MVP Southgate Project

Docket No. PF18-4-000

Draft

Resource Report 8 – Land Use, Recreation and Aesthetics

August 2018

MVP Southgate Project
Draft 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
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
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, 8.2.3.8 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
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	MVP Southgate Project
U.S.	United States
USDA	U.S. Department of Agriculture
VOF	Virginia Outdoors Foundation
WRP	Wetlands Reserve Program

DRAFT 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 ("Certificate") 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 ("Project"). The Project will be located in Pittsylvania County, Virginia and Rockingham and Alamance counties, North Carolina. The Project proposes to construct approximately 72 miles of 24-inch-diameter natural gas pipeline (known as the H-650 pipeline) to provide timely, cost-effective access to new natural gas supplies to meet the growing needs of natural gas users in the southeastern United States ("U.S."), including for the Project's anchor shipper, a local distribution company serving customers in 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 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 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 proposed aboveground facility sites where land access was granted. The Project has completed field surveys along approximately 56 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 seven classifications based on predominant land uses (special land uses discussed below in Section 8.2.3.8 are subsets of these classifications):

- Forest / woodland: upland and wetland forest not being used for specific commercial purposes;
- Open land: utility rights-of-way, open field, vacant land, herbaceous and scrub uplands, non-forested lands, emergent wetland, scrub-shrub wetland, 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;
- 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 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 proposed typical construction right-of-way width for the 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 proposed 100-foot-wide construction right-of-way is consistent with the Interstate Natural Gas Association of America's recommendations for pipeline diameters between 18 and 24 inches. 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 proposed 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 Project. Land uses crossed by milepost ("MP") along the H-650 pipeline are identified in Table 8-A in Appendix 8-A.

Table 8.2-1

Land Uses Crossed by the Proposed MVP Southgate Project Pipeline

Facility	County, State	Forest / Woodland a/		Open Land b/		Agricultural c/		Commercial / Industrial d/		Silviculture e/		Residential f/		Open Water g/		Total h/
		Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	Miles
Pipeline	Pittsylvania, VA	10.1	39	11.4	43	4.1	16	0.3	1	0.1	0	0.2	1	0.1	0	26.2
	Rockingham, NC	15.5	59	6.7	25	3.1	12	0.5	2	0.3	1	0.1	0	0.2	1	26.4
	Alamance, NC	10.7	54	5.8	29	2.4	12	0.2	1	0.3	2	0.2	1	0.1	1	19.9
TOTAL		36.4	50	23.9	33	9.7	13	1.0	1	0.7	1	0.5	1	0.4	1	72.6

Source: Project aerial photography April 2018

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

b/ Utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, emergent wetland, scrub-shrub wetland, 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/ Wooded lands being managed for forest products (i.e., pine plantations).

f/ 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.

g/ 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.

h/ 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 MVP Southgate Project Pipeline i/

Facility County, State	Forest / Woodland a/		Open Land b/		Agricultural Land c/		Commercial / Industrial d/		Silviculture e/		Residential f/		Open Water g/		Total h/	
	Construction i/	Operation i/	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
Pipeline Right-of-Way k/	**410.5**	**217.4**	**290.4**	**146.1**	**114.9**	**58.5**	**11.7**	**5.9**	**8.3**	**4.1**	**7.7**	**3.4**	**3.2**	**2.1**	**846.9**	**437.3**
Pittsylvania, VA	131.9	65.3	120.5	64.6	49.9	25.3	3.0	1.6	0.7	0.3	3.0	1.2	0.9	0.6	310.3	158.9
Rockingham, NC	159.7	88.5	98.3	45.6	35.3	18.6	5.5	2.9	3.5	1.9	1.5	0.6	1.8	1.1	305.6	159.2
Alamance, NC	119.0	63.7	71.5	35.8	29.7	14.6	3.1	1.5	4.1	1.9	3.2	1.5	0.5	0.3	231.1	119.2
Additional Temporary Workspace	**106.8**	**0.0**	**78.6**	**0.0**	**35.4**	**0.0**	**0.4**	**0.0**	**2.8**	**0.0**	**2.2**	**0.0**	**0.0**	**0.0**	**226.2**	**0.0**
Pittsylvania, VA	33.2	0.0	25.9	0.0	10.1	0.0	0.1	0.0	0.1	0.0	0.9	0.0	0.0	0.0	70.2	0.0
Rockingham, NC	44.9	0.0	27.1	0.0	16.5	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.0	0.0	89.1	0.0
Alamance, NC	28.7	0.0	25.6	0.0	8.9	0.0	0.3	0.0	2.4	0.0	1.1	0.0	0.0	0.0	66.9	0.0
Cathodic Protection	**0.6**	**0.6**	**1.2**	**1.2**	**0.5**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2.4**	**2.4**
Pittsylvania, VA	0.6	0.6	0.1	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
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	0.6	0.6
Alamance, 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	0.6	0.6
Permanent Aboveground Facilities	**18.1**	**7.4**	**7.6**	**2.3**	**12.6**	**1.6**	**4.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**42.3**	**11.4**
Pittsylvania, VA	5.0	2.2	1.1	0.5	12.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.7	4.2
Lambert Compressor Station / Interconnect / Mainline valve	5.0	2.2	1.1	0.5	12.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6	4.1

Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline i/

Facility County, State	Forest / Woodland a/		Open Land b/		Agricultural Land c/		Commercial / Industrial d/		Silviculture e/		Residential f/		Open Water g/		Total h/	
	Construction i/	Operation i/	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
Mainline valves	0.0	0.0	0.0	0.0	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	13.0	5.2	5.9	1.3	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.9	6.5
Russell Compressor Station	11.9	4.1	4.6	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6	4.1
LN 3600 Interconnect	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
T-15 Dan River Interconnect	0.6	0.6	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
Mainline valves	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
Alamance, NC	0.1	0.1	0.6	0.6	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.8	0.8
T-21 Haw River Interconnect	0.0	0.0	0.6	0.6	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Mainline valves	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1
Contractor Yards	**48.4**	**0.0**	**134.2**	**0.0**	**5.8**	**0.0**	**46.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**234.9**	**0.0**
Pittsylvania, VA	37.3	0.0	25.2	0.0	0.0	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.2	0.0
Rockingham, NC	1.0	0.0	65.7	0.0	0.0	0.0	31.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.4	0.0
Alamance, NC	5.3	0.0	32.7	0.0	5.8	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	0.0
Guilford, NC	4.9	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0
Temporary and Permanent Access Roads h/	**21.1**	**0.4**	**85.9**	**3.3**	**21.6**	**0.7**	**8.6**	**1.0**	**1.8**	**0.0**	**9.4**	**0.1**	**0.1**	**0.0**	**148.5**	**5.5**

Table 8.2-2

Land Use Acreage Affected by Construction and Operation of the Proposed MVP Southgate Project Pipeline i/

Facility County, State	Forest / Woodland a/		Open Land b/		Agricultural Land c/		Commercial / Industrial d/		Silviculture e/		Residential f/		Open Water g/		Total h/	
	Construction i/	Operation j/	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
Pittsylvania, VA	11.7	0.1	41.7	0.8	9.2	0.7	1.0	0.4	0.0	0.0	3.9	0.1	0.1	0.0	67.5	2.0
Rockingham, NC	6.2	0.0	34.0	1.8	7.0	0.0	3.6	0.3	0.0	0.0	4.5	0.0	0.0	0.0	55.2	2.1
Alamance, NC	3.3	0.3	10.2	0.8	5.5	0.0	4.1	0.3	1.8	0.0	1.0	0.0	0.0	0.0	25.8	1.3
Project Total	**605.4**	**225.8**	**597.2**	**152.9**	**190.8**	**61.2**	**71.3**	**7.0**	**12.9**	**4.2**	**19.3**	**3.5**	**3.3**	**2.1**	**1,501.2**	**456.7**

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.

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

b/ Utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, emergent wetland, scrub-shrub wetland, 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/ Wooded lands being managed for forest products (i.e., pine plantations).

f/ 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.

g/ 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.

h/ Sums may not equal the total of addends due to rounding.

i/ 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 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 are not included in this acreage.

j/ Includes only the operation footprint of the Project facilities and the 50-foot-wide permanent pipeline right-of-way. The 50-foot-wide permanent right-of-way between horizontal directional drill entry and exit points are not included in this acreage.

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

8.2.1.2 Existing Rights-of-Way

Resource Report 1 summarizes the locations where the proposed Project is collocated with existing rights-of-way. Collocation includes areas where proposed 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 Project will strive to design the workspace such that the permanent right-of-way for the H-650 pipeline will be located immediately adjacent to or partially within the existing right-of-way of the pipeline or electric transmission utility where feasible. 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.

Coordination with applicable pipeline or electric transmission companies is ongoing. *[Note: The Project continues to coordinate with electric transmission companies that operate electric transmission systems along the Project alignment. The Project will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

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 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 Project will also use existing public and private roads to the extent practicable to access the proposed 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 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 Project will construct an approximately 0.5-mile-long permanent access road (PA-PI-001A) 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 proposed permanent access road is included in Resource Report 1.

The Project will also construct a new 0.2-mile-long permanent access road to provide access to the new Russell Compressor Station. *[Note: The Project is currently designing permanent access to the new Russell Compressor Station. Additional information will be provided in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

The Project will construct a new 0.04-mile-long permanent access road to provide access to the permanent right-of-way for operational maintenance of the pipeline at approximate MP 37.5. Construction of the new permanent access road will convert approximately 0.1 acre of open land to commercial / industrial land.

8.2.1.5 Contractor Yards

The 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 Project will consist of the new Lambert Compressor Station, the new Russell 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 Compressor Stations

The Project includes two new compressor stations designed to boost the pipeline pressure to allow for the intended capacity. The Project has designed the compressor stations in accordance with Code of Federal Regulations ("CFR") 49, Part 192 along with other federal regulations. The compressors will be designed with the necessary noise control equipment to meet the FERC standards and comply with applicable local ordinances. The facilities will be located within fenced-in property to provide security and prevent uncontrolled entry.

The proposed new Lambert Compressor Station has been sited on an undeveloped 127.5-acre site owned by The Project located approximately 0.2 mile east of MP 0.3 in Pittsylvania County, Virginia. Existing land use on and adjacent to the property is forest / woodland, agricultural land, open land, and commercial / industrial land. Construction of the proposed station will result in the permanent conversion of forest / woodland, agricultural land, and open land to commercial / industrial land use. No impacts on wetlands or waterbodies will occur from construction or operations of the proposed facility. Approximately 108.9-acres of the 127.5-acre parcel will remain undisturbed during construction and operation of the Lambert Compressor Station.

The proposed new Russell Compressor Station has been sited on an undeveloped parcel located approximately 1.2 miles west of MP 26.9 in Rockingham County, North Carolina. The Project has initiated negotiations with the existing landowner to acquire all or a portion of the property for the compressor station. Existing land use on and adjacent to the property is forest / woodland and commercial / industrial land. Construction of the proposed station will result in the permanent conversion of forest / woodland to commercial / industrial land use. No impacts on wetlands or waterbodies will occur from construction or operations of the proposed facility.

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 H-650 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 30.5 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 72.6 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 stations 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 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 H-650 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 will be located within the permanent right-of-way associated with the H-650 pipeline and will not require additional land disturbance for construction or operation.

Meter Stations

The Lambert Interconnect will be located approximately 0.2 mile east of MP 0.3 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 will be located at approximately 1.1 miles west of MP 27.4 in Rockingham County, North Carolina. *[Note: The Project is designing the LN 3600 Interconnect and will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

The proposed new T-15 Dan River Interconnect has been sited on a parcel at MP 30.5 in Rockingham County, North Carolina. The parcel is developed with existing utility infrastructure and the 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 open land, forest / woodland, and commercial / industrial land. Construction of the proposed station will result in the permanent conversion of open land and forest / woodland 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 proposed new T-21 Haw River Interconnect has been sited on two parcels located at MP 72.6 in Alamance County, North Carolina. One parcel consists of agricultural field and the second parcel is developed with existing utility infrastructure. Existing land use on and adjacent to the property is open land, commercial / industrial land, and agricultural land. Construction of the proposed station will result in the permanent conversion of 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 Project is evaluating four potential rectifier locations for the Project. Surface 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 (25 feet by 25 feet additional permanent right-of-way if required). 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.

[Note: The Project continues to evaluate rectifier locations along the proposed H-650 pipeline route. The Project will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.] The Project will obtain a new permanent right-of-way for the groundbed areas.

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 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 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 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 Project area 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 proposed to be implemented on agricultural lands by the Project are described in Resource Report 1. The Project has initiated consultation with the U.S. Department of Agriculture ("USDA") Natural Resources Conservation Service ("NRCS") Virginia and North Carolina state offices regarding agricultural resources, farmland easements, and restoration measures applicable to the Project area (see Appendix 1-K of Resource Report 1).

Impacts from construction across agricultural lands will typically be limited to the growing season during which construction occurs. The 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 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 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

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 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 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 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 MVP Southgate Project

State, County	Approximate Mileposts	Tract ID	Feature Type
Virginia			
None identified to date			
North Carolina			
Rockingham	48.1	NC-RO-156.000	Irrigation Sprinkler System
Rockingham	50.4 / TA-RO-139	NC-RO-174.200.AR	Irrigation Sprinkler System
Rockingham	52.0 / TA-RO-143	NC-RO-183.300.AR	Agricultural Drain Tile
Alamance	53.4	NC-AL-000.060	Irrigation Sprinkler System
Alamance	53.6	NC-AL-000.065	Irrigation Sprinkler System
Alamance	56.2	NC-AL-025.000	Irrigation Sprinkler System
Alamance	61.6	NC-AL-081.000	Irrigation Sprinkler System
Alamance	62.9	NC-AL-093.000	Agricultural Drain Tile
Alamance	63.2	NC-AL-096.000	Agricultural Drain Tile

Source: Landowner surveys conducted to date for the Project.

Livestock Watering

No livestock watering systems have been identified to date in the Project workspace areas through field surveys and landowner consultations. 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 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 have been identified through landowner surveys to date. 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 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. Additionally, no organic farms affected by the Project have been identified through landowner contacts conducted to date.

If properties affected by the 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 Open Land

Open land is defined as utility rights-of-way, open fields, vacant land, herbaceous and scrub uplands, non-forested lands, emergent wetland, scrub-shrub wetland, 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 H-650 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 Forest / Woodland

Forest / woodland includes upland and wetland forest not being used for specific commercial purposes. Resource Report 3 provides a detailed discussion of the types of upland and wetland forests and woodlands crossed by the H-650 pipeline. The Project will restore and stabilize the approximate original grade of 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. Resource Report 2 summarizes the amount of wetland forest that will be affected by the Project. Construction procedures to minimize impacts on forested wetlands are summarized in Section 1.4.1.2 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.

8.2.3.4 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 through landowner contact as crossed by the H-650 pipeline include pine plantations. The 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 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 Project in each county is listed in Table 8.2-4. 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 or 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 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. 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 8.2-4

Summary of Public Roadways Crossed by the Proposed MVP Southgate Project

County, State	Number of Public Roadways Crossed
Pittsylvania, VA	23
Rockingham, NC	22
Alamance, NC	25
Project Total	**70**

Railroads

The 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 rail road easement will be closely coordinated with the respective railroad owner. Table 8.2-5 identifies the location and ownership of railroads crossed by the Project.

Table 8.2-5

Railroads Crossed by the Proposed MVP Southgate Project

County , State	Milepost	Railroad	Active or Abandoned	Proposed Crossing Method
Pittsylvania, VA	5.5	Southern Railroad	Active	Conventional Bore
Pittsylvania, VA	25.1	Southern Railroad	Active	Conventional Bore
Rockingham, NC	39.8	Norfolk Southern	Active	Conventional Bore
Alamance, NC	69.3	Southern Railroad	Active	Conventional Bore

8.2.3.6 Residential Land

Section 8.3 below provides detail on existing residences within 50 feet of the 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 *[Note: The Project continues to evaluate the pipeline alignment where residences have been identified within 25 feet of the Project workspace. The Project will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*. These show the construction area to be disturbed and safety measures that will be implemented as discussed in Section 8.3 below.

8.2.3.7 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 Project as well as impact minimization measures.

8.2.3.8 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 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 Project identified two schools that are located within 0.25 mile of the Project. Pittsylvania Vo-Tech Center is located 0.04 mile west of temporary access road TA-PI-010 (near MP 5.2) in Pittsylvania County, Virginia. Alamance Community College is located 0.2 mile southeast of MP 71.0 in Alamance County,

North Carolina. Impacts on these schools are not anticipated during construction or operation of the Project. Mountain Valley may employ traffic control measures 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 Project in Pittsylvania County, Virginia include Fairview Chapel (0.2 mile southeast of ATWS-1027 (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 4.5), and Silver Creek Church (0.2 mile northwest of temporary access road TA-PI-045). Places of worship identified within 0.25 mile of the Project in Rockingham County, North Carolina include Greenwood Presbyterian Church (0.1 mile northwest of approximate MP 40.6), Lawsonville Road Baptist Church (0.2 mile northwest of approximate MP 42.6), New Center Church (0.2 mile northwest of ATWS 1381 near MP 42.6), Eastside Church 0.1 mile southwest of Contractor Yard CY-08, and Garrett's Grove United Church (0.2 mile northeast of approximate MP 49.5). Additionally, the Project identified Gilliam Church (0.2 mile southeast of ATWS 1505 near 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 69.1), and Riverside Baptist Church (0.1 mile northwest of approximate MP 72.3) in Alamance County, North Carolina. No workspace is proposed within these properties, and no impact is anticipated on the places of worship from construction or operation of the 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 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.

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 Project is adjacent to the solar farm between approximate MPs 48.8 and 49.0. 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 Project has initiated consultation with county and municipal planning agencies in 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 Project has minimized impacts on residential properties by routing the H-650 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 *[Note: The Project continues to evaluate the pipeline alignment where residences have been identified within 25 feet of the Project workspace. The Project will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*. As identified in Table 8-D, a total of 15 residences are located within 50 feet of the edge of the proposed construction right-of-way for the H-650 pipeline including temporary workspace, ATWS, access roads, pipe / contractor yards, and staging areas. The Project is currently evaluating all workspaces within 10 feet of residences and buildings along the construction right-of-way. 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 concurrence will be provided to FERC for all residences within 10 feet of any construction workspace.

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 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;
- 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 Project's contractor will minimize the time the trench is left open;

- The 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.

[Note: The Project continues to evaluate the pipeline alignment where residences have been identified within 25 feet of the Project workspace. The Project will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]

If necessary to minimize impacts while constructing in residential areas, the 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 Project has engineered the proposed 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.

If septic systems 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 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 Project. Public and recreational lands are also depicted on topographical mapping in Appendix 8-E. A discussion of each federal and state land is provided below. 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.

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 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 Proposed MVP Southgate Project

County, State	Milepost	Name of Area	Land Ownership / Management	Pipeline Crossing Length (feet)	Land Use	Area Affected (Acres)		Distance and Direction from Pipeline or Facility (feet)	Crossing Method / Special Construction Measures
						Construction	Operation		
H-650 Pipeline									
Pittsylvania, Virginia	5.7 – 6.8	Pittsylvania County Parcels	Pittsylvania County	5,727	Forest / Woodland, Open Land	17.0	6.5	0	TBD
Pittsylvania, Virginia	14.1	Easement	Virginia Outdoors Foundation	NA	NA	NA	NA	931.7 feet southeast of MP 14.1	NA
Rockingham, North Carolina	30.2	Dan River Trail	State Designated	N/A (HDD)	Open Water	0.0	0.0	0	HDD
Rockingham, North Carolina	37.8 – 38.1	Conservation Easement	Piedmont Land Conservancy	NA	NA	NA	NA	12.4 feet west of MP 38.0	NA
Rockingham, North Carolina	38.9 – 39.1	None	City of Reidsville	1,236.5	Forest / Woodland, Open land	4.1	1.4	0	TBD
Alamance, North Carolina	57.0	Ace Speedway	Private	N/A (ATWS)	Open Land	0.1	0.0	93.7 feet west of MP 57.0	TBD
Alamance, North Carolina	58.7	AOI Study Area – Land being considered during the master planning process	North Carolina Division of Parks and Recreation	NA	NA	NA	NA	1,251.2 feet southwest of MP 58.7	NA
Alamance, North Carolina	60.7	Mitigation Easement	North Carolina Division of Mitigation Services	NA	NA	NA	NA	647.9 feet north of MP 60.7	NA
Alamance, North Carolina	68.1	Planned Trail-1	North Carolina Division of Parks and Recreation	Unknown	Forest / Woodland, Open Land	Unknown	Unknown	0	TBD
Alamance, North Carolina	69.1	Mountains-To-Sea Trail	North Carolina Division of Parks and Recreation	NA (conventional bore)	Commercial / Industrial	0.0	0.0	0	Conventional Bore

Table 8.4-1

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

County, State	Milepost	Name of Area	Land Ownership / Management	Pipeline Crossing Length (feet)	Land Use	Area Affected (Acres)		Distance and Direction from Pipeline or Facility (feet)	Crossing Method / Special Construction Measures
						Construction	Operation		
Alamance, North Carolina	69.2	Unknown	Town of Haw River	NA (TWS)	Forest / Woodland	<0.1	<0.1	16 feet west	NA
Alamance, North Carolina	69.4 – 69.5	Haw River Sanitary District Facility	Town of Haw River	14.3	Open Land	0.4	<0.1	0	TBD
Alamance, North Carolina	69.6 - 70.9	Challenge Golf Club	Private	NA	NA	NA	NA	446.6 feet west of MP 70.9	NA
Alamance, North Carolina	69.8	None	Town of Haw River	186	Forest / Woodland	0.4	0.2	0	TBD
Alamance, North Carolina	70.9 – 71.3	Easement	North Carolina Clean Water Trust Fund	NA	NA	NA	NA	174.7 feet west of MP 70.0	NA
Alamance, North Carolina	71.4	Easement	North Carolina Clean Water Trust Fund	NA	NA	NA	NA	440.8 feet west of MP 71.4	NA
Contractor Yards									
Pittsylvania, Virginia	5.9	Pittsylvania County Parcel	Pittsylvania County	NA	Open Land	10.2	0.0	CY-02	NA
Rockingham, North Carolina	29.1	Municipal parcel	City of Eden	NA	Open Land	0.3	0.0	CY-04	TBD
Rockingham, North Carolina	29.4	Municipal parcel	City of Eden	NA	Commercial / Industrial, Forest / Woodland, Open Land	8.9	0.0	CY-07	TBD
Rockingham, North Carolina	44.7	Mitigation Easement	North Carolina Division of Mitigation Services	NA	NA	NA	NA	509.7 feet west of CY-08	NA
Access Roads									

Table 8.4-1

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

County, State	Milepost	Name of Area	Land Ownership / Management	Pipeline Crossing Length (feet)	Land Use	Area Affected (Acres)		Distance and Direction from Pipeline or Facility (feet)	Crossing Method / Special Construction Measures
						Construction	Operation		
Pittsylvania, Virginia	5.7	Pittsylvania County Parcel	Pittsylvania County	NA	Commercial / Industrial, Forest / Woodland, Open Land	1.6	0.0	TA-PI-014	TBD
Pittsylvania, Virginia	5.8 – 6	Pittsylvania County Parcel	Pittsylvania County	NA	Forest Land / Open Land	0.6	0.0	TA-PI-015	TBD
Pittsylvania, Virginia	6.1	Pittsylvania County Parcel	Pittsylvania County	NA	Commercial / Industrial, Forest / Woodland, Open Land	0.2	0.0	TA-PI-016	TBD
Pittsylvania, Virginia	6.4	Pittsylvania County Parcel	Pittsylvania County	NA	Commercial / Industrial, Open Land	0.5	0.0	TA-PI-017	TBD
Pittsylvania, Virginia	14.2	Easement	Virginia Outdoors Foundation	NA	NA	NA	NA	TA-PI-035	NA
Rockingham, North Carolina	27.9 – 28.5	Dan River Trail	State Designated	NA	NA	NA	NA	1,052.5 feet southeast of TAR-RO-074	NA
Rockingham, North Carolina	38.9 – 39.0	None	City of Reidsville	NA	Forest / Woodland, Open Land	0.3	0.0	TA-RO-106	TBD

Notes:
ATWS = additional temporary workspace; HDD = horizontal directional drill; MP = milepost; CY = Contractor Yard; NA = not applicable; TBD = To Be Determined.

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 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 proposed 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).

A segment of the Dan River crossed by the 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 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 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). The nearest state-owned 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 1.3 (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 0.19 mile east of MP 5.2 (VDCR, 2018b). Additionally, the pipeline alignment crosses a segment of the Sandy River at MP 17.9 that has been identified as being worthy of future study for a scenic designation (VDCR, 2018b). No impact on the scenic quality of the Banister River segment is anticipated from construction or operation of the 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 Project requested information on scenic waterways from the Virginia Department of Conservation and Recreation in July 2018 and consultation is ongoing.

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

North Carolina State Land

The 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 parcel 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 parcel 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 parcel 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 easement parcels are located within 0.25 mile of the proposed 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 71.2. The second easement consists of 1.7 acres and is located less than 0.1 mile from MP 71.4. The easement parcels are located on the opposite (west) bank of the Haw River from the 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 parcels or any management plans for biodiversity.

Review of the North Carolina Conservation Planning Tool (2018) identified the proposed 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 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 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 5.7 to 6.8 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 proposed pipeline adjacent to existing underground natural gas pipelines, no impacts on the County parcels are anticipated from construction or operation of the Project. Contractor Yard CY-02 is also located on one of the parcels owned by Pittsylvania County near MP 5.9. The contractor yard is located within a previously disturbed, excavated portion of the property and is not anticipated to affect any County operations on the parcel. Temporary access roads TA-PI-014, 015, 016, and 017 are also associated with the county parcels. The Project will coordinate with the county regarding use of the access roads during construction of the Project.

Contractor Yard CY-04 is located partially on a parcel owned by the City of Eden west of MP 29.1 in Rockingham County, North Carolina. The parcel is primarily undeveloped with a building located at the entrance to the property off Fieldcrest Road. The majority of the yard is located in an open field on the adjacent, privately-owned parcel. Impacts on the parcel would be temporary and short in duration. Use of the property for storage of materials during construction are not anticipated to significantly impact use of the municipal building during construction of the Project.

Contractor Yard CY-07 is located on a parcel owned by the City of Eden west of MP 29.4 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 Project. 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.

The pipeline alignment crosses a parcel owned by the City of Reidsville from approximate MP 38.9 to 39.1 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 Project.

The pipeline alignment crosses a corner of a wooded parcel owned by the Town of Haw River at MP 69.8 in Alamance County, North Carolina. Impacts on use of the parcel are not anticipated based on the location of the proposed alignment on a small portion of the interior corner of the property. A portion of the pipeline alignment crosses a contiguous parcel owned by the Town of Haw River and developed with the Haw River Sanitary District waste water treatment facility. Construction and operation of the Project is not anticipated to affect operations at this facility.

A public boat access to the Haw River owned by the City of Graham is located 0.1 mile northwest of MP 72.5 in Alamance County, North Carolina. The area is used for paddle craft access to the Haw River. No impact on use of the access is anticipated from construction or operation of the 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.

Non-Governmental Organization Land

The 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 Mountain Valley along the pipeline alignment adjacent to the Project workspace at approximate MP 37.8 to MP 38.1 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). No impacts from construction or operation of the Project are anticipated on the easement since no workspace is located within the easement parcel, and based on the allowed extraction activities on the 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 proposed 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 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 30.2 in Rockingham County, North Carolina. The Dan River Trail provides boating recreation opportunities. The 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 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 Project will cross via conventional bore (MP 69.1). 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. Additionally, the pipeline alignment crosses a planned regional trail near MP 68.1 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.

Private Recreational Areas

The 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 Project identified the Ace Speedway affected by the Project west of MP 57.0 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). A portion of ATWS is located within an access road to the track. The Project will consult with the landowner during right-of-way negotiations to identify property-specific measures to minimize disturbance to the Ace Speedway.

Additionally, Mountain Valley identified one golf course within 0.25 mile of the Project, the Challenge Golf Club, 0.1 mile west of MP 70.9 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 Resource Conservation Service and Farm Service Agency Programs

Agricultural landowners in the 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 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. Conservation Reserve Program and WRP parcels crossed by the Project to date through landowner surveys are included in Table 8.4-2 below. 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).

Table 8.4-2

USDA NRCS Easement Properties Crossed by the MVP Southgate Project

State, County	Approximate Mileposts	Tract ID	Easement Type
Virginia			
None identified to date			
North Carolina			
Rockingham	49.0	NC-RO-162.000	WRP
Rockingham	48.6 - 49.2	NC-RO-164.000	WRP
Alamance	55.8 - 55.9	NC-AL-025.000	CRP
Alamance	56.3 - 56.4	NC-AL-027.000	CRP
Alamance	56.5 – 56.8	NC-AL-028.000	CRP
Alamance	56.9 / TA-AL-160	NC-AL-035.000.AR	CRP
Alamance	57.0	NC-AL-036.000	CRP

Table 8.4-2

USDA NRCS Easement Properties Crossed by the MVP Southgate Project

State, County	Approximate Mileposts	Tract ID	Easement Type
Alamance	65.5	NC-AL-119.000	CRP

Source: Landowner consultations conducted to date for the Project.
Notes: CRP = Conservation Reserve Program; WRP = Wetland Reserve Program

Hazardous Waste Sites

The Project is conducting 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 is being completed by Environmental Data Resources, Inc. ("EDR") to identify potential and actual sources of contamination to nearby groundwater resources along the proposed Project facilities. Information from EDR is a compilation of a variety of available federal, state, and local government databases. *[Note: The Project will evaluate the EDR database search when complete. Additional information will be provided in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

The 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 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 Project is not located within a Coastal Zone Management Area (VDEQ, 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 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 proposed H-650 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 proposed 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 Project. The H-650 pipeline crosses one Virginia Scenic Byway (Route 58) in Pittsylvania County at MP 20.1 (VDOT, 2018). A second scenic byway, the Colonial Heritage Byway (Route 150), is crossed by the H-650 pipeline at MP 48.5 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 H-650 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 H-650 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 Project will not significantly change the topographical landscape from its current profile. Following construction, Mountain Valley will seed disturbed areas in non-agricultural lands in accordance with the Project-specific E&SCP (see Resource Report 1, Appendix 1-G). 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 H-650 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 H-650 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 H-650 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 Project area, visual impacts during operation of the pipeline are expected to be minimal.

8.5.2 Aboveground Facilities

8.5.2.1 Compressor Stations

Lambert Compressor Station

The Lambert Compressor Station is a proposed, new compressor station located approximately 0.2 mile east of MP 0.3 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 micro-turbines, and typical filtration and separation equipment to protect the operating equipment. The Project will commercially purchase electric power for the compressor station from the local distribution company as back-up electric power while a series of microturbine 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 H-650 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.

Effects on visual resources from construction and operation of the suction / discharge piping associated with the Lambert Compressor Station are anticipated to be similar to that of the pipeline facilities identified in Section 8.5.1 above. [*Note: The Project is designing suction / discharge piping and additional information will be provided in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

Russell Compressor Station

The Russell Compressor Station is a proposed, new compressor Station located in Rockingham County, North Carolina approximately 1.2 miles west of MP 26.9. The station is expected to include a compressor

building, electrical control building, office, and air compressor building. A chain-link security fence will surround the perimeter of the station site upon completion of construction. As currently designed, 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, and auxiliary micro-turbines. The Project will commercially purchase electric power for the compressor station from the local distribution company as back-up electric power while a series of microturbine 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 H-650 pipeline. Discharge piping from this compressor station to the LN 3600 Interconnect will be also be installed. Additionally, Mountain Valley will construct a new permanent access road for station operations.

The site for the Russell Compressor Station is off-set from the nearest public roadway (U.S. Highway 311) and will be accessed via a new permanent access road (PA-TBD) off U.S. Highway 311. The site consists of forest and industrial land, and is located on a parcel with an active clay brick quarry (NDEQ, 2018b). 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.

Effects on visual resources from construction and operation of the suction / discharge piping associated with the Russell Compressor Station are anticipated to be similar to that of the pipeline facilities identified in Section 8.5.1 above. [*Note: The Project is designing suction / discharge piping and additional information will be provided in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

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 30.5 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 H-650 pipeline alignment at approximate MP 72.6 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 Project will install eight MLVs at intermediate locations along the H-650 pipeline alignment (see Resource Report 1). One MLV will be located within the footprint of the Lambert Compressor Station (0.2 mile east of MP 0.3) and one MLV will be located within the footprint of the T-21 Haw River Interconnect

(MP 72.6). Visual effects from these MLVs are the same as those discussed for the Lambert Compressor Station (section 8.5.2.1 above) and the T-21 Haw River Interconnect (below).

The remaining MLVs will be located within the permanent right-of-way for the H-650 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, 3, and 4 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, 7, and 8 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 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 (approximately 0.2 mile east of MP 0.3 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 approximately 1.1 miles west of MP 27.4 in Rockingham County, North Carolina. [*Note: The Project is designing the proposed LN 3600 Interconnect and additional information will be provided in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

The T-15 Dan River Interconnect will be located at MP 30.5 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 72.6 at the terminus of the H-650 pipeline alignment in Alamance 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-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, recreation areas, 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 municipal water 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 Project is evaluating four potential rectifier locations for the Project (see Resource Report 1). Surface 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 may be adjacent (with 25 feet by 25 feet of additional permanent right-of-way required). Surface groundbeds 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. *[Note: The Project continues to evaluate rectifier locations along the proposed H-650 pipeline route. The Project will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

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

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MVP Southgate Project

Docket No. PF18-4-000

Resource Report 8

Appendix 8-A

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

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	0.00	0.10	532.9
Open Water	0.10	0.10	5.0
Forest / Woodland	0.10	0.23	675.2
Open Water	0.23	0.23	6.9
Forest / Woodland	0.23	0.29	335.2
Agriculture	0.29	0.35	317.4
Forest / Woodland	0.35	0.40	252.9
Agriculture	0.40	0.42	83.6
Open Land	0.42	0.43	35.4
Open Water	0.43	0.43	3.2
Open Land	0.43	0.44	68.7
Forest / Woodland	0.44	0.59	791.8
Open Land	0.59	0.60	68.5
Forest / Woodland	0.60	0.61	26.0
Open Water	0.61	0.61	20.3
Forest / Woodland	0.61	0.63	102.7
Open Land	0.63	0.66	151.0
Forest / Woodland	0.66	0.73	398.2
Open Land	0.73	0.76	153.0
Forest / Woodland	0.76	0.77	41.4
Open Land	0.77	0.77	1.7
Forest / Woodland	0.77	0.78	26.9
Open Land	0.78	0.92	767.9
Commercial / Industrial	0.92	0.93	25.4
Open Land	0.93	1.08	830.5
Commercial / Industrial	1.08	1.09	26.7
Open Land	1.09	1.18	477.6
Forest / Woodland	1.18	1.21	159.2
Open Land	1.21	1.21	16.2
Agriculture	1.21	1.28	367.3
Forest / Woodland	1.28	1.30	114.1
Agriculture	1.30	1.31	12.5
Forest / Woodland	1.31	1.31	47.0
Open Water	1.31	1.32	4.4
Forest / Woodland	1.32	1.32	43.0
Agriculture	1.32	1.35	120.4

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	1.35	1.37	113.1
Open Land	1.37	1.47	537.3
Forest / Woodland	1.47	1.53	307.4
Open Land	1.53	1.55	103.6
Forest / Woodland	1.55	1.55	32.3
Open Land	1.55	1.59	178.9
Forest / Woodland	1.59	1.66	362.7
Open Land	1.66	1.68	101.6
Forest / Woodland	1.68	1.69	96.6
Open Land	1.69	1.72	122.4
Forest / Woodland	1.72	1.74	139.6
Open Land	1.74	1.92	936.2
Forest / Woodland	1.92	1.93	50.1
Open Water	1.93	1.94	27.1
Forest / Woodland	1.94	1.94	34.6
Open Land	1.94	2.16	1125.9
Forest / Woodland	2.16	2.16	6.7
Open Land	2.16	2.43	1470.9
Forest / Woodland	2.43	2.44	3.5
Open Land	2.44	2.51	410.6
Forest / Woodland	2.51	2.64	688.4
Open Land	2.64	2.66	90.5
Forest / Woodland	2.66	2.73	373.8
Open Land	2.73	2.74	34.7
Forest / Woodland	2.74	2.75	53.5
Open Land	2.75	2.75	5.1
Forest / Woodland	2.75	2.76	55.7
Open Land	2.76	2.76	16.3
Forest / Woodland	2.76	2.79	149.3
Open Land	2.79	3.00	1089.3
Commercial / Industrial	3.00	3.00	27.4
Agriculture	3.00	3.13	673.9
Commercial / Industrial	3.13	3.14	24.5
Agriculture	3.14	3.19	298.9
Commercial / Industrial	3.19	3.20	28.3
Agriculture	3.20	3.39	998.3

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	3.39	3.44	294.3
Forest / Woodland	3.44	3.44	4.1
Open Water	3.44	3.44	7.6
Forest / Woodland	3.44	3.45	53.4
Open Land	3.45	3.48	110.0
Agriculture	3.48	3.62	748.8
Commercial / Industrial	3.62	3.62	15.2
Agriculture	3.62	3.77	813.0
Forest / Woodland	3.77	3.80	136.2
Open Water	3.80	3.80	9.8
Forest / Woodland	3.80	3.82	81.3
Agriculture	3.82	4.04	1169.7
Forest / Woodland	4.04	4.05	61.6
Open Land	4.05	4.13	439.5
Agriculture	4.13	4.23	526.0
Forest / Woodland	4.23	4.24	40.9
Open Water	4.24	4.24	5.7
Forest / Woodland	4.24	4.25	18.3
Agriculture	4.25	4.33	444.8
Forest / Woodland	4.33	4.34	50.0
Open Water	4.34	4.34	3.8
Forest / Woodland	4.34	4.35	32.7
Agriculture	4.35	4.45	556.7
Commercial / Industrial	4.45	4.46	21.7
Open Land	4.46	4.49	186.3
Commercial / Industrial	4.49	4.49	16.3
Forest / Woodland	4.49	4.54	232.1
Commercial / Industrial	4.54	4.56	117.4
Open Land	4.56	4.57	35.6
Forest / Woodland	4.57	4.63	330.6
Open Land	4.63	4.71	435.1
Forest / Woodland	4.71	4.72	23.2
Open Land	4.72	4.74	132.3
Forest / Woodland	4.74	4.74	10.4
Open Land	4.74	4.76	84.2
Forest / Woodland	4.76	4.78	97.1

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	4.78	4.84	307.2
Forest / Woodland	4.84	5.00	864.1
Open Land	5.00	5.05	248.1
Forest / Woodland	5.05	5.05	41.1
Open Water	5.05	5.05	3.4
Forest / Woodland	5.05	5.06	8.5
Open Land	5.06	5.07	74.7
Forest / Woodland	5.07	5.09	89.8
Open Land	5.09	5.15	333.6
Open Water	5.15	5.16	47.9
Open Land	5.16	5.21	268.8
Forest / Woodland	5.21	5.23	101.0
Open Water	5.23	5.24	34.8
Forest / Woodland	5.24	5.28	220.9
Open Land	5.28	5.29	45.1
Forest / Woodland	5.29	5.31	136.5
Open Water	5.31	5.32	20.6
Forest / Woodland	5.32	5.34	104.2
Open Land	5.34	5.37	197.0
Forest / Woodland	5.37	5.44	330.5
Open Land	5.44	5.44	25.1
Commercial / Industrial	5.44	5.45	57.1
Open Land	5.45	5.46	37.3
Forest / Woodland	5.46	5.65	1003.3
Open Land	5.65	5.68	176.0
Forest / Woodland	5.68	5.74	324.4
Open Land	5.74	5.76	62.6
Forest / Woodland	5.76	5.77	101.5
Open Land	5.77	5.91	708.6
Forest / Woodland	5.91	5.95	216.0
Open Land	5.95	5.95	18.8
Forest / Woodland	5.95	5.98	155.8
Open Land	5.98	6.14	817.4
Forest / Woodland	6.14	6.14	33.2
Open Land	6.14	6.18	171.7
Forest / Woodland	6.18	6.19	74.7

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	6.19	6.30	574.4
Forest / Woodland	6.30	6.39	463.4
Open Land	6.39	6.40	68.3
Forest / Woodland	6.40	6.41	66.9
Open Land	6.41	6.59	930.7
Forest / Woodland	6.59	6.59	15.8
Open Land	6.59	6.64	233.0
Forest / Woodland	6.64	6.67	165.7
Open Land	6.67	6.74	385.9
Forest / Woodland	6.74	6.75	72.4
Open Land	6.75	6.76	50.9
Forest / Woodland	6.76	6.80	198.1
Open Land	6.80	6.82	90.0
Forest / Woodland	6.82	6.83	67.9
Open Land	6.83	6.88	255.3
Forest / Woodland	6.88	6.90	86.4
Open Land	6.90	6.91	80.7
Forest / Woodland	6.91	6.93	102.6
Open Land	6.93	6.94	45.7
Forest / Woodland	6.94	6.95	34.3
Open Land	6.95	6.95	36.3
Forest / Woodland	6.95	7.03	430.5
Open Land	7.03	7.04	39.5
Forest / Woodland	7.04	7.13	487.6
Open Land	7.13	7.15	85.9
Forest / Woodland	7.15	7.16	26.4
Open Water	7.16	7.16	3.7
Forest / Woodland	7.16	7.18	114.2
Open Water	7.18	7.18	5.5
Forest / Woodland	7.18	7.19	43.5
Open Land	7.19	7.23	207.0
Forest / Woodland	7.23	7.25	119.1
Agriculture	7.25	7.31	314.4
Open Land	7.31	7.36	272.5
Commercial / Industrial	7.36	7.37	45.7
Open Land	7.37	7.46	508.2

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	7.46	7.57	576.4
Commercial / Industrial	7.57	7.61	188.9
Open Land	7.61	7.69	406.8
Forest / Woodland	7.69	7.69	34.5
Open Land	7.69	7.70	36.7
Forest / Woodland	7.70	7.73	175.4
Open Land	7.73	7.78	229.5
Open Water	7.78	7.78	1.9
Open Land	7.78	7.81	180.4
Forest / Woodland	7.81	7.84	173.0
Open Land	7.84	8.17	1699.6
Open Water	8.17	8.17	7.8
Open Land	8.17	8.17	12.5
Open Water	8.17	8.17	2.0
Open Land	8.17	8.17	12.5
Forest / Woodland	8.17	8.18	57.3
Open Land	8.18	8.27	456.4
Commercial / Industrial	8.27	8.27	22.5
Open Land	8.27	8.73	2385.1
Forest / Woodland	8.73	8.73	4.1
Open Land	8.73	8.74	65.6
Open Water	8.74	8.74	8.1
Open Land	8.74	8.76	77.2
Open Water	8.76	8.76	10.0
Open Land	8.76	9.09	1764.9
Forest / Woodland	9.09	9.13	188.4
Open Land	9.13	9.16	146.9
Forest / Woodland	9.16	9.16	26.0
Open Land	9.16	9.21	270.8
Forest / Woodland	9.21	9.23	112.5
Open Land	9.23	9.24	57.3
Open Water	9.24	9.25	37.1
Open Land	9.25	9.32	356.1
Agriculture	9.32	9.54	1146.9
Commercial / Industrial	9.54	9.54	20.1
Open Land	9.54	9.54	15.6

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	9.54	9.55	52.2
Open Land	9.55	9.65	538.9
Forest / Woodland	9.65	9.66	26.6
Open Land	9.66	9.71	260.4
Agriculture	9.71	9.79	417.8
Forest / Woodland	9.79	10.02	1244.4
Open Water	10.02	10.02	3.5
Forest / Woodland	10.02	10.03	21.4
Open Land	10.03	10.03	24.6
Forest / Woodland	10.03	10.07	186.8
Open Water	10.07	10.07	8.4
Forest / Woodland	10.07	10.21	723.0
Open Water	10.21	10.21	2.8
Forest / Woodland	10.21	10.21	23.6
Open Land	10.21	10.21	14.7
Forest / Woodland	10.21	10.24	125.1
Open Land	10.24	10.24	0.9
Forest / Woodland	10.24	10.27	173.7
Open Land	10.27	10.35	405.4
Commercial / Industrial	10.35	10.35	15.1
Open Land	10.35	10.37	78.1
Residential	10.37	10.40	163.3
Open Land	10.40	10.54	755.4
Forest / Woodland	10.54	10.55	32.4
Open Land	10.55	10.57	153.3
Commercial / Industrial	10.57	10.58	11.9
Open Land	10.58	10.84	1403.2
Residential	10.84	10.86	75.1
Open Land	10.86	10.88	125.4
Residential	10.88	10.88	8.2
Commercial / Industrial	10.88	10.89	27.7
Open Land	10.89	10.90	56.1
Forest / Woodland	10.90	10.93	150.7
Open Land	10.93	11.23	1586.8
Forest / Woodland	11.23	11.25	121.6
Open Water	11.25	11.25	5.1

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	11.25	11.26	53.4
Open Land	11.26	11.46	1052.5
Forest / Woodland	11.46	11.49	148.2
Open Water	11.49	11.49	12.0
Forest / Woodland	11.49	11.49	4.1
Open Water	11.49	11.49	8.5
Forest / Woodland	11.49	11.50	28.1
Open Water	11.50	11.50	5.0
Forest / Woodland	11.50	11.51	68.4
Open Land	11.51	11.66	783.4
Forest / Woodland	11.66	11.66	7.6
Open Land	11.66	11.67	63.6
Forest / Woodland	11.67	11.69	96.9
Open Land	11.69	11.74	237.4
Forest / Woodland	11.74	11.76	96.1
Open Land	11.76	11.77	63.9
Forest / Woodland	11.77	11.78	38.7
Open Land	11.78	11.82	218.2
Forest / Woodland	11.82	11.83	58.0
Open Land	11.83	11.84	79.4
Forest / Woodland	11.84	11.86	86.2
Open Land	11.86	11.88	98.9
Forest / Woodland	11.88	11.89	45.4
Open Land	11.89	12.10	1145.4
Forest / Woodland	12.10	12.15	245.8
Open Land	12.15	12.23	422.4
Forest / Woodland	12.23	12.28	246.5
Agriculture	12.28	12.45	938.5
Commercial / Industrial	12.45	12.46	24.6
Agriculture	12.46	12.61	781.3
Forest / Woodland	12.61	12.62	63.8
Agriculture	12.62	12.82	1045.1
Open Land	12.82	12.82	22.9
Forest / Woodland	12.82	12.82	11.9
Open Land	12.82	12.86	202.9
Open Water	12.86	12.87	22.9

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	12.87	13.34	2528.7
Forest / Woodland	13.34	13.37	134.2
Open Land	13.37	13.48	557.9
Commercial / Industrial	13.48	13.48	20.6
Open Land	13.48	13.49	28.9
Forest / Woodland	13.49	13.62	704.3
Open Land	13.62	13.62	8.4
Forest / Woodland	13.62	13.64	111.4
Open Land	13.64	13.65	36.1
Forest / Woodland	13.65	13.65	7.8
Open Land	13.65	13.75	547.6
Forest / Woodland	13.75	13.86	560.0
Open Land	13.86	13.86	23.9
Forest / Woodland	13.86	14.09	1206.3
Open Land	14.09	14.25	842.9
Forest / Woodland	14.25	14.37	614.6
Open Water	14.37	14.37	11.9
Forest / Woodland	14.37	14.62	1340.1
Open Land	14.62	14.65	112.0
Forest / Woodland	14.65	14.65	23.5
Open Land	14.65	14.66	34.4
Forest / Woodland	14.66	14.72	342.2
Open Land	14.72	14.81	447.1
Forest / Woodland	14.81	14.85	225.5
Open Land	14.85	14.95	550.0
Commercial / Industrial	14.95	14.96	23.9
Agriculture	14.96	15.32	1892.1
Open Land	15.32	15.32	17.8
Forest / Woodland	15.32	15.39	348.7
Agriculture	15.39	15.49	538.1
Forest / Woodland	15.49	15.51	107.1
Silviculture	15.51	15.56	282.4
Forest / Woodland	15.56	15.57	38.2
Open Land	15.57	15.77	1071.6
Forest / Woodland	15.77	15.89	627.2
Open Land	15.89	15.89	21.6

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	15.89	15.93	189.8
Open Land	15.93	15.94	58.0
Forest / Woodland	15.94	15.98	214.2
Open Land	15.98	16.02	178.6
Forest / Woodland	16.02	16.06	219.2
Open Land	16.06	16.06	32.5
Commercial / Industrial	16.06	16.07	23.4
Open Land	16.07	16.08	40.5
Forest / Woodland	16.08	16.16	464.3
Open Land	16.16	16.23	332.5
Forest / Woodland	16.23	16.24	50.3
Open Land	16.24	16.25	79.2
Forest / Woodland	16.25	16.39	716.0
Agriculture	16.39	16.57	947.3
Commercial / Industrial	16.57	16.57	41.4
Agriculture	16.57	16.62	265.3
Forest / Woodland	16.62	16.64	66.8
Agriculture	16.64	16.71	374.2
Forest / Woodland	16.71	16.71	25.5
Agriculture	16.71	16.81	502.0
Forest / Woodland	16.81	16.84	152.7
Open Land	16.84	16.84	22.0
Agriculture	16.84	16.91	378.4
Forest / Woodland	16.91	16.92	40.2
Agriculture	16.92	16.93	66.6
Forest / Woodland	16.93	16.96	153.7
Agriculture	16.96	16.97	34.5
Forest / Woodland	16.97	16.99	91.2
Agriculture	16.99	17.06	379.9
Forest / Woodland	17.06	17.18	660.4
Agriculture	17.18	17.23	259.4
Forest / Woodland	17.23	17.24	60.4
Agriculture	17.24	17.34	535.4
Open Land	17.34	17.37	125.0
Forest / Woodland	17.37	17.45	453.5
Open Land	17.45	17.75	1584.5

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	17.75	17.85	489.1
Open Water	17.85	17.86	85.9
Forest / Woodland	17.86	17.98	635.2
Open Land	17.98	17.99	16.1
Forest / Woodland	17.99	18.12	712.8
Open Land	18.12	18.13	32.6
Open Water	18.13	18.13	4.4
Open Land	18.13	18.14	69.8
Forest / Woodland	18.14	18.18	183.6
Open Land	18.18	18.20	103.9
Forest / Woodland	18.20	18.22	116.1
Open Land	18.22	18.22	11.1
Forest / Woodland	18.22	18.29	371.2
Open Land	18.29	18.37	426.1
Commercial / Industrial	18.37	18.43	291.1
Agriculture	18.43	18.54	613.6
Forest / Woodland	18.54	18.63	441.4
Agriculture	18.63	18.74	608.7
Forest / Woodland	18.74	18.78	181.7
Open Land	18.78	19.12	1843.2
Forest / Woodland	19.12	19.13	49.9
Commercial / Industrial	19.13	19.14	57.0
Open Land	19.14	19.16	75.9
Agriculture	19.16	19.32	866.0
Residential	19.32	19.34	65.8
Open Land	19.34	19.34	44.6
Commercial / Industrial	19.34	19.35	41.2
Agriculture	19.35	19.51	827.2
Open Land	19.51	19.55	209.0
Forest / Woodland	19.55	19.59	200.0
Open Land	19.59	19.60	73.7
Forest / Woodland	19.60	19.63	146.8
Open Land	19.63	19.64	67.2
Forest / Woodland	19.64	19.65	42.5
Open Land	19.65	19.65	27.8
Forest / Woodland	19.65	19.68	151.2

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	19.68	19.69	25.1
Forest / Woodland	19.69	19.69	12.9
Open Land	19.69	19.71	127.2
Forest / Woodland	19.71	19.72	58.4
Open Land	19.72	19.76	207.3
Forest / Woodland	19.76	19.77	32.1
Open Land	19.77	19.77	16.0
Forest / Woodland	19.77	19.80	160.6
Open Land	19.80	19.82	76.0
Forest / Woodland	19.82	19.82	8.0
Open Land	19.82	19.88	315.9
Forest / Woodland	19.88	19.88	12.4
Open Land	19.88	19.96	430.1
Forest / Woodland	19.96	20.00	213.4
Open Land	20.00	20.01	32.5
Commercial / Industrial	20.01	20.04	169.3
Open Land	20.04	20.25	1125.2
Forest / Woodland	20.25	20.27	59.8
Residential	20.27	20.35	438.8
Commercial / Industrial	20.35	20.35	12.4
Open Land	20.35	20.42	362.3
Forest / Woodland	20.42	20.43	63.2
Agriculture	20.43	20.50	357.9
Forest / Woodland	20.50	20.52	106.6
Open Land	20.52	20.62	540.5
Agriculture	20.62	20.70	413.1
Open Land	20.70	20.71	43.2
Forest / Woodland	20.71	20.74	188.8
Open Land	20.74	20.80	271.5
Forest / Woodland	20.80	20.81	65.1
Open Land	20.81	20.82	37.4
Forest / Woodland	20.82	20.83	90.0
Open Land	20.83	20.89	280.1
Forest / Woodland	20.89	20.89	15.7
Open Land	20.89	20.94	250.6
Forest / Woodland	20.94	20.96	106.4

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	20.96	20.99	159.8
Forest / Woodland	20.99	21.00	75.1
Open Land	21.00	21.01	23.4
Agriculture	21.01	21.01	22.5
Open Land	21.01	21.05	237.1
Agriculture	21.05	21.08	119.0
Open Water	21.10	21.10	3.5
Open Land	21.08	21.30	1168.2
Forest / Woodland	21.30	21.31	41.2
Open Land	21.31	21.37	316.1
Forest / Woodland	21.37	21.37	27.6
Open Land	21.37	21.37	7.7
Forest / Woodland	21.37	21.39	103.6
Open Land	21.39	21.40	34.1
Forest / Woodland	21.40	21.43	154.0
Open Land	21.43	21.48	273.3
Forest / Woodland	21.48	21.81	1755.0
Open Land	21.81	21.82	45.6
Forest / Woodland	21.82	21.93	594.7
Open Land	21.93	21.94	18.4
Forest / Woodland	21.94	21.95	65.7
Open Land	21.95	21.95	4.7
Residential	21.95	21.98	153.6
Open Land	21.98	22.09	598.5
Forest / Woodland	22.09	22.15	314.4
Open Land	22.15	22.18	139.5
Commercial / Industrial	22.18	22.18	25.3
Open Land	22.18	22.20	115.1
Forest / Woodland	22.20	22.23	115.4
Open Land	22.23	22.23	36.0
Forest / Woodland	22.23	22.26	115.7
Open Land	22.26	22.26	28.8
Forest / Woodland	22.26	22.33	368.4
Open Land	22.33	22.34	40.3
Forest / Woodland	22.34	22.40	350.2
Open Land	22.40	22.41	22.6

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	22.41	22.48	364.0
Open Land	22.48	22.48	7.7
Forest / Woodland	22.48	22.57	454.2
Open Land	22.57	22.57	42.3
Forest / Woodland	22.57	22.61	174.0
Open Land	22.61	22.69	461.6
Forest / Woodland	22.69	22.74	246.9
Open Land	22.74	22.78	211.3
Forest / Woodland	22.78	22.81	160.4
Open Land	22.81	22.82	49.4
Forest / Woodland	22.82	22.84	83.8
Open Land	22.84	22.85	50.0
Forest / Woodland	22.85	22.87	105.4
Open Land	22.87	22.88	92.3
Forest / Woodland	22.88	22.95	340.1
Open Land	22.95	23.06	592.0
Forest / Woodland	23.06	23.13	350.9
Open Land	23.13	23.19	312.4
Forest / Woodland	23.19	23.24	263.8
Open Land	23.24	23.28	219.8
Open Water	23.28	23.28	9.4
Open Water	23.33	23.33	20.2
Open Water	23.66	23.66	4.4
Forest / Woodland	23.28	23.84	2955.2
Open Land	23.84	23.84	17.5
Commercial / Industrial	23.84	23.85	29.6
Open Land	23.85	23.85	33.2
Forest / Woodland	23.85	23.87	107.2
Open Land	23.87	23.89	85.0
Forest / Woodland	23.89	23.94	263.4
Open Water	23.94	23.94	4.4
Forest / Woodland	23.94	24.19	1316.9
Open Land	24.19	24.20	36.4
Forest / Woodland	24.20	24.41	1145.6
Open Land	24.41	24.48	347.7
Open Water	24.81	24.82	5.0

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	24.48	24.83	1881.8
Open Land	24.83	24.87	171.7
Forest / Woodland	24.87	24.94	371.7
Open Water	24.94	24.94	3.7
Forest / Woodland	24.94	24.99	293.4
Open Land	24.99	25.00	19.8
Forest / Woodland	25.00	25.12	629.2
Open Land	25.12	25.12	22.8
Commercial / Industrial	25.12	25.13	44.7
Forest / Woodland	25.13	25.21	433.1
Open Land	25.21	25.22	27.3
Forest / Woodland	25.22	25.54	1688.0
Open Land	25.54	25.84	1590.8
Forest / Woodland	25.84	26.09	1332.7
Open Land	26.09	26.10	56.0
Forest / Woodland	26.10	26.21	573.9
Open Land	26.21	26.23	97.6
Forest / Woodland	26.23	26.23	18.1
Forest / Woodland	26.23	26.27	187.6
Open Land	26.27	26.27	38.0
Forest / Woodland	26.27	26.34	336.9
Open Land	26.34	26.35	74.7
Forest / Woodland	26.35	26.37	76.8
Open Land	26.37	26.37	23.4
Forest / Woodland	26.37	26.38	35.0
Open Land	26.38	26.39	53.1
Commercial / Industrial	26.39	26.39	33.8
Forest / Woodland	26.39	26.63	1255.6
Open Land	26.63	26.67	182.0
Forest / Woodland	26.67	26.69	146.4
Open Land	26.69	26.70	15.0
Commercial / Industrial	26.70	26.70	34.8
Open Land	26.70	26.83	691.4
Forest / Woodland	26.83	26.85	68.0
Open Land	26.85	26.85	38.1
Forest / Woodland	26.85	26.87	87.6

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	26.87	26.99	606.8
Forest / Woodland	26.99	27.09	573.1
Open Land	27.09	27.10	17.2
Forest / Woodland	27.10	27.10	18.1
Commercial / Industrial	27.10	27.10	18.0
Open Land	27.10	27.45	1834.3
Forest / Woodland	27.45	27.48	140.9
Open Water	27.48	27.48	32.3
Forest / Woodland	27.48	27.51	127.4
Open Water	27.51	27.51	17.8
Forest / Woodland	27.51	27.55	194.8
Open Land	27.55	27.65	540.8
Forest / Woodland	27.65	27.66	30.5
Open Water	27.66	27.67	78.5
Forest / Woodland	27.67	27.77	504.5
Agriculture	27.77	27.85	458.6
Silviculture	27.85	27.87	59.5
Agriculture	27.87	27.96	520.4
Silviculture	27.96	27.98	67.5
Agriculture	27.98	28.09	577.5
Silviculture	28.09	28.11	123.3
Agriculture	28.11	28.19	419.6
Open Land	28.19	28.19	25.1
Silviculture	28.19	28.21	60.3
Open Land	28.21	28.31	576.2
Silviculture	28.31	28.33	76.8
Open Land	28.33	28.46	670.8
Forest / Woodland	28.46	28.50	245.4
Open Water	28.50	28.50	6.6
Forest / Woodland	28.50	28.59	466.4
Open Land	28.59	28.65	316.7
Forest / Woodland	28.65	28.85	1036.2
Open Land	28.85	28.85	17.0
Forest / Woodland	28.85	28.91	326.3
Open Land	28.91	28.94	138.2
Forest / Woodland	28.94	29.10	860.1

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	29.10	29.11	35.5
Forest / Woodland	29.11	29.30	1032.5
Open Land	29.30	29.31	12.9
Forest / Woodland	29.31	29.31	33.8
Open Land	29.31	29.32	11.9
Forest / Woodland	29.32	29.42	563.2
Open Land	29.42	29.43	33.9
Forest / Woodland	29.43	29.71	1489.7
Agriculture	29.71	29.79	419.3
Forest / Woodland	29.79	29.87	445.3
Silviculture	29.87	29.97	498.2
Forest / Woodland	29.97	29.99	115.7
Agriculture	29.99	30.16	890.8
Forest / Woodland	30.16	30.18	83.1
Open Water	30.18	30.22	237.2
Forest / Woodland	30.22	30.23	67.7
Agriculture	30.23	30.37	709.1
Forest / Woodland	30.37	30.44	379.0
Open Land	30.44	30.44	25.4
Forest / Woodland	30.44	30.45	50.5
Open Land	30.45	30.55	520.3
Commercial / Industrial	30.55	30.56	16.6
Open Land	30.56	30.56	15.5
Forest / Woodland	30.56	30.58	127.2
Open Land	30.58	30.58	7.9
Commercial / Industrial	30.58	30.59	23.9
Open Land	30.59	30.75	848.0
Commercial / Industrial	30.75	30.77	85.3
Residential	30.77	30.78	84.6
Open Land	30.78	30.89	575.0
Forest / Woodland	30.89	30.90	30.5
Open Water	30.90	30.90	12.3
Forest / Woodland	30.90	30.91	35.7
Open Land	30.91	30.93	126.8
Forest / Woodland	30.93	31.10	901.6
Open Water	31.10	31.11	34.7

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	31.11	31.37	1393.4
Open Water	31.37	31.38	28.3
Forest / Woodland	31.38	31.70	1692.4
Open Land	31.70	31.71	53.6
Commercial / Industrial	31.71	31.71	27.6
Open Land	31.71	31.73	115.6
Forest / Woodland	31.73	31.76	128.5
Open Land	31.76	31.77	54.7
Forest / Woodland	31.77	31.81	201.5
Open Land	31.81	31.85	207.1
Forest / Woodland	31.85	31.91	364.8
Open Land	31.91	31.92	41.5
Forest / Woodland	31.92	31.99	329.8
Open Land	31.99	31.99	25.4
Forest / Woodland	31.99	32.02	169.5
Open Land	32.02	32.03	61.9
Forest / Woodland	32.03	32.06	120.9
Open Land	32.06	32.06	14.6
Forest / Woodland	32.06	32.11	256.2
Open Land	32.11	32.11	31.3
Forest / Woodland	32.11	32.22	579.7
Open Land	32.22	32.26	177.5
Forest / Woodland	32.26	32.26	0.9
Open Water	32.26	32.26	23.1
Forest / Woodland	32.26	32.28	108.2
Open Land	32.28	32.55	1433.0
Forest / Woodland	32.55	32.60	223.4
Open Land	32.60	32.66	346.0
Forest / Woodland	32.66	32.73	374.3
Open Water	32.73	32.74	56.7
Open Land	32.74	32.75	20.8
Forest / Woodland	32.75	32.75	26.7
Open Land	32.75	32.82	338.4
Forest / Woodland	32.82	32.83	92.0
Open Land	32.83	32.87	186.4
Forest / Woodland	32.87	32.95	421.4

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	32.95	32.96	46.7
Forest / Woodland	32.96	32.96	24.5
Open Land	32.96	32.97	16.2
Forest / Woodland	32.97	33.01	252.1
Open Land	33.01	33.02	13.7
Forest / Woodland	33.02	33.02	16.3
Open Land	33.02	33.02	13.7
Forest / Woodland	33.02	33.06	215.5
Open Water	33.06	33.07	47.9
Forest / Woodland	33.07	33.11	221.9
Open Land	33.11	33.20	452.0
Forest / Woodland	33.20	33.27	392.5
Commercial / Industrial	33.27	33.28	34.3
Forest / Woodland	33.28	33.32	232.7
Open Land	33.32	33.33	12.5
Forest / Woodland	33.33	33.65	1693.5
Open Land	33.65	33.67	135.9
Forest / Woodland	33.67	34.12	2386.6
Open Land	34.12	34.22	489.6
Forest / Woodland	34.22	34.28	308.9
Open Land	34.28	34.30	116.0
Open Water	34.30	34.30	24.8
Open Land	34.30	34.35	274.1
Forest / Woodland	34.35	34.44	429.6
Open Land	34.44	34.45	93.1
Forest / Woodland	34.45	34.47	82.2
Open Land	34.47	34.49	97.1
Forest / Woodland	34.49	34.68	1041.7
Open Water	34.68	34.69	20.0
Forest / Woodland	34.69	34.73	207.7
Open Water	34.73	34.73	29.7
Forest / Woodland	34.73	34.87	731.2
Open Water	34.87	34.87	10.3
Forest / Woodland	34.87	35.08	1093.4
Open Water	35.08	35.09	31.0
Forest / Woodland	35.09	35.10	81.0

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Water	35.10	35.11	29.3
Forest / Woodland	35.11	35.13	98.1
Open Water	35.13	35.13	17.3
Forest / Woodland	35.13	35.15	123.5
Open Water	35.15	35.16	16.8
Forest / Woodland	35.16	35.17	97.5
Open Water	35.17	35.18	16.8
Forest / Woodland	35.18	35.39	1120.0
Open Land	35.39	35.42	163.7
Forest / Woodland	35.42	35.45	154.3
Open Land	35.45	35.45	24.7
Forest / Woodland	35.45	35.47	60.9
Open Land	35.47	35.51	233.4
Forest / Woodland	35.51	35.53	89.5
Agriculture	35.53	35.55	101.6
Open Land	35.55	35.55	22.1
Forest / Woodland	35.55	35.55	4.7
Open Land	35.55	35.56	66.5
Forest / Woodland	35.56	35.70	742.2
Agriculture	35.70	35.81	539.7
Forest / Woodland	35.81	35.82	92.1
Open Land	35.82	35.84	77.5
Forest / Woodland	35.84	35.95	594.2
Open Land	35.95	35.99	216.4
Forest / Woodland	35.99	36.07	390.0
Open Water	36.07	36.07	9.9
Forest / Woodland	36.07	36.22	805.6
Open Land	36.22	36.23	29.1
Forest / Woodland	36.23	36.33	539.0
Open Land	36.33	36.33	16.1
Agriculture	36.33	36.36	163.9
Commercial / Industrial	36.36	36.37	34.3
Agriculture	36.37	36.60	1216.1
Open Land	36.60	36.69	482.7
Commercial / Industrial	36.69	36.70	24.9
Forest / Woodland	36.70	36.89	1016.4

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Agriculture	36.89	36.95	318.1
Forest / Woodland	36.95	37.05	512.9
Open Land	37.05	37.08	181.8
Forest / Woodland	37.08	37.12	230.9
Open Land	37.12	37.20	402.2
Forest / Woodland	37.20	37.52	1665.7
Open Land	37.52	37.54	117.3
Forest / Woodland	37.54	37.61	364.7
Open Land	37.61	37.77	851.4
Forest / Woodland	37.77	37.79	132.6
Open Water	37.79	37.80	10.0
Forest / Woodland	37.80	37.87	383.7
Open Land	37.87	37.88	78.0
Forest / Woodland	37.88	38.13	1307.7
Open Land	38.13	38.26	685.7
Forest / Woodland	38.26	38.26	18.6
Open Water	38.26	38.27	20.5
Forest / Woodland	38.27	38.31	218.1
Open Land	38.31	38.35	225.8
Forest / Woodland	38.35	38.69	1763.6
Open Land	38.69	38.81	668.7
Forest / Woodland	38.81	38.82	54.7
Open Water	38.82	38.83	41.9
Forest / Woodland	38.83	38.89	300.8
Open Land	38.89	38.89	21.5
Commercial / Industrial	38.89	38.90	23.0
Open Land	38.90	38.91	50.8
Forest / Woodland	38.91	39.01	544.9
Open Land	39.01	39.02	63.9
Forest / Woodland	39.02	39.07	245.6
Open Land	39.07	39.10	172.9
Forest / Woodland	39.10	39.48	2026.2
Open Land	39.48	39.53	268.2
Forest / Woodland	39.53	39.75	1154.6
Open Land	39.75	39.76	31.5
Commercial / Industrial	39.76	39.76	27.5

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	39.76	39.78	71.9
Commercial / Industrial	39.78	39.79	59.2
Open Land	39.79	39.82	176.9
Forest / Woodland	39.82	40.20	1971.9
Open Land	40.20	40.23	166.3
Forest / Woodland	40.23	40.24	73.4
Open Water	40.24	40.25	26.9
Forest / Woodland	40.25	40.40	794.0
Residential	40.40	40.42	123.0
Commercial / Industrial	40.42	40.42	23.2
Open Land	40.42	40.43	49.9
Forest / Woodland	40.43	40.45	77.5
Agriculture	40.45	40.49	239.6
Forest / Woodland	40.49	40.54	239.0
Agriculture	40.54	40.57	184.8
Forest / Woodland	40.57	40.98	2154.6
Open Land	40.98	41.01	159.9
Forest / Woodland	41.01	41.20	987.8
Open Land	41.20	41.23	135.8
Forest / Woodland	41.23	41.23	34.3
Open Land	41.23	41.23	0.3
Open Water	41.23	41.24	34.2
Open Land	41.24	41.24	30.9
Forest / Woodland	41.24	41.49	1316.0
Open Land	41.49	41.50	34.4
Forest / Woodland	41.50	41.69	1017.1
Commercial / Industrial	41.69	41.74	232.2
Forest / Woodland	41.74	41.76	101.3
Open Land	41.76	41.84	459.1
Forest / Woodland	41.84	41.85	27.4
Open Water	41.85	41.85	26.2
Forest / Woodland	41.85	41.86	11.3
Open Land	41.86	42.23	1960.3
Commercial / Industrial	42.23	42.23	40.3
Open Land	42.23	42.24	24.4
Forest / Woodland	42.24	42.47	1233.5

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	42.47	42.48	39.0
Forest / Woodland	42.48	42.57	495.6
Open Land	42.57	42.93	1901.4
Forest / Woodland	42.93	42.94	50.3
Open Land	42.94	43.10	808.8
Forest / Woodland	43.10	43.11	61.0
Open Water	43.11	43.11	13.6
Forest / Woodland	43.11	43.18	342.7
Open Land	43.18	43.18	33.3
Commercial / Industrial	43.18	43.19	23.5
Open Land	43.19	43.19	14.2
Forest / Woodland	43.19	43.23	218.2
Open Land	43.23	43.25	125.4
Forest / Woodland	43.25	43.34	457.5
Open Water	43.34	43.34	15.8
Forest / Woodland	43.34	43.35	31.4
Open Land	43.35	43.39	219.9
Forest / Woodland	43.39	43.48	451.9
Open Land	43.48	43.50	114.5
Commercial / Industrial	43.50	43.50	24.9
Open Land	43.50	43.56	295.2
Forest / Woodland	43.56	43.57	46.9
Open Land	43.57	43.63	338.3
Forest / Woodland	43.63	43.63	3.7
Open Land	43.63	43.65	113.4
Forest / Woodland	43.65	43.66	5.3
Open Land	43.66	43.68	155.8
Forest / Woodland	43.68	43.70	54.4
Open Land	43.70	43.70	9.7
Forest / Woodland	43.70	43.79	476.9
Open Water	43.79	43.80	44.6
Forest / Woodland	43.80	43.80	36.7
Open Water	43.80	43.80	8.9
Forest / Woodland	43.80	43.97	856.7
Open Land	43.97	44.13	841.9
Forest / Woodland	44.13	44.17	256.7

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	44.17	44.19	60.2
Forest / Woodland	44.19	44.20	73.1
Open Land	44.20	44.22	130.1
Forest / Woodland	44.22	44.27	236.2
Open Land	44.27	44.30	155.9
Forest / Woodland	44.30	44.35	295.3
Residential	44.35	44.40	260.3
Forest / Woodland	44.40	44.43	117.4
Open Land	44.43	44.43	23.7
Residential	44.43	44.43	11.9
Open Land	44.43	44.44	26.8
Forest / Woodland	44.44	44.54	528.4
Agriculture	44.54	44.56	104.8
Forest / Woodland	44.56	44.65	475.9
Open Land	44.65	44.75	549.4
Forest / Woodland	44.75	44.86	553.6
Open Land	44.86	44.86	20.3
Agriculture	44.86	44.97	601.7
Commercial / Industrial	44.97	44.98	21.7
Agriculture	44.98	45.39	2144.9
Forest / Woodland	45.39	45.46	404.6
Open Land	45.46	45.47	22.3
Silviculture	45.47	45.52	288.0
Open Land	45.52	45.53	29.2
Silviculture	45.53	45.62	507.9
Open Land	45.62	45.64	88.8
Forest / Woodland	45.64	45.78	761.5
Open Water	45.78	45.79	9.8
Forest / Woodland	45.79	45.79	31.0
Open Land	45.79	45.87	408.1
Forest / Woodland	45.87	45.88	38.3
Open Land	45.88	45.89	78.4
Forest / Woodland	45.89	45.97	428.2
Open Land	45.97	46.07	515.1
Forest / Woodland	46.07	46.08	49.0
Agriculture	46.08	46.14	334.3

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	46.14	46.15	17.9
Agriculture	46.15	46.18	190.3
Open Land	46.18	46.19	27.2
Agriculture	46.19	46.31	652.2
Open Land	46.31	46.33	80.4
Agriculture	46.33	46.34	65.3
Forest / Woodland	46.34	46.35	78.1
Agriculture	46.35	46.36	39.8
Forest / Woodland	46.36	46.36	4.1
Agriculture	46.36	46.38	127.1
Forest / Woodland	46.38	46.55	882.7
Open Land	46.55	46.62	375.0
Agriculture	46.62	46.67	239.0
Open Land	46.67	46.76	504.9
Agriculture	46.76	46.77	32.5
Open Land	46.77	46.78	76.8
Forest / Woodland	46.78	46.82	166.1
Agriculture	46.82	46.88	322.6
Forest / Woodland	46.88	47.05	937.5
Open Water	47.05	47.06	21.0
Forest / Woodland	47.06	47.10	204.8
Open Land	47.10	47.22	672.8
Forest / Woodland	47.22	47.23	40.6
Open Land	47.23	47.27	222.8
Forest / Woodland	47.27	47.29	88.3
Open Land	47.29	47.31	86.8
Forest / Woodland	47.31	48.20	4697.6
Agriculture	48.20	48.37	914.2
Forest / Woodland	48.37	48.42	257.3
Agriculture	48.42	48.48	343.2
Commercial / Industrial	48.48	48.49	28.0
Agriculture	48.49	48.53	219.0
Forest / Woodland	48.53	48.59	302.1
Agriculture	48.59	48.63	211.2
Forest / Woodland	48.63	48.79	834.3
Commercial / Industrial	48.79	48.79	26.2

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	48.79	48.79	15.4
Commercial / Industrial	48.79	49.08	1515.5
Open Land	49.08	49.13	278.4
Forest / Woodland	49.13	49.16	158.8
Open Land	49.16	49.17	21.0
Commercial / Industrial	49.17	49.18	41.7
Open Land	49.18	49.31	720.3
Forest / Woodland	49.31	49.45	726.2
Open Land	49.45	49.59	754.4
Commercial / Industrial	49.59	49.60	34.1
Forest / Woodland	49.60	49.72	633.9
Open Land	49.72	49.78	308.8
Forest / Woodland	49.78	49.87	502.6
Open Land	49.87	49.89	69.5
Forest / Woodland	49.89	50.04	788.4
Open Land	50.04	50.04	2.1
Forest / Woodland	50.04	50.08	217.5
Open Land	50.08	50.12	222.4
Forest / Woodland	50.12	50.24	653.8
Open Land	50.24	50.24	5.0
Forest / Woodland	50.24	50.40	802.5
Open Land	50.40	50.40	25.8
Forest / Woodland	50.40	50.44	191.7
Open Land	50.44	50.44	9.2
Forest / Woodland	50.44	50.59	786.5
Open Land	50.59	50.67	443.6
Forest / Woodland	50.67	50.84	863.2
Open Water	50.84	50.84	29.4
Forest / Woodland	50.84	51.03	991.9
Open Land	51.03	51.03	24.1
Forest / Woodland	51.03	51.23	1019.2
Agriculture	51.23	51.24	98.3
Forest / Woodland	51.24	51.30	269.3
Agriculture	51.30	51.31	52.7
Open Land	51.31	51.33	103.2
Agriculture	51.33	51.41	460.0

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	51.41	51.44	156.8
Forest / Woodland	51.44	51.53	467.2
Agriculture	51.53	51.72	977.5
Commercial / Industrial	51.72	51.72	28.9
Agriculture	51.72	51.91	973.8
Open Land	51.91	51.91	47.4
Agriculture	51.91	52.05	698.5
Commercial / Industrial	52.05	52.05	24.8
Open Land	52.05	52.12	340.7
Forest / Woodland	52.12	52.21	470.5
Open Land	52.21	52.22	73.7
Forest / Woodland	52.22	52.22	4.3
Open Land	52.22	52.22	15.2
Forest / Woodland	52.22	52.23	38.9
Open Land	52.23	52.26	129.7
Forest / Woodland	52.26	52.28	138.4
Open Land	52.28	52.31	150.5
Forest / Woodland	52.31	52.33	109.6
Open Land	52.33	52.50	874.3
Forest / Woodland	52.50	52.61	579.9
Open Land	52.61	52.61	27.9
Forest / Woodland	52.61	52.68	340.8
Open Land	52.68	52.69	70.4
Commercial / Industrial	52.69	52.69	11.9
Open Land	52.69	52.70	29.9
Forest / Woodland	52.70	52.80	554.2
Agriculture	52.80	52.81	28.2
Forest / Woodland	52.81	53.12	1646.3
Open Land	53.12	53.12	8.5
Commercial / Industrial	53.12	53.13	29.5
Forest / Woodland	53.13	53.19	360.9
Agriculture	53.19	53.24	238.5
Forest / Woodland	53.24	53.32	402.9
Agriculture	53.32	53.35	192.1
Forest / Woodland	53.35	53.39	205.2
Agriculture	53.39	53.40	47.2

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Commercial / Industrial	53.40	53.41	33.9
Silviculture	53.41	53.55	738.5
Residential	53.55	53.55	14.2
Silviculture	53.55	53.69	766.7
Residential	53.69	53.70	11.4
Silviculture	53.70	53.73	187.9
Forest / Woodland	53.73	53.84	551.6
Open Land	53.84	53.84	27.5
Forest / Woodland	53.84	53.88	208.1
Agriculture	53.88	53.91	152.0
Open Land	53.91	53.95	231.1
Forest / Woodland	53.95	53.97	107.3
Open Land	53.97	54.04	354.5
Forest / Woodland	54.04	54.07	147.5
Open Land	54.07	54.08	47.2
Agriculture	54.08	54.17	488.4
Commercial / Industrial	54.17	54.18	59.7
Agriculture	54.18	54.28	530.9
Forest / Woodland	54.28	54.31	132.3
Agriculture	54.31	54.37	349.8
Forest / Woodland	54.37	54.43	279.1
Agriculture	54.43	54.50	403.3
Forest / Woodland	54.50	54.68	925.3
Agriculture	54.68	54.68	19.0
Forest / Woodland	54.68	54.71	154.0
Agriculture	54.71	54.88	894.7
Open Land	54.88	54.96	433.7
Forest / Woodland	54.96	55.08	598.2
Agriculture	55.08	55.11	164.1
Open Land	55.11	55.11	25.4
Commercial / Industrial	55.11	55.12	25.7
Open Land	55.12	55.12	15.4
Agriculture	55.12	55.25	662.7
Open Land	55.25	55.26	61.5
Forest / Woodland	55.26	55.47	1099.4
Agriculture	55.47	55.55	453.2

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	55.55	55.59	183.8
Open Land	55.59	55.64	280.4
Forest / Woodland	55.64	55.67	177.5
Open Land	55.67	55.68	24.0
Forest / Woodland	55.68	55.74	323.6
Open Land	55.74	55.76	98.7
Forest / Woodland	55.76	55.78	125.1
Open Land	55.78	55.80	82.0
Commercial / Industrial	55.80	55.81	49.0
Agriculture	55.81	55.83	103.9
Forest / Woodland	55.83	55.95	660.4
Agriculture	55.95	56.33	2023.7
Open Land	56.33	56.34	51.4
Forest / Woodland	56.34	56.42	415.6
Open Land	56.42	56.43	30.1
Commercial / Industrial	56.43	56.43	31.7
Open Land	56.43	56.44	30.6
Forest / Woodland	56.44	56.50	309.3
Commercial / Industrial	56.50	56.50	28.5
Forest / Woodland	56.50	56.54	197.9
Open Water	56.54	56.54	10.0
Forest / Woodland	56.54	56.65	581.7
Open Water	56.65	56.66	30.9
Forest / Woodland	56.66	56.72	335.2
Open Land	56.72	56.73	23.4
Agriculture	56.73	56.83	548.5
Open Land	56.83	56.86	167.2
Forest / Woodland	56.86	56.97	566.0
Agriculture	56.97	57.02	252.0
Forest / Woodland	57.02	57.08	336.5
Open Land	57.08	57.08	11.2
Forest / Woodland	57.08	57.31	1200.6
Open Land	57.31	57.31	23.5
Residential	57.31	57.33	56.2
Open Land	57.33	57.33	42.5
Residential	57.33	57.34	37.4

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	57.34	57.38	231.4
Forest / Woodland	57.38	57.39	47.8
Open Land	57.39	57.49	520.3
Commercial / Industrial	57.49	57.50	52.7
Open Land	57.50	57.55	242.8
Forest / Woodland	57.55	57.61	305.9
Agriculture	57.61	57.65	247.2
Forest / Woodland	57.65	57.79	708.2
Open Land	57.79	57.81	135.6
Residential	57.81	57.84	163.3
Commercial / Industrial	57.84	57.85	43.6
Open Land	57.85	57.88	148.6
Commercial / Industrial	57.88	57.89	33.7
Open Land	57.89	57.89	42.7
Forest / Woodland	57.89	57.91	105.3
Open Land	57.91	58.37	2405.1
Forest / Woodland	58.37	58.43	320.1
Open Land	58.43	58.46	180.3
Forest / Woodland	58.46	58.49	145.2
Agriculture	58.49	58.59	523.3
Forest / Woodland	58.59	58.69	499.1
Open Water	58.69	58.69	30.4
Forest / Woodland	58.69	58.70	45.0
Open Water	58.70	58.71	48.5
Forest / Woodland	58.71	58.80	478.9
Open Land	58.80	58.85	245.0
Forest / Woodland	58.85	59.17	1712.7
Residential	59.17	59.18	72.7
Commercial / Industrial	59.18	59.19	29.5
Open Land	59.19	59.19	24.0
Residential	59.19	59.32	640.8
Forest / Woodland	59.32	59.35	177.4
Open Land	59.35	59.37	113.4
Forest / Woodland	59.37	59.44	383.3
Commercial / Industrial	59.44	59.45	13.1
Forest / Woodland	59.45	59.49	256.8

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	59.49	59.50	40.6
Forest / Woodland	59.50	59.52	71.8
Open Land	59.52	59.53	86.0
Forest / Woodland	59.53	59.56	122.3
Open Land	59.56	59.57	99.2
Forest / Woodland	59.57	59.59	108.2
Open Land	59.59	59.66	335.8
Forest / Woodland	59.66	59.68	112.8
Open Land	59.68	59.70	86.1
Forest / Woodland	59.70	59.75	282.7
Open Land	59.75	59.76	39.0
Forest / Woodland	59.76	59.78	135.9
Open Land	59.78	59.83	227.8
Forest / Woodland	59.83	59.86	200.4
Open Land	59.86	59.89	141.1
Forest / Woodland	59.89	59.92	130.2
Open Land	59.92	60.01	519.1
Commercial / Industrial	60.01	60.02	26.6
Open Land	60.02	60.28	1376.7
Commercial / Industrial	60.28	60.29	45.7
Open Land	60.29	60.49	1041.5
Forest / Woodland	60.49	60.76	1443.7
Open Water	60.76	60.76	12.9
Forest / Woodland	60.76	60.85	467.1
Open Land	60.85	60.96	572.1
Agriculture	60.96	61.18	1175.8
Forest / Woodland	61.18	61.39	1110.1
Open Land	61.39	61.40	26.3
Commercial / Industrial	61.40	61.40	21.1
Open Land	61.40	61.41	40.0
Forest / Woodland	61.41	61.43	105.5
Open Land	61.43	61.46	169.8
Agriculture	61.46	61.62	827.4
Open Land	61.62	61.63	95.4
Agriculture	61.63	61.67	173.3
Open Land	61.67	61.71	234.8

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Forest / Woodland	61.71	61.86	770.6
Open Land	61.86	61.94	423.0
Agriculture	61.94	62.24	1583.0
Open Land	62.24	62.44	1047.6
Forest / Woodland	62.44	62.49	266.9
Open Water	62.49	62.49	13.8
Forest / Woodland	62.49	62.55	338.0
Open Land	62.55	62.83	1450.8
Commercial / Industrial	62.83	62.83	23.8
Open Land	62.83	62.90	371.1
Forest / Woodland	62.90	63.11	1077.4
Open Land	63.11	63.11	27.1
Commercial / Industrial	63.11	63.12	28.6
Open Land	63.12	63.12	18.7
Forest / Woodland	63.12	63.22	522.1
Open Water	63.22	63.22	20.6
Forest / Woodland	63.22	63.54	1672.6
Open Land	63.54	63.54	4.3
Forest / Woodland	63.54	63.60	316.2
Open Water	63.60	63.66	304.3
Forest / Woodland	63.66	64.03	1962.0
Open Water	64.03	64.04	24.8
Forest / Woodland	64.04	64.08	247.6
Open Land	64.08	64.21	680.9
Forest / Woodland	64.21	64.24	177.9
Open Land	64.24	64.47	1183.4
Forest / Woodland	64.47	64.48	71.0
Open Land	64.48	64.64	838.5
Commercial / Industrial	64.64	64.64	20.6
Open Land	64.64	64.88	1222.1
Commercial / Industrial	64.88	64.88	22.5
Open Land	64.88	64.89	56.8
Forest / Woodland	64.89	64.93	186.5
Commercial / Industrial	64.93	64.93	22.5
Open Land	64.93	64.94	23.1
Forest / Woodland	64.94	64.98	249.2

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	64.98	65.03	276.6
Forest / Woodland	65.03	65.12	466.3
Commercial / Industrial	65.12	65.13	25.0
Forest / Woodland	65.13	65.15	113.4
Open Land	65.15	65.32	909.6
Commercial / Industrial	65.32	65.32	13.2
Open Land	65.32	65.45	666.9
Forest / Woodland	65.45	65.51	291.1
Open Land	65.51	65.56	310.4
Forest / Woodland	65.56	65.58	88.1
Open Land	65.58	65.58	1.3
Forest / Woodland	65.58	65.63	236.5
Open Land	65.63	65.63	24.1
Forest / Woodland	65.63	65.66	141.4
Open Land	65.66	65.66	20.9
Forest / Woodland	65.66	65.85	987.2
Open Land	65.85	65.86	44.8
Commercial / Industrial	65.86	65.86	31.9
Forest / Woodland	65.86	66.03	899.1
Open Land	66.03	66.24	1107.6
Forest / Woodland	66.24	66.27	123.5
Open Land	66.27	66.28	72.7
Agriculture	66.28	66.40	608.7
Forest / Woodland	66.40	66.50	527.9
Open Land	66.50	66.52	141.0
Commercial / Industrial	66.52	66.52	13.8
Open Land	66.52	66.60	404.8
Forest / Woodland	66.60	66.76	853.2
Open Land	66.76	66.83	367.9
Forest / Woodland	66.83	66.86	124.9
Open Land	66.86	66.89	190.3
Forest / Woodland	66.89	66.95	297.8
Open Land	66.95	67.10	807.2
Forest / Woodland	67.10	67.11	43.1
Open Water	67.11	67.11	17.1
Forest / Woodland	67.11	67.14	165.4

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	67.14	67.24	516.8
Forest / Woodland	67.24	67.47	1208.1
Open Land	67.47	67.54	339.4
Forest / Woodland	67.54	67.72	994.6
Residential	67.72	67.73	16.7
Open Land	67.73	67.75	114.0
Forest / Woodland	67.75	67.91	865.8
Open Water	67.91	67.91	2.8
Forest / Woodland	67.91	67.99	395.9
Open Land	67.99	68.01	100.1
Forest / Woodland	68.01	68.09	428.2
Open Land	68.09	68.09	24.0
Forest / Woodland	68.09	68.11	74.4
Open Land	68.11	68.12	74.4
Forest / Woodland	68.12	68.12	17.8
Open Land	68.12	68.13	15.2
Forest / Woodland	68.13	68.15	127.3
Open Land	68.15	68.15	10.9
Commercial / Industrial	68.15	68.16	28.4
Open Land	68.16	68.16	34.4
Forest / Woodland	68.16	68.30	688.5
Open Water	68.30	68.30	12.6
Forest / Woodland	68.30	68.32	125.5
Open Land	68.32	68.34	107.3
Forest / Woodland	68.34	68.45	572.3
Open Land	68.45	68.52	381.5
Forest / Woodland	68.52	68.53	45.8
Open Land	68.53	68.54	23.7
Forest / Woodland	68.54	68.54	15.7
Commercial / Industrial	68.54	68.56	100.0
Forest / Woodland	68.56	68.60	203.2
Open Land	68.60	68.74	762.4
Forest / Woodland	68.74	68.93	978.8
Residential	68.93	68.93	23.7
Open Land	68.93	68.93	1.5
Forest / Woodland	68.93	69.07	758.6

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	69.07	69.09	101.4
Forest / Woodland	69.09	69.11	100.7
Residential	69.11	69.13	105.4
Commercial / Industrial	69.13	69.14	58.4
Open Land	69.14	69.19	267.0
Forest / Woodland	69.19	69.28	438.5
Commercial / Industrial	69.28	69.29	80.6
Forest / Woodland	69.29	69.38	485.1
Open Land	69.38	69.40	59.8
Commercial / Industrial	69.40	69.40	16.3
Open Land	69.40	69.40	32.7
Forest / Woodland	69.40	69.41	33.1
Open Land	69.41	69.45	229.4
Forest / Woodland	69.45	69.48	136.5
Open Water	69.48	69.48	5.7
Forest / Woodland	69.48	69.88	2110.1
Open Land	69.88	69.89	22.5
Forest / Woodland	69.89	70.18	1545.7
Open Land	70.18	70.19	58.5
Forest / Woodland	70.19	70.32	700.8
Open Water	70.32	70.33	24.2
Forest / Woodland	70.33	70.36	170.3
Open Land	70.36	70.36	9.7
Forest / Woodland	70.36	70.41	237.3
Open Land	70.41	70.43	136.4
Forest / Woodland	70.43	70.52	467.7
Open Land	70.52	70.53	38.3
Forest / Woodland	70.53	70.63	559.2
Open Land	70.63	70.64	59.7
Forest / Woodland	70.64	70.67	117.7
Open Land	70.67	70.67	32.0
Forest / Woodland	70.67	70.69	108.5
Open Land	70.69	70.70	24.0
Forest / Woodland	70.70	70.91	1124.3
Open Land	70.91	70.91	17.0
Commercial / Industrial	70.91	70.95	171.8

Table 8-A

Land Use Crossed by Milepost for the MVP Southgate Project Pipeline

Land Use	Entry Milepost	Exit Milepost	Length (feet)
Open Land	70.95	70.95	24.5
Forest / Woodland	70.95	70.95	14.0
Open Land	70.95	71.08	640.9
Forest / Woodland	71.08	71.09	56.1
Open Water	71.09	71.09	25.9
Forest / Woodland	71.09	71.10	47.2
Open Land	71.10	71.14	228.3
Forest / Woodland	71.14	71.16	100.0
Open Land	71.16	71.17	60.9
Forest / Woodland	71.17	71.18	53.8
Open Land	71.18	71.22	173.7
Forest / Woodland	71.22	71.23	96.8
Open Land	71.23	71.34	531.8
Forest / Woodland	71.34	71.53	1013.4
Open Land	71.53	71.61	411.4
Forest / Woodland	71.61	71.63	121.5
Open Land	71.63	71.64	85.3
Forest / Woodland	71.64	71.67	116.3
Open Land	71.67	71.67	12.4
Forest / Woodland	71.67	71.68	45.9
Open Land	71.68	71.71	150.5
Forest / Woodland	71.71	71.82	605.6
Open Land	71.82	71.84	76.5
Forest / Woodland	71.84	72.00	845.5
Open Land	72.00	72.00	22.5
Forest / Woodland	72.00	72.01	56.1
Open Land	72.01	72.04	163.6
Forest / Woodland	72.04	72.22	924.6
Open Land	72.22	72.23	58.5
Forest / Woodland	72.23	72.35	656.9
Residential	72.35	72.38	140.8
Forest / Woodland	72.38	72.50	652.1
Open Land	72.50	72.52	72.0
Commercial / Industrial	72.52	72.53	87.8
Open Land	72.53	72.59	299.9

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Appendix 8-B

Table 8-B
Roadways Crossed by the Proposed MVP Southgate Project

Table 8-B

Table 8-B Roadways Crossed by the Proposed MVP Southgate Project

State, County	Milepost	Road Name	Surface Type	Jurisdiction	Public or Private	Crossing Method
Virginia						
Pittsylvania	0.9	County Road 703 / Fairview N	Asphalt	County	Public	Bore
Pittsylvania	1.1	Halifax Road / State Route 57	Asphalt	State	Public	Bore
Pittsylvania	3.1	County Road 694 / Davis Road	Asphalt	County	Public	Bore
Pittsylvania	3.2	County Road 703 / Fairview Road	Asphalt	County	Public	Bore
Pittsylvania	4.5	County Road1437 / Woodlawn Academy Road	Asphalt	County	Public	Bore
Pittsylvania	4.5	County Road 1437 / Woodlawn Academy Road	Asphalt	County	Public	Bore
Pittsylvania	4.5	U.S. Highway 29	Asphalt	U.S.	Public	Bore
Pittsylvania	7.4	County Road 836 / White Oak Circle	Asphalt	County	Public	Bore
Pittsylvania	7.6	County Road 718 / Dry Fork Road	Asphalt	County	Public	Bore
Pittsylvania	8.3	County Road 1099 / Hylton Lane	Asphalt	County	Public	Bore
Pittsylvania	9.5	County Road834 / Hopewell Road	Asphalt	County	Public	Bore
Pittsylvania	10.3	County Road 1071 / Tobacco Road	Gravel	County	Public	Open Cut
Pittsylvania	10.9	State Route 41 / Franklin Turnpike	Asphalt	State	Public	Bore
Pittsylvania	12.5	County Road865 / Hutson Road	Asphalt	County	Public	Bore
Pittsylvania	13.5	County Road 866 / Sandy Creek Road	Asphalt	County	Public	Bore
Pittsylvania	15.0	County Road750 / Whitmell School Road	Asphalt	County	Public	Bore
Pittsylvania	16.1	County Road 844 / Mount Cross Road	Asphalt	County	Public	Bore
Pittsylvania	16.6	County Road868 / Silver Creek Road	Asphalt	County	Public	Bore
Pittsylvania	18.4	County Road878 / Pine Lake Road	Asphalt	County	Public	Bore
Pittsylvania	19.1	County Road 876 / Cedar Spring Road	Asphalt	County	Public	Bore
Pittsylvania	19.3	County Road 869 / Stony Mill Road	Asphalt	County	Public	Bore
Pittsylvania	20.0	U.S. Highway 58 / Martinsville Highway	Asphalt	U.S.	Public	Bore
Pittsylvania	20.4	Hyler Farm Lane	Gravel	Private	Private	Bore
Pittsylvania	22.2	County Road 875 / Horseshoe Road	Asphalt	County	Public	Bore
Pittsylvania	23.8	County Road 862 / Oak Hill Road	Asphalt	County	Public	Bore
North Carolina						
Rockingham	26.4	State Road 1745 / Buffalo Road	Asphalt	State	Public	Bore
Rockingham	26.7	State Road 770 / State Hwy 770	Asphalt	State	Public	Bore
Rockingham	30.6	State Hwy 700 / S Fieldcrest Road	Asphalt	State	Public	Bore
Rockingham	30.8	State Road 1951 / Quesinberry Road	Asphalt	State	Public	Bore
Rockingham	31.7	State Road 1951 / Quesinberry Road	Asphalt	State	Public	Bore

Table 8-B

Table 8-B Roadways Crossed by the Proposed MVP Southgate Project

State, County	Milepost	Road Name	Surface Type	Jurisdiction	Public or Private	Crossing Method
Rockingham	33.3	State Road 1945 / Moir Mill Road	Asphalt	State	Public	Bore
Rockingham	36.4	State Road 1980 / Mount Carmel Church Road	Asphalt	State	Public	Bore
Rockingham	36.7	State Road 1982 / Wolf Island Road	Asphalt	State	Public	Bore
Rockingham	38.9	State Road 1941 / Crutchfield Road	Asphalt	State	Public	Bore
Rockingham	39.8	U.S. Highway 29	Asphalt	U.S.	Public	Bore
Rockingham	40.4	State Road 2552 / Narrow Gauge Road	Asphalt	State	Public	Bore
Rockingham	41.7	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	43.5	State Road 2588 / Knowles Road	Asphalt	State	Public	Bore
Rockingham	45.0	State Road 2571 / Grooms Road	Asphalt	State	Public	Bore
Rockingham	48.5	State Road 150 / State Highway 150	Asphalt	State	Public	Bore
Rockingham	49.2	State Road 87 / State Highway 87	Asphalt	State	Public	Bore
Rockingham	49.6	State Road 2614 / High Rock Road	Asphalt	State	Public	Bore
Rockingham	51.7	State Road 2619 / Kernodle Road	Asphalt	State	Public	Bore
Rockingham	52.1	State Road 2658 / Parkdale Road	Asphalt	State	Public	Bore
Rockingham	52.7	Tri County Drive	Gravel	Private	Private	Open Cut
Alamance	53.1	State Road 1578 / Troxler Mill Road	Asphalt	State	Public	Bore
Alamance	53.4	State Road 1577 / Lee Lewis Road	Asphalt	State	Public	Bore
Alamance	54.2	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	56.5	State Road 1649 / Lonzie Foster Trail	Gravel	State	Public	Open Cut
Alamance	57.4	Hollyfield Road	Gravel	Private	Private	Open Cut
Alamance	57.5	State Road 1565 / Dodd Road	Asphalt	State	Public	Bore
Alamance	57.8	Altamahaw Union Ridge Rd / State Road 1002	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

Table 8-B

Table 8-B Roadways Crossed by the Proposed MVP Southgate Project

State, County	Milepost	Road Name	Surface Type	Jurisdiction	Public or Private	Crossing Method
Alamance	62.8	State Road 1001 / Union Ridge Road	Asphalt	State	Public	Bore
Alamance	63.1	State Highway 62	Asphalt	State	Public	Bore
Alamance	64.6	Border Lake Trail	Gravel	Private	Private	Open Cut
Alamance	64.9	State Road 1749 / Mrs Blanchard Road	Asphalt	State	Public	Bore
Alamance	64.9	State Road 1729 / Deep Creek Church Road	Asphalt	State	Public	Bore
Alamance	65.1	Faucette Lane	Gravel	Private	Private	Open Cut
Alamance	65.3	Roney Lineberry Road	Gravel	Private	Private	Open Cut
Alamance	65.9	State Road 1752 / Sandy Cross Road	Asphalt	State	Public	Bore
Alamance	67.7	Indian Village Trail	Gravel	County	Public	Open Cut
Alamance	68.2	State Road 1737 / Haw River Hopedale Road	Asphalt	State	Public	Bore
Alamance	68.5	U.S. Highway 70 / Haw River Bypass	Asphalt	U.S.	Public	Bore
Alamance	69.1	State Highway 49 / E Main Street	Asphalt	State	Public	Bore
Alamance	70.9	Interstate 40 / Interstate 85	Asphalt	U.S.	Public	Bore
Alamance	72.5	State Highway 54 / E Harden Street	Asphalt	State	Public	Bore

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Appendix 8-C
Site-Specific Residential Construction and Mitigation Plans

[*Not Included with this Draft*]

MVP Southgate Project

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Appendix 8-D

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

Table 8-D

Structures within 50 Feet of the MVP 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	8.2	Shed	No	East	19	86	TBD	TBD
Pittsylvania	10.4	House	Yes	East	27	87	N / A	TBD
Pittsylvania	10.4	Garage	No	East	45	93	N / A	TBD
Pittsylvania	10.4	Shed	No	East	8	38	TBD	TBD
Pittsylvania	15.0	House	Yes	East	16	76	TBD	TBD
Pittsylvania	15.0	Garage	No	East	24	85	TBD	TBD
Pittsylvania	15.1	Shed	No	East	50	110	N / A	TBD
Pittsylvania	16.1	Garage	No	East	35	95	N / A	TBD
Pittsylvania	16.4	House	Yes	East	45	105	N / A	TBD
Pittsylvania	19.2	Shed	No	East	22	124	TBD	TBD
Pittsylvania	20.3	Shed	No	East	24	84	TBD	TBD
North Carolina								
Rockingham	30.6	Shed	No	East	9	59	TBD	TBD
Rockingham	30.6	Shed	No	East	9	43	TBD	TBD
Rockingham	30.8	House	Yes	East	27	87	N / A	TBD
Rockingham	31.1	House	Yes	East	38	98	N / A	TBD
Rockingham	31.7	House	Yes	North	49	88	N / A	TBD
Rockingham	32.5	Hunting Stand	No	West	0	40	TBD	TBD
Rockingham	36.6	Abandoned building	No	North	30	90	N / A	TBD

Table 8-D

Structures within 50 Feet of the MVP 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	36.6	Abandoned building	No	North	27	87	N / A	TBD
Rockingham	36.6	Abandoned building	No	North	30	90	N / A	TBD
Rockingham	36.6	Abandoned building	No	North	33	93	N / A	TBD
Rockingham	36.7	Barn	No	South	23	63	TBD	TBD
Rockingham	36.7	House	Yes	South	39	155	N / A	TBD
Rockingham	39.7	Shed	No	West	21	160	TBD	TBD
Rockingham	40.4	Shed	No	East	10	35	TBD	TBD
Rockingham	40.4	House	Yes	East	7	48	TBD	TBD
Rockingham	44.4	Shed	No	East	21	81	TBD	TBD
Rockingham	45.0	House	No	West	25	108	TBD	TBD
Rockingham	49.4	Shed	No	East	8	68	TBD	TBD
Alamance	53.1	Shed	No	East	22	157	TBD	TBD
Alamance	53.5	Barn	No	East	47	207	N / A	TBD
Alamance	55.3	Shed	No	North	42	202	N / A	TBD
Alamance	57.3	Shed	No	East	15	75	TBD	TBD
Alamance	57.3	Garage	No	East	13	114	TBD	TBD
Alamance	57.8	Shed	No	East	5	132	TBD	TBD
Alamance	57.8	House	Yes	North	3	84	TBD	TBD
Alamance	59.3	House	Yes	South	50	90	N / A	TBD

Table 8-D

Structures within 50 Feet of the MVP 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	64.9	Shed	No	North	30	141	N / A	TBD
Alamance	64.9	Shed	No	North	38	151	N / A	TBD
Alamance	65.4	Shed	No	South	10	106	TBD	TBD
Alamance	66.2	Shed	No	West	33	73	N / A	TBD
Alamance	68.6	Garage	No	West	20	88	TBD	TBD
Alamance	68.8	Shed	No	North	7	67	TBD	TBD
Alamance	68.9	Shed	No	North	31	91	N / A	TBD
Alamance	67.0	Shed	No	East	45	119	N / A	TBD
Alamance	69.1	House	Yes	East	0	58	TBD	TBD
Alamance	69.2	House	Yes	East	21	81	TBD	TBD
Alamance	69.2	House	Yes	West	36	76	N / A	TBD
Alamance	69.2	Industrial building	No	East	43	103	N / A	TBD
Alamance	69.4	Industrial building	No	East	21	81	TBD	TBD
Alamance	71.0	College greenhouse	Yes	East	48	108	N / A	TBD
Alamance	71.0	College greenhouse	Yes	East	36	96	N / A	TBD
Alamance	72.3	Garage	No	East	38	101	N / A	TBD
Alamance	72.4	House	Yes	West	13	53	TBD	TBD
Alamance	72.5	Shed	No	East	31	91	N / A	TBD

a / *[Note: The Project continues to evaluate the pipeline alignment where residences have been identified within 25 feet of the Project workspace. The Project will provide additional information in the final Resource Reports included with the Certificate application expected to be filed in November 2018.]*

Table 8-D

Structures within 50 Feet of the MVP 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 /

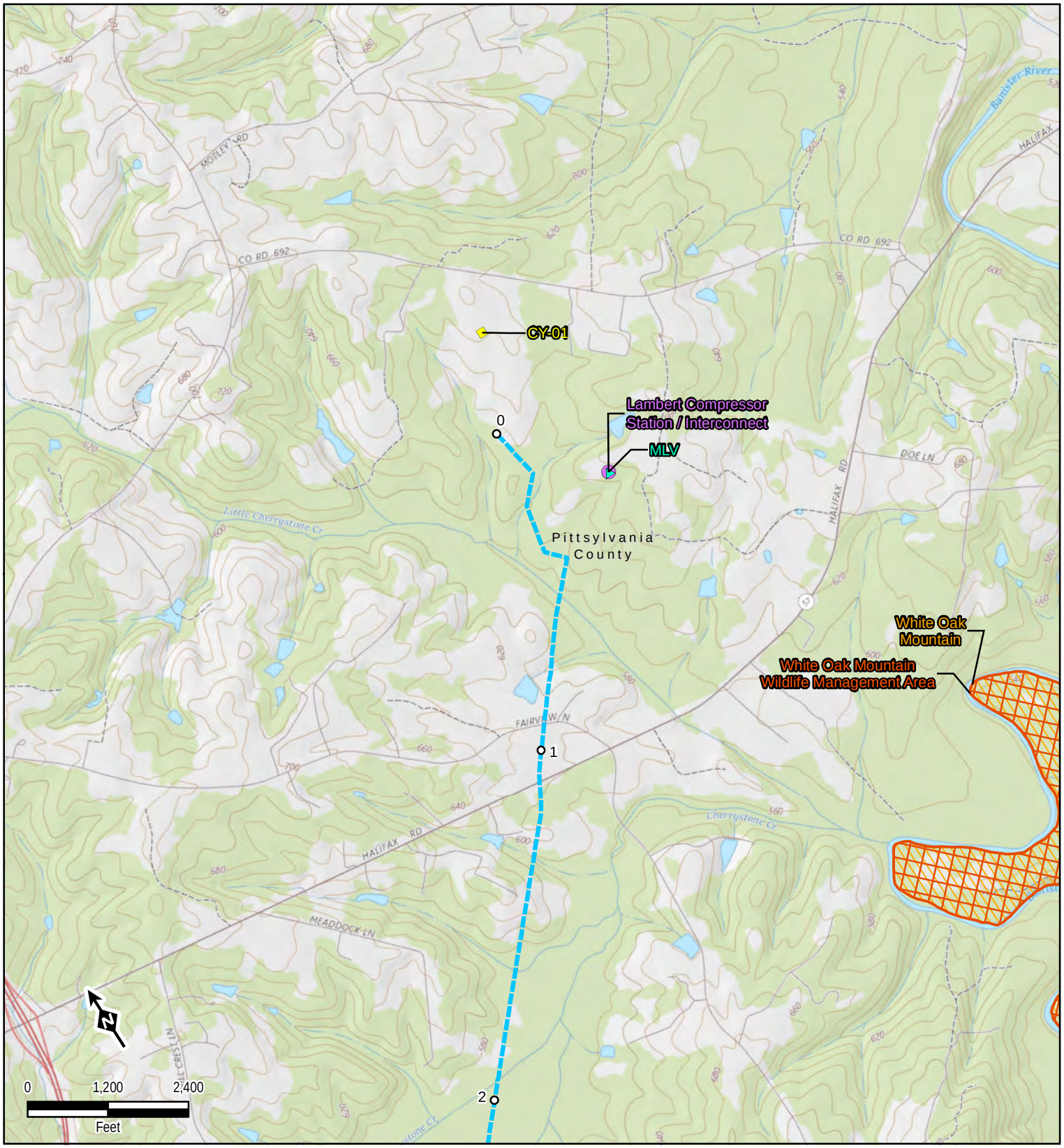
b / TBD = To be determined during negotiations with landowners. Action could include reduced construction right-of-way width, installation of safety fence, temporary or permanent movement of the structure, demolition, or no action

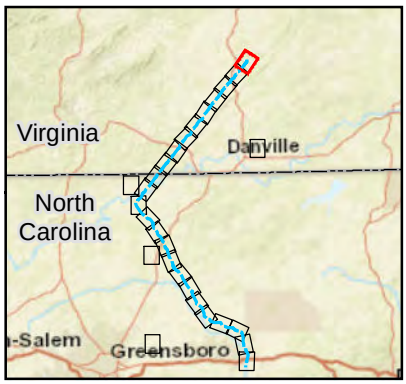
MVP Southgate Project

Docket No. PF18-4-000

Resource Report 8

Appendix 8-E
Federal, State, Recreational and Conservation Lands





Legend

- Mileposts
- Compressor Station
- Contract Yard
- Valve Site
- Proposed Pipeline Route
- VA Conservation Lands In Public and Private Areas (DCR)
- VA Wildlife Management Areas (DGIF)
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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

Appendix 8-E

Federal, State, Recreation, and Conservation Lands

Sheet 1 of 28

TRC
600 Willowbrook Ln
West Chester, PA 19382

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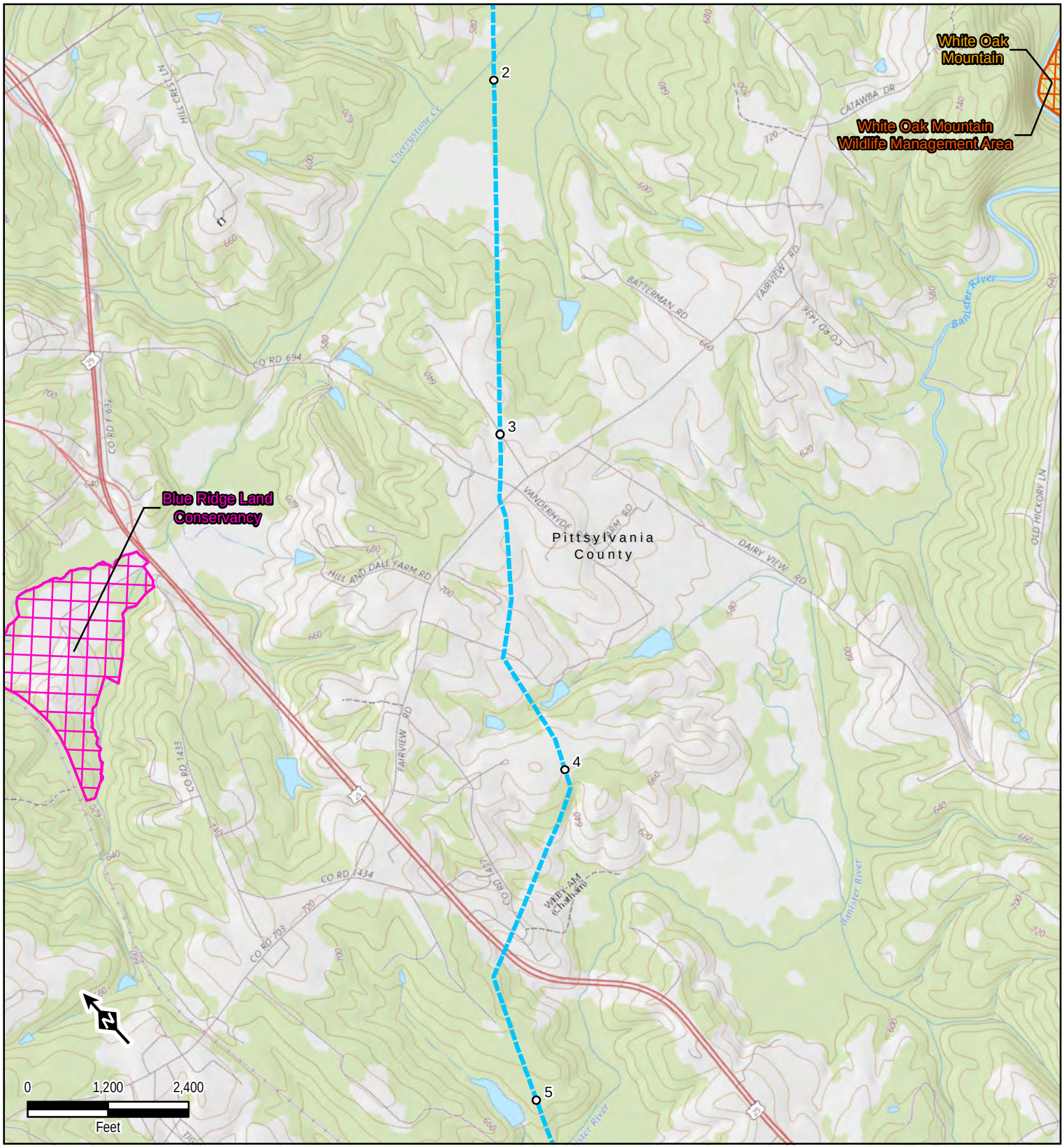

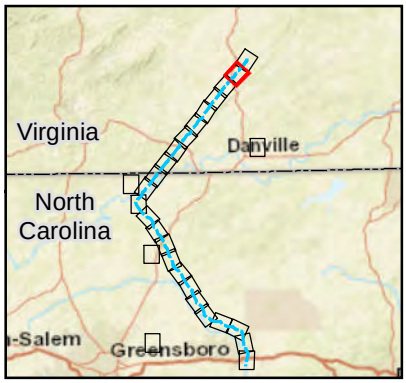

Legend

- Mileposts
- Proposed Pipeline Route
- VA Conservation Easements (DCR)
- VA Conservation Lands In Public and Private Areas (DCR)
- VA Wildlife Management Areas (DGIF)
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Appendix 8-E

Federal, State, Recreation, and Conservation Lands

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600 Willowbrook Ln
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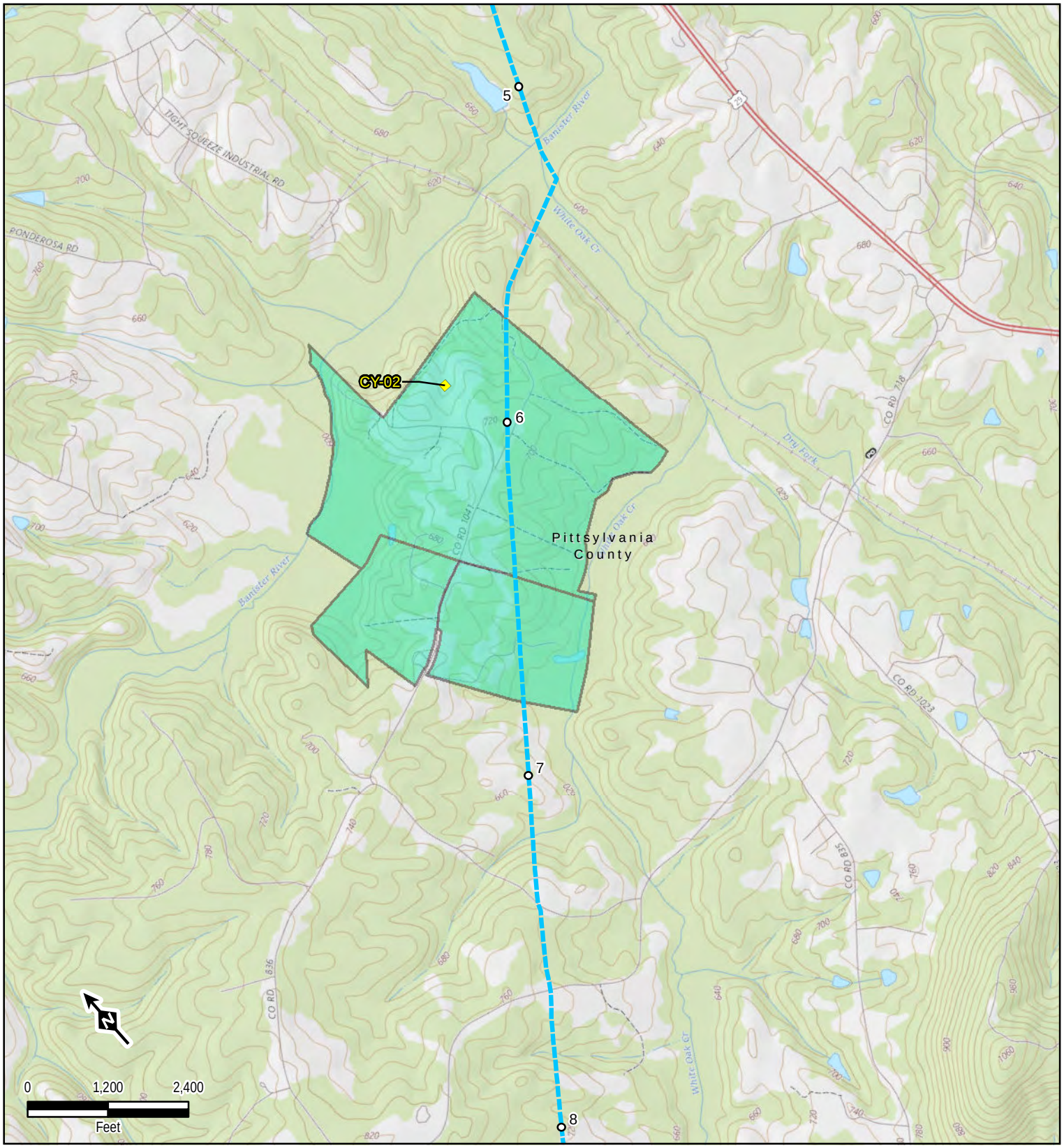

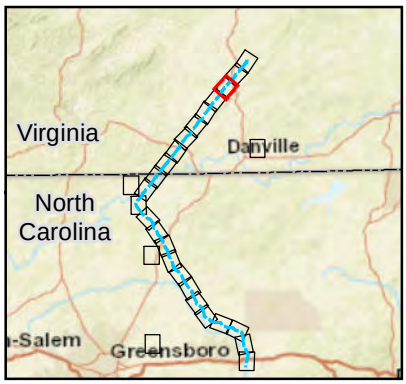

Legend

- Mileposts
- Contract Yard
- Proposed Pipeline Route
- Municipal Lands
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Federal, State, Recreation, and Conservation Lands

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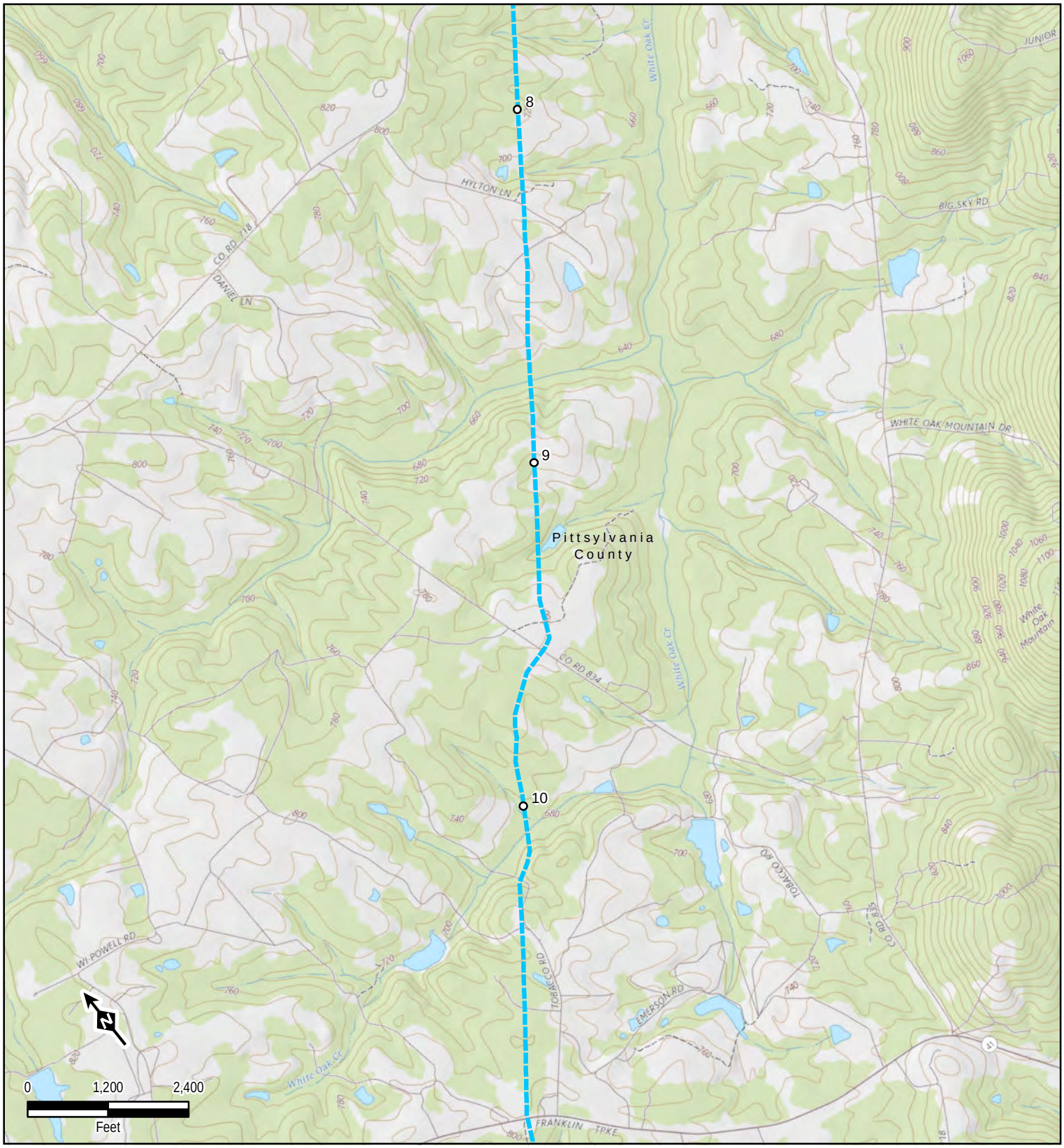

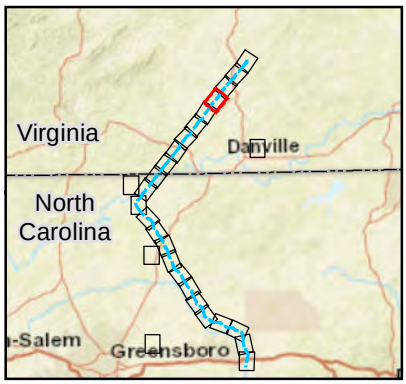

Legend

- Mileposts
- Proposed Pipeline Route
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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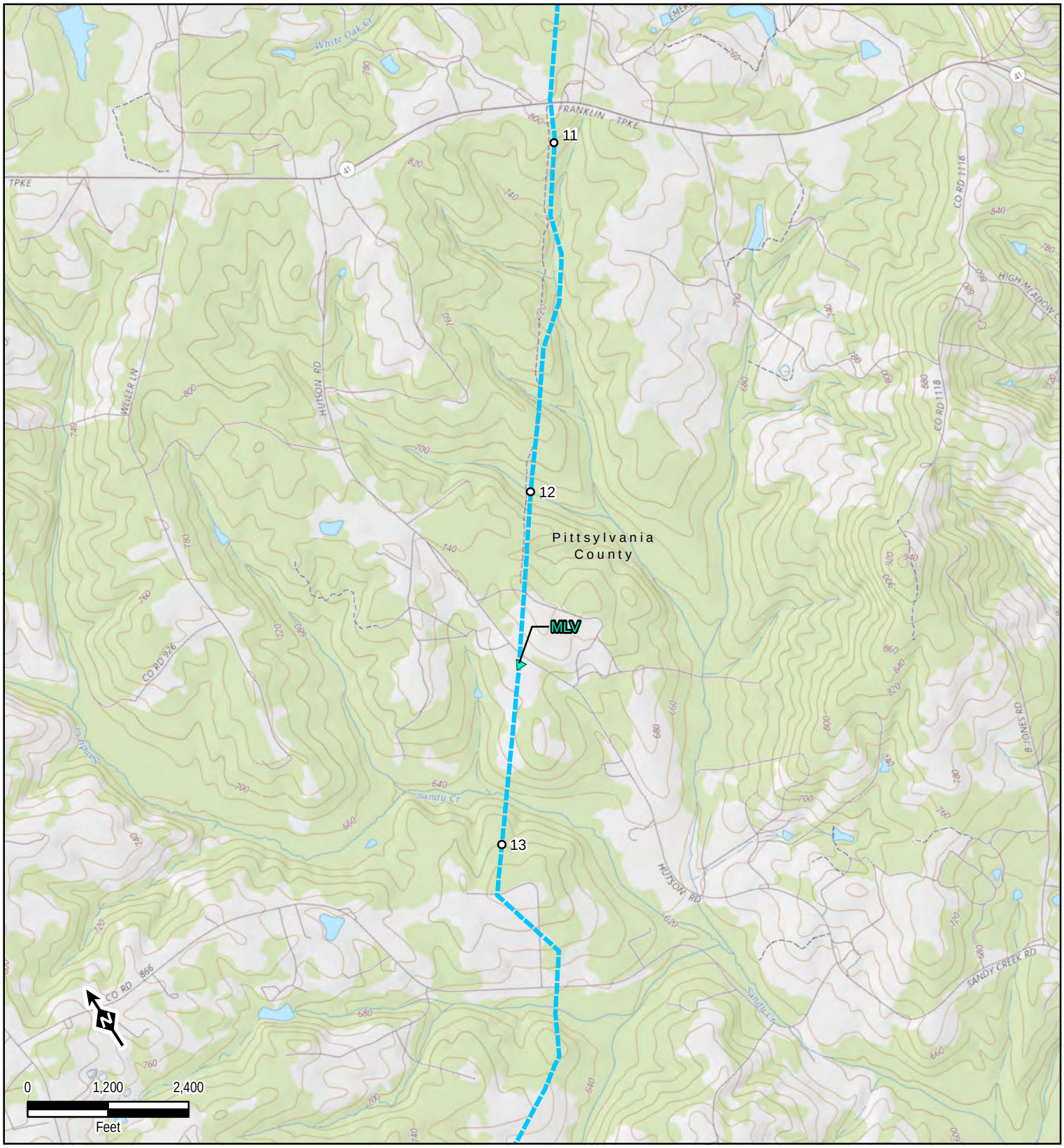

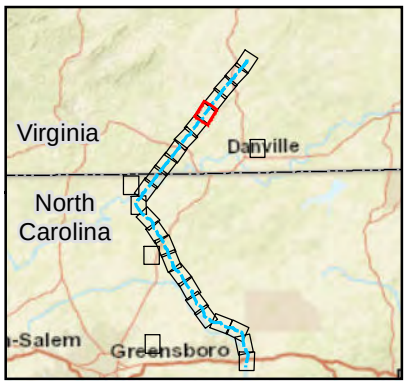

Legend

- Mileposts
- Valve Site
- Proposed Pipeline Route
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Federal, State, Recreation, and Conservation Lands

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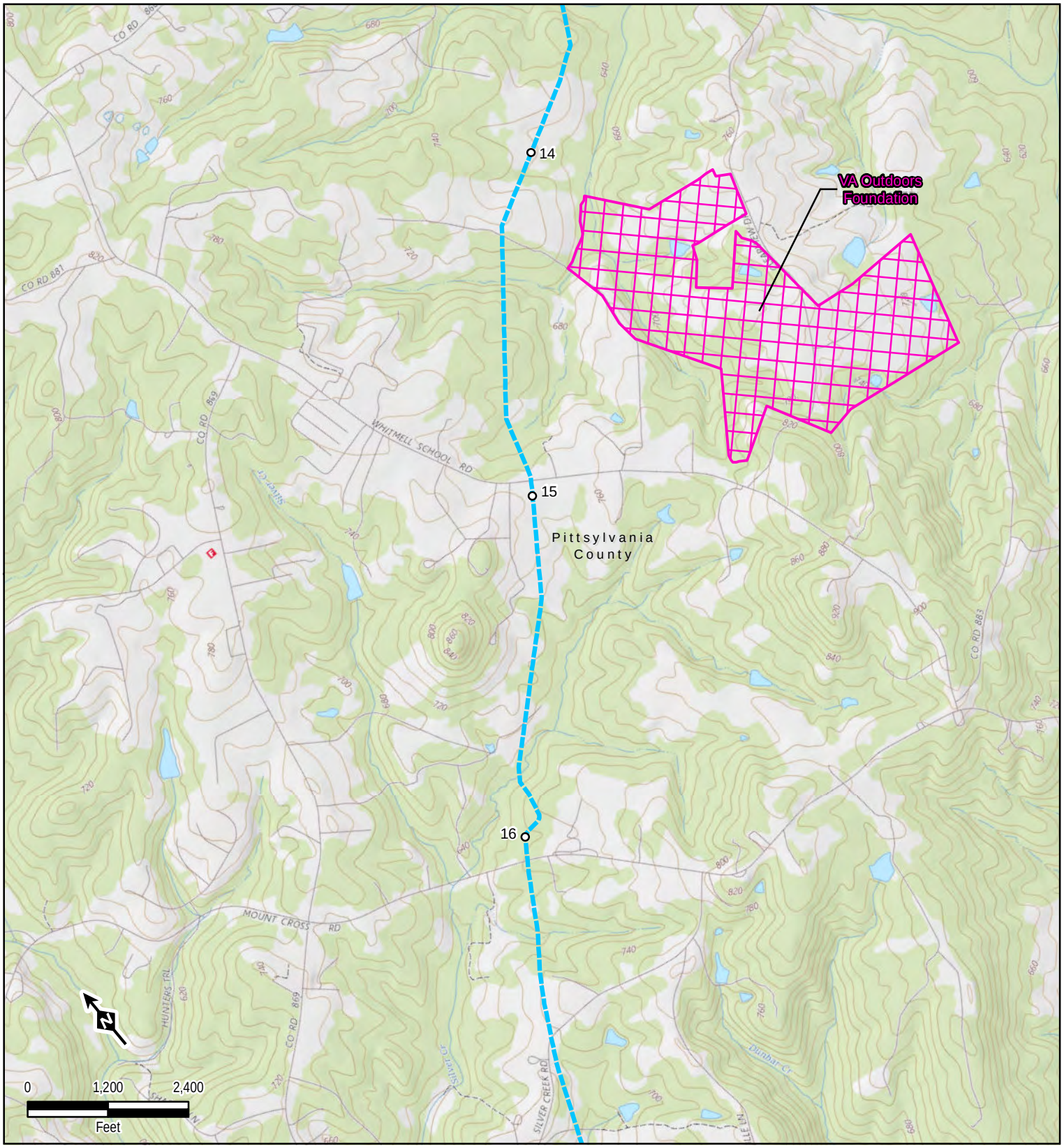

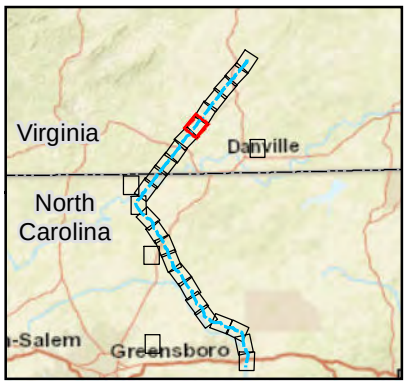

Legend

- Mileposts
- Proposed Pipeline Route
- VA Conservation Easements (DCR)
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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600 Willowbrook Ln
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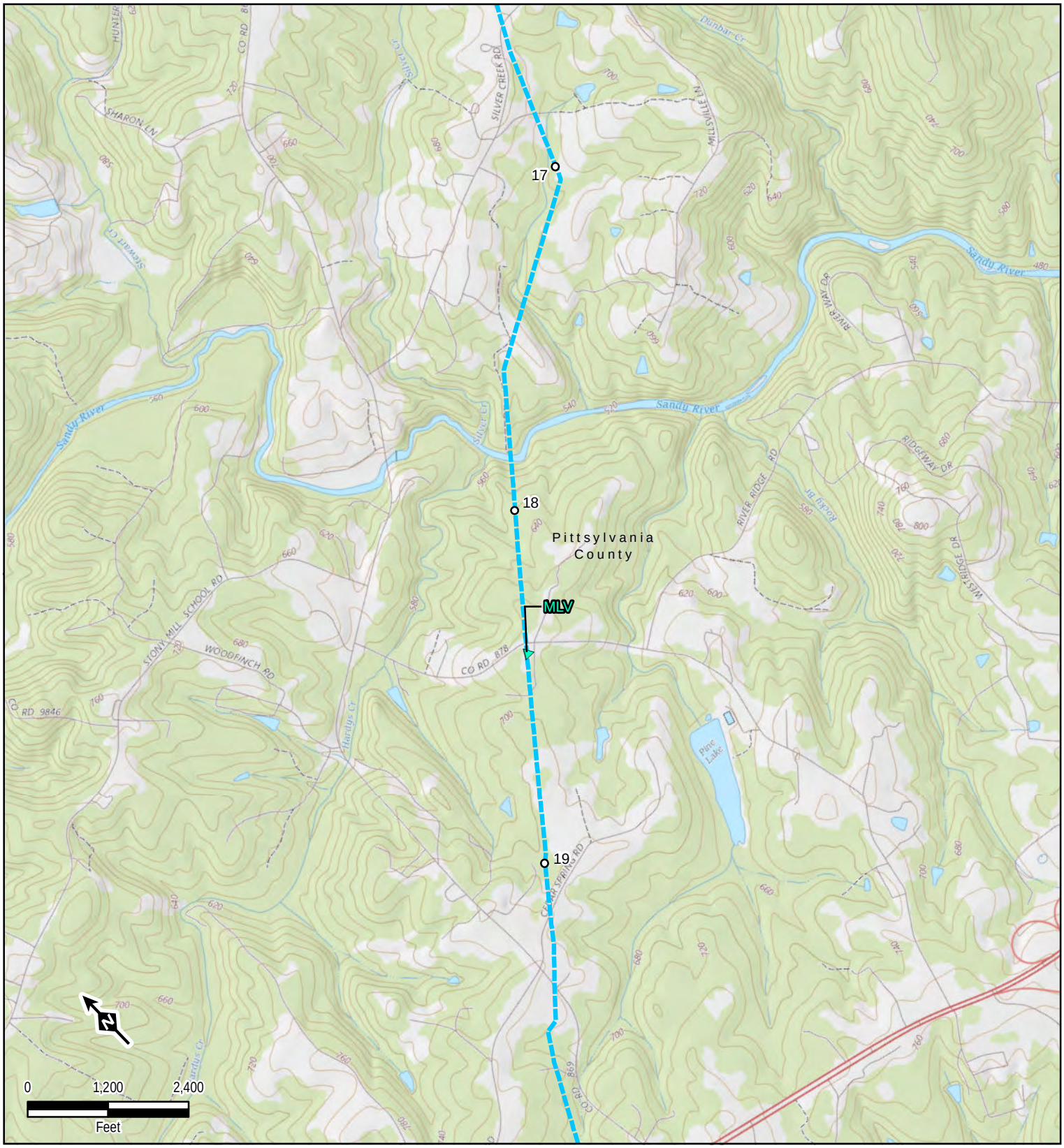

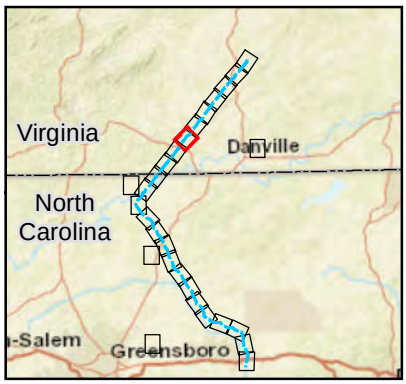

Legend

- Mileposts
- Valve Site
- Proposed Pipeline Route
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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600 Willowbrook Ln
West Chester, PA 19382

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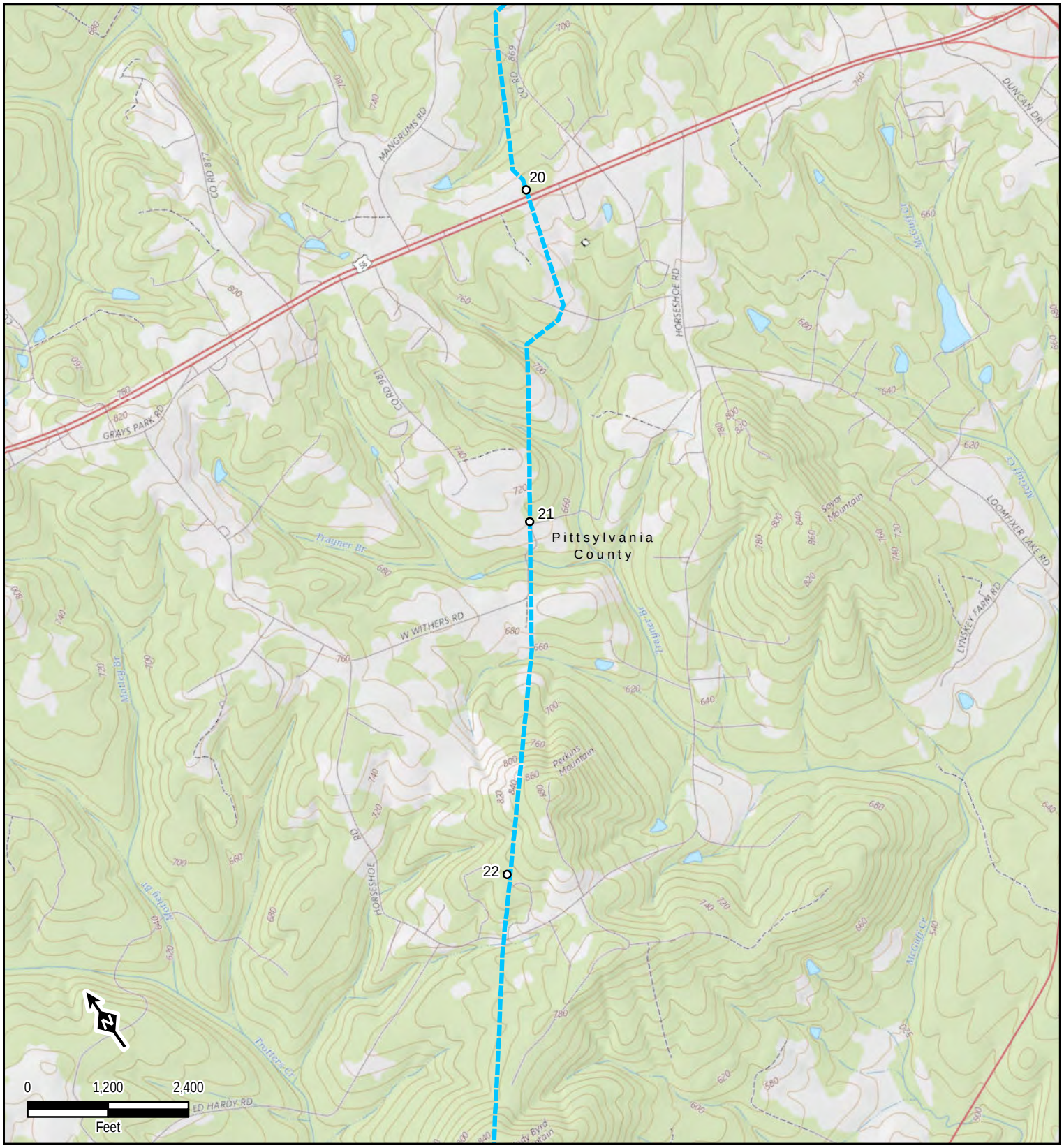

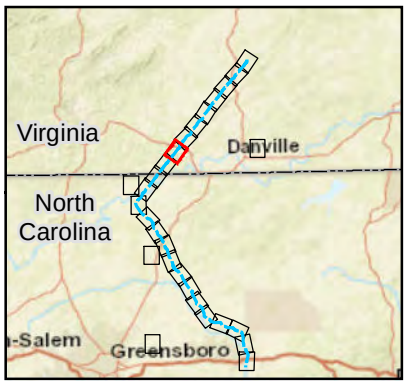

Legend

- Mileposts
- Proposed Pipeline Route
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Federal, State, Recreation, and Conservation Lands

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

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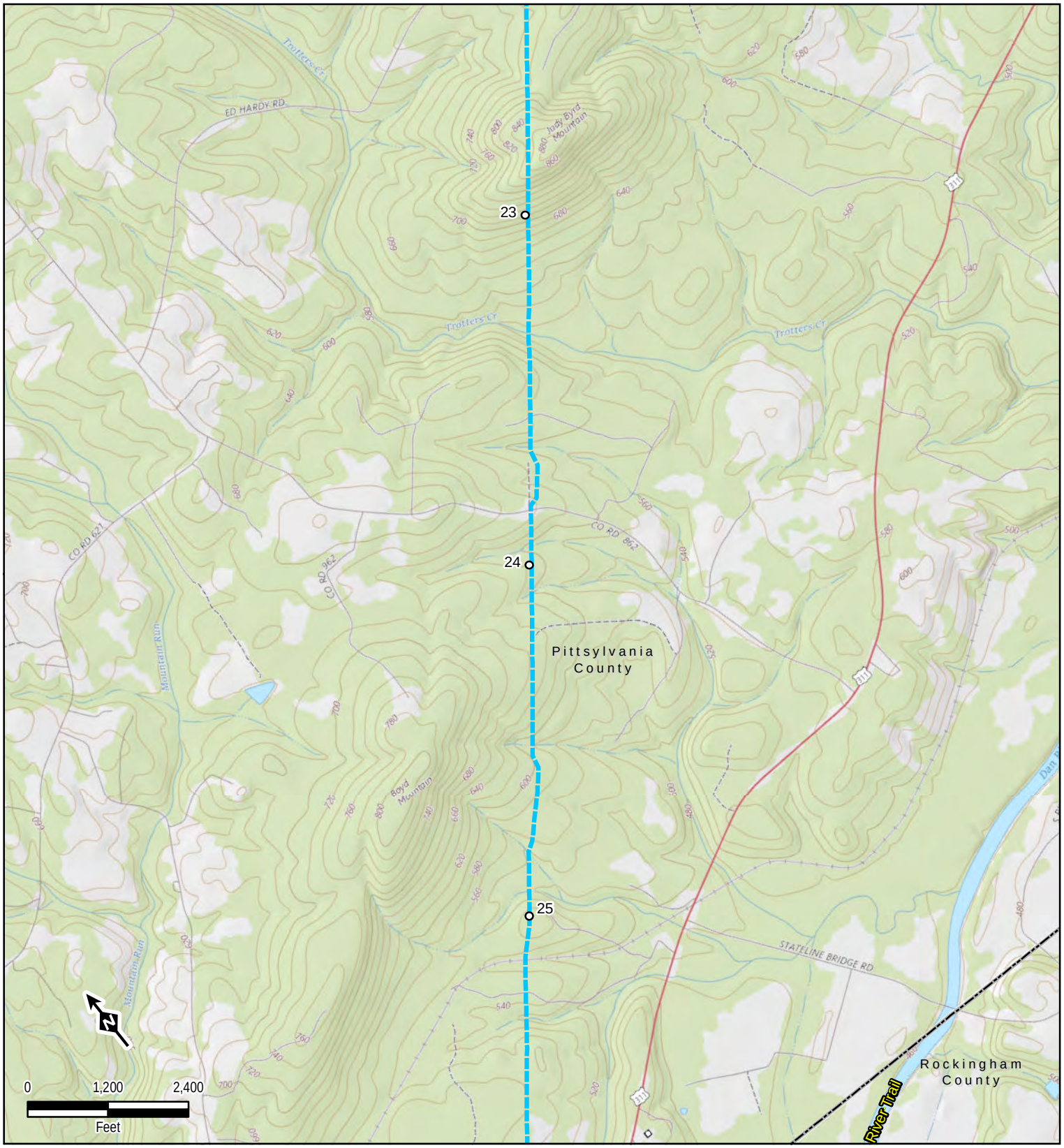

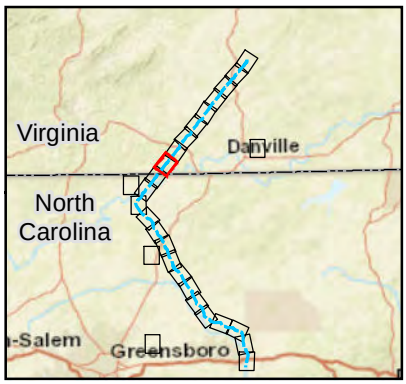

Legend

- Mileposts
- Proposed Pipeline Route
- Regional Trails (NCNHP)
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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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

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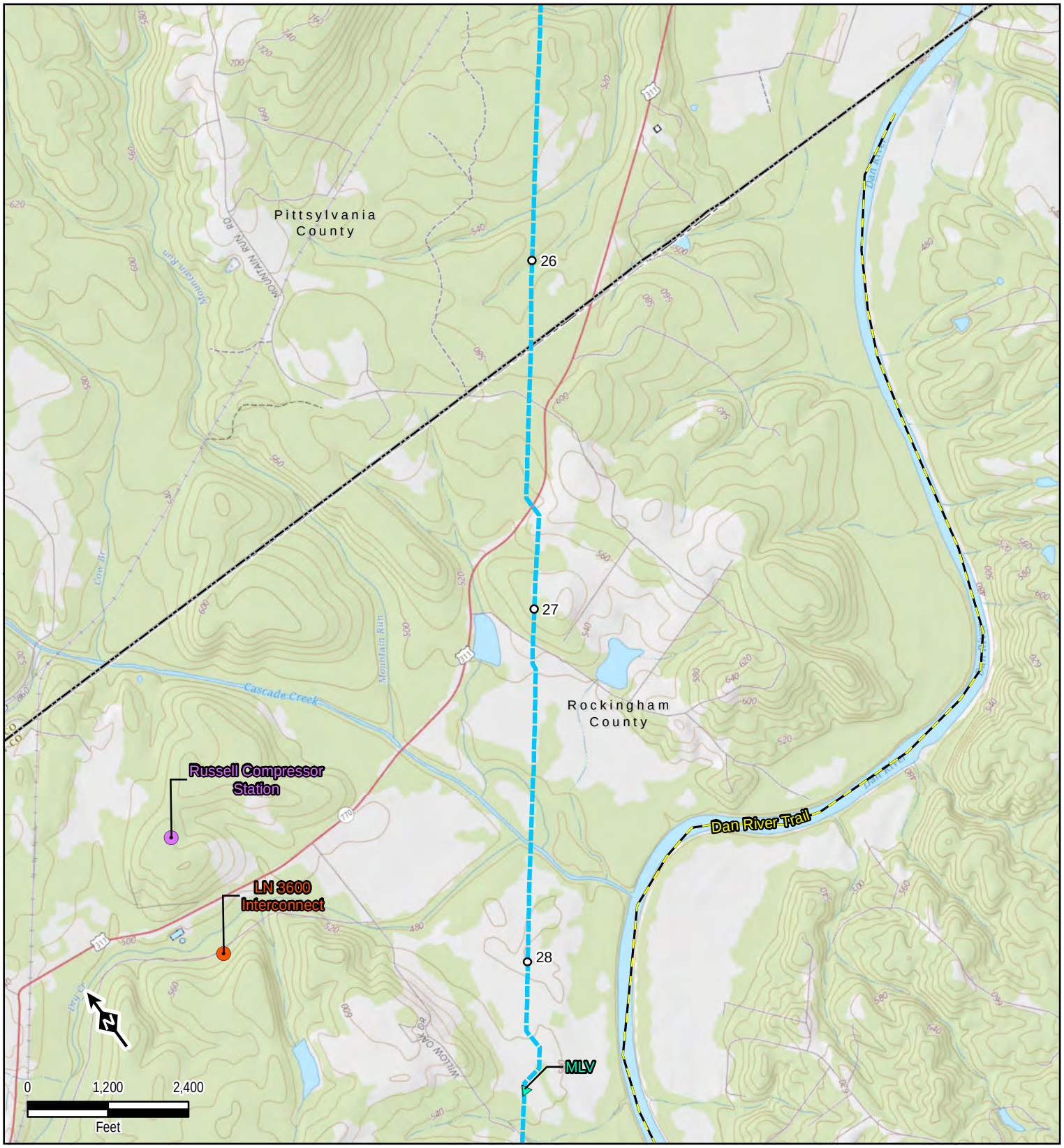

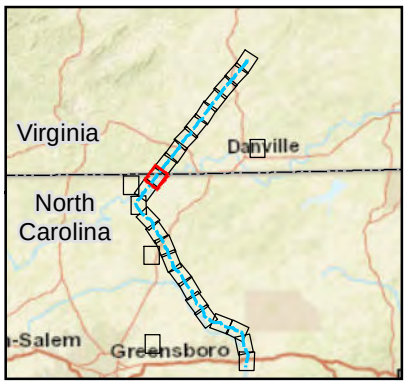

Legend

- Mileposts
- Compressor Station
- Meter Station
- Valve Site
- Proposed Pipeline Route
- Regional Trails (NCNHP)
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Federal, State, Recreation, and Conservation Lands

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TRC
600 Willowbrook Ln
West Chester, PA 19382

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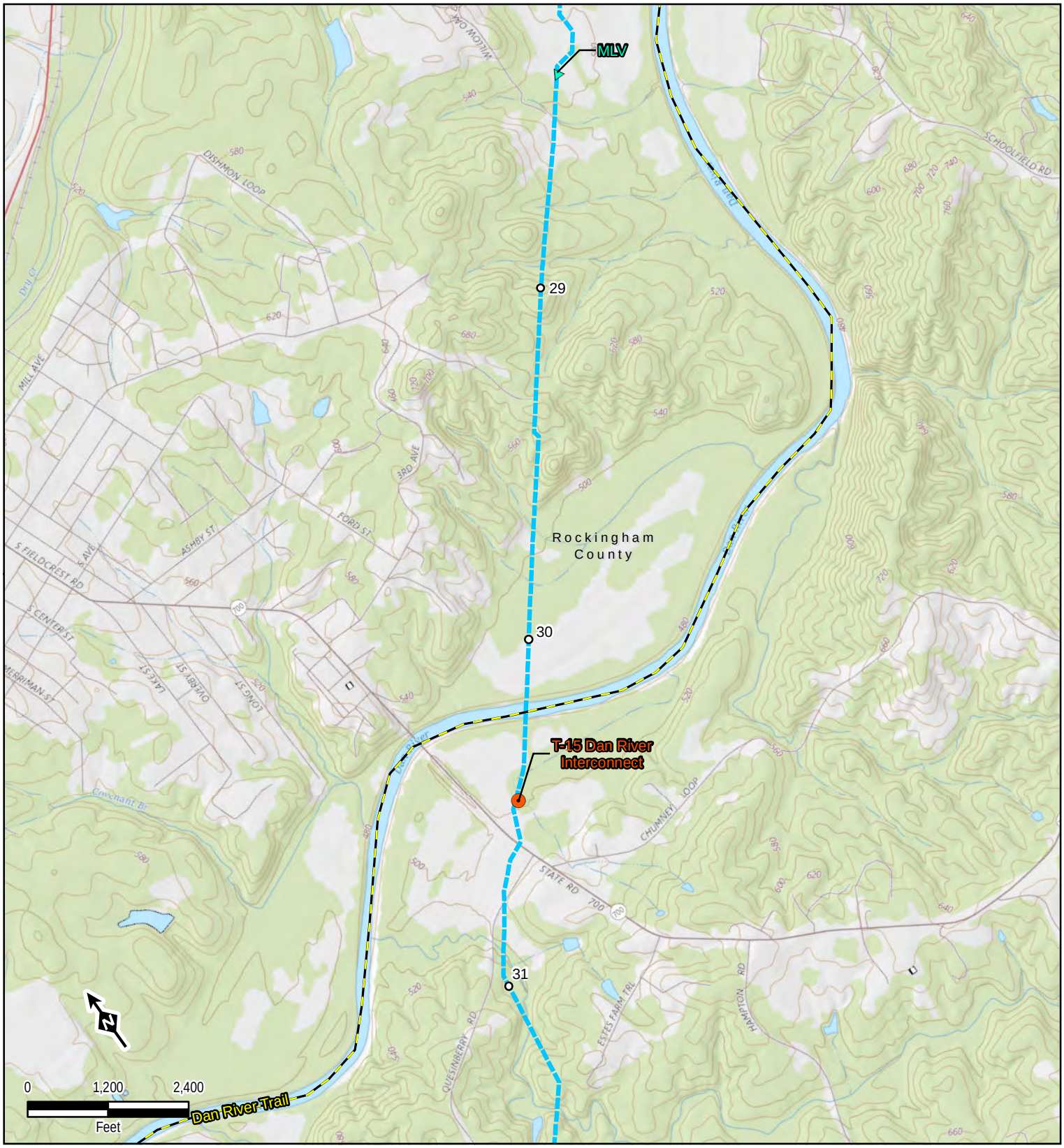

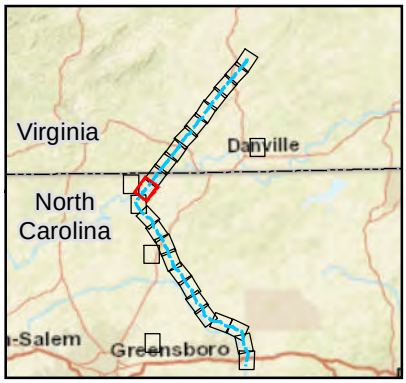

Legend

- Mileposts
- Meter Station
- Valve Site
- Proposed Pipeline Route
- Regional Trails (NCNHP)
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Mountain Valley Pipeline, LLC

Appendix 8-E

Federal, State, Recreation, and Conservation Lands

Sheet 11 of 28

TRC
600 Willowbrook Ln
West Chester, PA 19382

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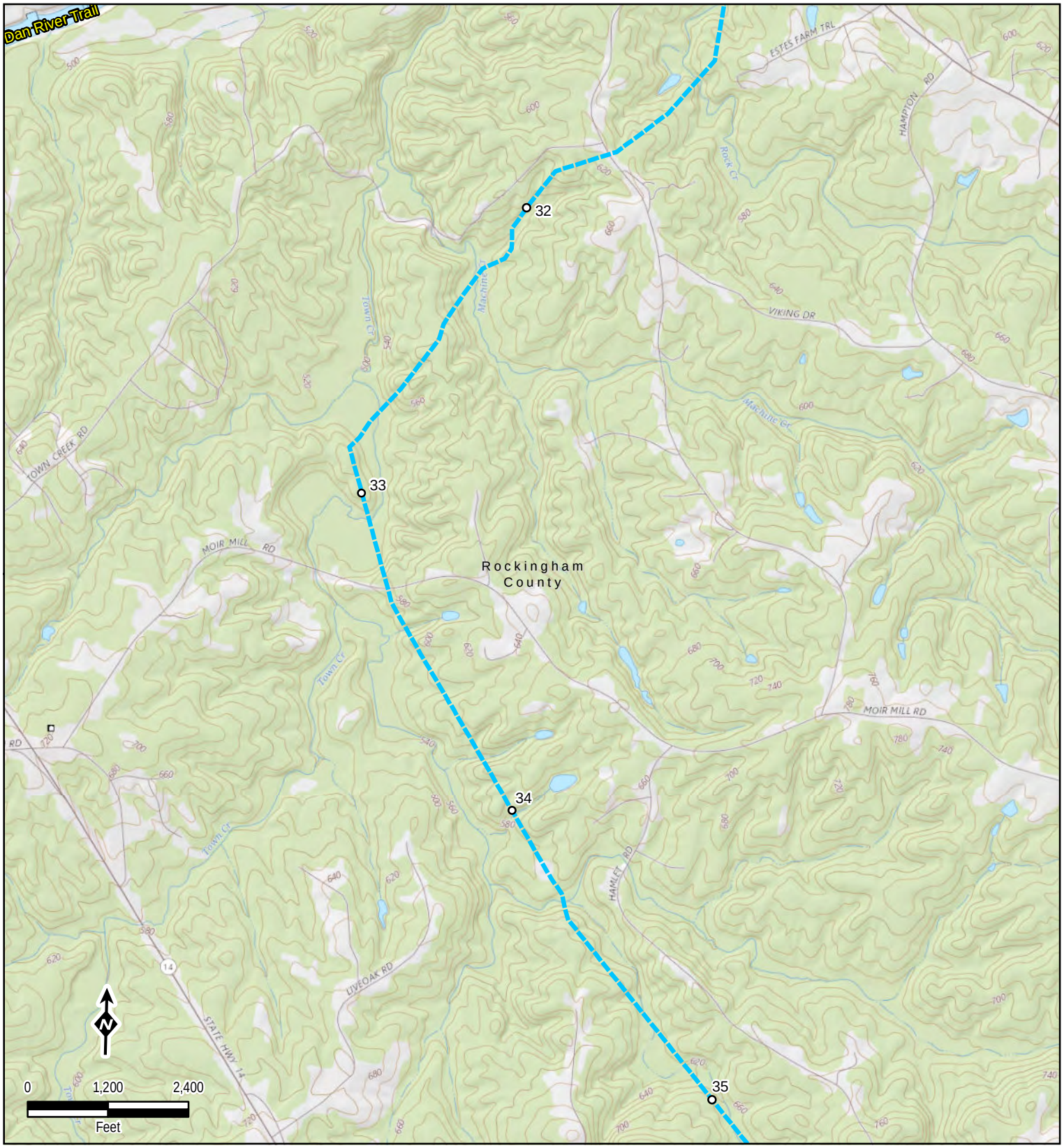

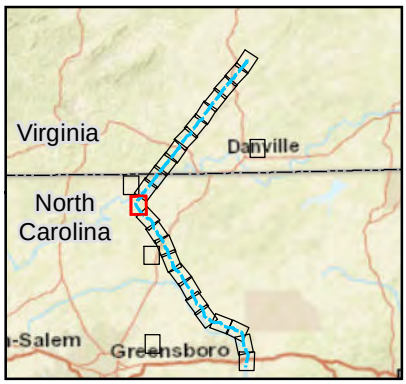

Legend

- Mileposts
- Proposed Pipeline Route
- Regional Trails (NCNHP)
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Appendix 8-E

Federal, State, Recreation, and Conservation Lands

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

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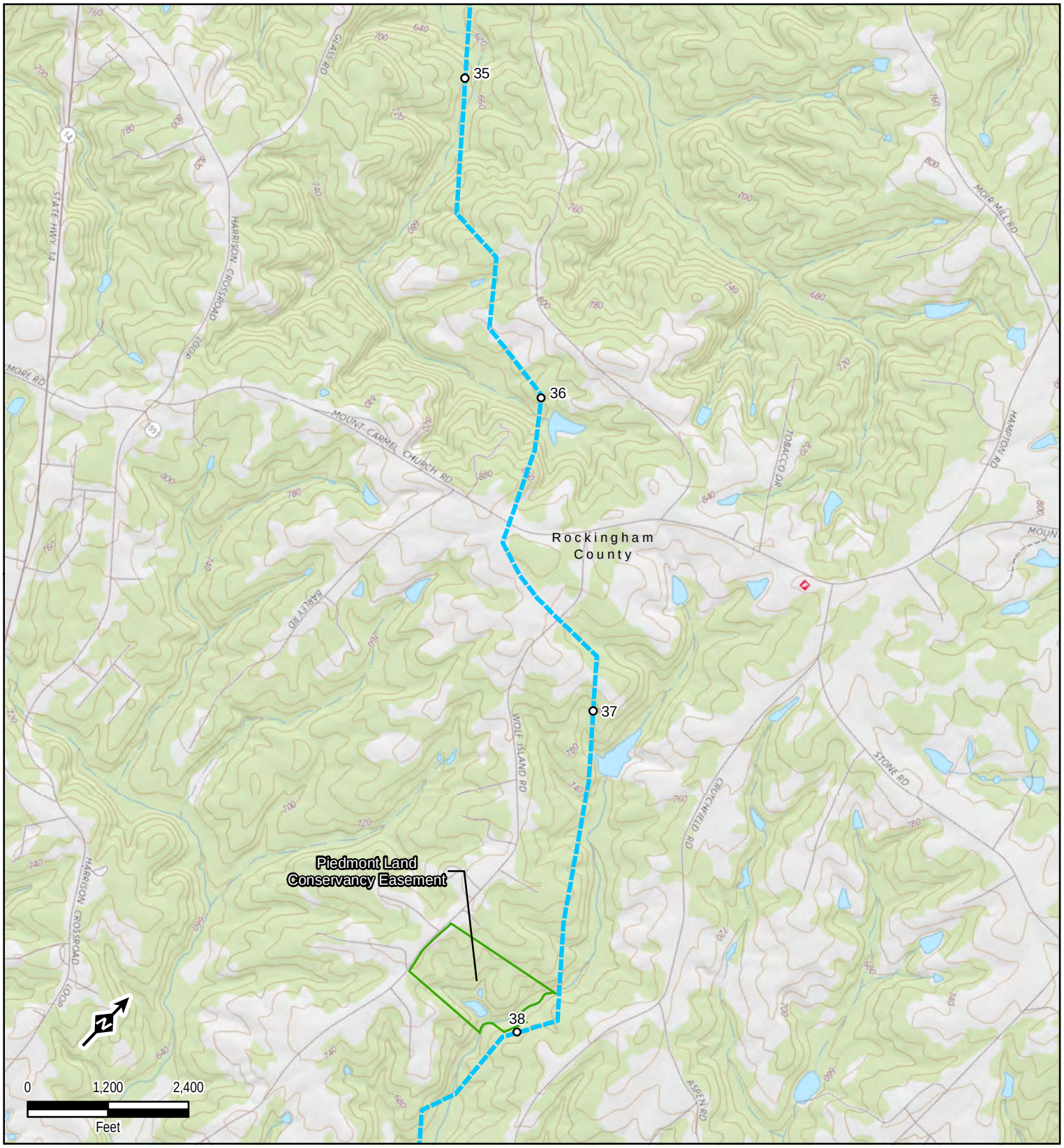

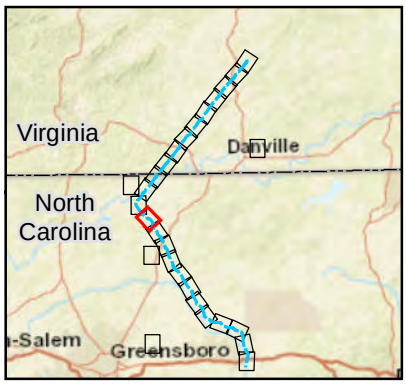

Legend

- Mileposts
- Proposed Pipeline Route
- Conservation Easement
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Appendix 8-E

Federal, State, Recreation, and Conservation Lands

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TRC
Results you can rely on

600 Willowbrook Ln
West Chester, PA 19382

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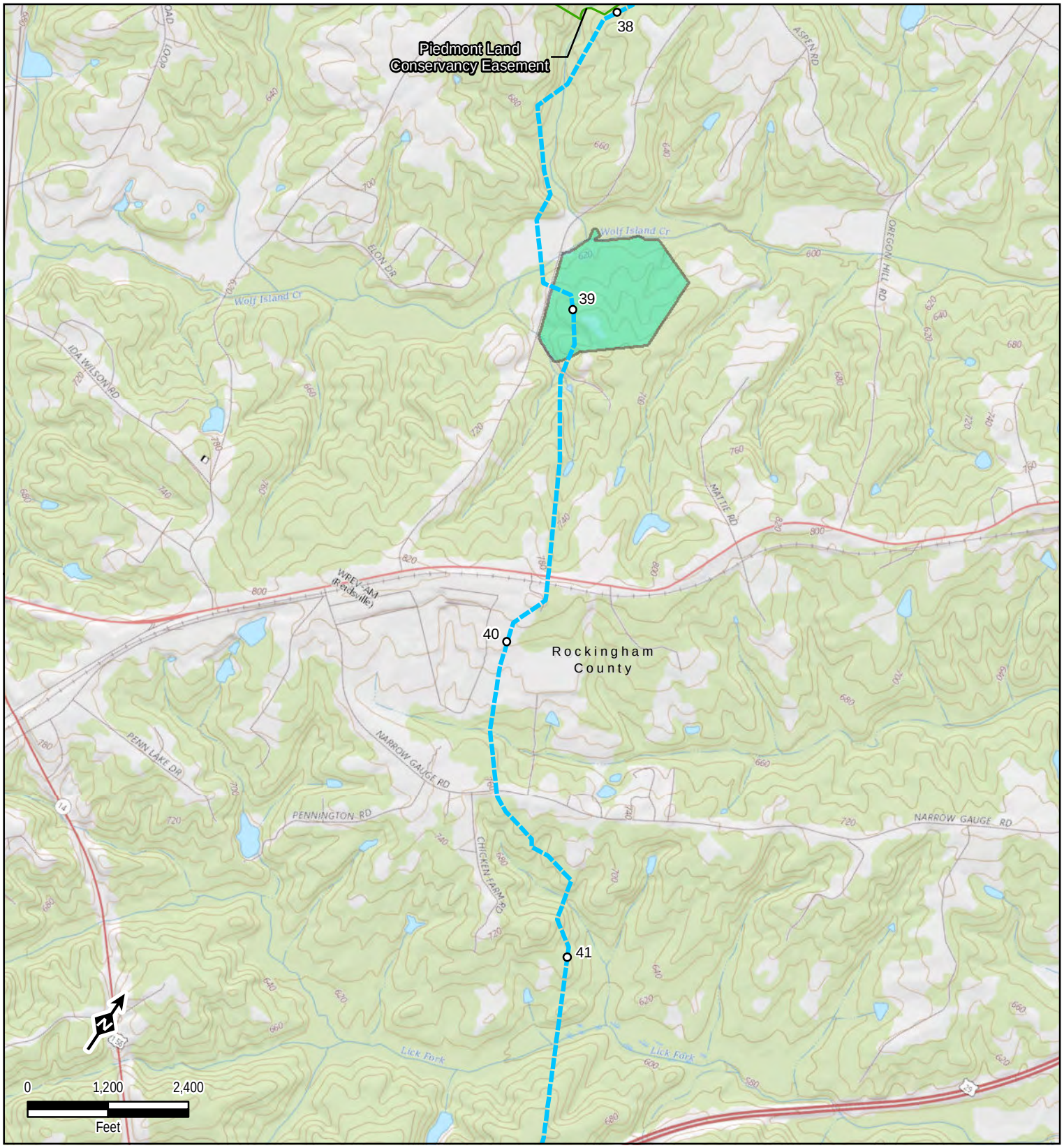

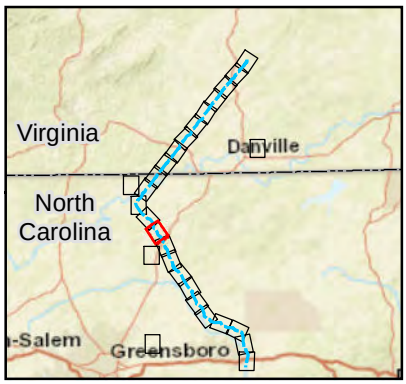

Legend

- Mileposts
- Proposed Pipeline Route
- Municipal Lands
- Conservation Easement
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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Appendix 8-E

Federal, State, Recreation, and Conservation Lands

Sheet 14 of 28

TRC
Results you can rely on

600 Willowbrook Ln
West Chester, PA 19382

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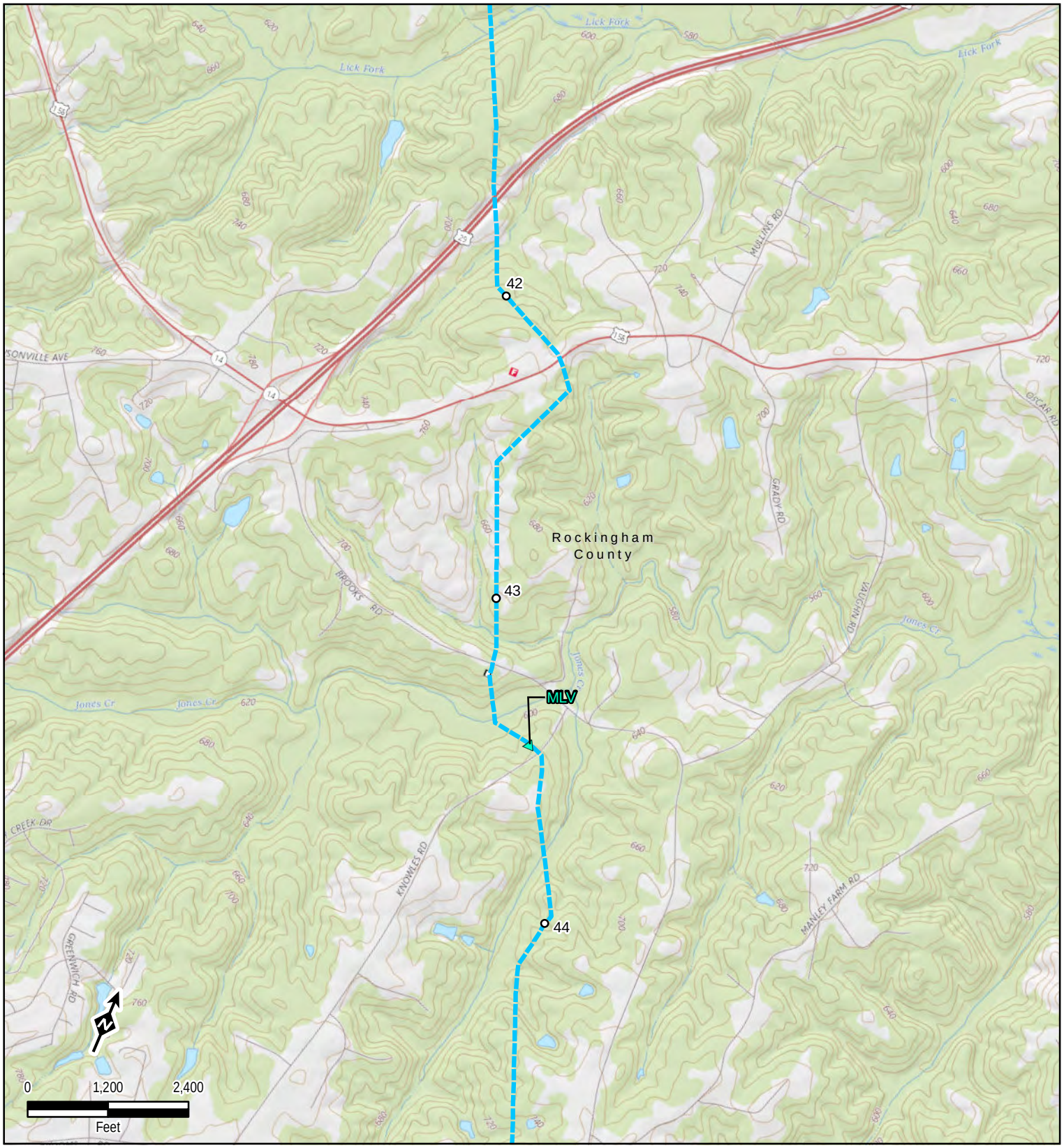

Legend

- Mileposts
- Valve Site
- Proposed Pipeline Route
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

1 inch=2,000 feet
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West Chester, PA 19382

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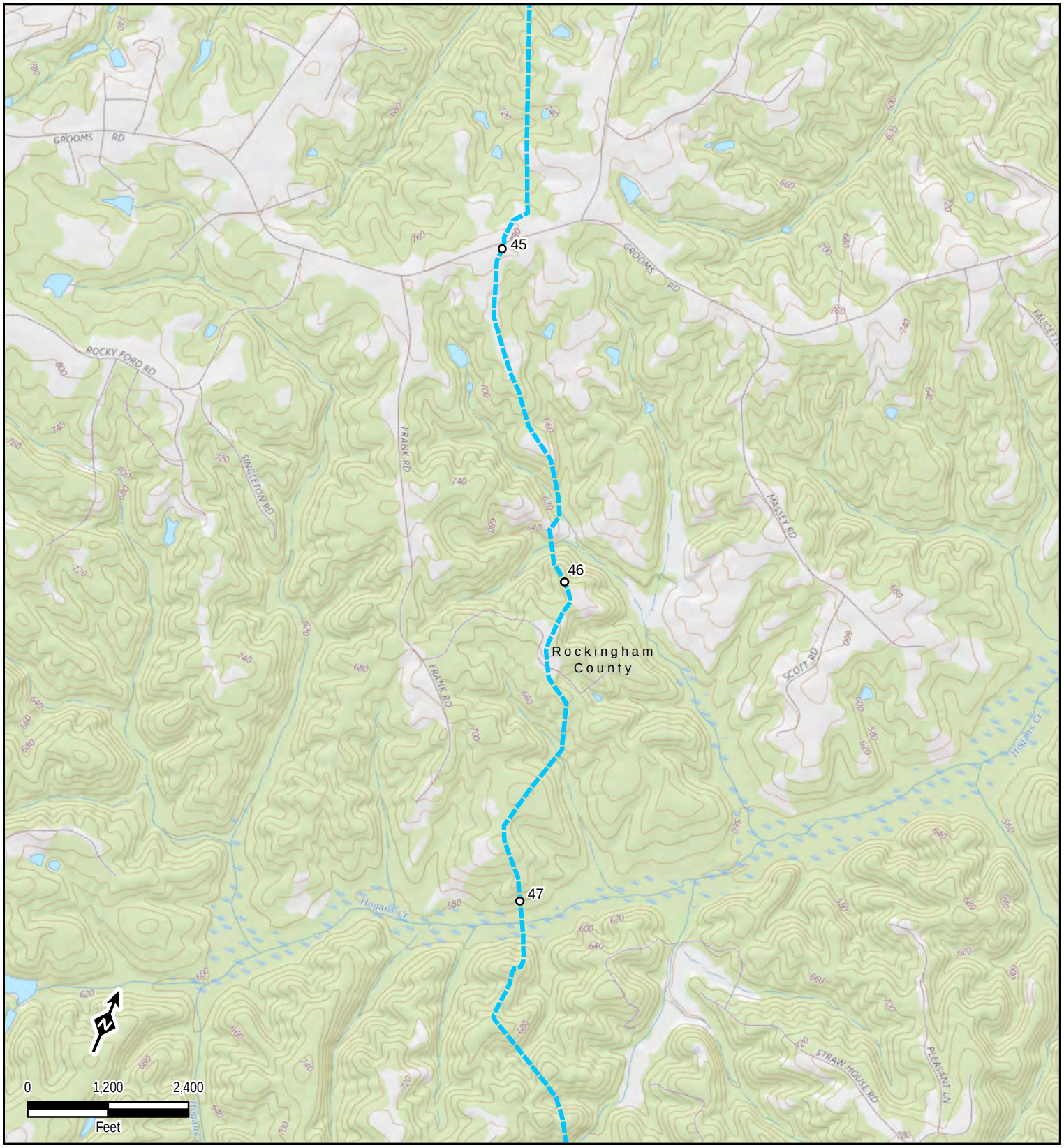

Legend

- Mileposts
- Proposed Pipeline Route
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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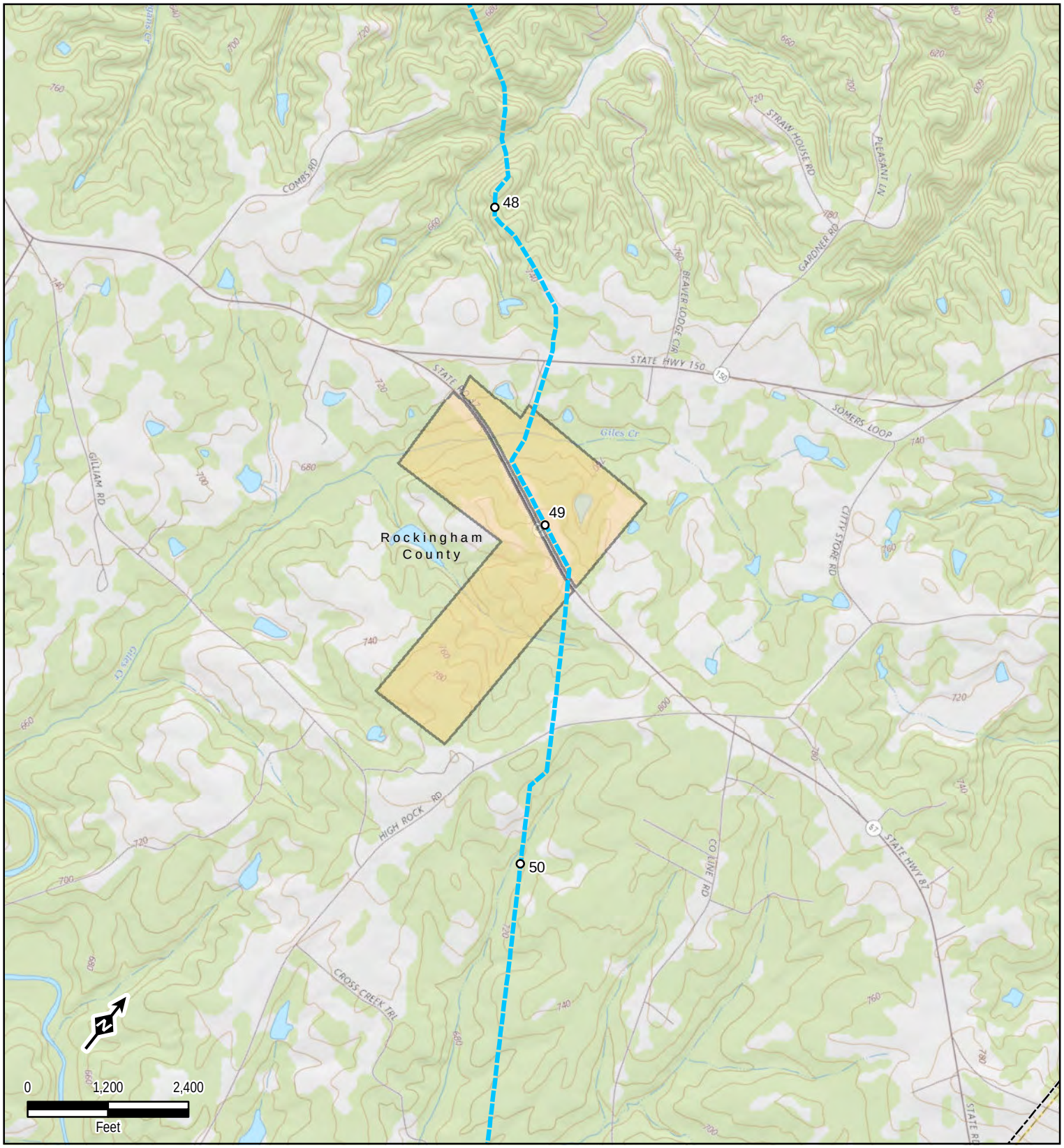

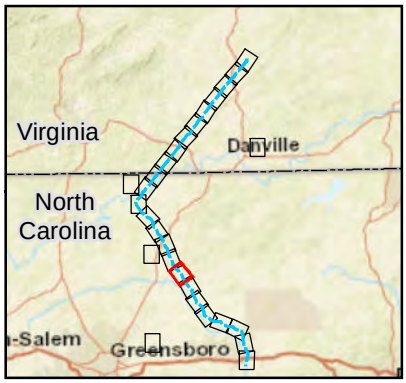

Legend

- Mileposts
- Proposed Pipeline Route
- USDA/NRCS Easement Properties
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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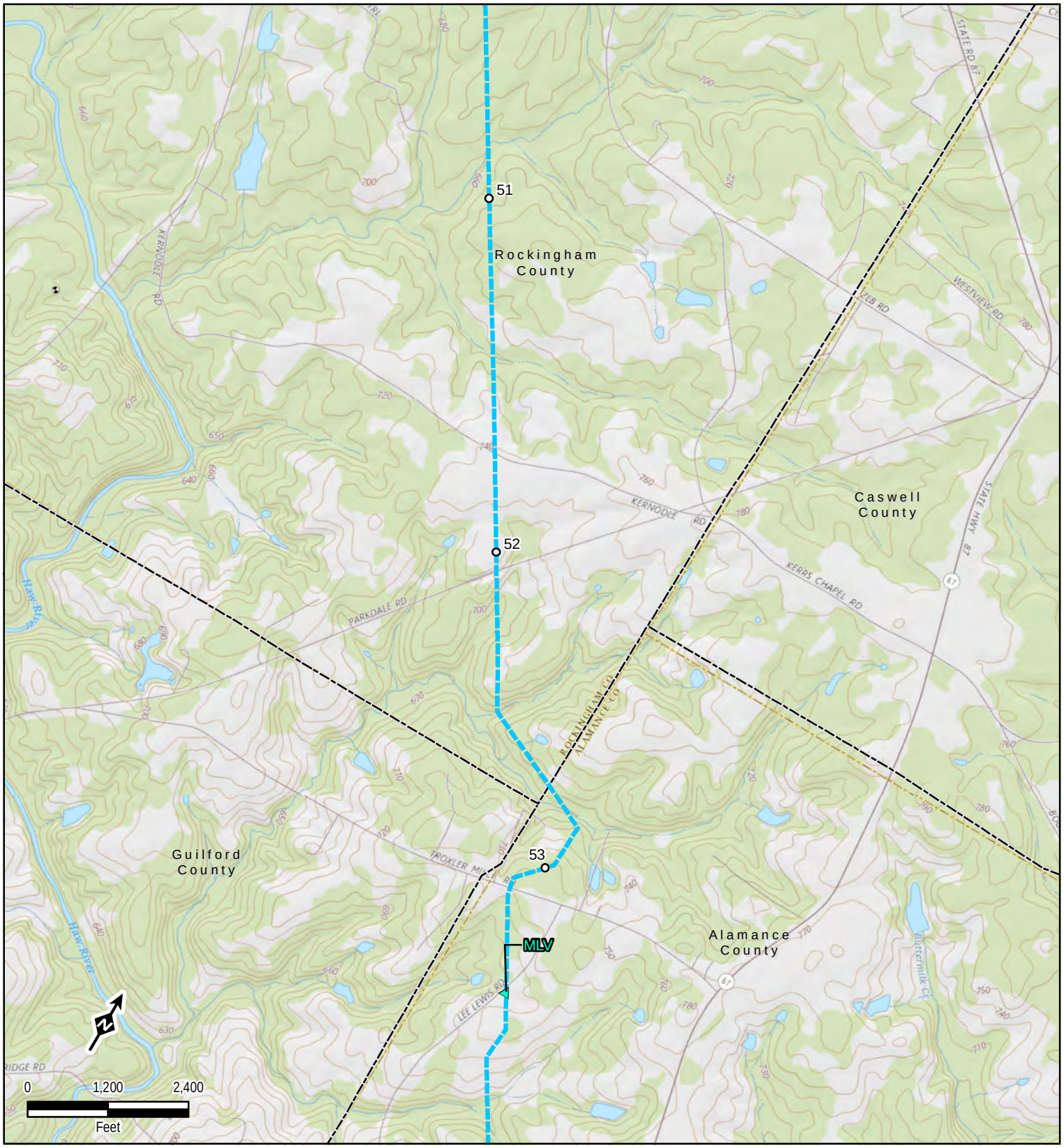

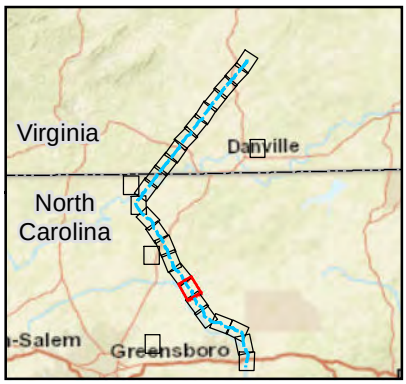

Legend

- Mileposts
- Valve Site
- Proposed Pipeline Route
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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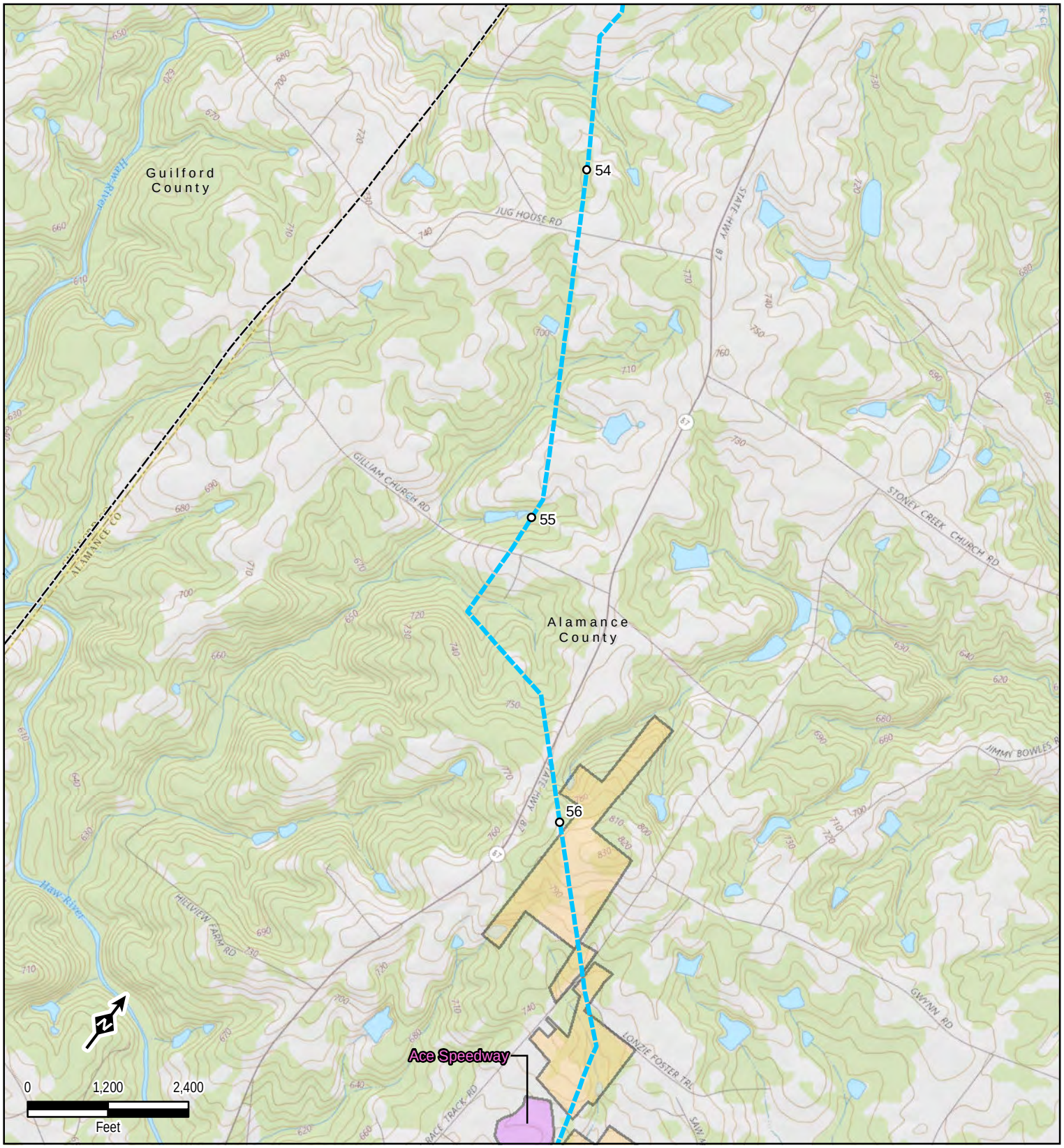

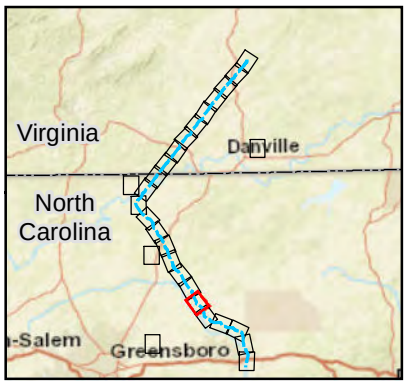

Legend

- Mileposts
- Proposed Pipeline Route
- Private Lands
- USDA/NRCS Easement Properties
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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West Chester, PA 19382

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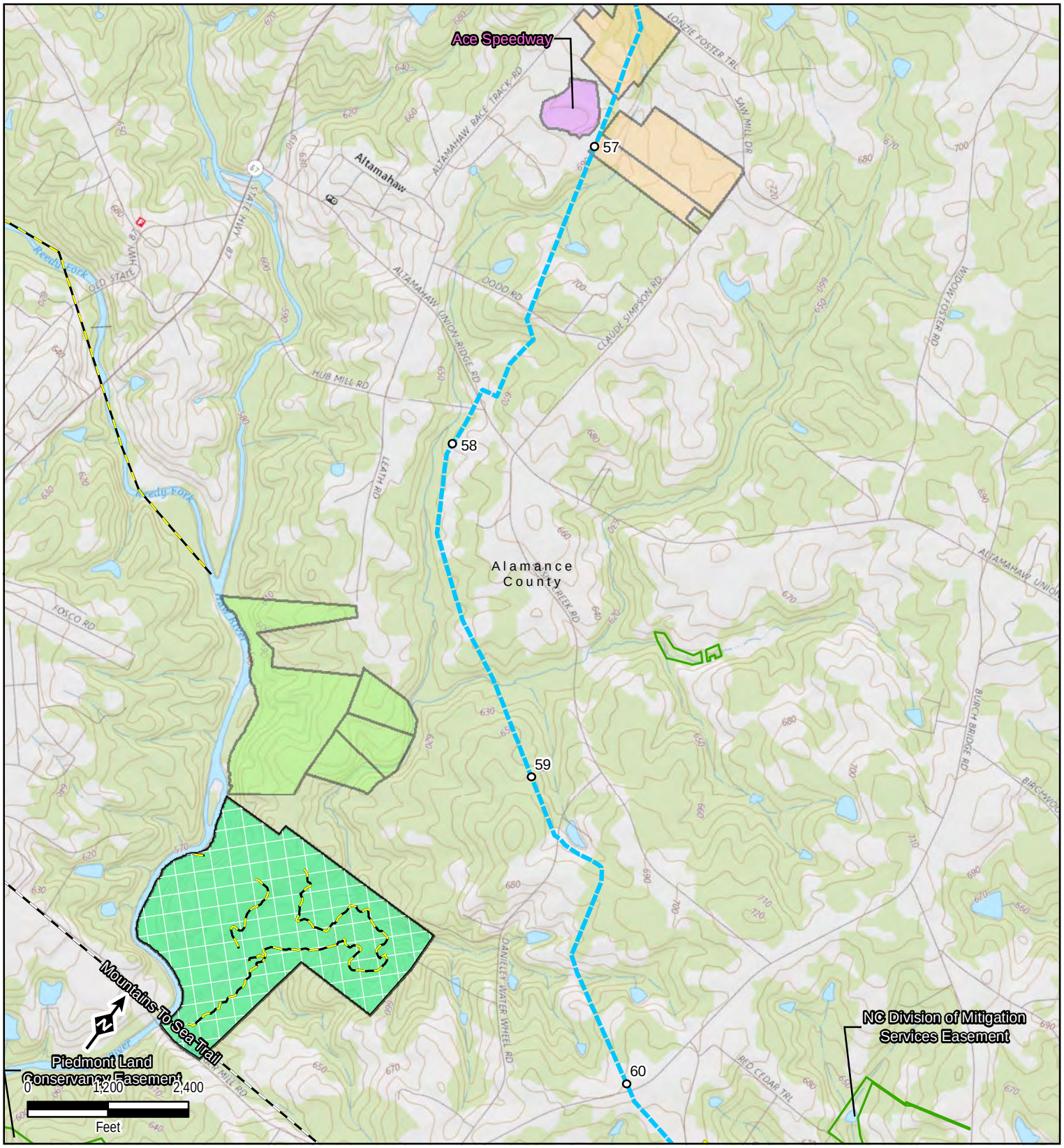

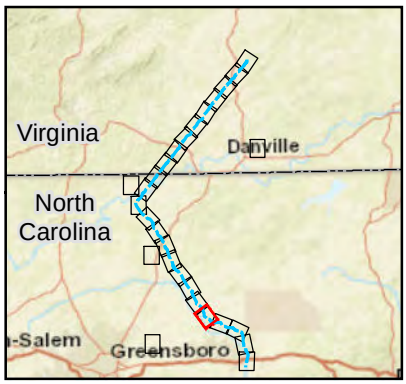

Legend

- Mileposts
- Contract Yard
- Proposed Pipeline Route
- Mountains To Sea Trail (REI)
- Regional Trails (NCNHP)
- Municipal Lands
- Private Lands
- Conservation Easement
- State Ownership
- NC State Park (NCNHP)
- USDA/NRCS Easement Properties
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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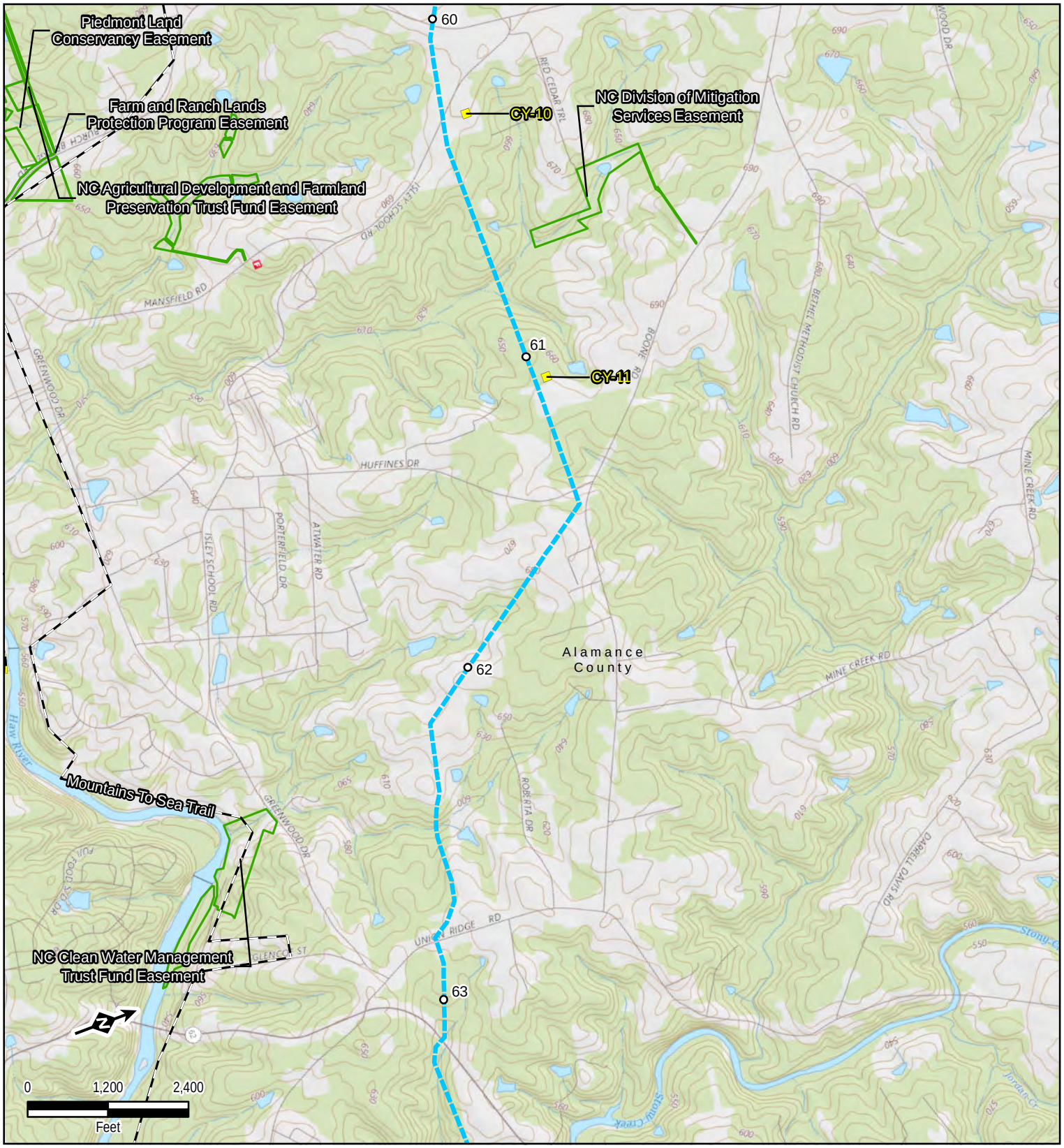

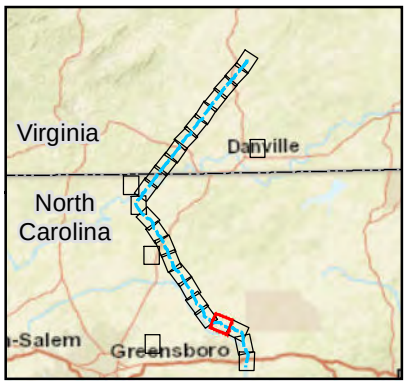

Legend

- Mileposts
- Contract Yard
- Proposed Pipeline Route
- Mountains To Sea Trail (REI)
- Regional Trails (NCNHP)
- Conservation Easement
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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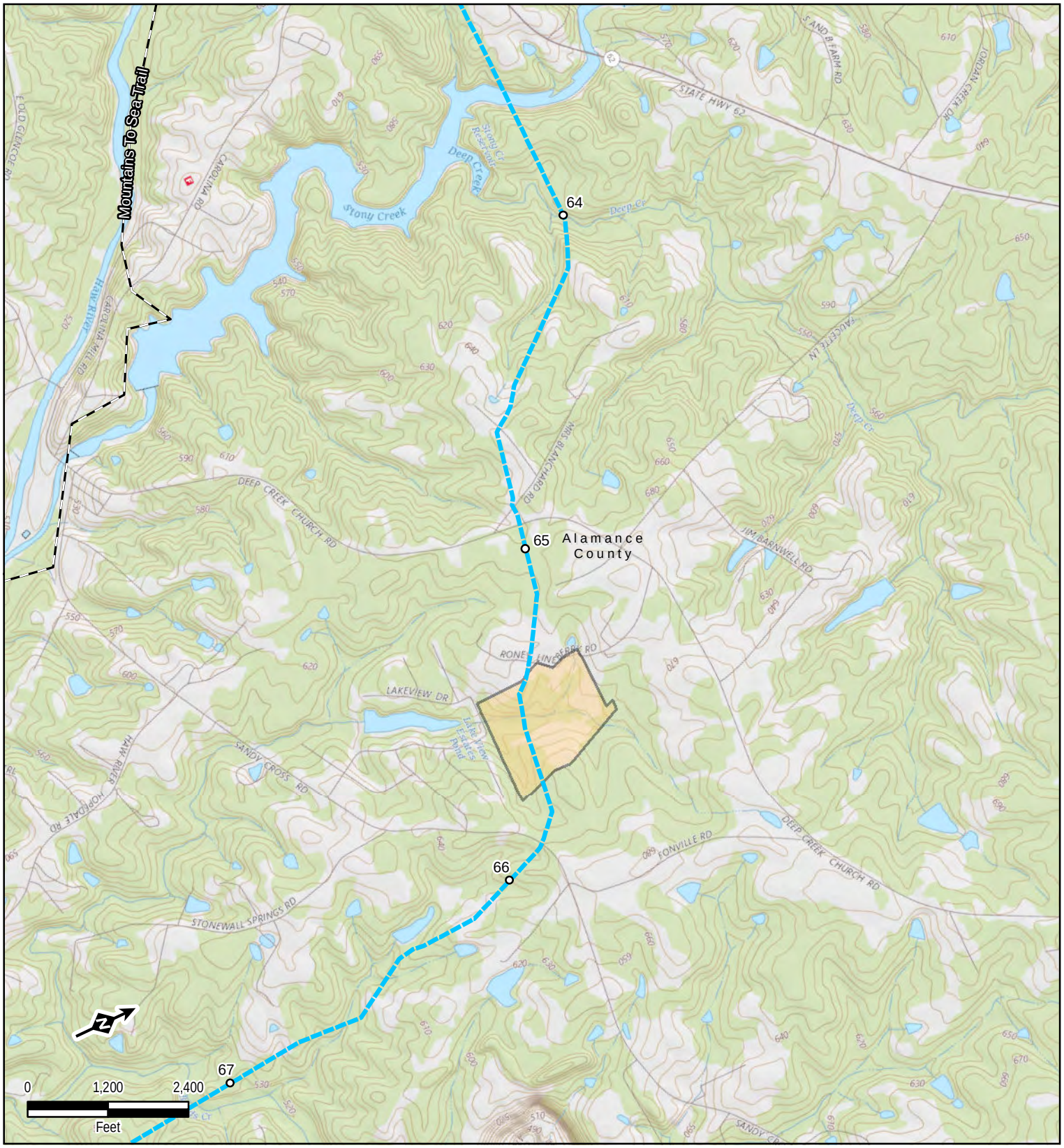

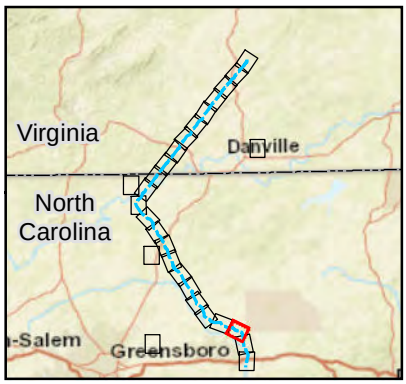

Legend

- Mileposts
- Proposed Pipeline Route
- Mountains To Sea Trail (REI)
- USDA/NRCS Easement Properties
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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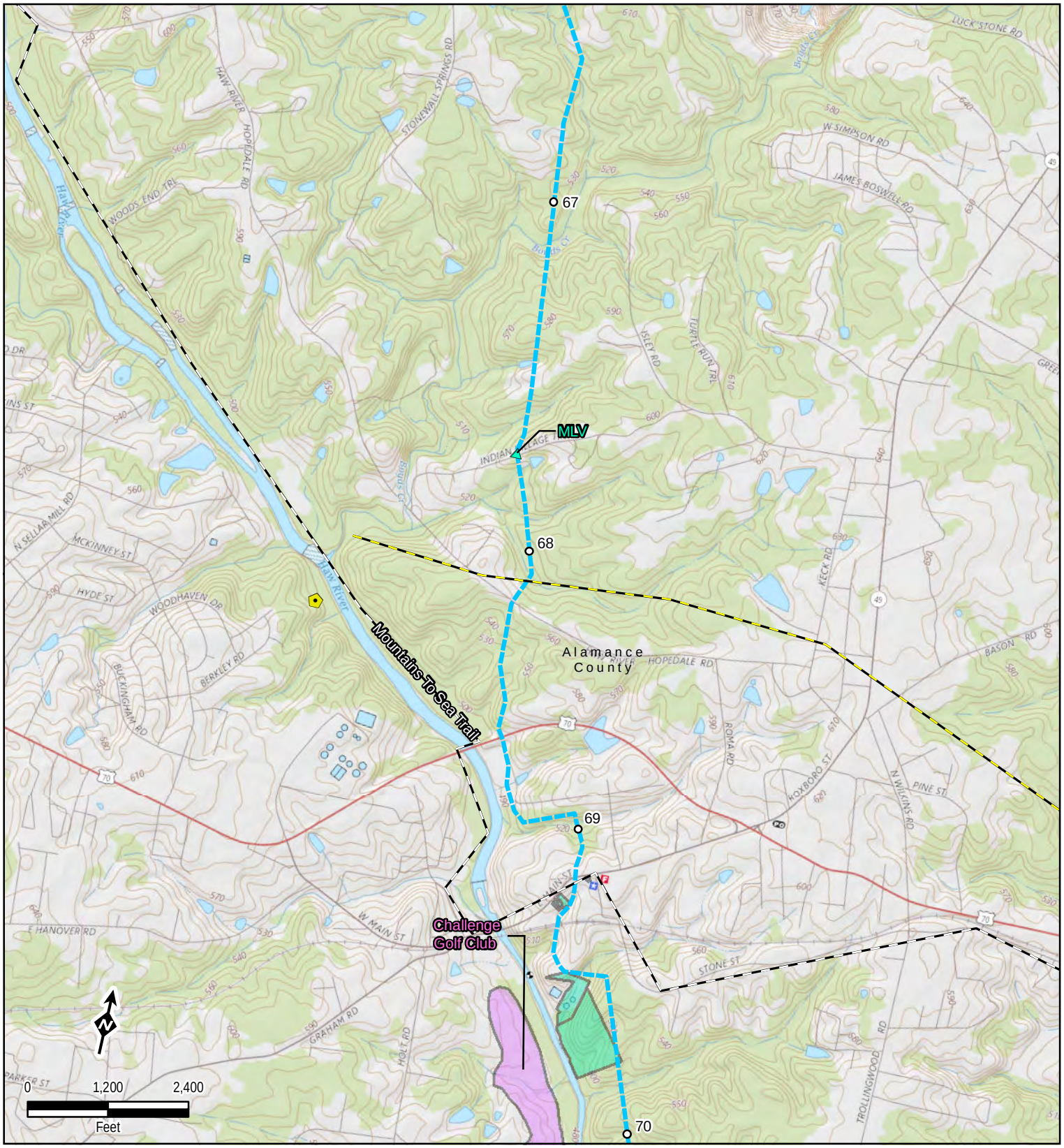

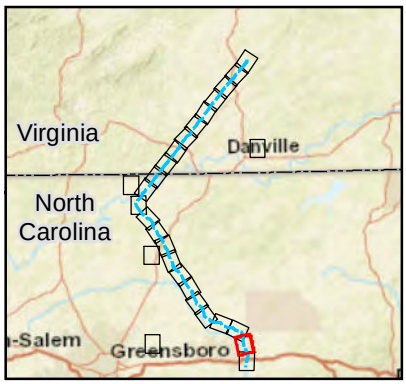

Legend

- Mileposts
- Valve Site
- Proposed Pipeline Route
- NC State Parks (NCNHP)
- Mountains To Sea Trail (REI)
- Regional Trails (NCNHP)
- Municipal Lands
- Private Lands
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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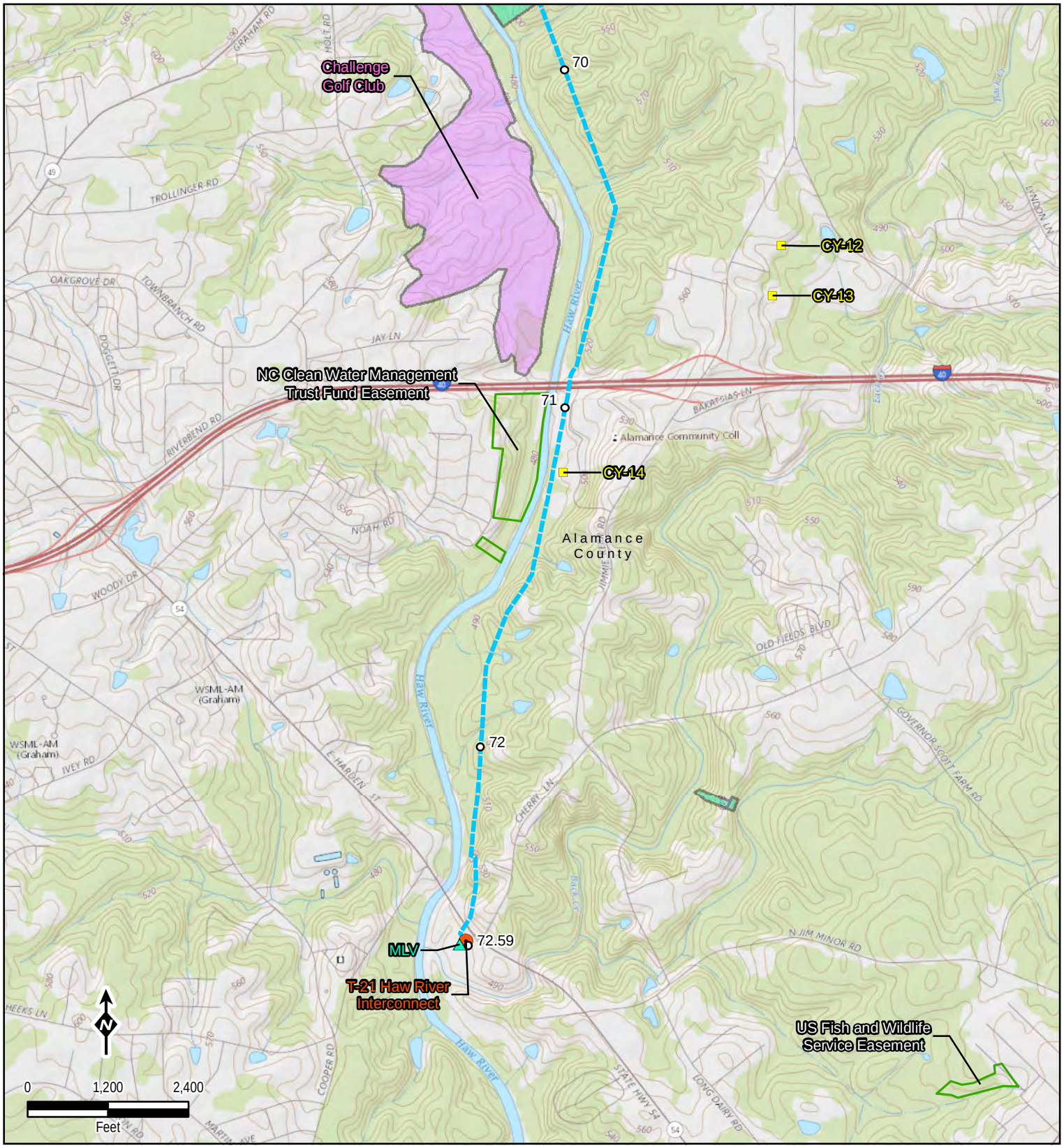

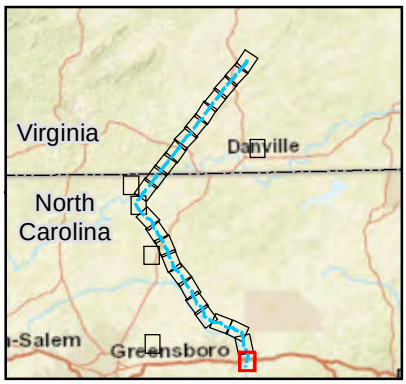

Legend

- Mileposts
- Contract Yard
- Meter Station
- Valve Site
- Proposed Pipeline Route
- Municipal Lands
- Private Lands
- Conservation Easement
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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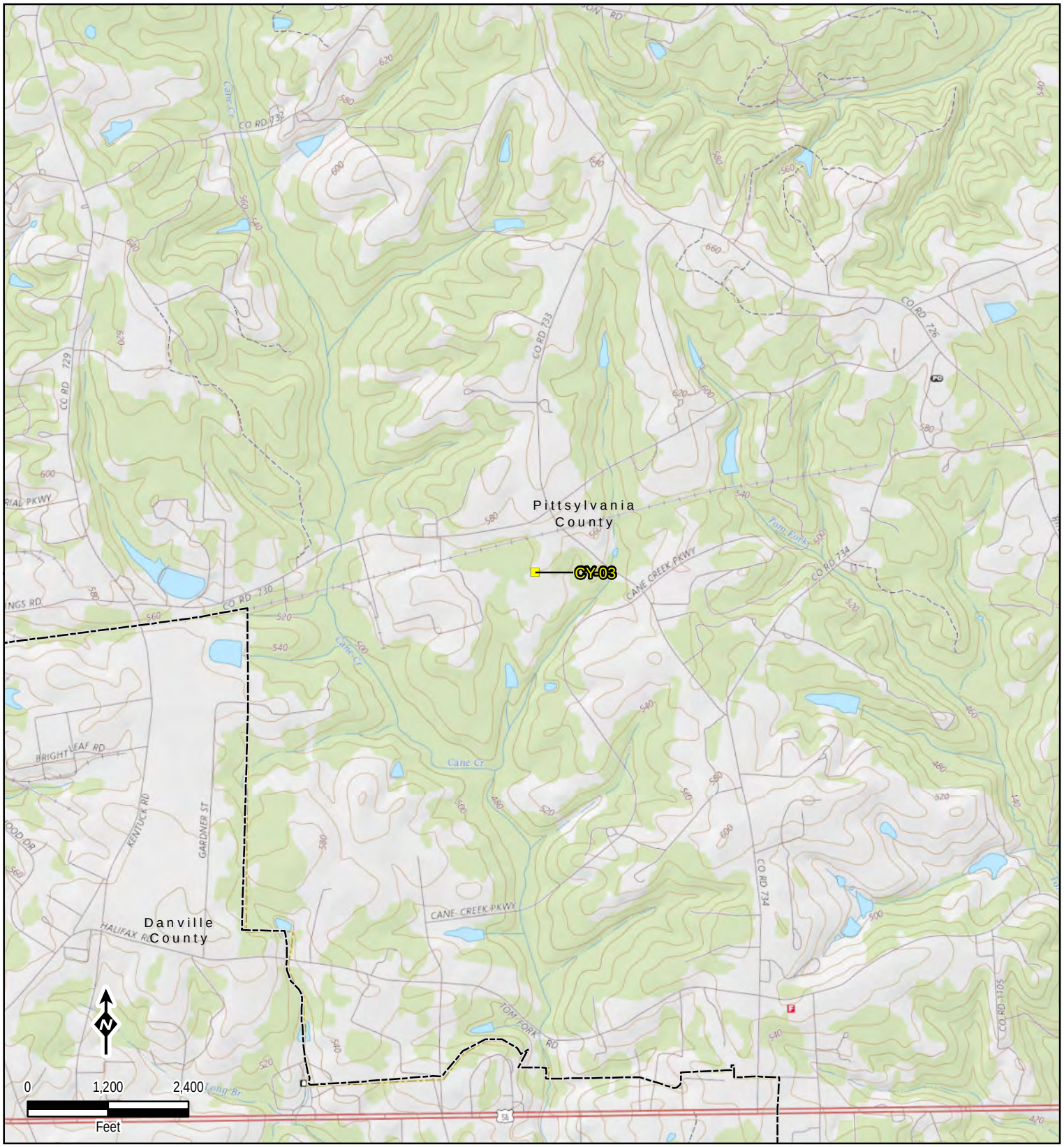

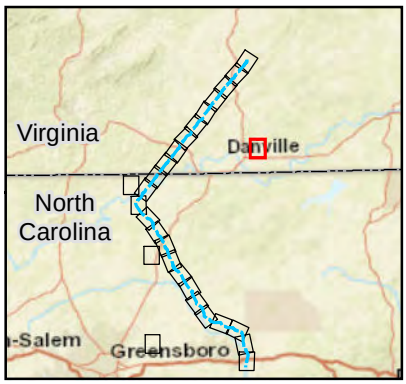

Legend

- Contract Yard
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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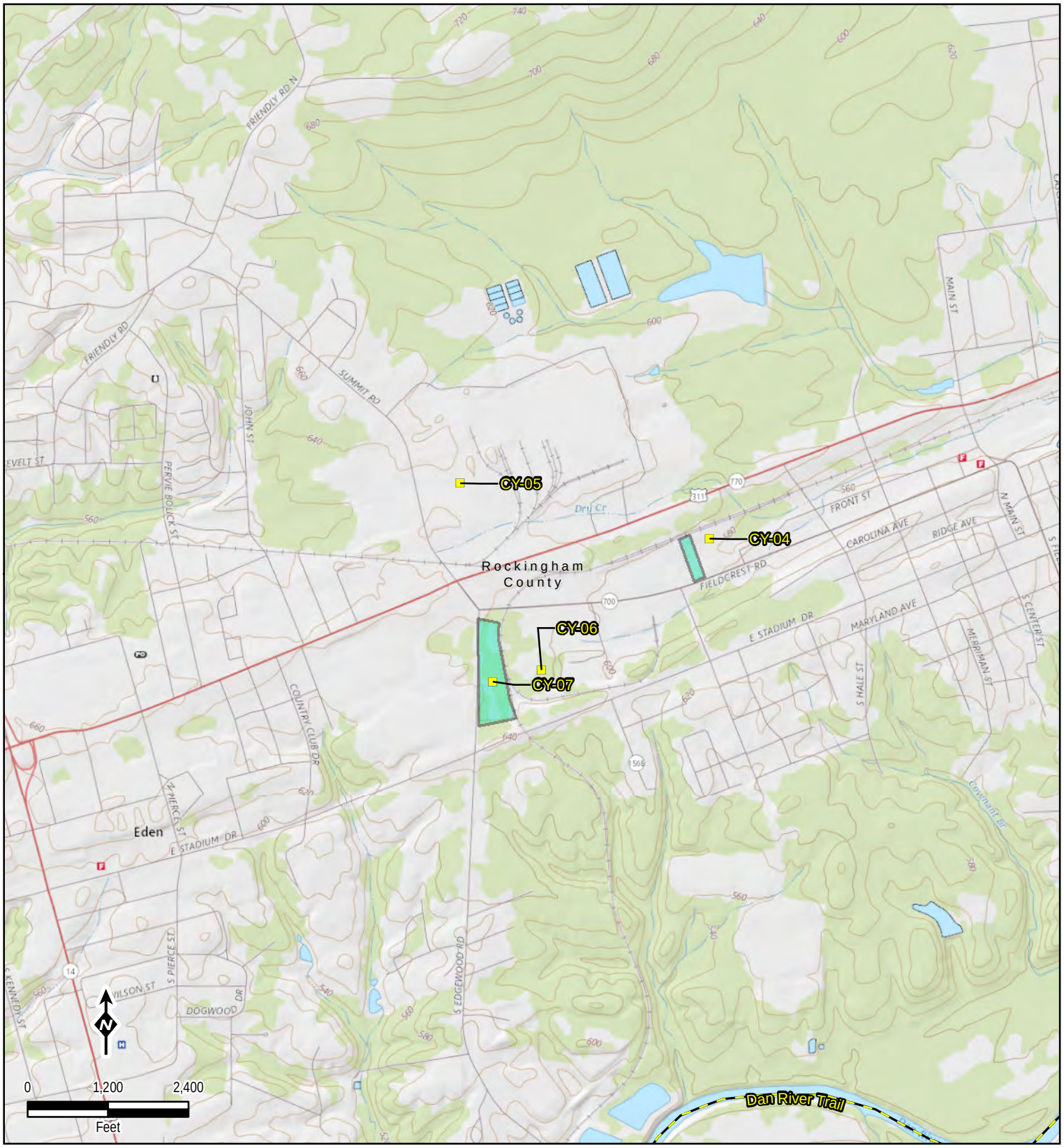

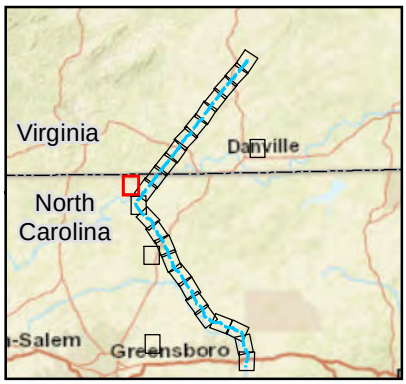

Legend

- Contract Yard
- Regional Trails (NCNHP)
- Municipal Lands
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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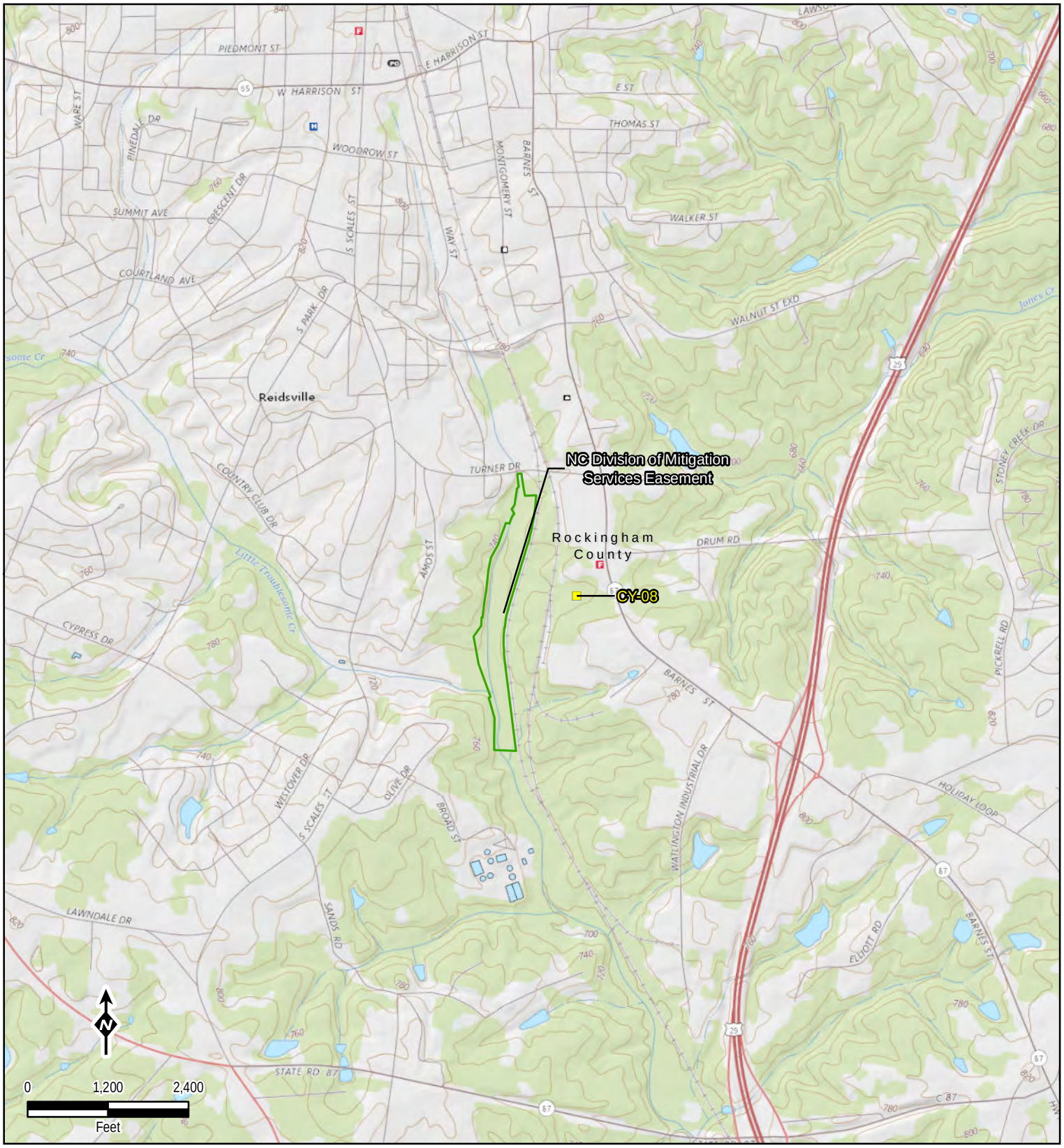

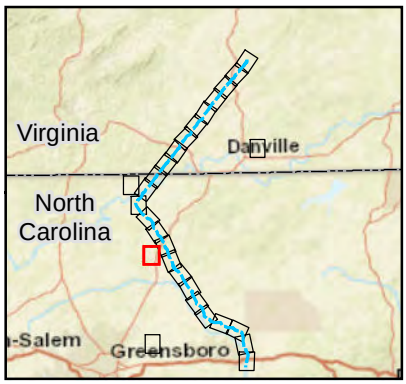

Legend

- Contract Yard
- Conservation Easement
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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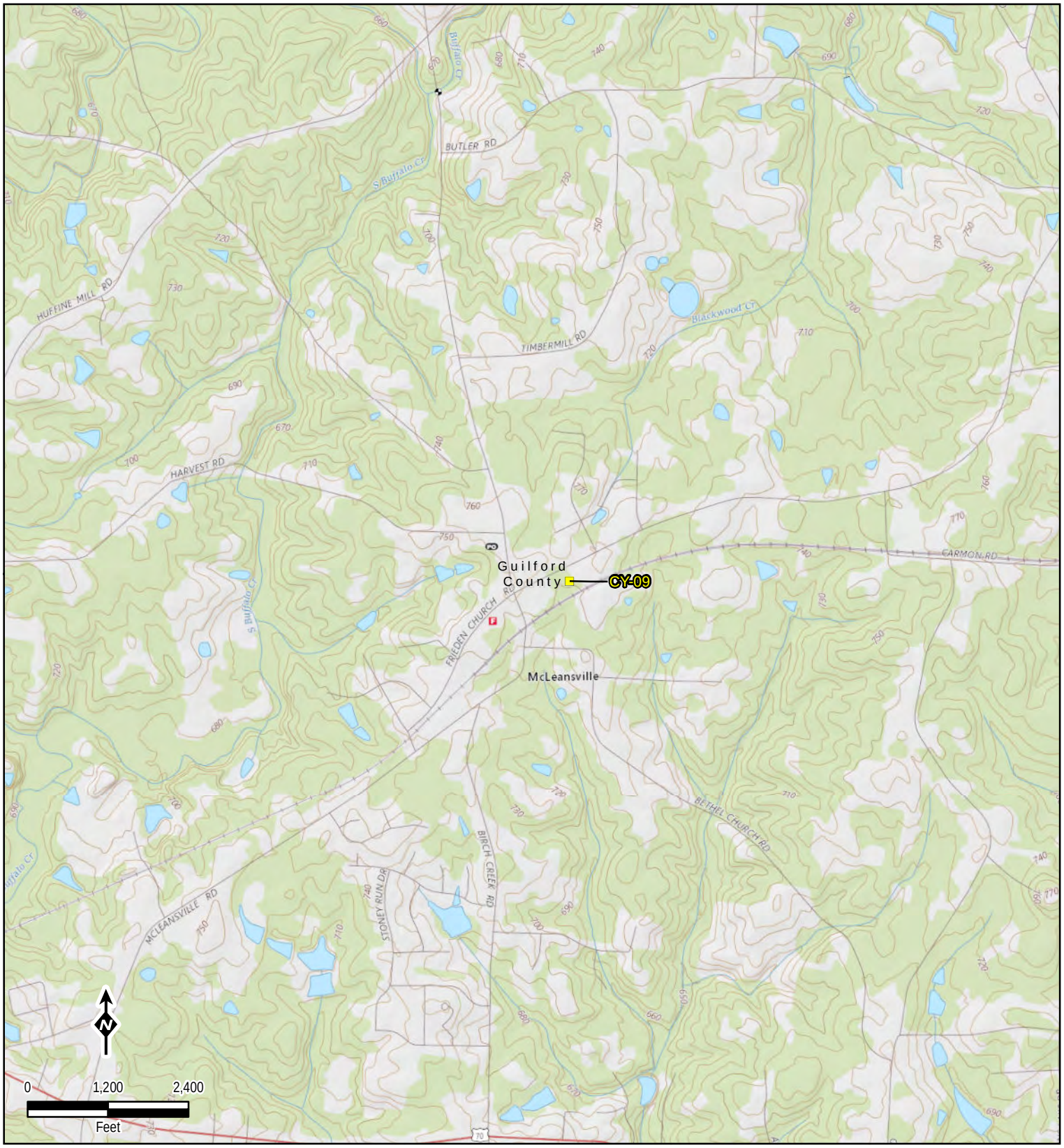

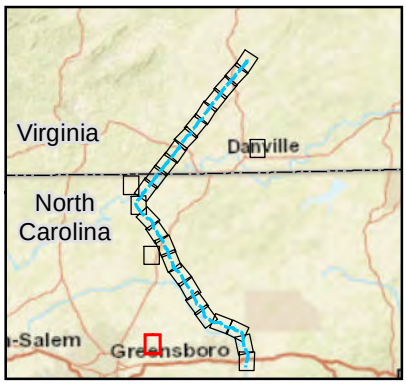

Legend

- Contract Yard
- County Boundary
- State Boundary

Data Sources: Doyal Land, EQT, ESRI, REI, NCNHP, NRCS TRC, USDA, USGS, VADCR, VADGIF

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