / Isley School Road	Asphalt	State	Public	Bore
Alamance	61.4	State Road 1601 / Huffines Drive	Asphalt	State	Public	Bore
Alamance	62.8	State Road 1001 / Union Ridge Road	Asphalt	State	Public	Bore
Alamance	63.1	State Highway 62	Asphalt	State	Public	Bore
Alamance	64.8	Faucette Lane	Asphalt	County	Public	Bore
Alamance	65.3	State Road 1729 / Deep Creek Church Road	Asphalt	State	Public	Bore
Alamance	66.1	State Road 1735 / Fronville Rd	Asphalt	State	Public	Bore
Alamance	66.4	State Road 1752 / Sandy Cross Road	Asphalt	State	Public	Bore
Alamance	68.2	Indian Village Trail	Gravel	County	Public	Open Cut
Alamance	68.7	State Road 1737 / Haw River Hopedale Road	Asphalt	State	Public	Bore

Table 8-B

Roadways Crossed by the Southgate Project

Facility, State, County	Milepost	Road Name	Surface Type	Jurisdiction	Public or Private	Crossing Method
Alamance	69.0	U.S. Highway 70 / Haw River Bypass	Asphalt	U.S.	Public	Bore
Alamance	69.7	State Highway 49 / E Main Street	Asphalt	State	Public	Bore
Alamance	69.8	State Road 1935 / Stone St	Asphalt	State	Public	Bore
Alamance	71.3	Interstate 40 / Interstate 85	Asphalt	U.S.	Public	Bore
Alamance	72.9	State Highway 54 / E Harden Street	Asphalt	State	Public	Bore

NOTE: N/A = Not Applicable

MVP Southgate Project

Docket No. CP19-XX-000

Resource Report 8

Appendix 8-C

Site-specific Residential Construction and Mitigation Plans

MVP SOUTHGATE PROJECT

PROPOSED H-650 PIPELINE
ENGINEERING SERVICES DESIGN; JOB NUMBERS 300423
RESIDENTIAL DRAWINGS

DRAWING NO,	DRAWING TITLE	REV.
RES-COV	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE RESIDENTIAL DRAWINGS	P1
RSS-H650-001	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P1
RSS-H650-002	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P1
RSS-H650-003	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P1
RSS-H650-004	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P1
RSS-H650-005	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE PITTSYLVANIA COUNTY VIRGINIA	P1
RSS-H650-006	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P1
RSS-H650-007	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ROCKINGHAM COUNTY NORTH CAROLINA	P1
RSS-H650-008	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P1
RSS-H650-009	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P1
RSS-H650-015	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P1
RSS-H650-017	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P1
RSS-H650-018	MOUNTAIN VALLEY PIPELINE PROJECT PROPOSED H650 PIPELINE ALAMANCE COUNTY NORTH CAROLINA	P1

DRAWN	TRC	DATE	10/30/2018
CHECKED	SJO	DATE	10/30/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			

RESIDENTIAL DETAIL COVER

MOUNTAIN VALLEY PIPELINE
SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
RESIDENTIAL DRAWINGS

DRAWING NO.	REV.
RES-COVER	P1

ISSUED FOR FERC
11/02/18

TRC
Results you can rely on

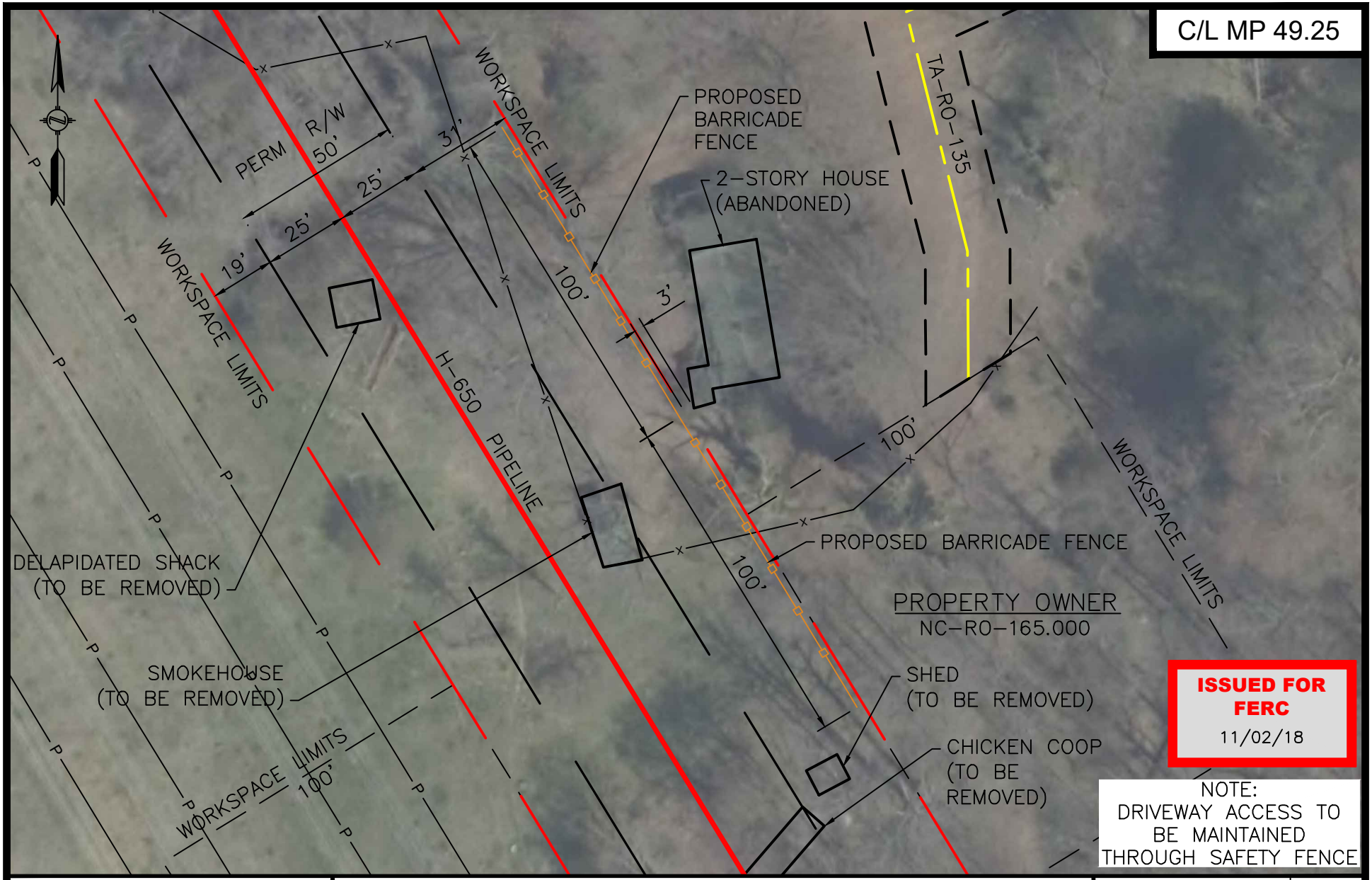
Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY: TBH	10/05/18
DRAFTING CK: SJO	10/19/18
ENVIRONMENTAL CK:	
ENGINEERING CK: .	.
DETAIL SHEET:	
DRAWING NO.: **RSS-H650-001**	
SCALE: 1" = 40'	REV. P1
DATE OF PLOT: 10/30/2018 9:58 AM	



TRC
Results you can rely on

Mountain Valley PIPELINE LLC

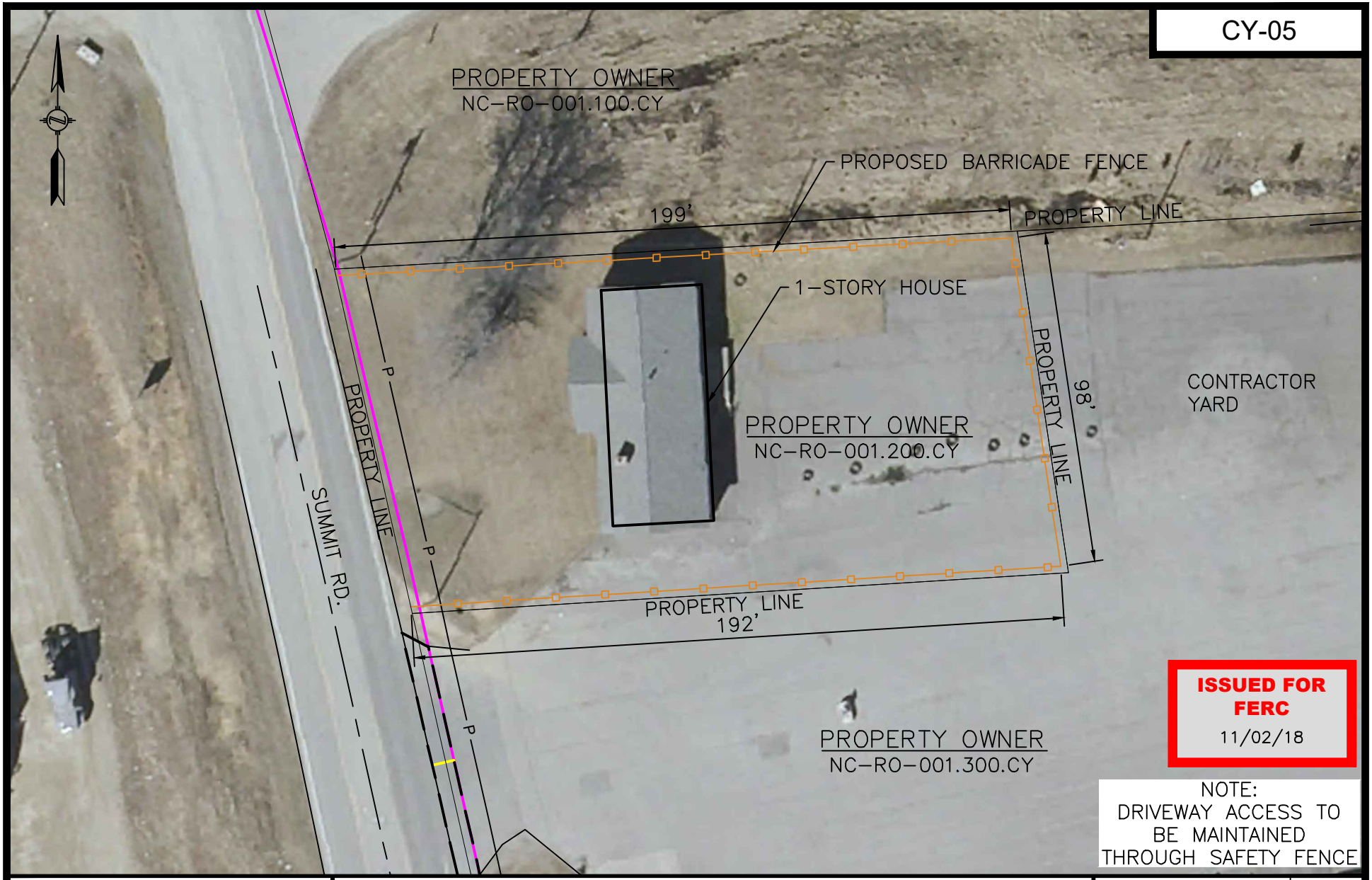
CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/05/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
DRAWING NO.:	**RSS-H650-002**	
SCALE: 1" = 40'		REV. P1
DATE OF PLOT: 10/30/2018 10:01 AM		

CY-05



ISSUED FOR FERC
11/02/18

NOTE:
DRIVEWAY ACCESS TO BE MAINTAINED THROUGH SAFETY FENCE

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Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/08/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
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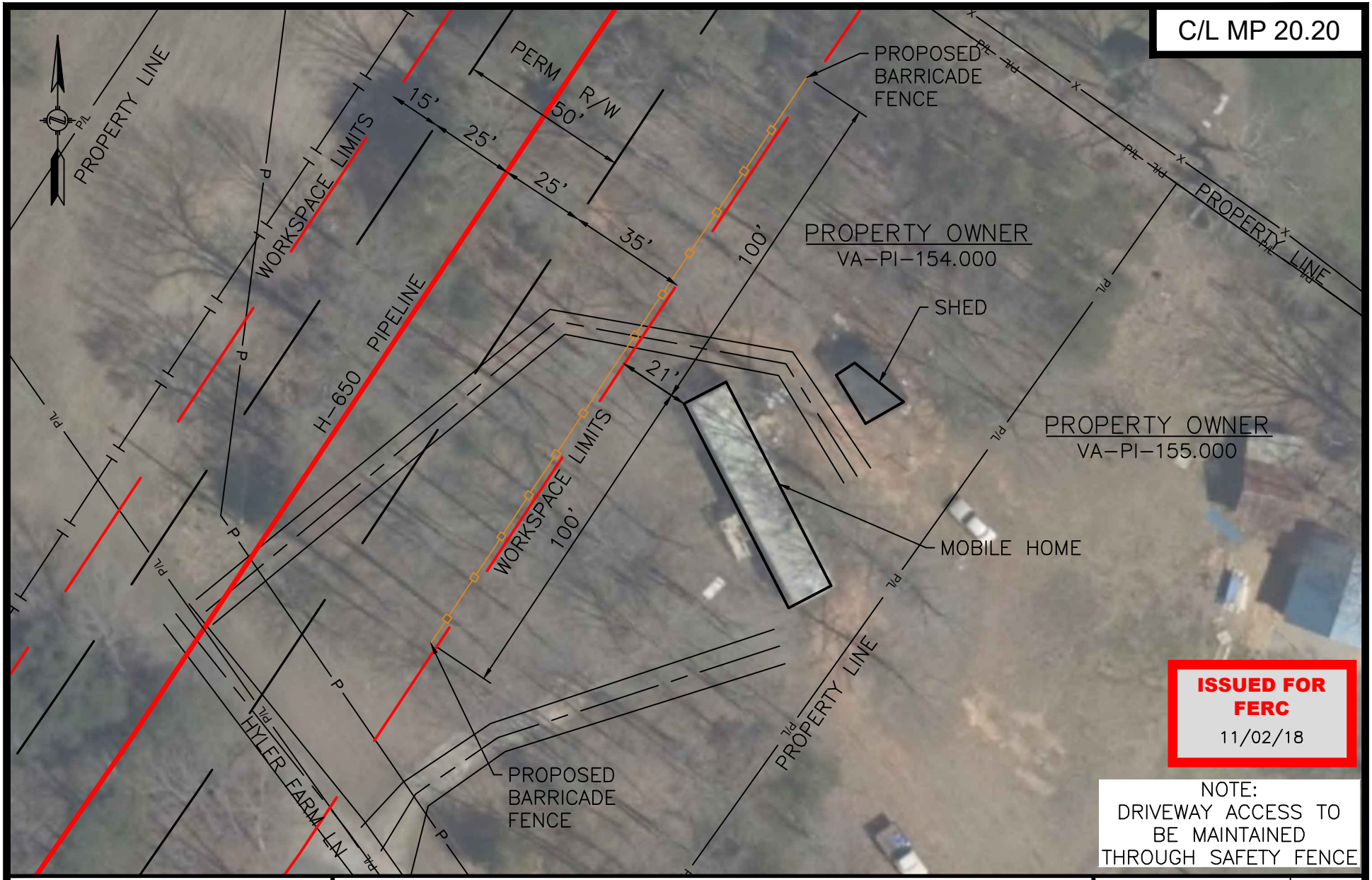

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Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY,VIRGINIA

SHEET 1 OF 1

DRAWN BY:	TBH	10/08/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
DRAWING NO.:	**RSS-H650-004**	
SCALE: 1" = 40'		REV. P1
DATE OF PLOT: 10/30/2018 10:06 AM		

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Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
PITTSYLVANIA COUNTY, VIRGINIA

SHEET 1 OF 1

DRAWN BY:	TBH	10/09/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
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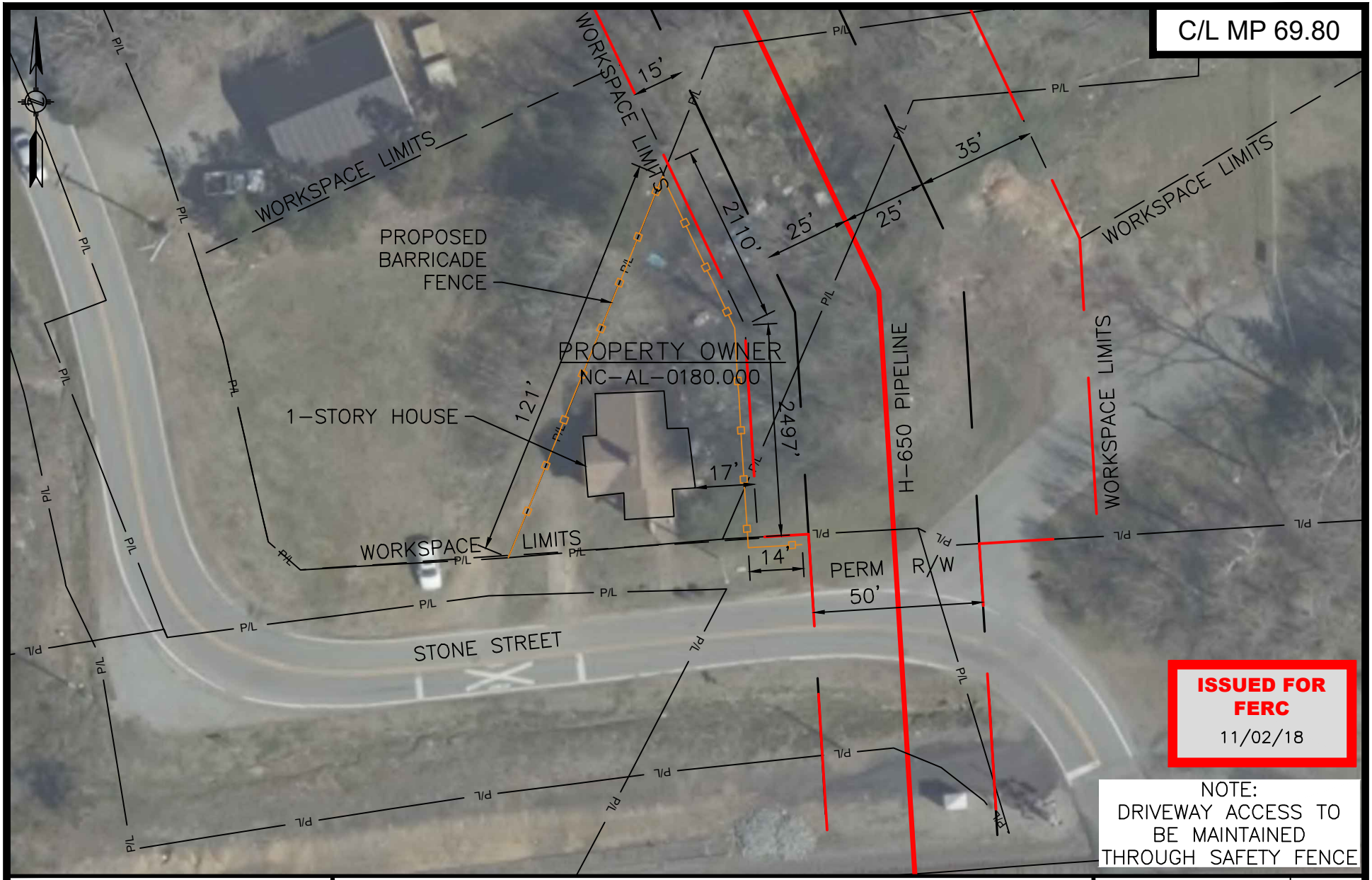

TRC
Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/17/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
DRAWING NO.:	**RSS-H650-006**	
SCALE: 1" = 40'		REV. P1
DATE OF PLOT: 10/30/2018 10:09 AM		

TRC
Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ROCKINGHAM COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/09/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
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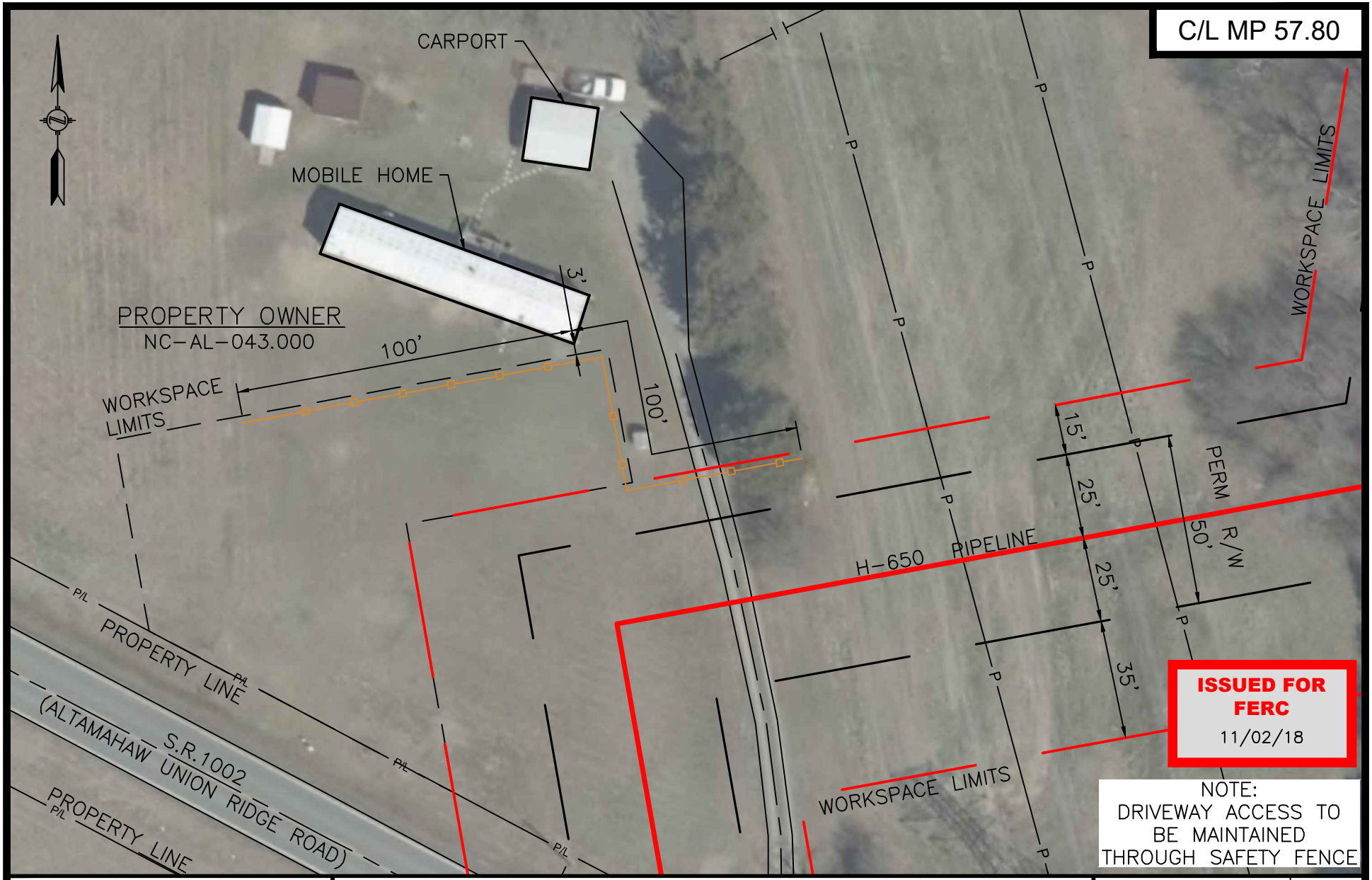

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Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/10/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
DRAWING NO.:	**RSS-H650-008**	
SCALE: 1" = 40'		REV. P1
DATE OF PLOT: 10/30/2018 10:12 AM		

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Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/10/18
DRAFTING CK:	SJO	10/19/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
DRAWING NO.:	**RSS-H650-009**	
SCALE: 1" = 40'		REV. P1
DATE OF PLOT: 10/30/2018 10:13 AM		

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Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/17/18
DRAFTING CK:	SJO	10/22/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
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DATE OF PLOT: 11/1/2018 2:10 PM		

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Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/17/18
DRAFTING CK:	SJO	10/22/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
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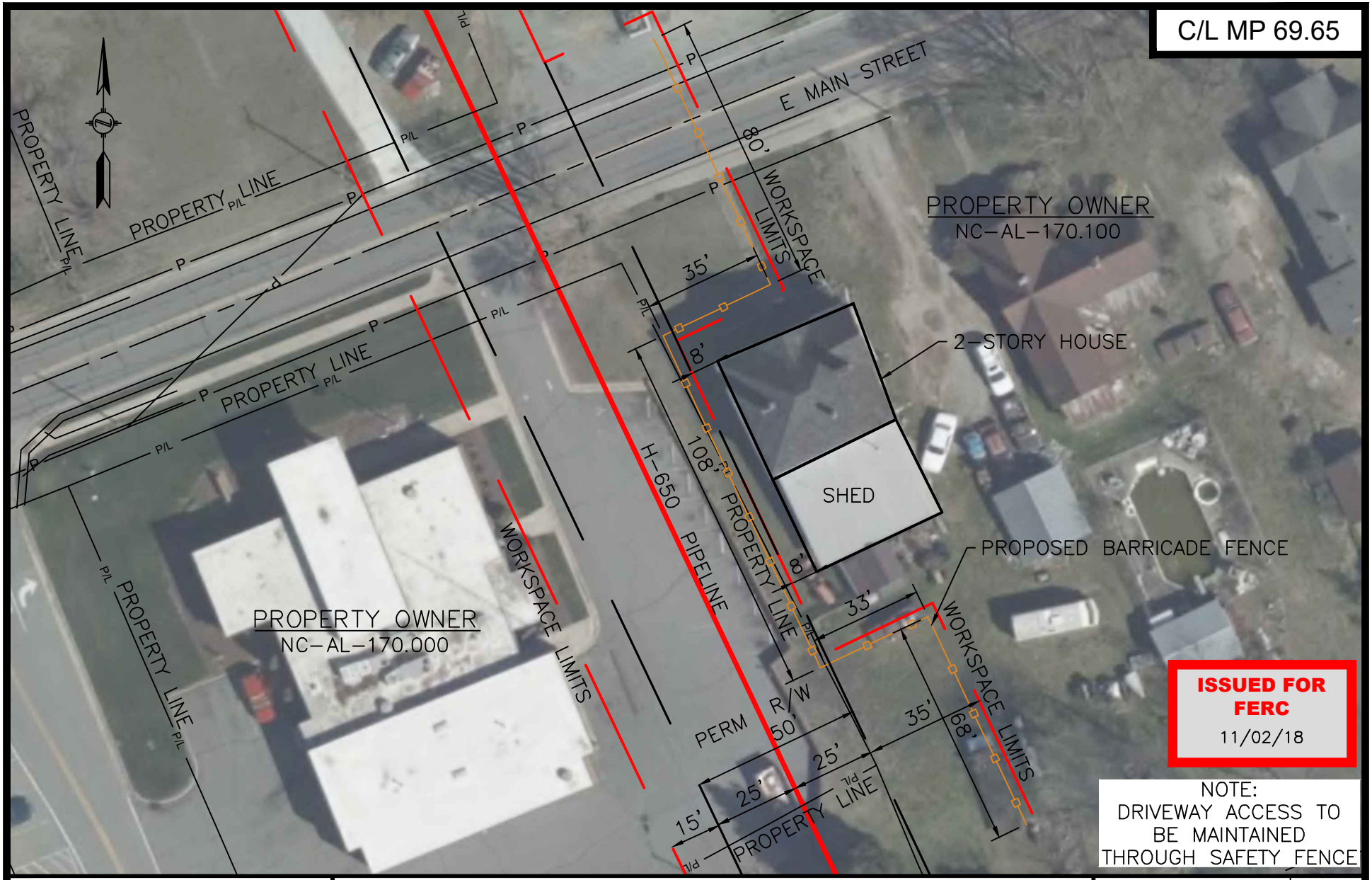


TRC
Results you can rely on

Mountain Valley PIPELINE LLC

CONSTRUCTION DETAILS - RESIDENTIAL SITE SPECIFIC

MVP SOUTHGATE PROJECT
PROPOSED H-650 PIPELINE
ALAMANCE COUNTY, NORTH CAROLINA

SHEET 1 OF 1

DRAWN BY:	TBH	10/17/18
DRAFTING CK:	SJO	10/22/18
ENVIRONMENTAL CK:		
ENGINEERING CK:	.	.
DETAIL SHEET:		
DRAWING NO.:	**RSS-H650-018**	
SCALE: 1" = 40'		REV. P1
DATE OF PLOT: 10/30/2018 10:17 AM		

MVP Southgate Project

Docket No. CP19-XX-000

Resource Report 8

Appendix 8-D

Table 8-D
Structures within 50 Feet of the Pipeline Construction Work Area

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Virginia								
Pittsylvania	1.2	Barn	No	West	0	554	N/A	N/A
Pittsylvania	1.2	Barn	No	West	0	610	N/A	N/A
Pittsylvania	1.2	Shed	No	West	0	675	N/A	N/A
Pittsylvania	1.2	Barn	No	West	0	1,764	N/A	N/A
Pittsylvania	1.3	Barn	No	West	6	470	N/A	N/A
Pittsylvania	2.3	Shed	No	East	14	1,662	N/A	N/A
Pittsylvania	4.5	House	Yes	East	0	735	N/A	Use existing driveway (TA-PI-007) to pass by residences. Post both enter and exit caution/slow signage to alert contractors.
Pittsylvania	4.5	Barn	No	East	0	663	N/A	N/A
Pittsylvania	4.5	Tobacco Shed	No	East	0	748	N/A	N/A
Pittsylvania	4.5	Tobacco Shed	No	East	16	880	N/A	N/A
Pittsylvania	4.5	Barn	No	East	0	874	N/A	N/A
Pittsylvania	4.8	Barn	No	West	4	683	N/A	N/A
Pittsylvania	6.5	Office	Yes	West	30	1,283	N/A	N/A
Pittsylvania	8.5	House	Yes	East	46	859	N/A	Stay within access road TA-PI-022 limits.
Pittsylvania	9.0	Barn	No	West	14	1,445	N/A	N/A
Pittsylvania	9.0	Barn	No	West	14	1,482	N/A	N/A
Pittsylvania	9.0	Tobacco Shed	No	West	5	1,642	N/A	N/A
Pittsylvania	10.3	2-Story House	Yes	East	34	59	N/A	N/A
Pittsylvania	10.3	Garage	No	East	29	54	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Pittsylvania	10.3	Shed	No	East	0	10	N/A	N/A
Pittsylvania	10.6	Shed	No	East	49	110	N/A	N/A
Pittsylvania	10.7	House - 2 story	Yes	East	28	88	N/A	N/A
Pittsylvania	10.8	Mailbox stone column	No	West	0	14	N/A	N/A
Pittsylvania	10.8	Stone entry wall	No	West	0	0	N/A	N/A
Pittsylvania	10.8	Stone entry wall	No	East	0	14	N/A	N/A
Pittsylvania	13.1	Shed	No	East	13	205	N/A	N/A
Pittsylvania	13.7	House	Yes	East	27	1,516	N/A	Stay within access road TA-PI-034 limits.
Pittsylvania	15.9	Portable building	No	East	0	633	N/A	N/A
Pittsylvania	15.9	Garage	No	East	20	605	N/A	N/A
Pittsylvania	15.9	Barn	No	East	2	688	N/A	N/A
Pittsylvania	15.9	Garage	No	East	0	55	N/A	N/A
Pittsylvania	16.0	Shed	No	East	0	164	N/A	N/A
Pittsylvania	16.3	Mobile home - single wide	Yes	East	26	86	N/A	N/A
Pittsylvania	16.7	House	Yes	West	22	282	N/A	Use existing driveway (TA-PI-041) to pass by residences. Post both enter and exit caution/slow signage to alert contractors.
Pittsylvania	17.2	Barn	No	East	0	1,718	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Pittsylvania	17.2	House	Yes	East	31	1,857	N/A	Stay within access road TA-PI-043 limits.
Pittsylvania	17.5	Shed	No	West	29	413	N/A	N/A
Pittsylvania	18.4	Tobacco Shed	No	West	5	29	N/A	N/A
Pittsylvania	18.4	Tobacco Shed	No	West	10	34	N/A	N/A
Pittsylvania	18.7	Garage	No	East	21	460	N/A	N/A
Pittsylvania	19.1	Garage	No	East	46	108	N/A	N/A
Pittsylvania	19.6	Shed	No	West	34	93	N/A	N/A
Pittsylvania	19.9	Business - auto sales	No	West	33	288	N/A	N/A
Pittsylvania	20.2	Garage	No	East	21	35	N/A	N/A
Pittsylvania	20.2	Mobile home	Yes	East	21	81	RSS-H650-004	Install safety fence at limit of workspace extending 100 feet from house.
Pittsylvania	20.3	Car awning	No	East	0	44	N/A	N/A
Pittsylvania	20.3	Mobile home	Yes	East	1	61	RSS-H650-005	The Southgate Project is evaluating the workspace in this location.
Pittsylvania	22.0	2-Story House	Yes	East	45	133	N/A	N/A
Pittsylvania	22.2	House - 1 story, fallen down	No	East	0	79	N/A	N/A
North Carolina								
Rockingham	26.7	Shed	No	East	4	998	N/A	N/A
Rockingham	26.7	Barn	No	East	10	888	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Rockingham	29.2	Shed	No	East	29	1,217	N/A	N/A
Rockingham	29.2	Shed	No	East	26	1,185	N/A	N/A
Rockingham	30.0	Shed / Car port	No	West	12	1,397	N/A	N/A
Rockingham	30.0	House	Yes	West	18	1,422	N/A	Stay within access road TA-RO-080 limits.
Rockingham	30.5	House - 1 story, abandoned	No	North	3	43	N/A	N/A
Rockingham	30.5	House - 1 story, abandoned	Yes	South	29	122	N/A	N/A
Rockingham	30.7	House – 1 Story	Yes	East	40	100	N/A	N/A
Rockingham	31.7	House - 1 story	Yes	North	46	86	N/A	N/A
Rockingham	32.5	Shed	No	East	4	1,467	N/A	N/A
Rockingham	32.5	House	Yes	East	22	1,430	N/A	Stay within limits of access road TA-RO-085.
Rockingham	35.4	Shed - abandoned	No	North	0	232	N/A	N/A
Rockingham	36.4	Abandoned cabin	No	North	50	112	N/A	N/A
Rockingham	36.5	Abandoned cabin	No	North	30	90	N/A	N/A
Rockingham	36.5	Abandoned cabin	No	North	30	93	N/A	N/A
Rockingham	36.7	Barn	No	South	25	64	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Rockingham	37.1	House - 1 story, abandoned	No	East	0	48	N/A	N/A
Rockingham	40.3	Shed	No	East	9	35	N/A	N/A
Rockingham	40.3	House - 1 story	Yes	East	5	48	RSS-H650-007	The Southgate Project is evaluating the workspace in this location.
Rockingham	41.8	Barn	No	North	31	718	N/A	N/A
Rockingham	42.4	Shed	No	West	9	47	N/A	N/A
Rockingham	43.1	House, abandoned	No	West	38	114	N/A	N/A
Rockingham	43.1	1-Story House	Yes	East	50	110	N/A	N/A
Rockingham	43.9	Shed, abandoned	No	South	2	886	N/A	N/A
Rockingham	44.1	Shed	No	North	0	1,507	N/A	N/A
Rockingham	44.1	Shed	No	North	0	1,615	N/A	N/A
Rockingham	44.1	House, 1 story	Yes	South	14	1,612	N/A	Stay within limits of access road TA-RO-122.
Rockingham	45.0	House - 2 story, abandoned	No	West	27	110	N/A	N/A
Rockingham	46.1	Mobile home	Yes	North	32	925	N/A	N/A
Rockingham	46.1	Mobile home	Yes	North	15	678	N/A	Stay within limits of access road TA-RO-127.

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Rockingham	46.1	House	Yes	South	38	1,675	N/A	Stay within limits of access road TA-RO-127.
Rockingham	49.1	House - 2 story, log cabin, abandoned	No	Crosses	0	0	RSS-H650-001	To be removed
Rockingham	49.3	Dilapidated shack	No	West	0	3	RSS-H650-002	To be removed
Rockingham	49.3	Shed, chicken coop	No	East	0	0	RSS-H650-002	To be removed
Rockingham	49.3	Shed, cellar	No	East	0	31	RSS-H650-002	To be removed
Rockingham	49.3	House - 2 story, abandoned	No	East	0	59	RSS-H650-002	The Southgate Project is evaluating the workspace in this location
Rockingham	49.3	Smoke House	No	East	0	10	RSS-H650-002	To be removed
Rockingham	46.3	Shed	No	East	0	62	N/A	N/A
Rockingham	49.8	Car awning	No	South	46	635	N/A	N/A
Rockingham	52.6	Tractor awning	No	North	21	153	N/A	N/A
Alamance	52.9	1-Story House	Yes	East	38	130	N/A	N/A
Alamance	53.0	Barn, abandoned	No	East	48	183	N/A	N/A
Alamance	53.0	Barn, abandoned	No	East	20	155	N/A	N/A
Alamance	53.5	Shed	No	South	13	193	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Alamance	53.5	House - 1 story	Yes	South	30	178	N/A	Stay within limits of access road TA-AL-152.
Alamance	53.5	House - 1 story	Yes	South	29	256	N/A	Stay within limits of access road TA-AL-152.
Alamance	56.8	Shed	No	West	10	219	N/A	N/A
Alamance	57.3	Shed	No	East	17	73	N/A	N/A
Alamance	57.3	Garage	No	East	16	106	N/A	N/A
Alamance	57.8	Barn, abandoned	No	East	6	120	N/A	N/A
Alamance	57.8	Mobile home	Yes	North	3	83	RSS-H650-008	The Southgate Project is evaluating the workspace in this location.
Alamance	59.1	1-Story House	Yes	South	43	115	N/A	N/A
Alamance	59.3	1-Story House	Yes	South	48	88	N/A	N/A
Alamance	67.3	House	Yes	West	13	1,239	N/A	Stay within limits of access road TA-AL-180.
Alamance	67.3	House	Yes	West	18	1,109	N/A	Stay within limits of access road TA-AL-180.
Alamance	67.3	Barn	Yes	West	20	1,028	N/A	N/A
Alamance	67.3	Barn	Yes	West	4	926	N/A	N/A
Alamance	68.6	Barn	No	North	0	76	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Alamance	68.9	House	Yes	East	49	1,471	N/A	Stay within limits of access road TA-AL-185.
Alamance	69.1	House - 2 story	Yes	East	23	88	RSS-H650-009	Install safety fence at limit of workspace extending 100 feet from house.
Alamance	69.3	Shed	No	North	7	66	N/A	N/A
Alamance	69.4	Chicken / rabbit coop	No	North	0	0	N/A	N/A
Alamance	69.4	Shed	No	North	0	4	N/A	N/A
Alamance	69.5	Shed in concrete	No	North	28	87	N/A	N/A
Alamance	69.5	Shed	No	East	48	117	N/A	N/A
Alamance	69.5	Shed	No	North	43	103	N/A	N/A
Alamance	69.6	1-Story House	Yes	West	6	31	RSS-H650-017	Install safety fence at limit of workspace extending 100 feet from road right-of-way and extending 100 feet from the house to the north.
Alamance	69.7	Business - textiles	No	East	10	36	N/A	N/A
Alamance	69.7	2-Story House	Yes	East	8	33	RSS-H650-018	Install safety fence at limit of workspace from road right-of-way and extending 100 from the house to the south.
Alamance	69.7	Fire station	No	West	4	44	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Alamance	69.7	Business	No	West	0	40	N/A	N/A
Alamance	69.8	Barn	No	West	10	100	N/A	N/A
Alamance	69.8	1-Story House	Yes	West	0	56	RSS-H650-006	Exclude house from ATWS by installing safety fence around the house, leaving the front (street side) of the house open for occupant access.
Alamance	70.7	Shed, fallen down	No	West	35	76	N/A	N/A
Alamance	71.4	Green House	No	East	48	107	N/A	N/A
Alamance	71.4	Green House	No	East	38	100	N/A	N/A
Alamance	72.2	Shed	No	East	42	174	N/A	N/A
Alamance	72.7	Garage	No	East	32	97	N/A	N/A
Alamance	72.7	House	Yes	East	50	123	N/A	N/A
Alamance	72.8	1-Story House	Yes	West	24	64	RSS-H650-015	Install safety fence at limit of workspace extending 100 feet from house.
Alamance	72.8	Garage	No	West	0	36	N/A	N/A
Alamance	72.8	Shed	No	East	22	157	N/A	N/A
Alamance	72.9	Garage	No	East	39	99	N/A	N/A
Alamance	CY-05	House - 1 story	Yes	West	0	15,620	RSS-H650-003	Install safety fence around the house at an11-foot off-set from edge of house. .
Alamance	CY-05	Fuel bays	No	West	0	15,418	N/A	N/A
Alamance	CY-05	Truck stop	No	West	0	15,368	N/A	N/A

Table 8-D

Structures within 50 Feet of the Southgate Project

State, County	Approximate Milepost	Building Type (House, Shed, Garage, etc.)	Occupied (yes/no)	Direction from pipeline centerline (North, East, South, West)	Distance from Edge of closest workspace limit (feet)	Distance From Pipeline Centerline (feet)	Residential Construction Plan Number a/	Mountain Valley Proposed Action b/
Alamance	CY-05	Garage bays	No	West	0	15,325	N/A	N/A
Alamance	CY-05	Warehouse	No	West	0	14,825	N/A	N/A
Alamance	CY-05	Garage	No	West	0	14,725	N/A	N/A
Rockingham	CY-08	Garage	No	West	50	14,189	N/A	N/A
Guilford	CY-09	House	Yes	West	28	53,242	N/A	N/A
Pittsylvania	CY-03	Warehouse	No	East	0	58,418	N/A	N/A
Pittsylvania	CY-01	Shed	No	North	0	1,511	N/A	N/A

a/ See Appendix 8-C. N/A = Not Applicable.
b/ TBD = To be determined during negotiations with landowners. Action could include reduced construction right-of-way width, installation of safety fence, temporary or permanent movement of the structure, demolition, or no action.

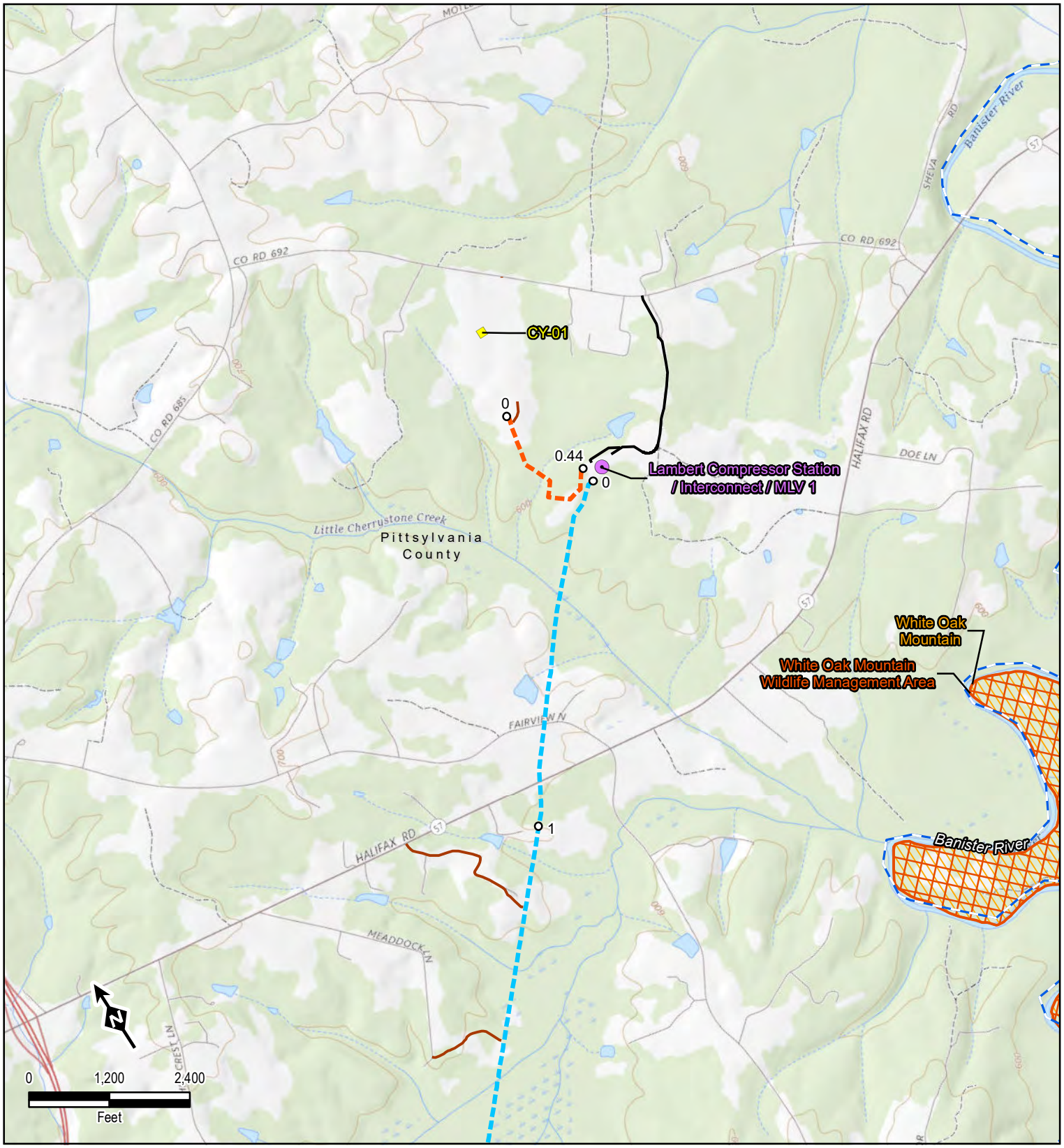
MVP Southgate Project

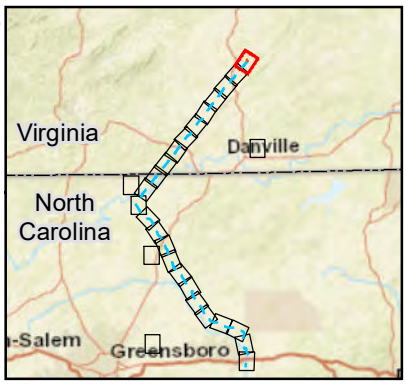
Docket No. CP19-XX-000

Resource Report 8

Appendix 8-E

Federal, State, Recreational and Conservation Lands





Legend

- Mileposts
- Compressor Station
- Contractor Yard
- H-605 Pipeline
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Scenic Rivers (DCR)
- VA Conservation Lands In Public and Private Areas (DCR)
- VA Wildlife Management Areas (DGIF)
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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Appendix 8-E

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600 Willowbrook Ln
West Chester, PA 19382

Date: October 2018

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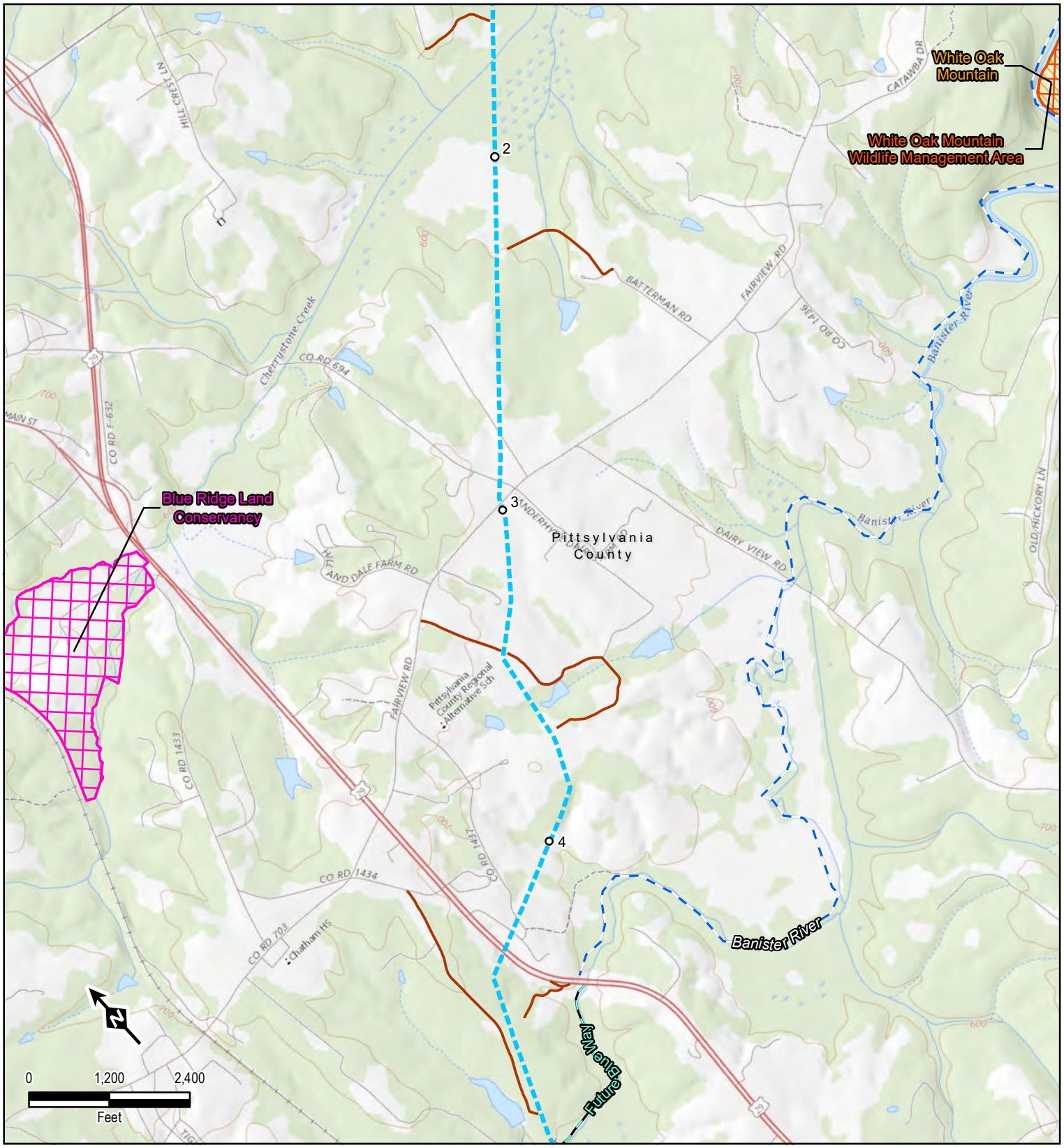

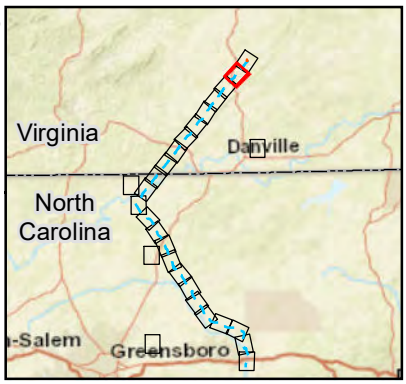

Legend

- Mileposts
- H-650 Pipeline
- Temporary Access Road
- Future Blue Way
- Scenic Rivers (DCR)
- VA Conservation Easements (DCR)
- VA Conservation Lands In Public and Private Areas (DCR)
- VA Wildlife Management Areas (DGIF)
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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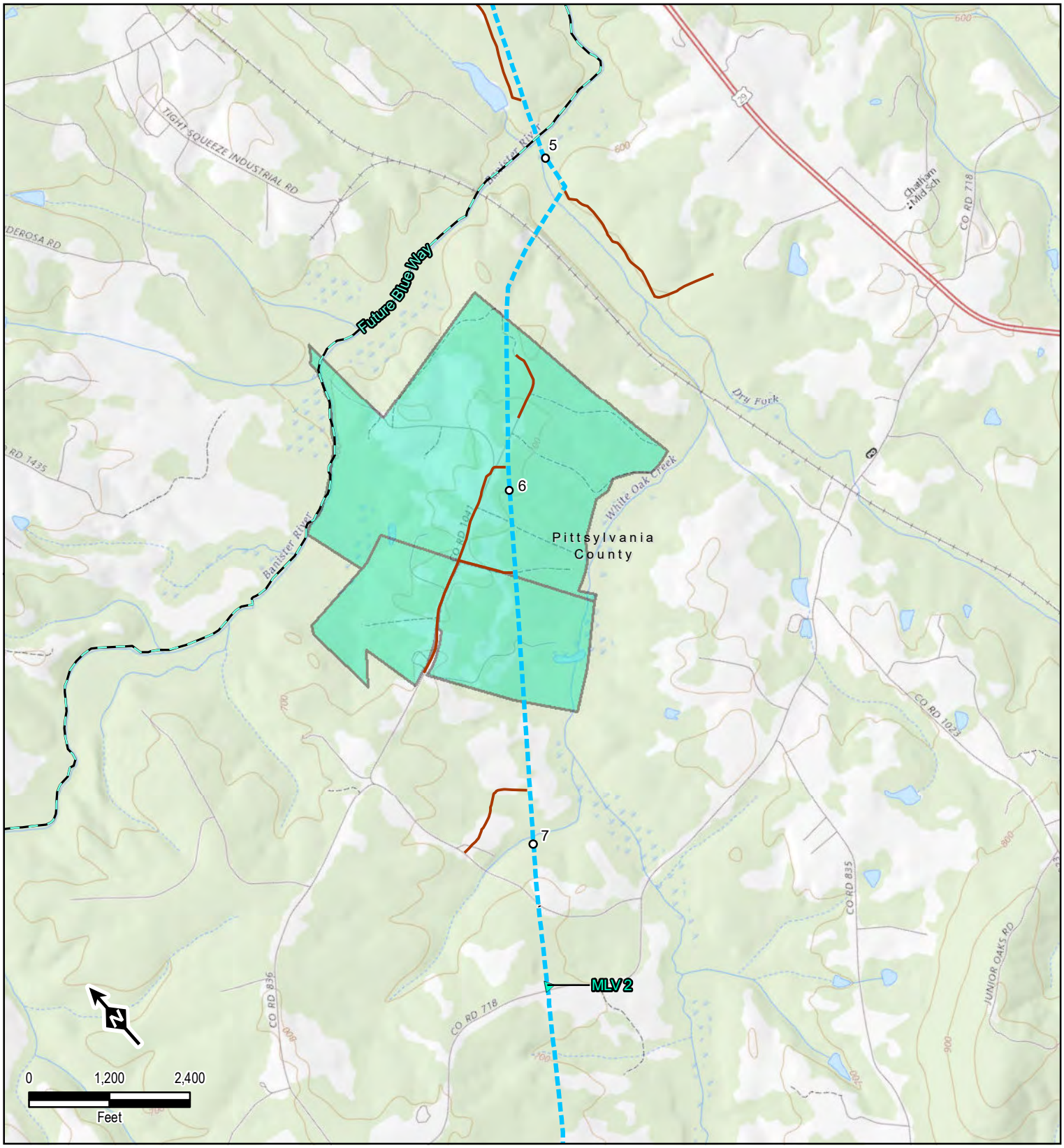

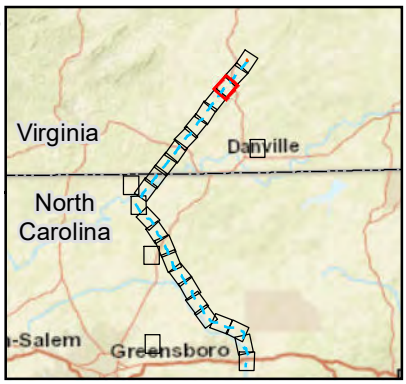

Legend

- Mileposts
- Valve Site
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Future Blue Way
- Municipal Lands
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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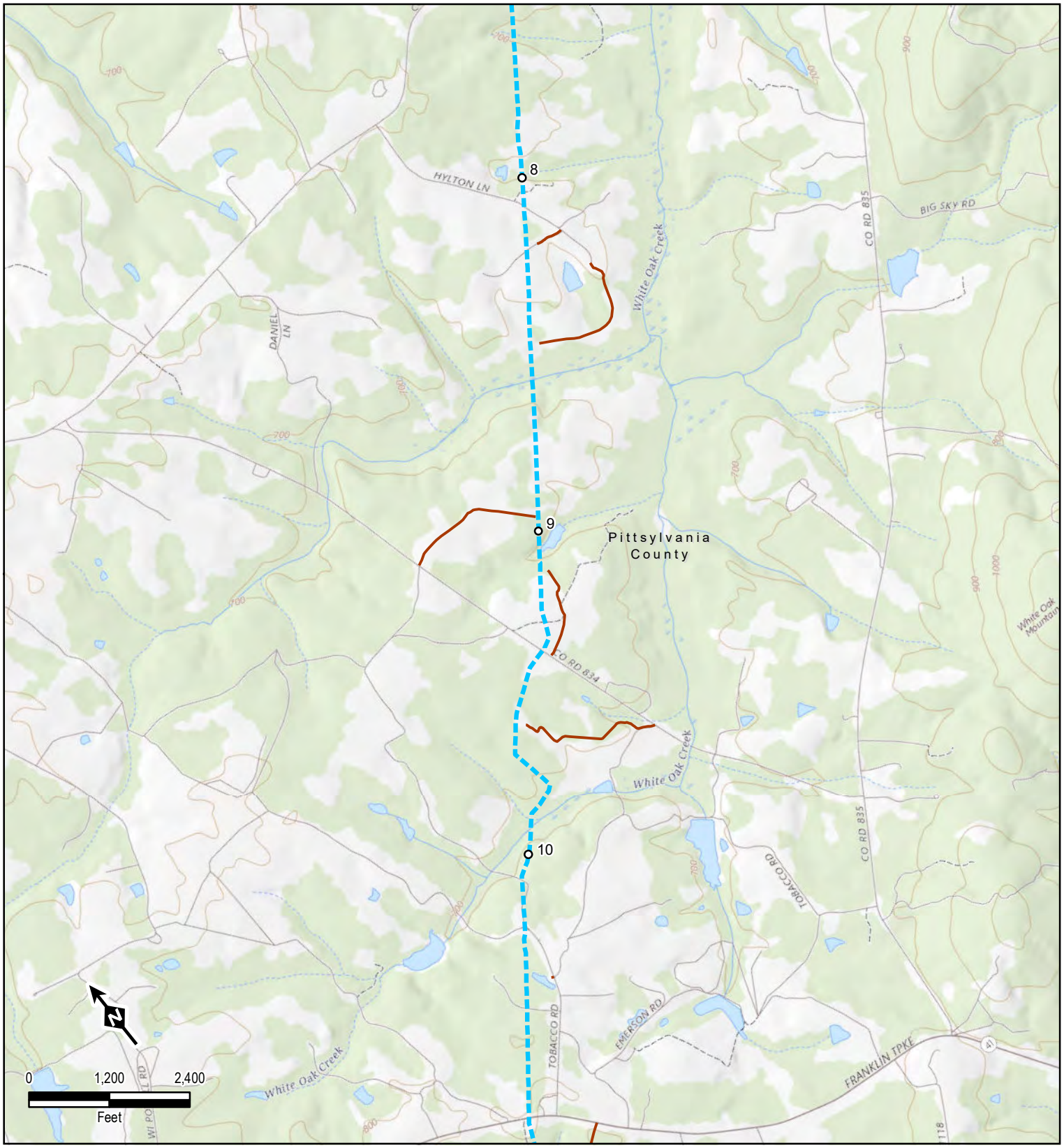

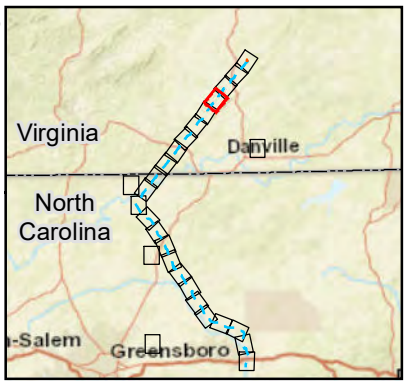

Legend

- Mileposts
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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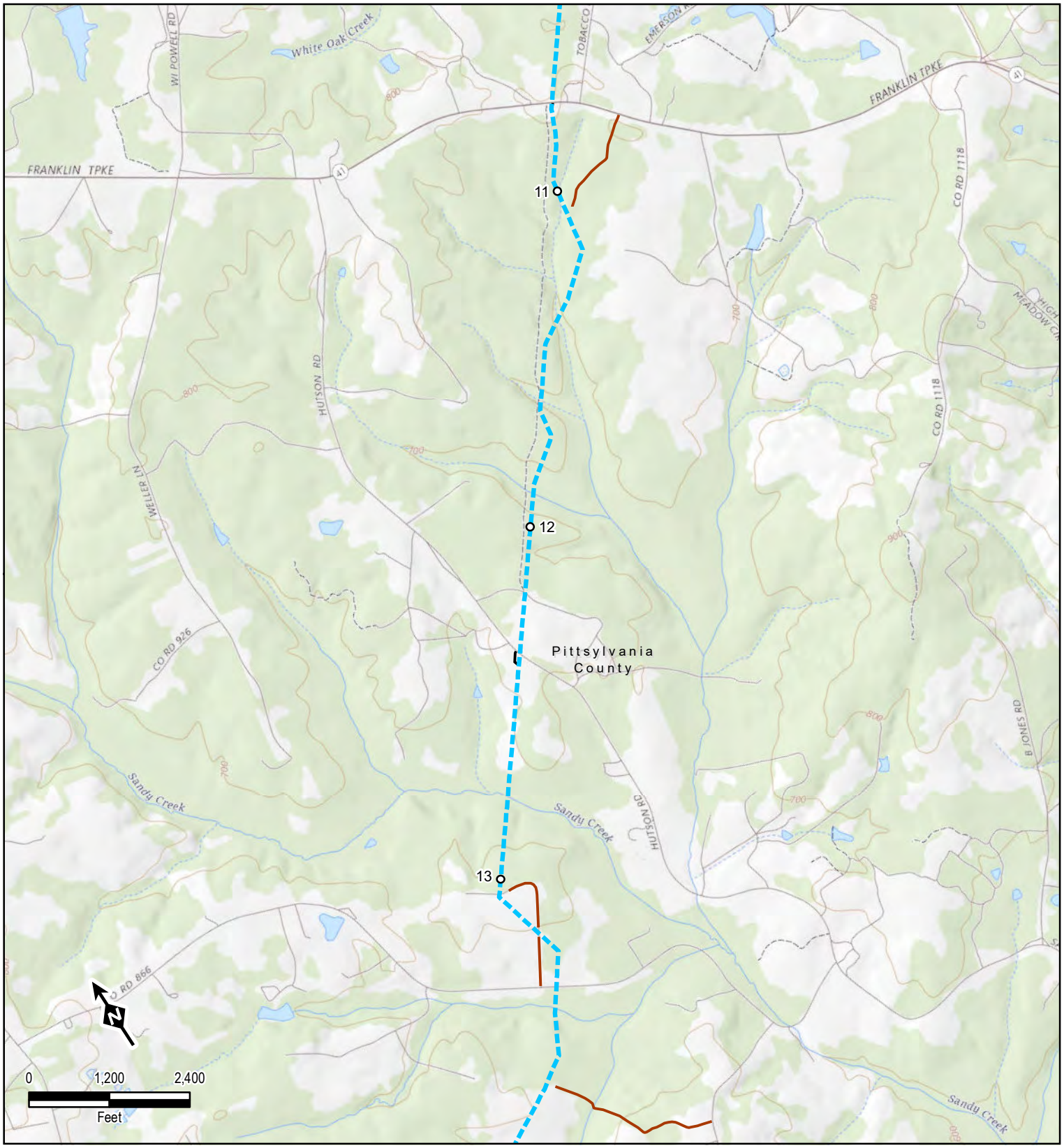

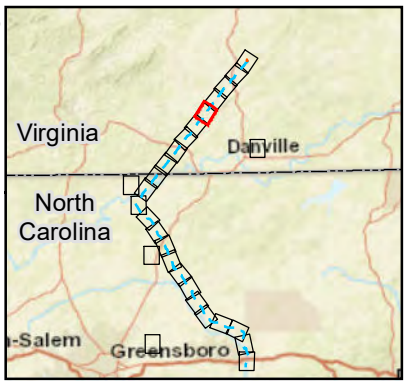

Legend

- Mileposts
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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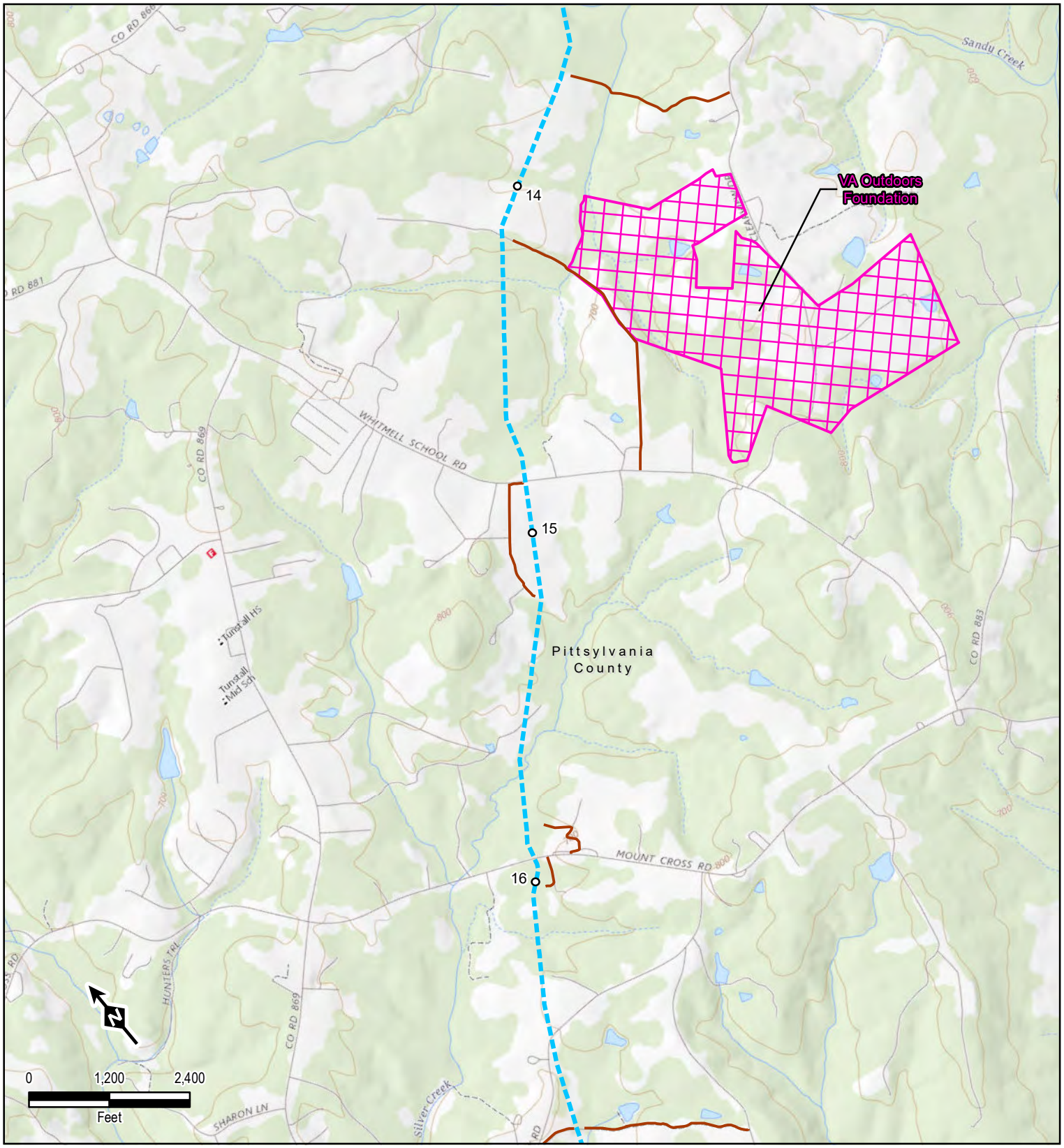

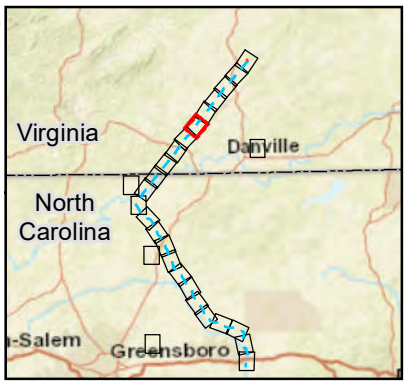

Legend

- Mileposts
- H-650 Pipeline
- Temporary Access Road
- VA Conservation Easements (DCR)
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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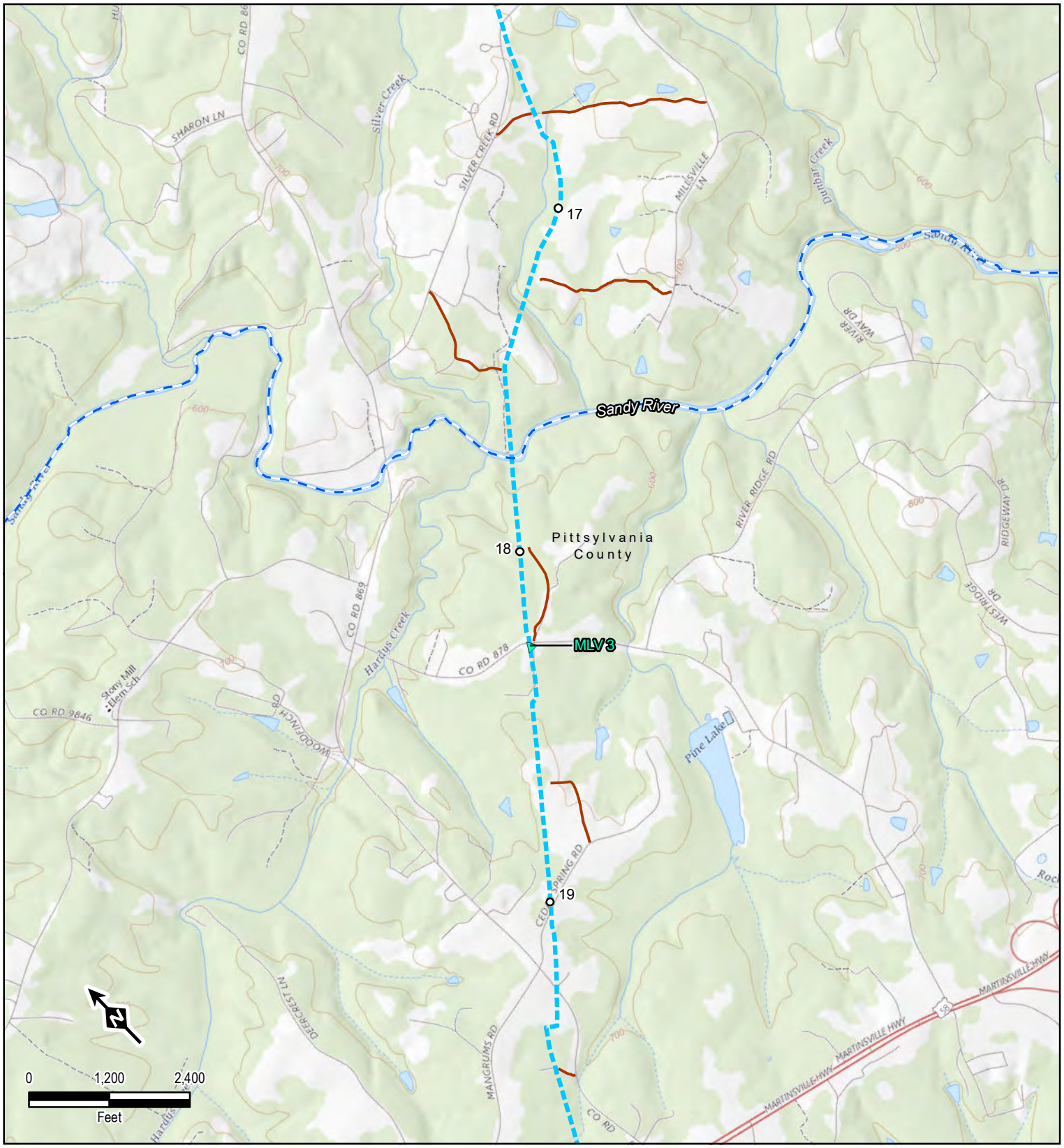

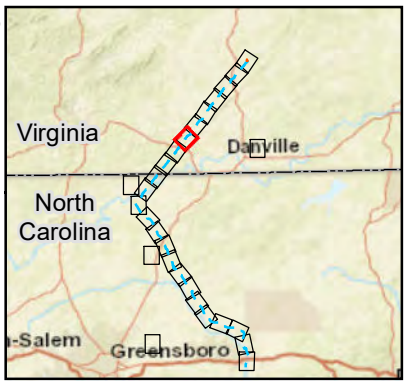

Legend

- Mileposts
- Valve Site
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Scenic Rivers (DCR)
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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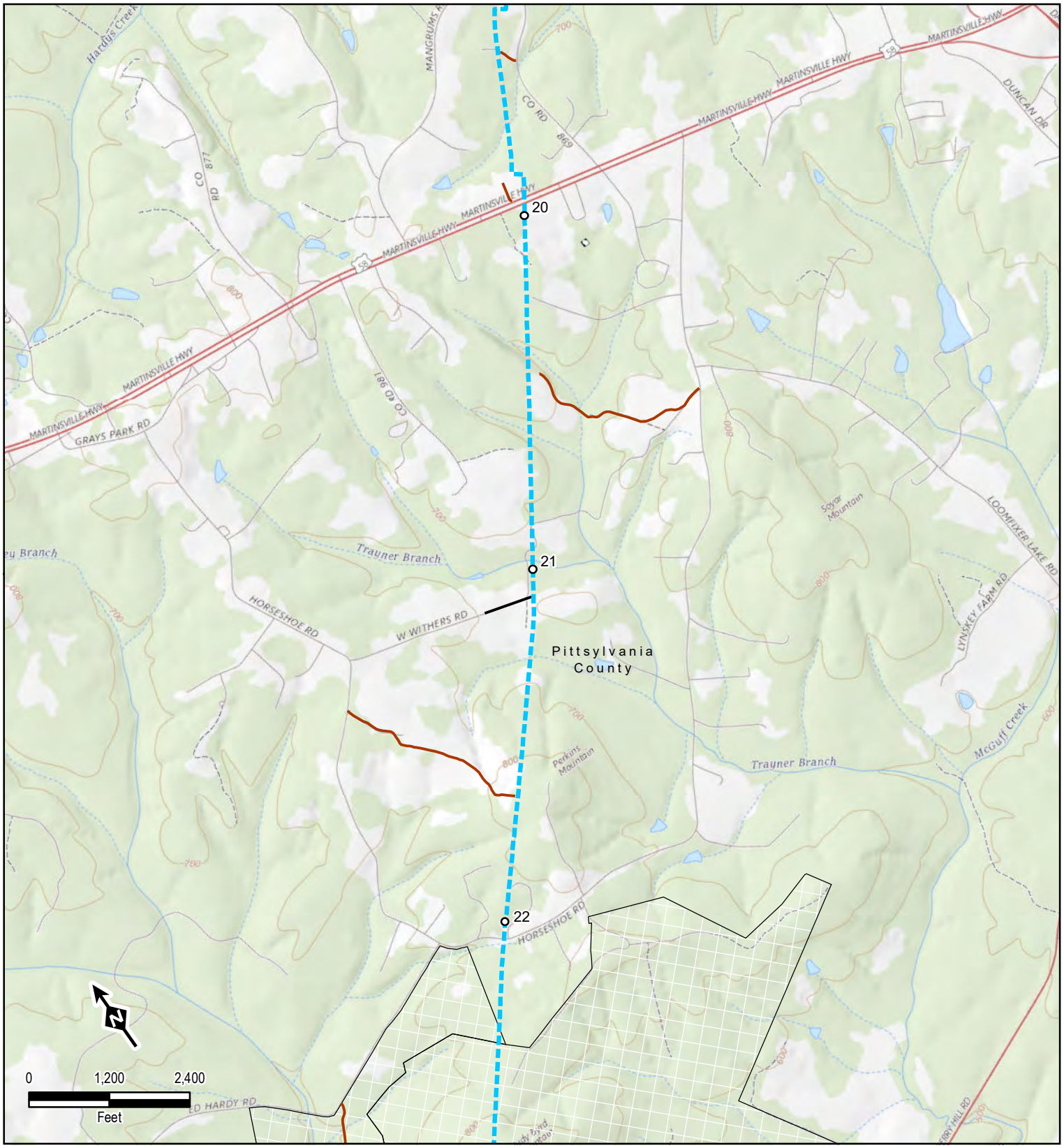

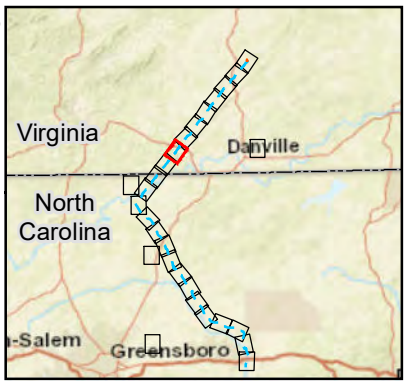

Legend

- Mileposts
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- State Owned Land
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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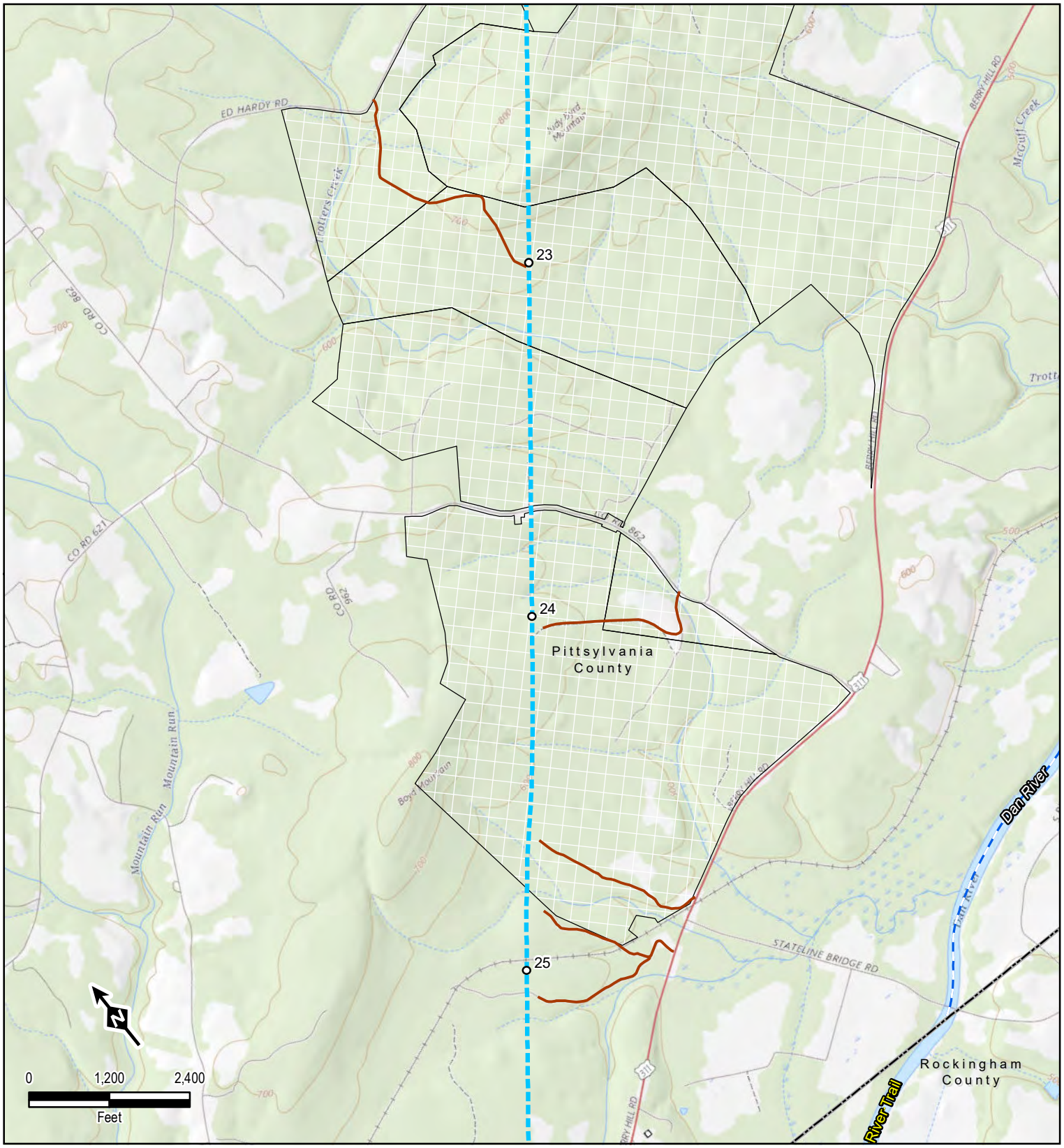

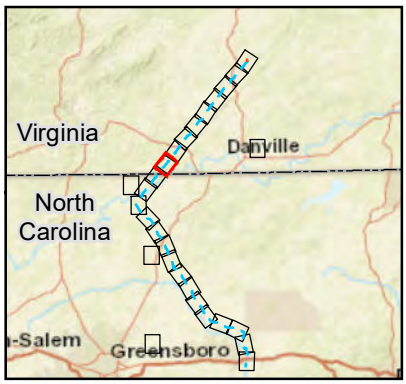

Legend

- Mileposts
- H-650 Pipeline
- Temporary Access Road
- Regional Trails (NCNHP)
- Scenic Rivers (DCR)
- State Owned Land
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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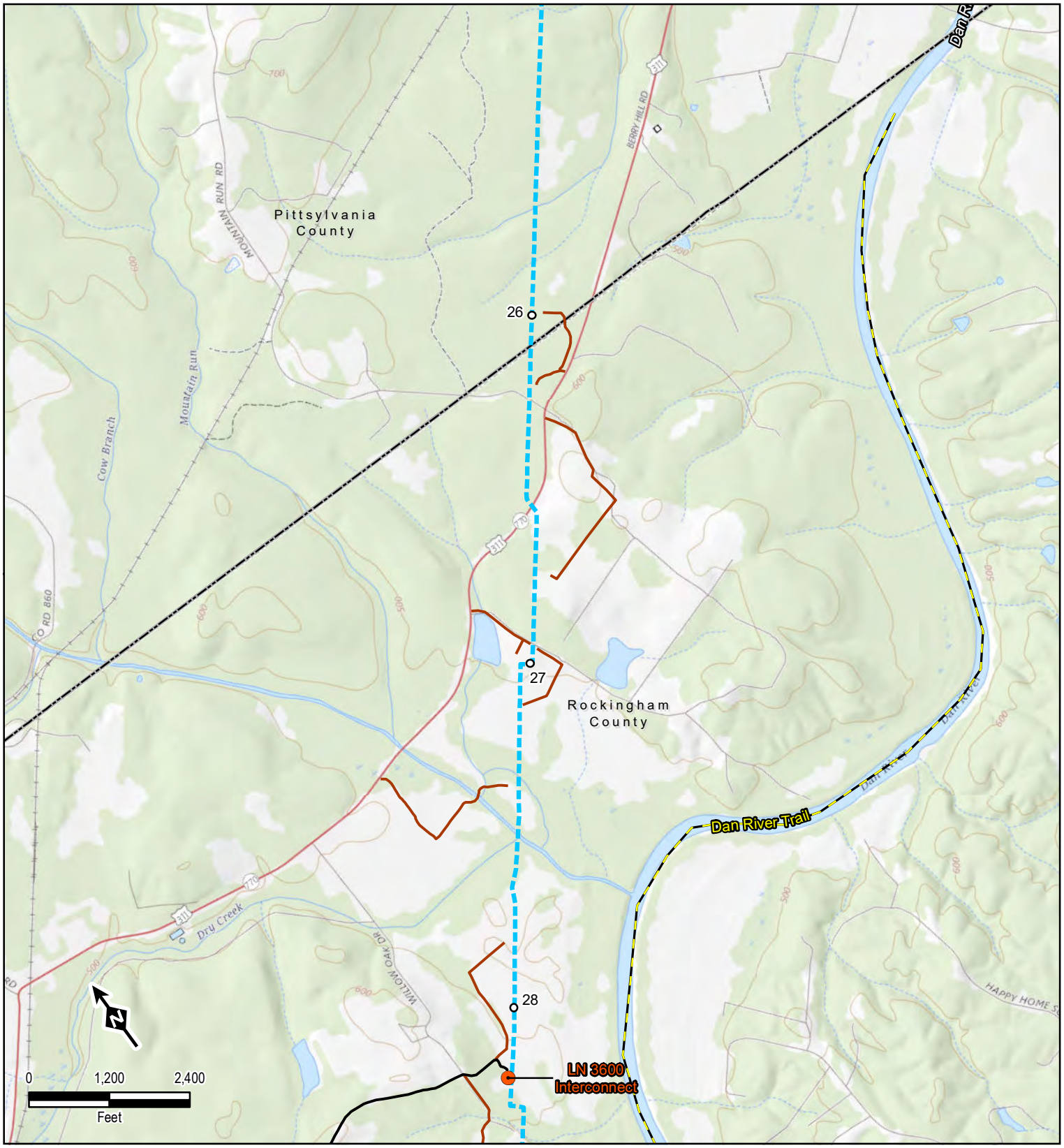

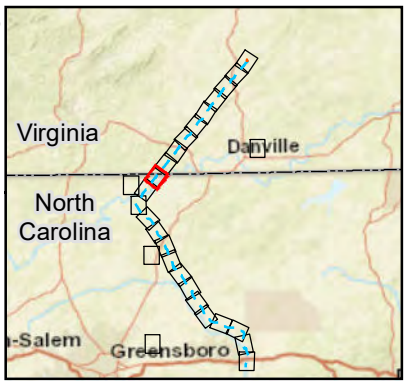

Legend

- Mileposts
- Meter Station
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Regional Trails (NCNHP)
- Scenic Rivers (DCR)
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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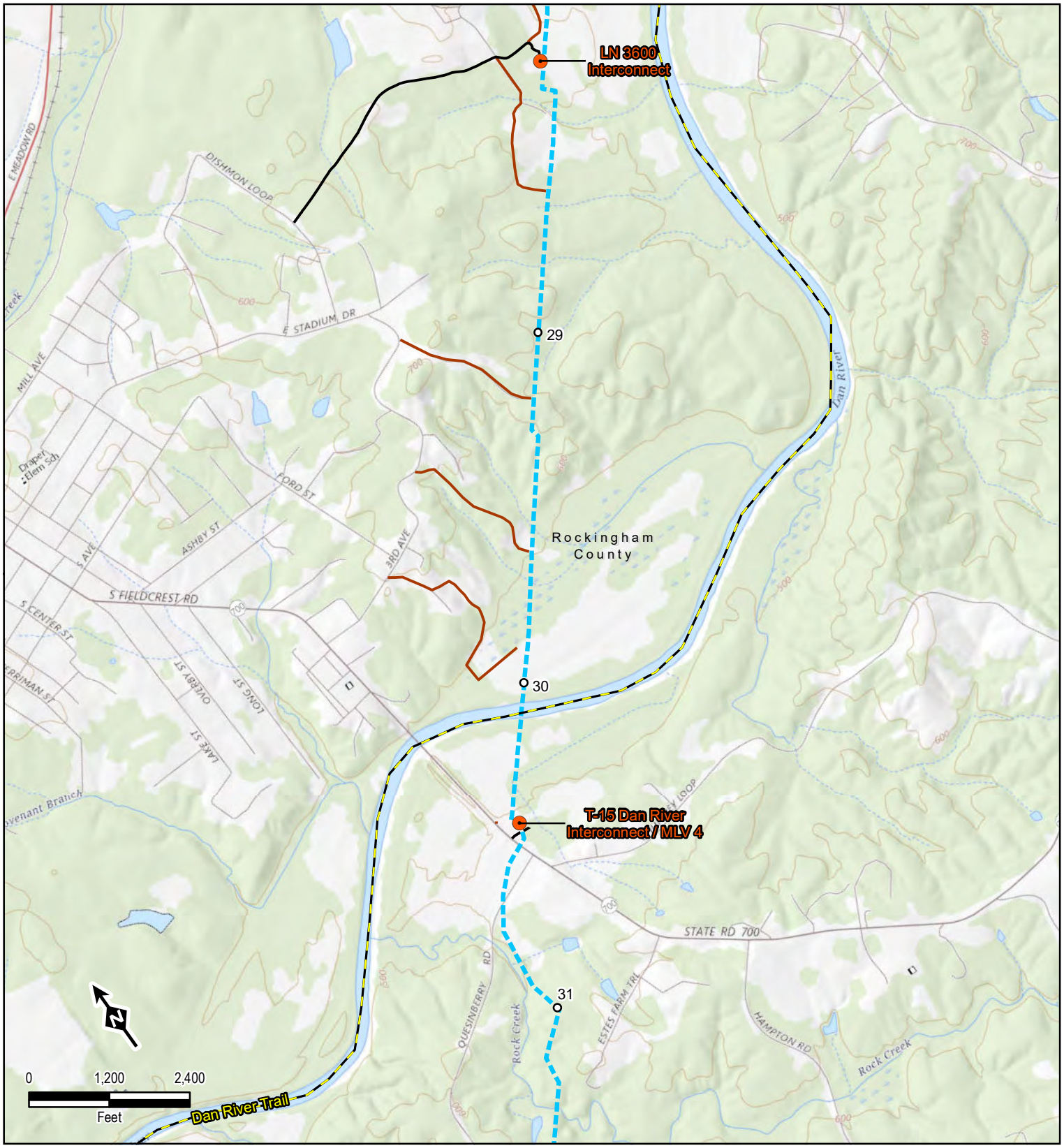

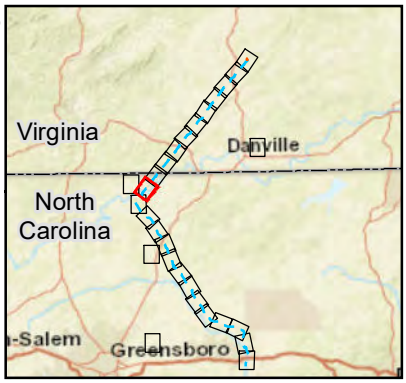

Legend

- Mileposts
- Meter Station
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Regional Trails (NCNHP)
- County Boundary

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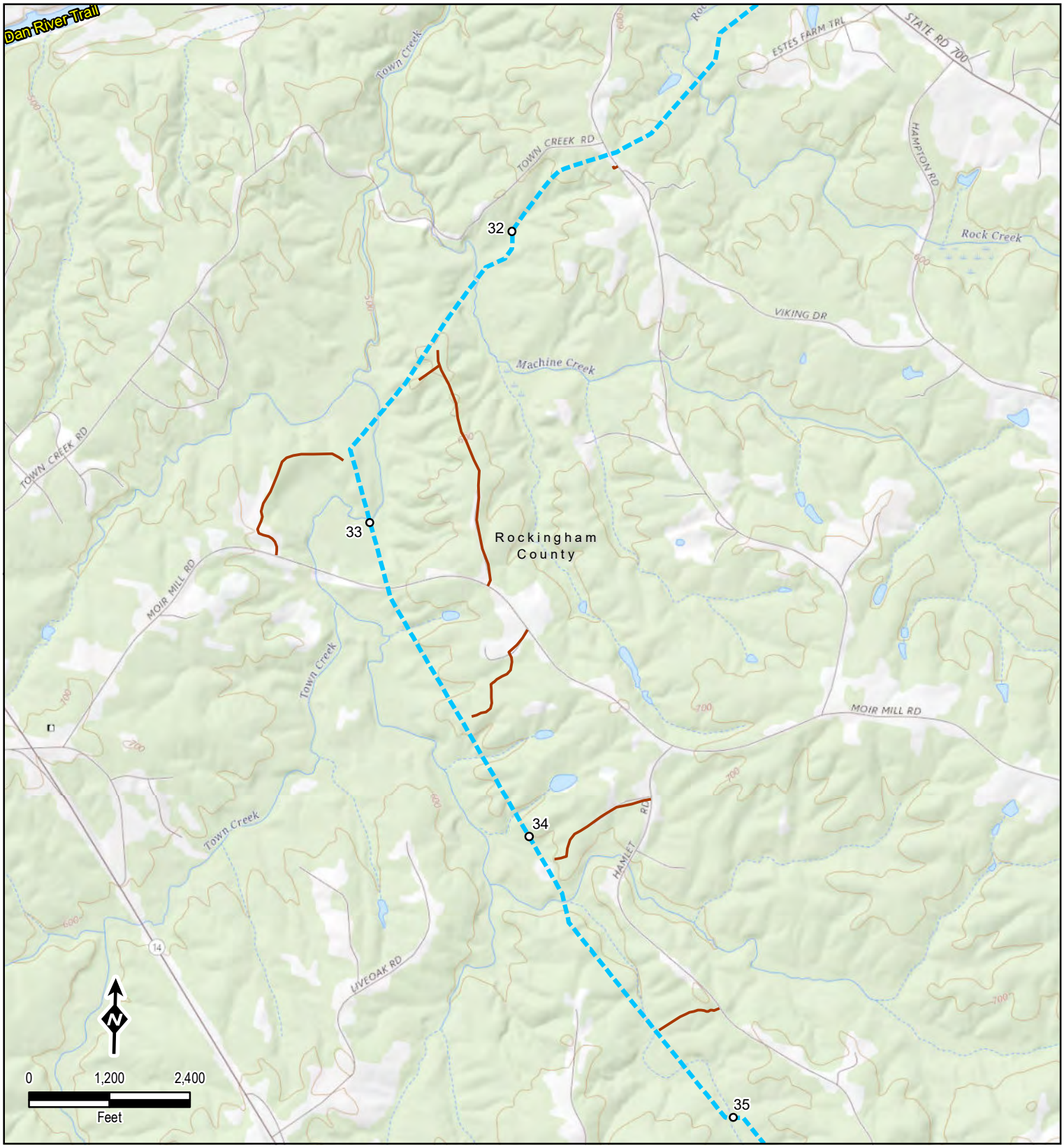

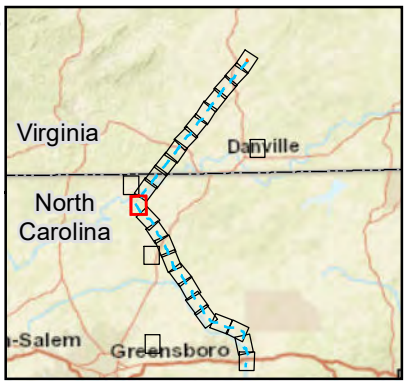

Legend

- Mileposts
- H-650 Pipeline
- Temporary Access Road
- Regional Trails (NCNHP)
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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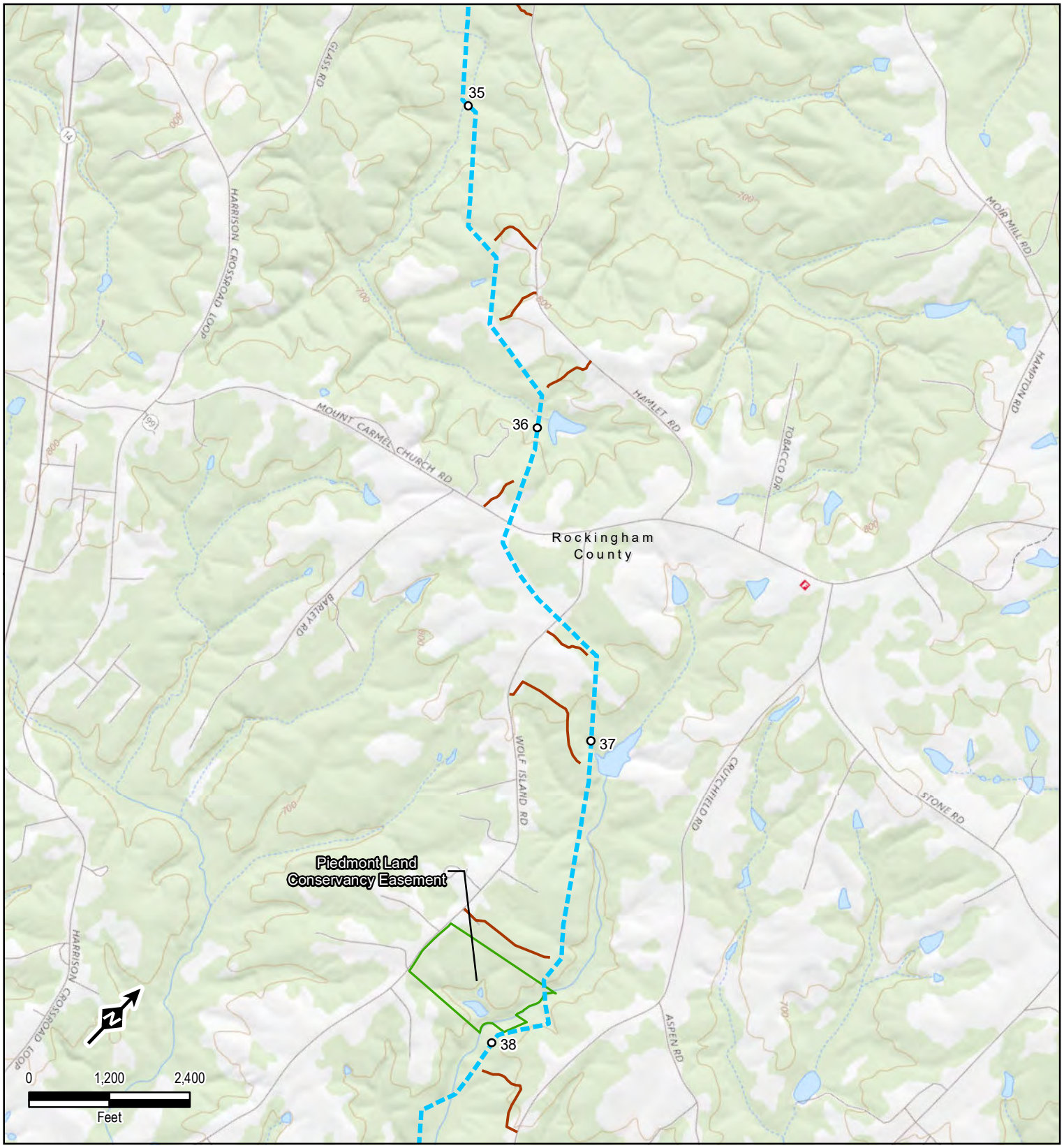

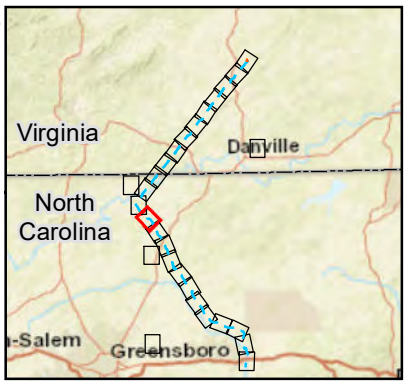

Legend

- Mileposts
- H-650 Pipeline
- Temporary Access Road
- Conservation Easement
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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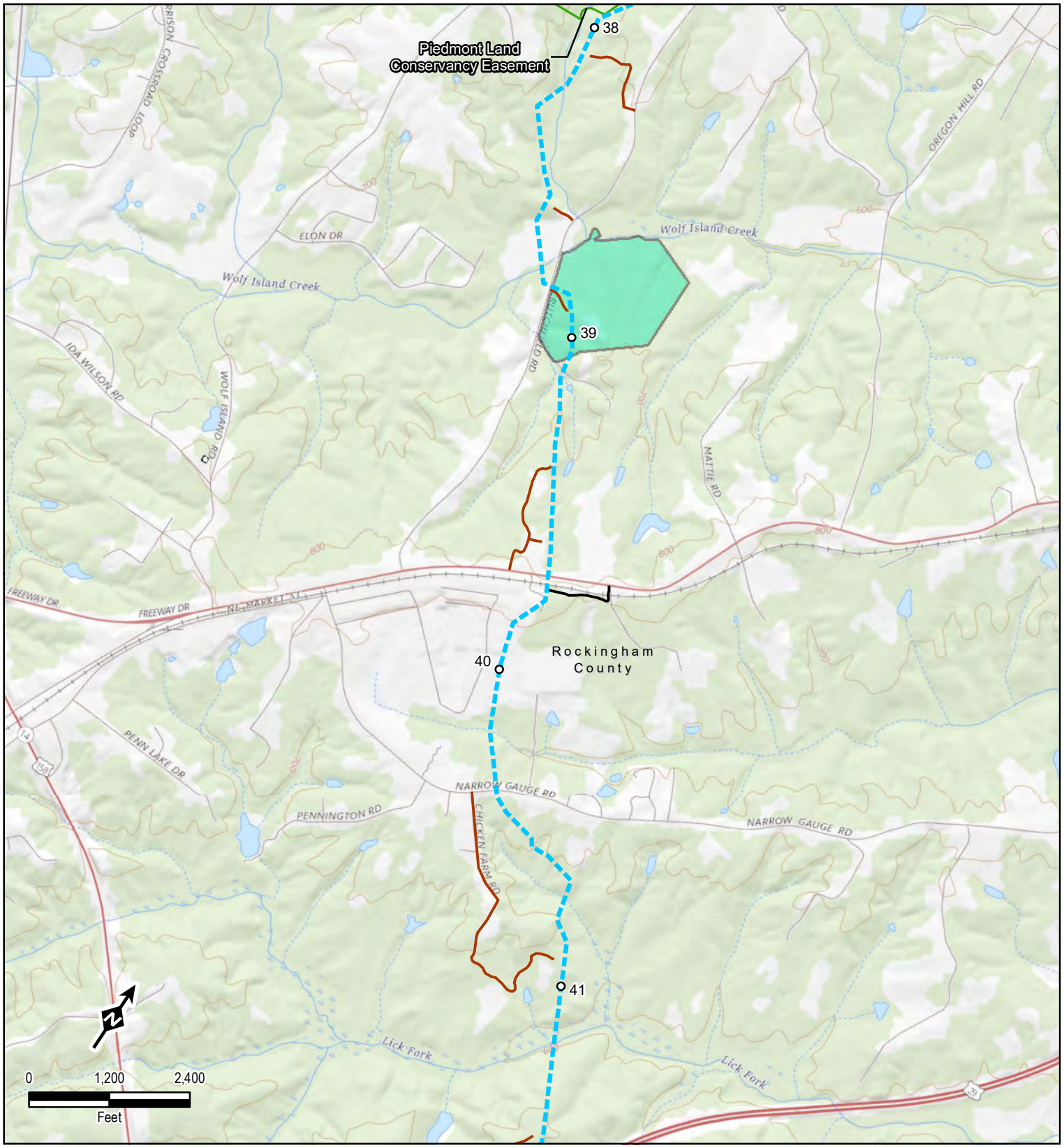

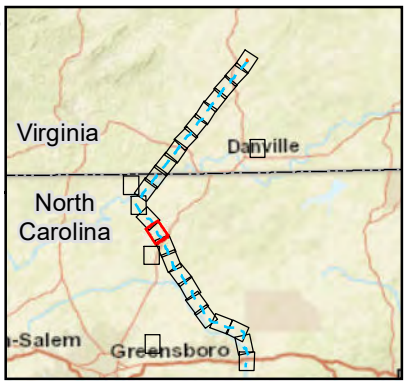

Legend

- Mileposts
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Municipal Lands
- Conservation Easement
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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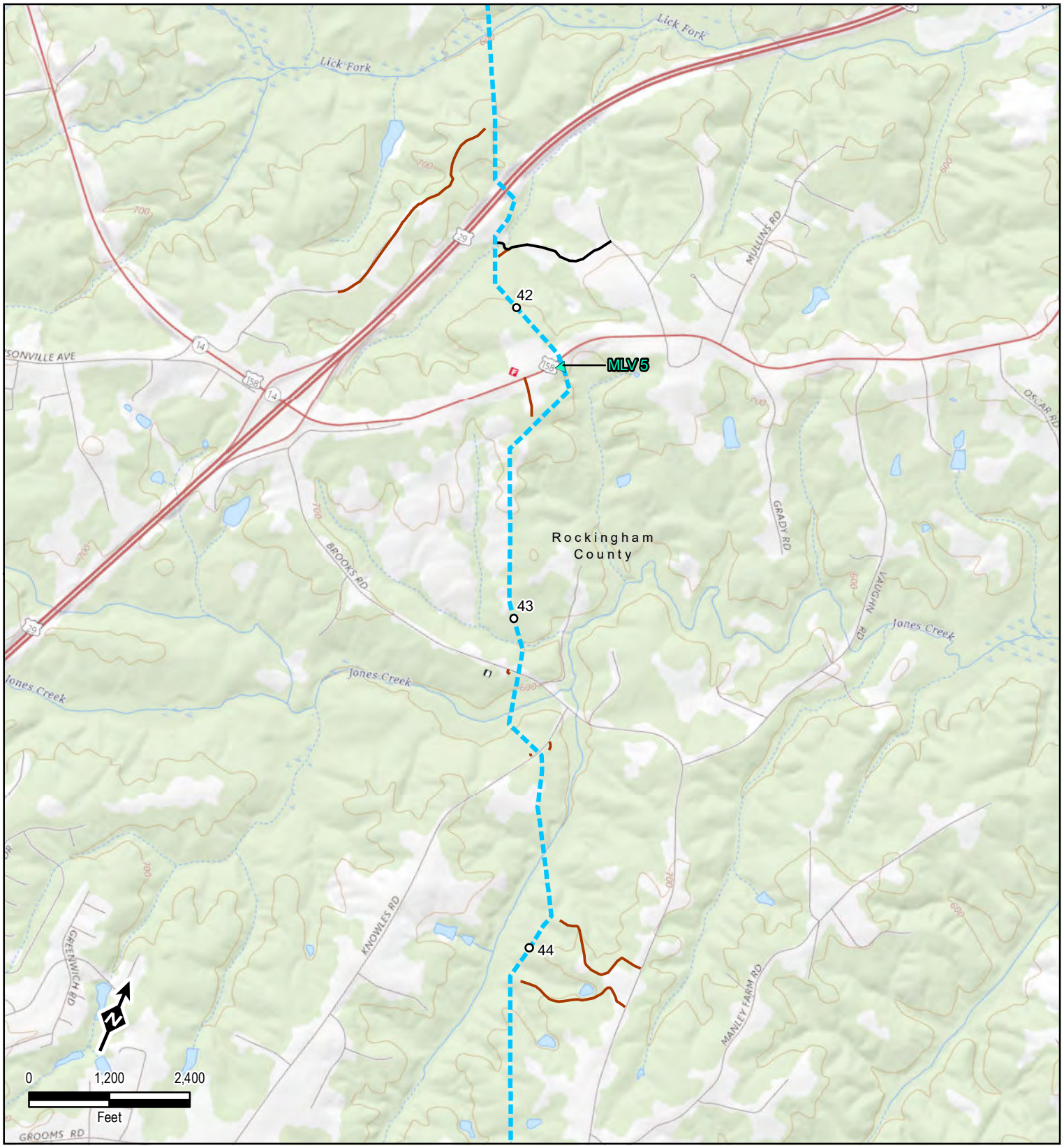

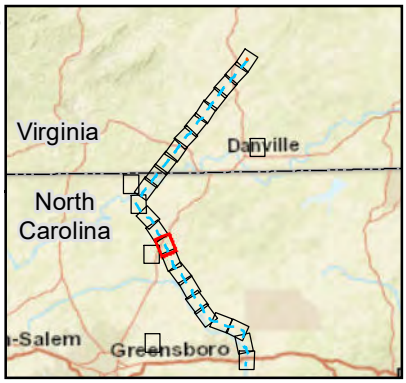

Legend

- Mileposts
- Valve Site
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- County Boundary

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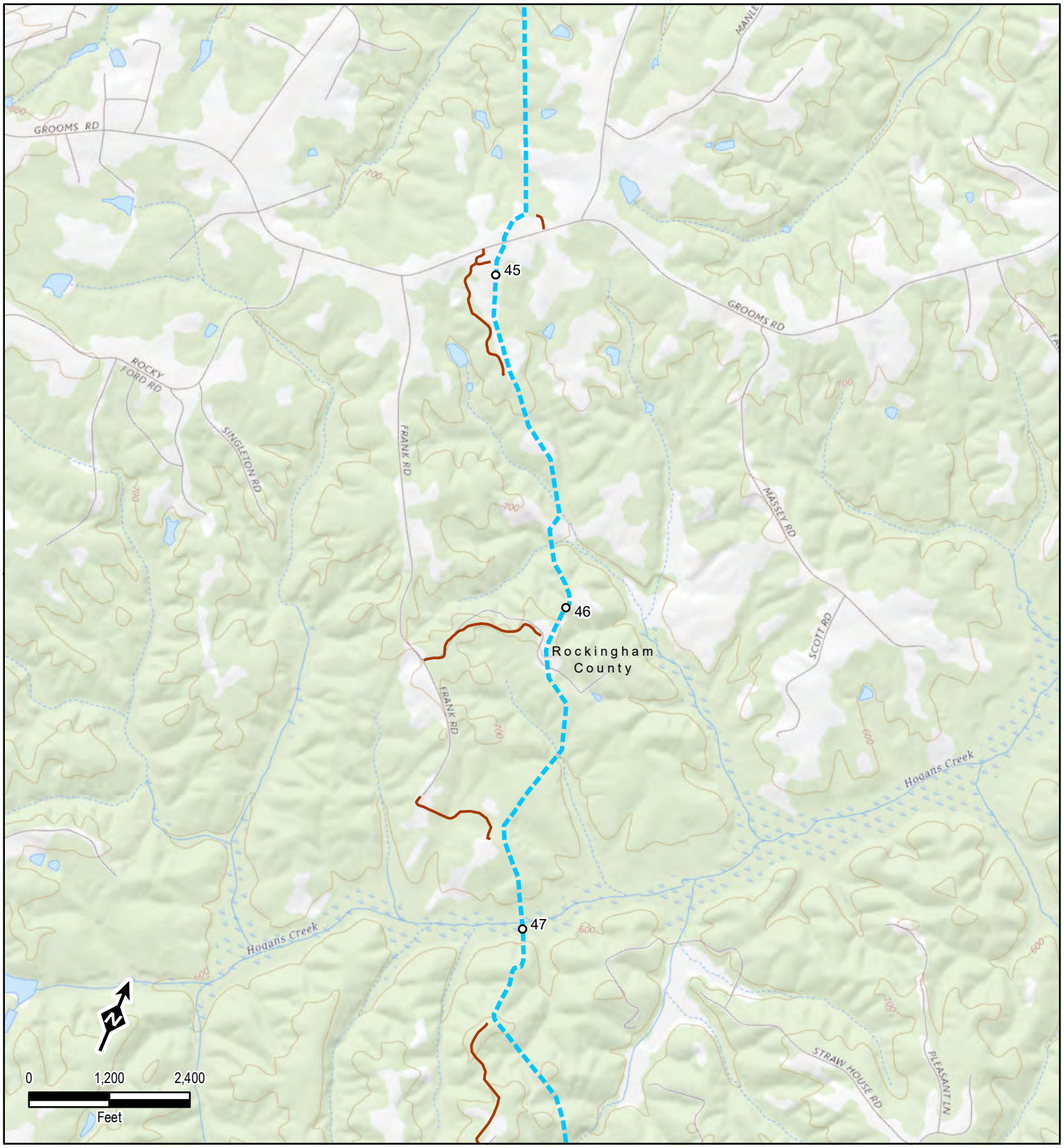

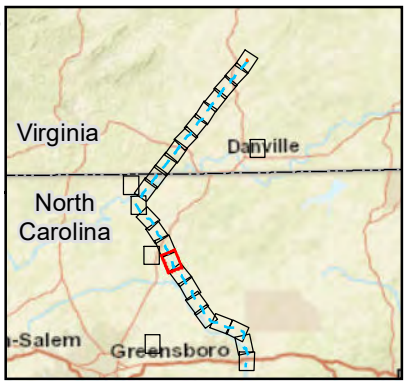

Legend

- Mileposts
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

1 inch=2,000 feet
When Printed 8.5x11

Mountain Valley PIPELINE LLC

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Federal, State, Recreation, and Conservation Lands

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TRC
Results you can rely on
600 Willowbrook Ln
West Chester, PA 19382

Date: October 2018

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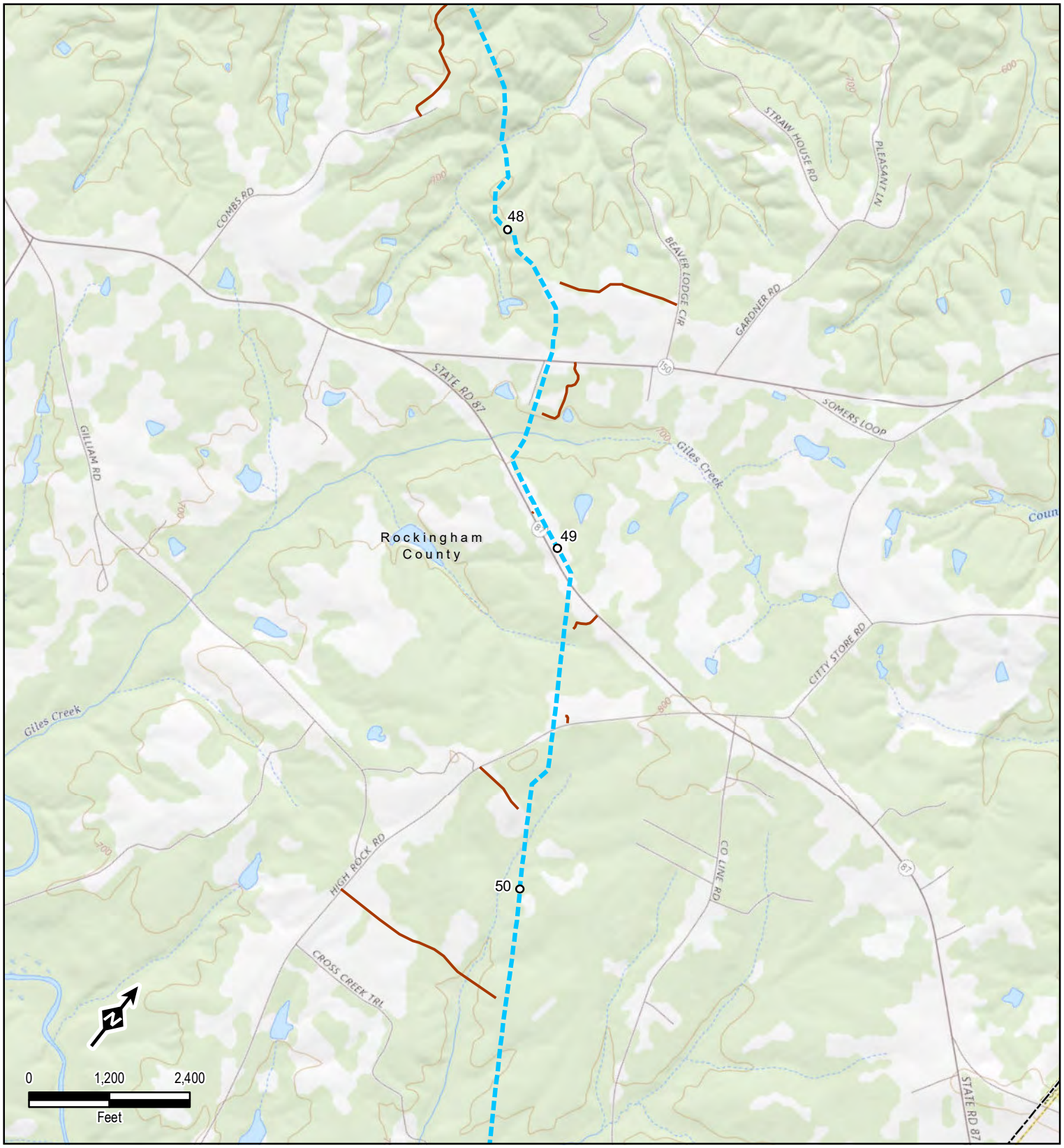

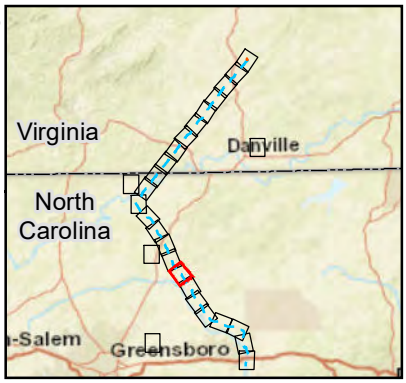

Legend

- Mileposts
- H-650 Pipeline
- Temporary Access Road
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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When Printed 8.5x11

Mountain Valley PIPELINE LLC

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TRC
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West Chester, PA 19382

Date: October 2018

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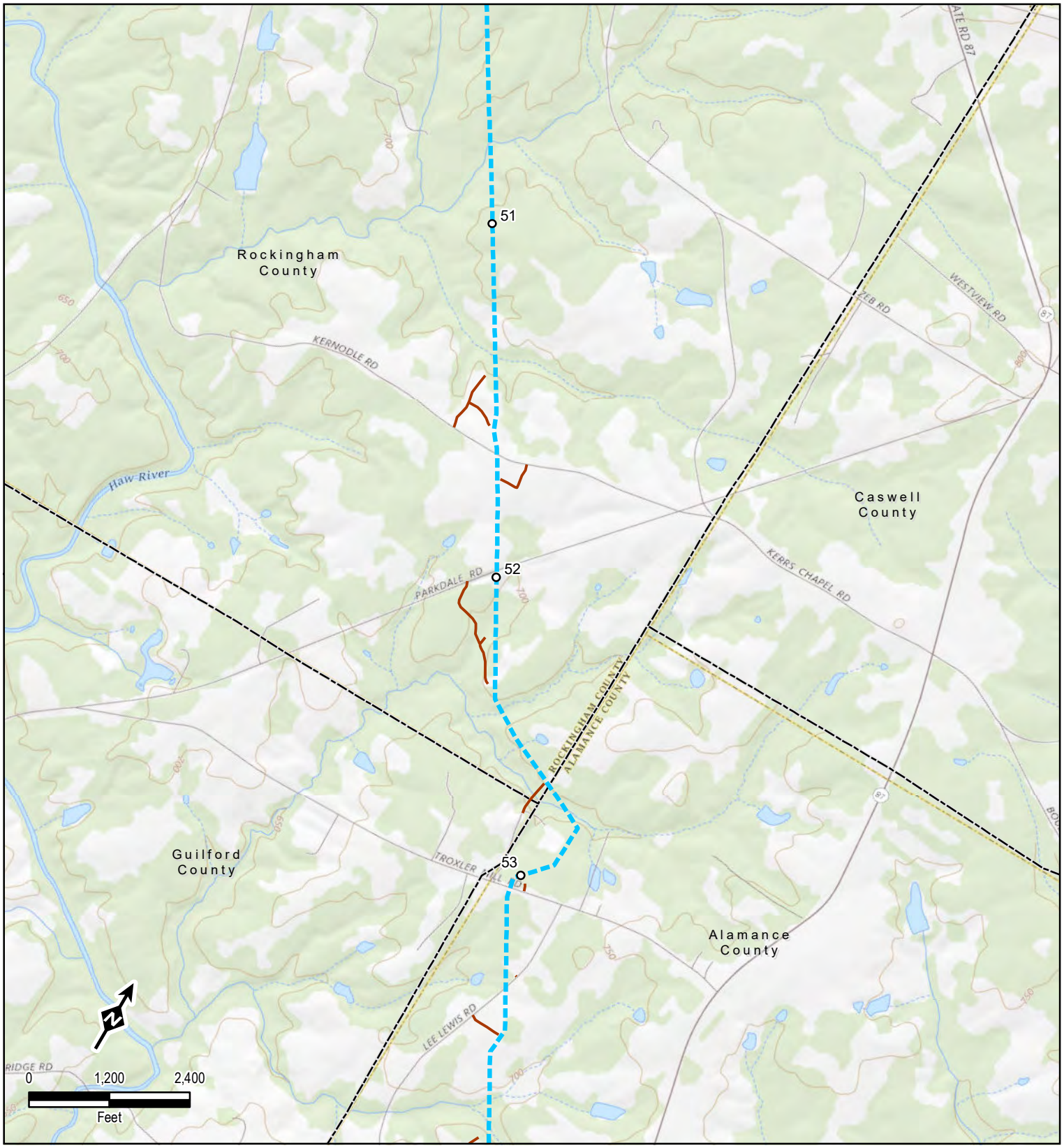

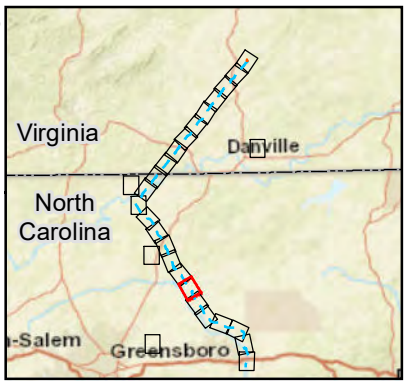

Legend

- Mileposts
- H-650 Pipeline
- Temporary Access Road
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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Mountain Valley Pipeline, LLC

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West Chester, PA 19382

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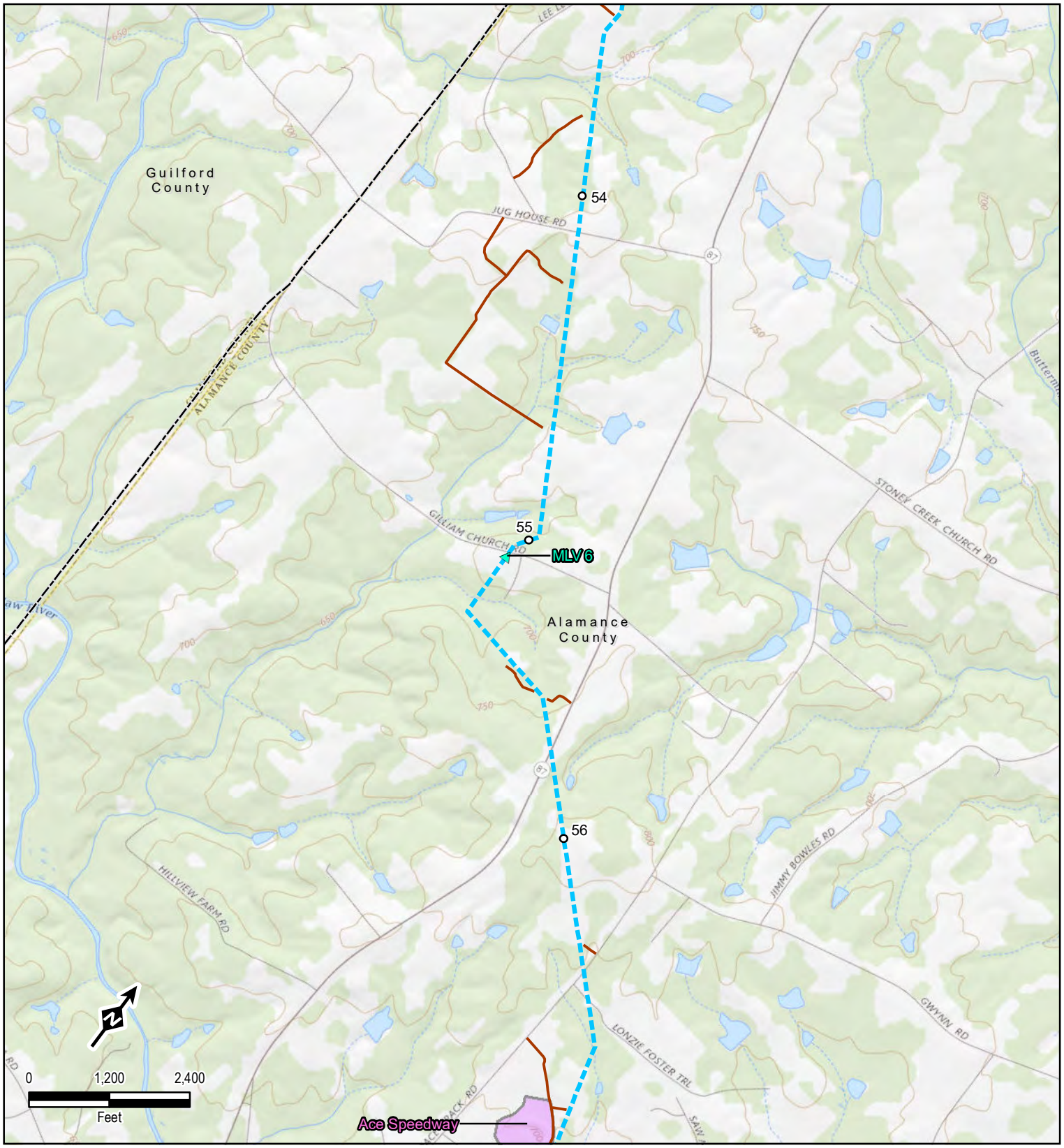

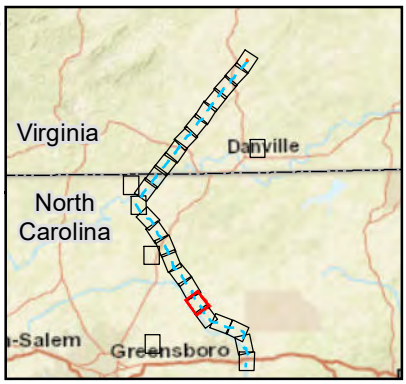

Legend

- Mileposts
- Valve Site
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Private Lands
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

1 inch=2,000 feet
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Mountain Valley PIPELINE LLC

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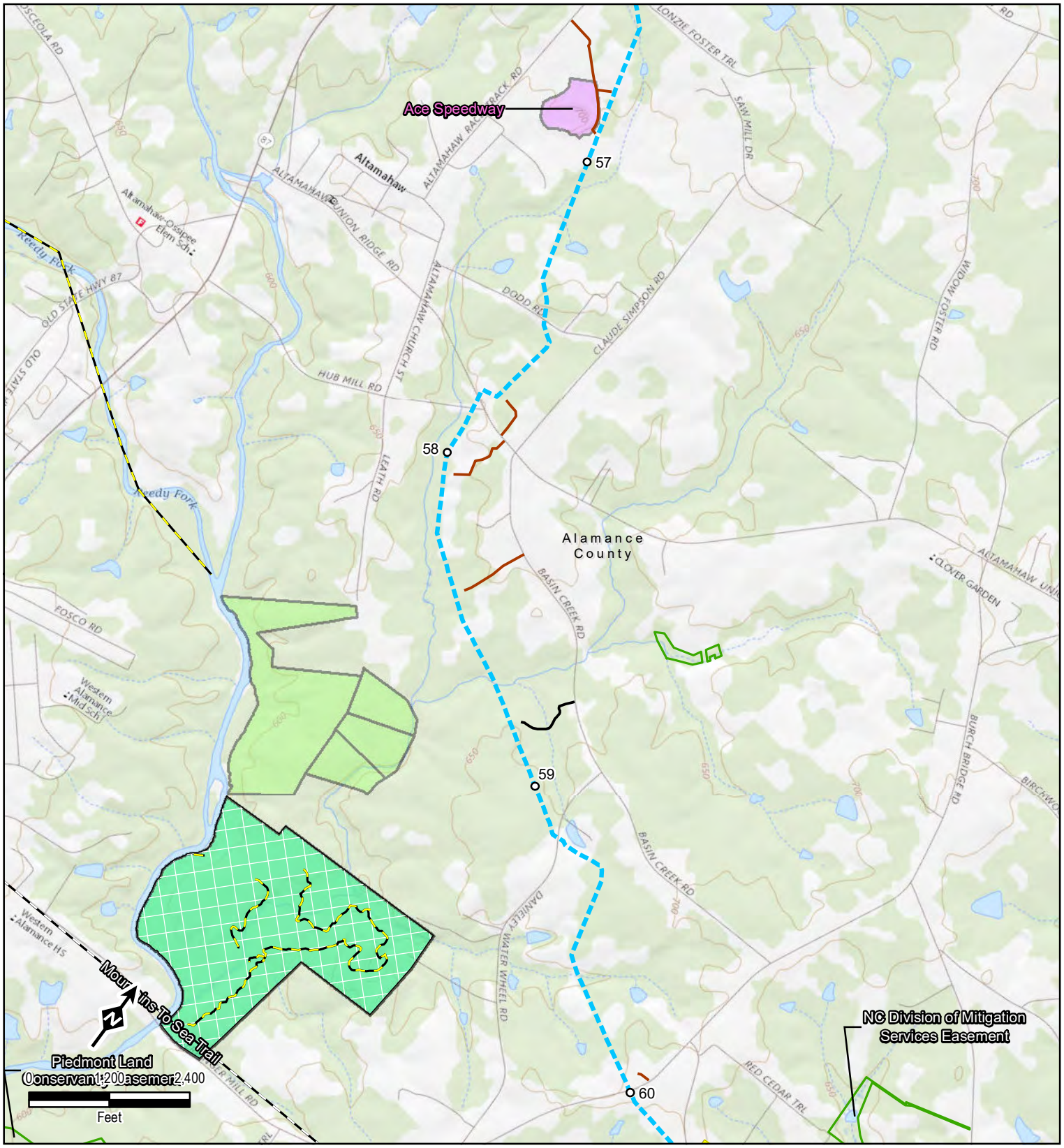

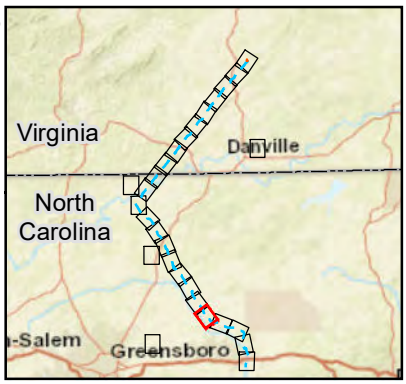

Legend

- Mileposts
- Contractor Yard
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Mountains To Sea Trail (REI & Mountain To Sea Trail Website)
- Regional Trails (NCNHP)
- Private Lands
- Municipal Lands
- Conservation Easement
- State Owned Land
- NC State Park (NCNHP)
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

1 inch=2,000 feet
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Mountain Valley Pipeline, LLC

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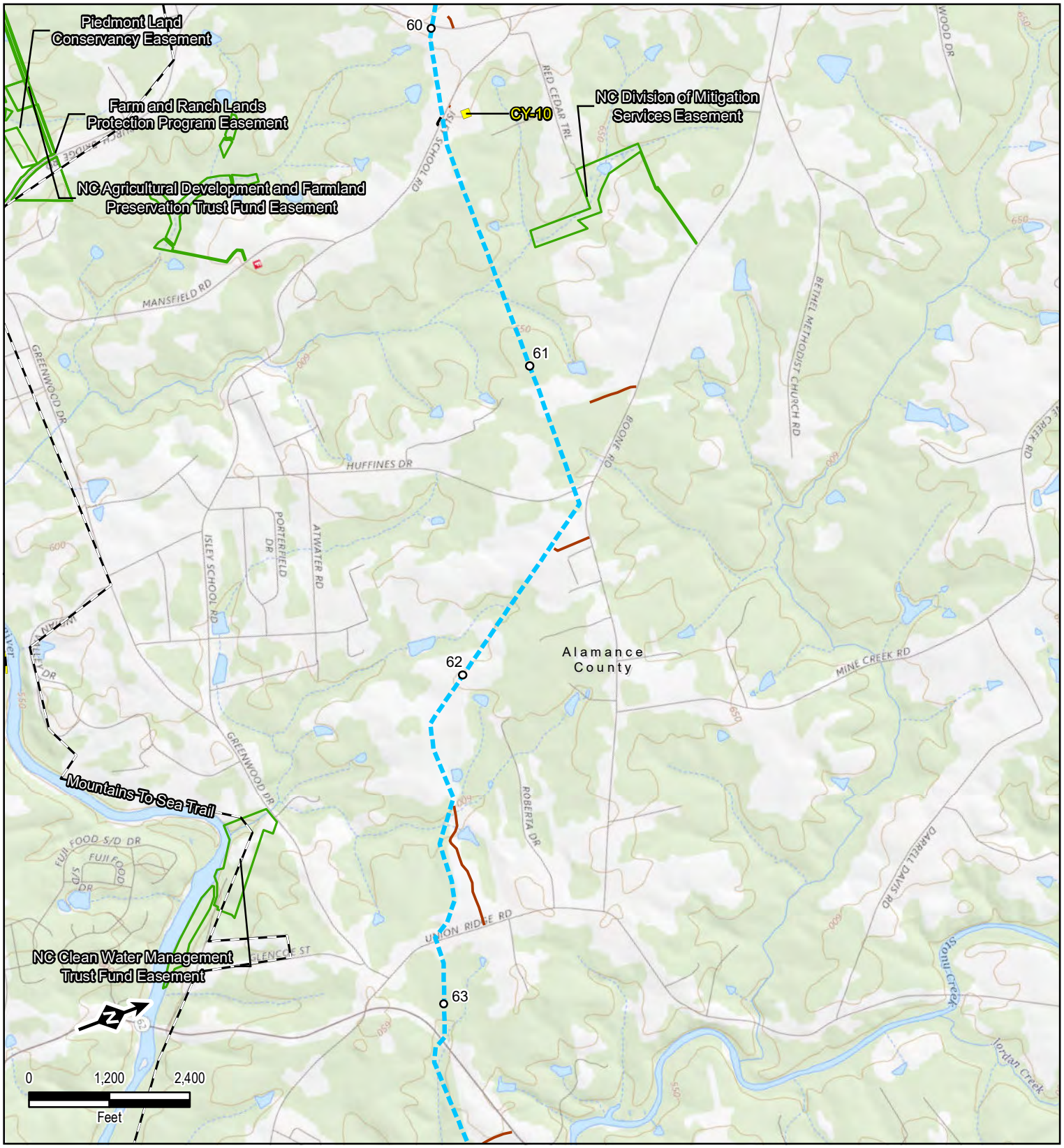

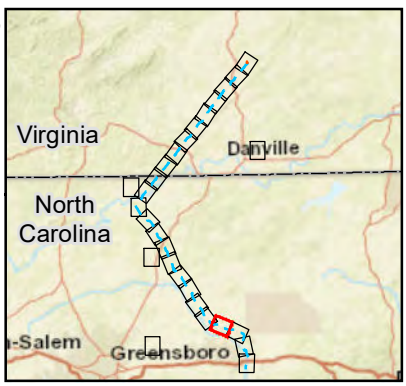

Legend

- Mileposts
- Contractor Yard
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Mountains To Sea Trail (REI & Mountain To Sea Trail Website)
- Regional Trails (NCNHP)
- Conservation Easement
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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When Printed 8.5x11

Mountain Valley PIPELINE LLC

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West Chester, PA 19382

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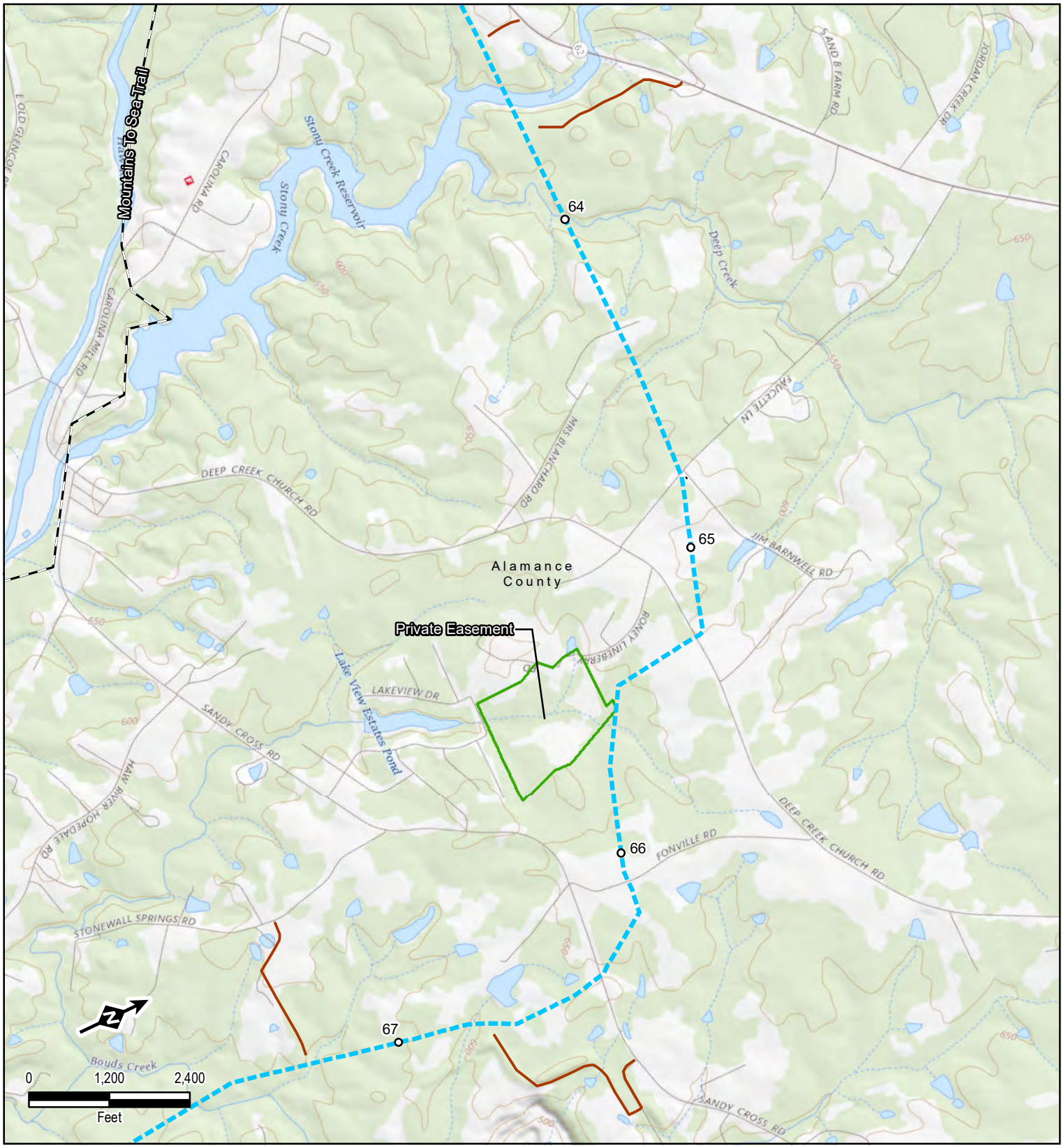

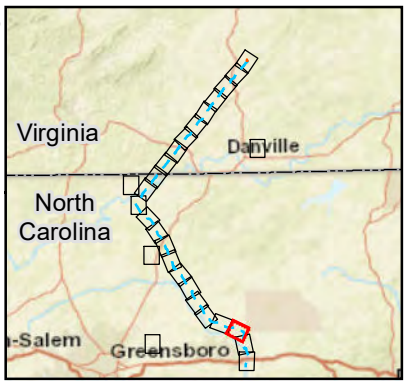

Legend

- Mileposts
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- Mountains To Sea Trail (REI & Mountain To Sea Trail Website)
- Conservation Easement
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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When Printed 8.5x11

Mountain Valley PIPELINE LLC

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Federal, State, Recreation, and Conservation Lands

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600 Willowbrook Ln
West Chester, PA 19382

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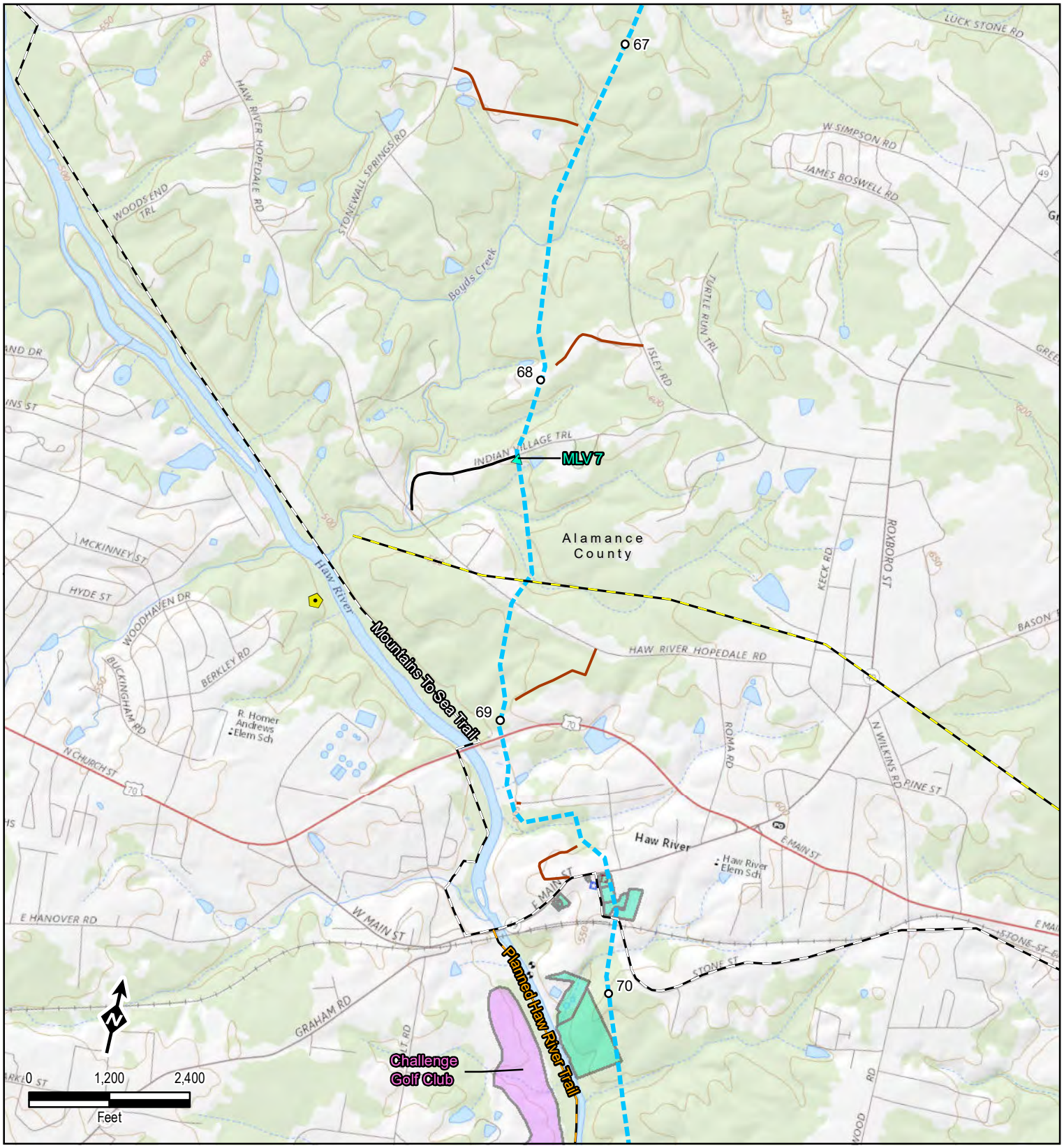

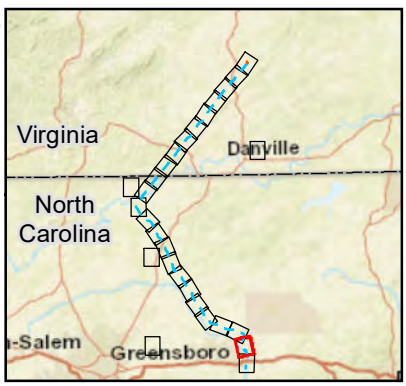

Legend

- Mileposts
- Valve Site
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- NC State Parks (NCNHP)
- Planned Haw River Trail Corridor (Haw River Trail)
- Mountains To Sea Trail (REI & Mountain To Sea Trail Website)
- Regional Trails (NCNHP)
- Private Lands
- Municipal Lands
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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When Printed 8.5x11

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Federal, State, Recreation, and Conservation Lands

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TRC
Results you can rely on
600 Willowbrook Ln
West Chester, PA 19382

Date: October 2018

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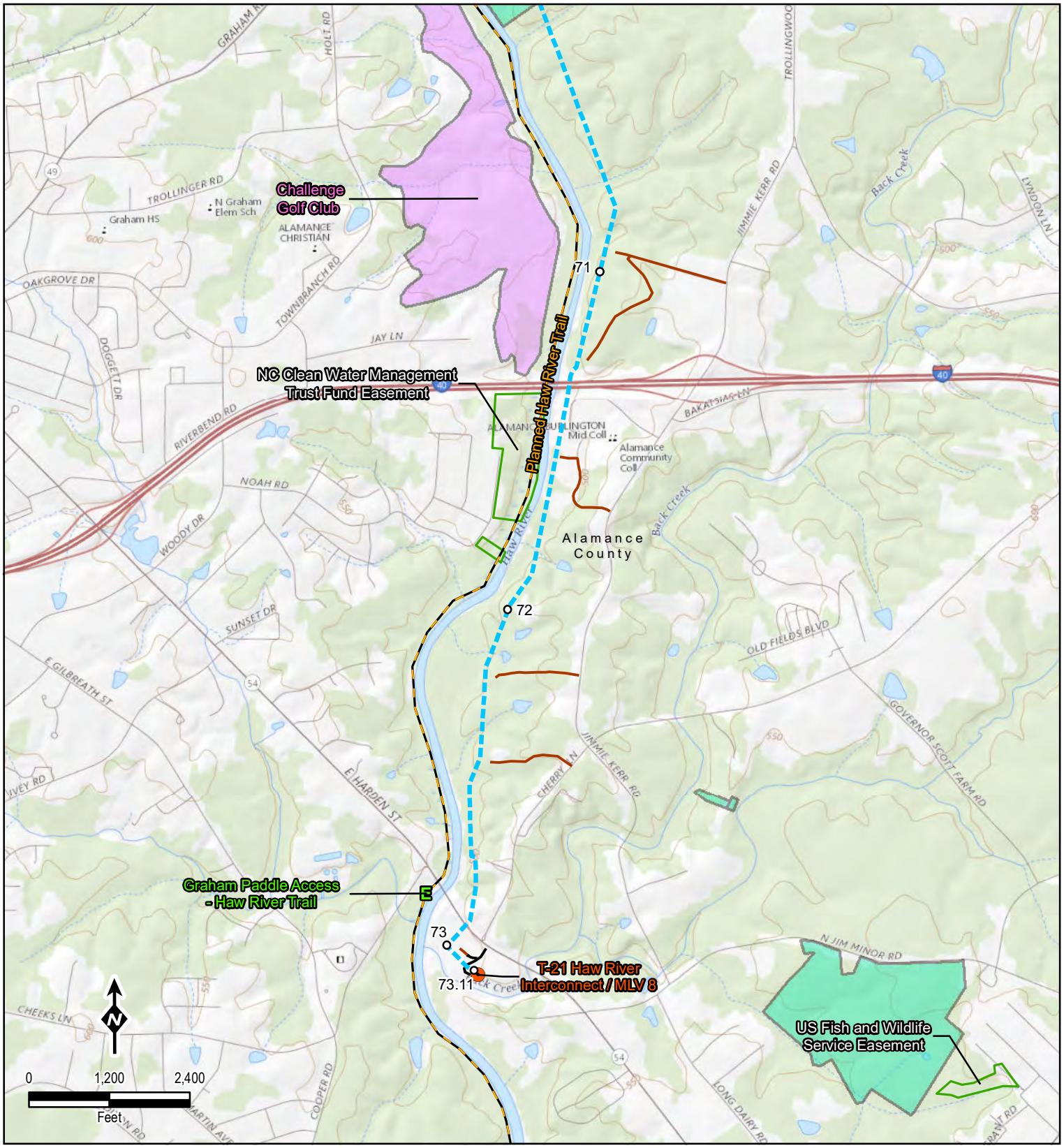

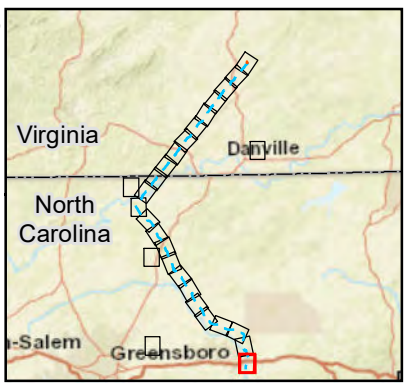

Legend

- Mileposts
- Meter Station
- H-650 Pipeline
- Permanent Access Road
- Temporary Access Road
- E Trail Entrance
- Planned Haw River Trail Corridor (Haw River Trail)
- Private Lands
- Municipal Lands
- Conservation Easement
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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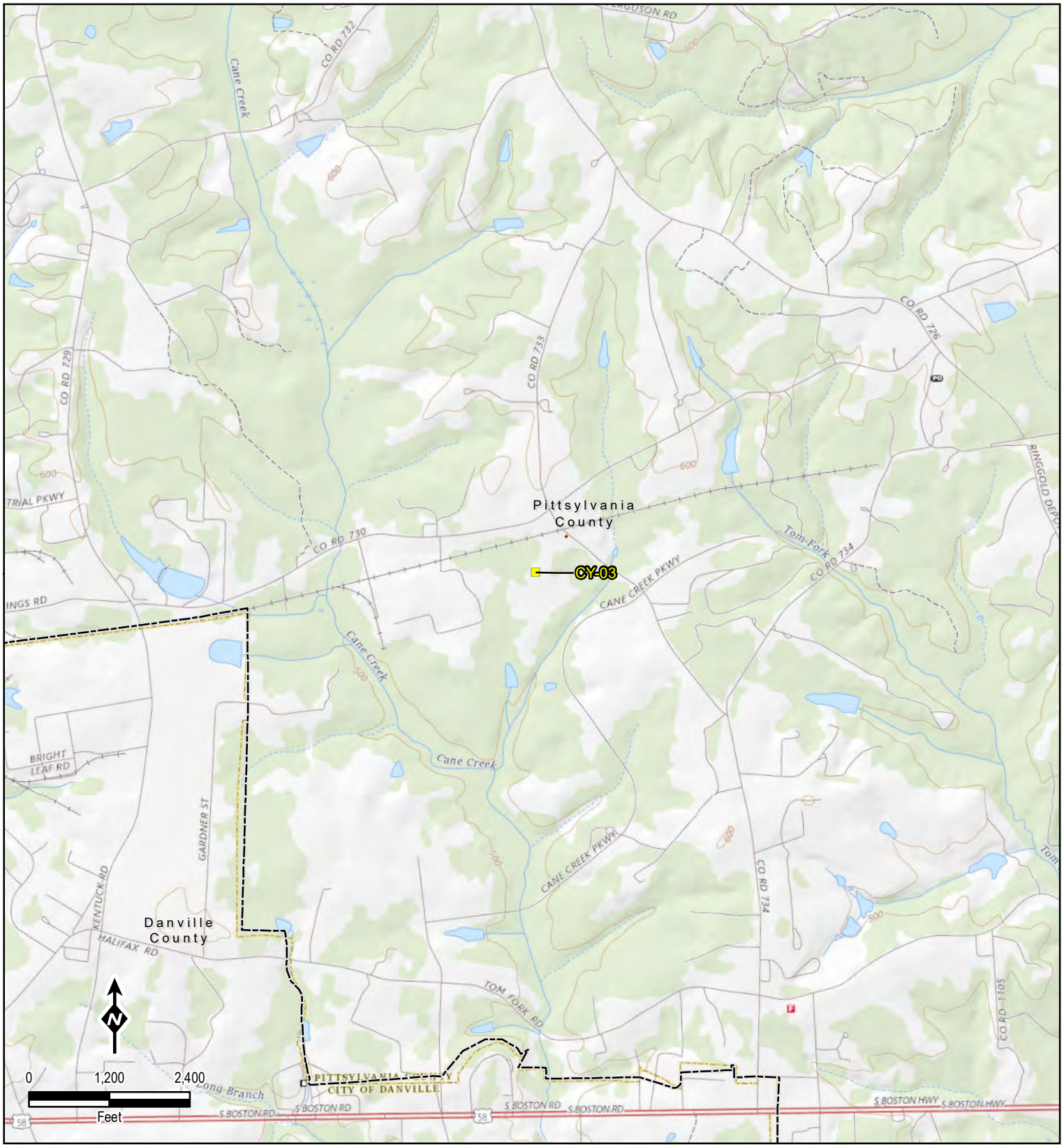

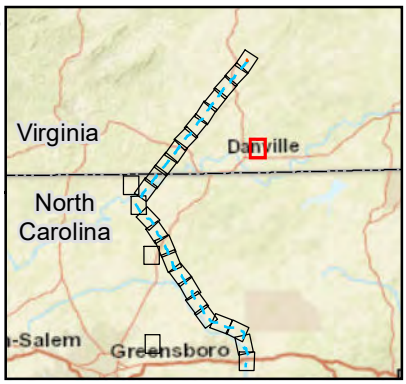

Legend

- Contractor Yard
- Temporary Access Road
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

1 inch=2,000 feet
When Printed 8.5x11

Mountain Valley PIPELINE LLC

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Federal, State, Recreation, and Conservation Lands

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TRC
Results you can rely on
600 Willowbrook Ln
West Chester, PA 19382

Date: October 2018

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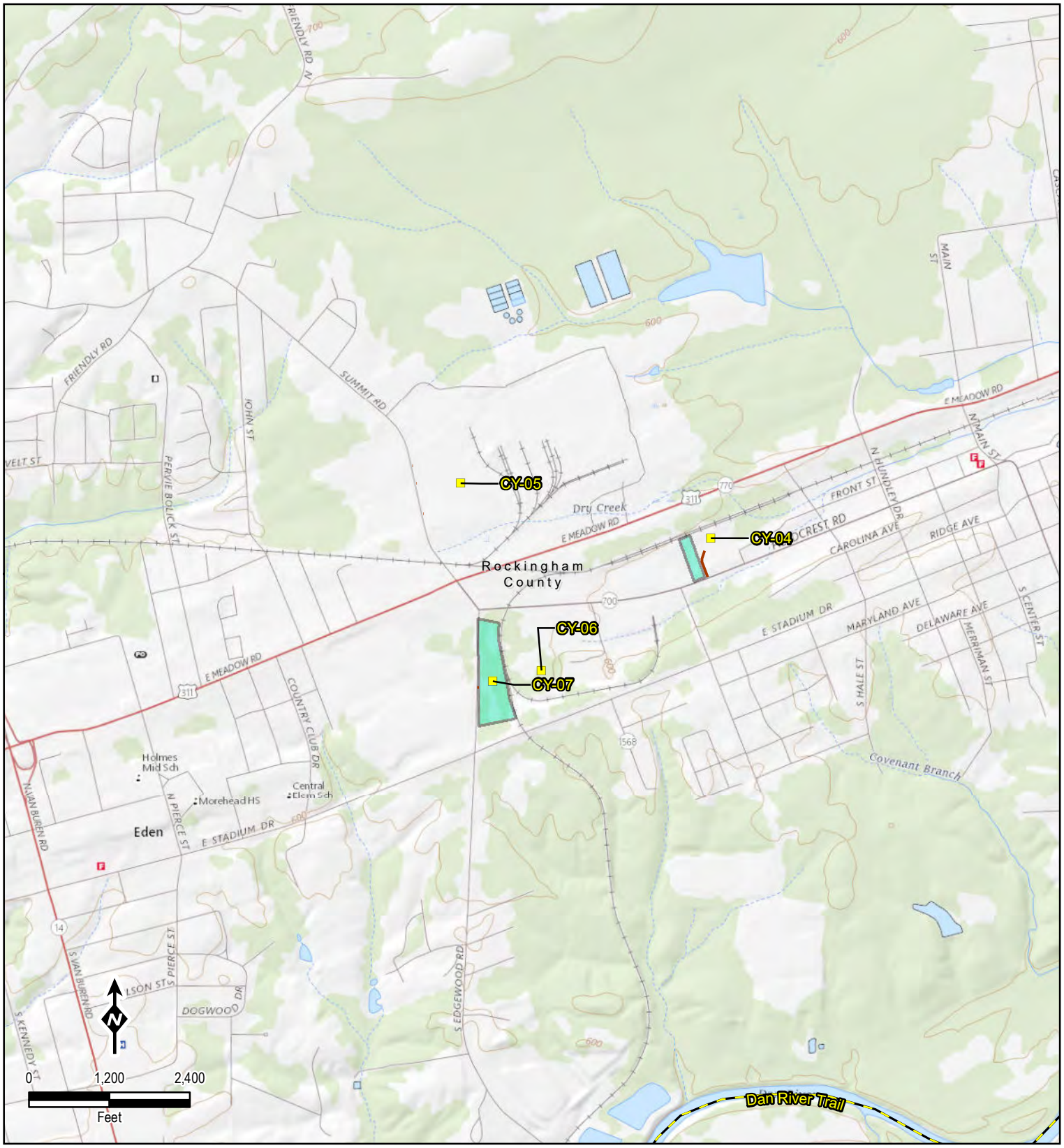

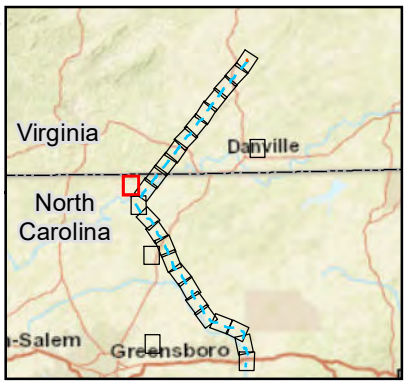

Legend

- Contractor Yard
- Temporary Access Road
- Regional Trails (NCNHP)
- Municipal Lands
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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Mountain Valley PIPELINE LLC

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TRC
Results you can rely on
600 Willowbrook Ln
West Chester, PA 19382

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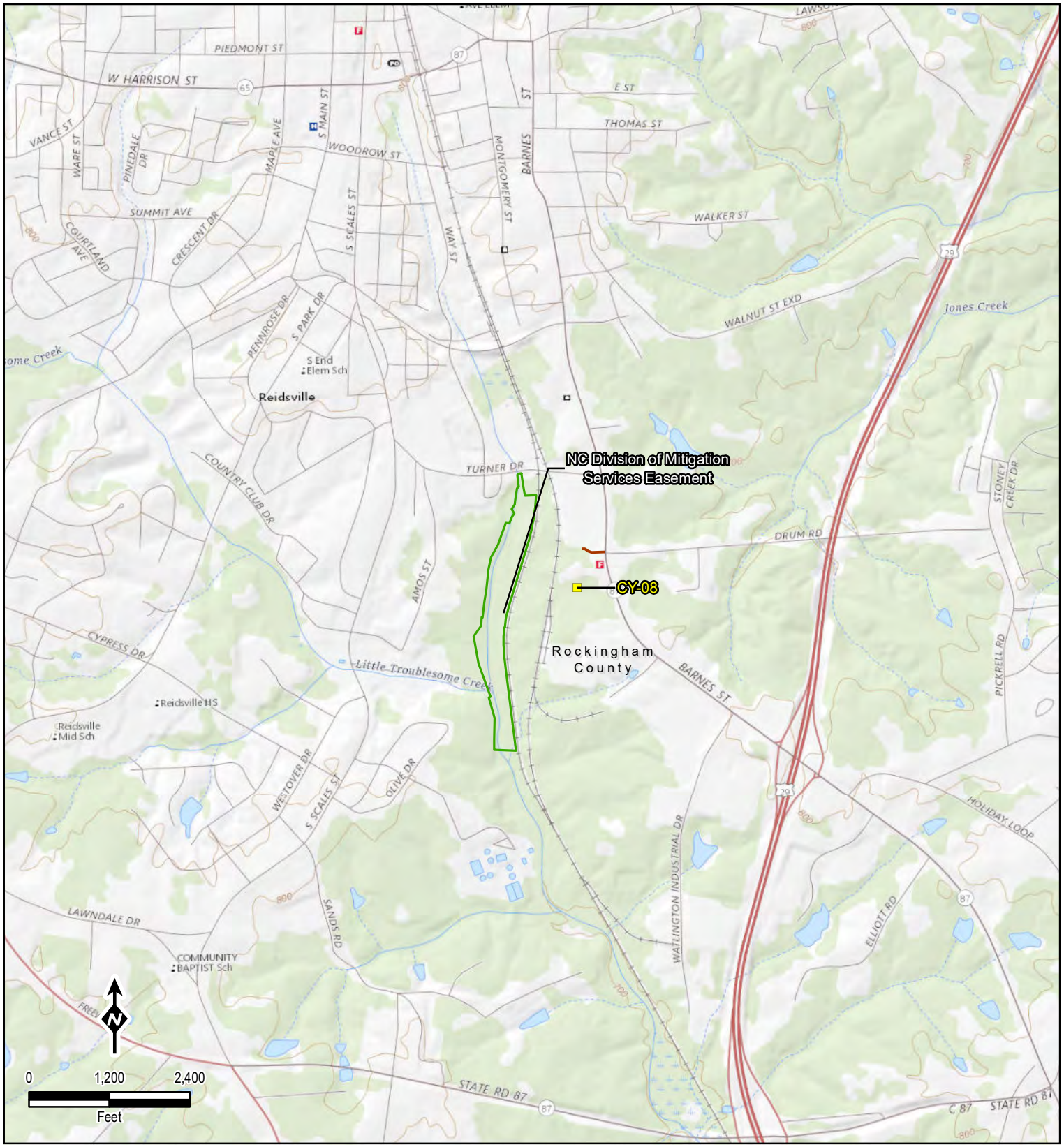

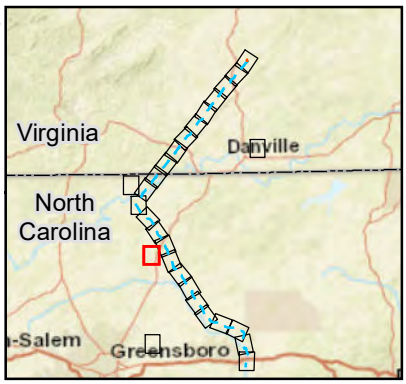

Legend

- Contractor Yard
- Temporary Access Road
- Conservation Easement
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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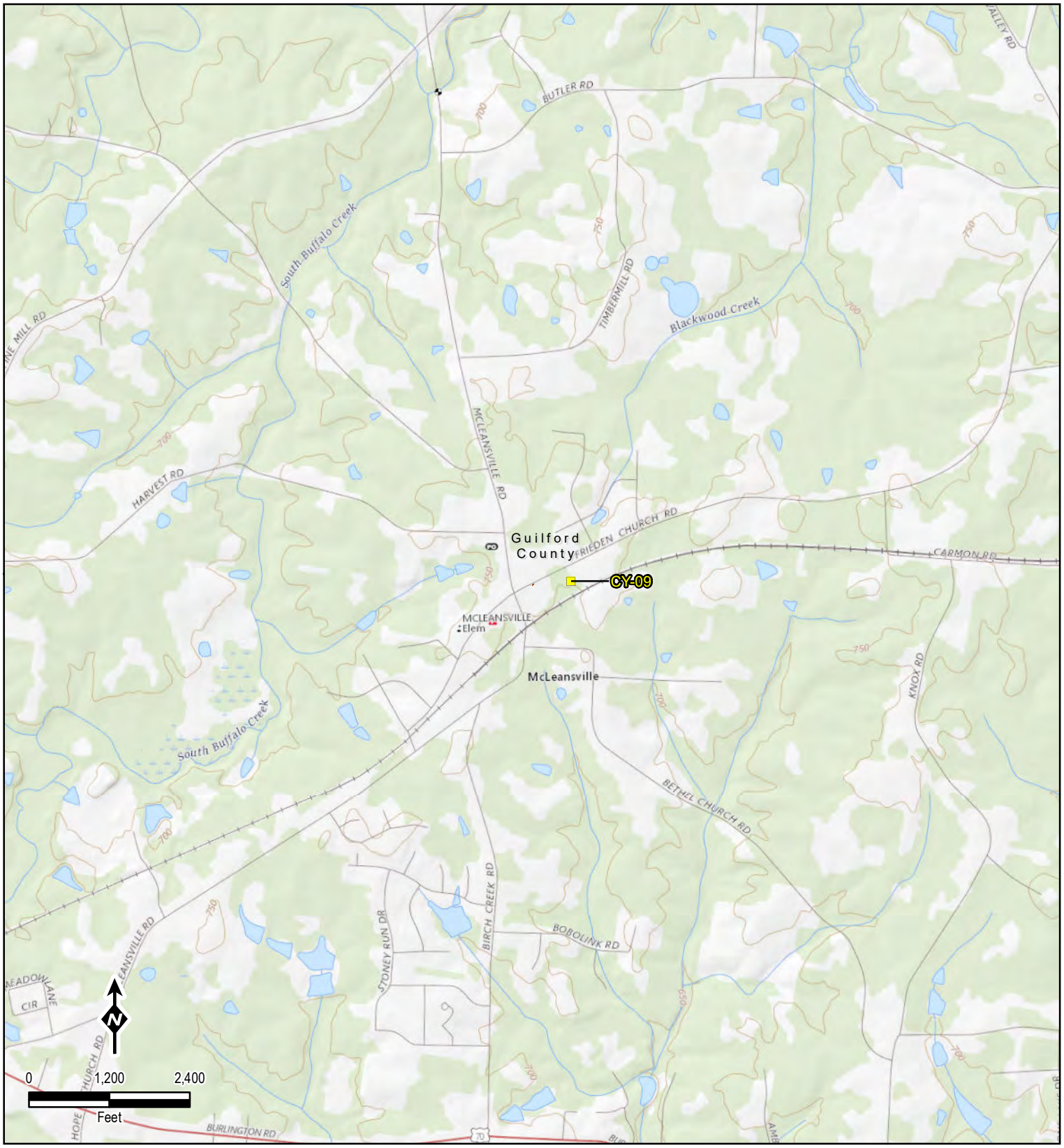

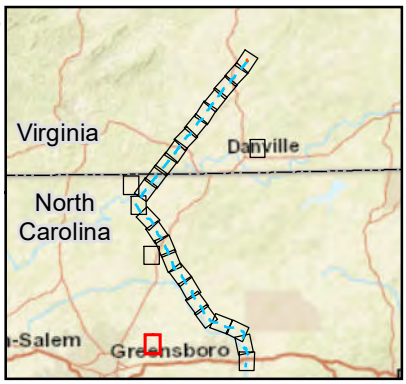

Legend

- Contractor Yard
- Temporary Access Road
- County Boundary

Data Sources: DCR, Doyal Land, EQT, ESRI, Haw River Trail, Mountain To Sea Website, NCNHP, NRCS, REI,TRC, USDA, USGS, VADCR, VADGIF

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MVP Southgate Project

Docket No. CP19-XX-000

Resource Report 8

Appendix 8-F

Landowner Agreements for Residences within 10 Feet of the MVP Southgate Project (Privileged and Confidential Information, CUI//PRIV)

[To be provided in a supplemental filing.]