APPENDIX I
Timber Removal Plan for the Jefferson National Forest

Appendix I

Timber Removal Plan for the Jefferson National Forest

Mountain Valley Pipeline Project

Prepared by:

Mountain Valley PIPELINE LLC

October 20, 2017

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Mountain Valley Pipeline Project
Timber Removal Plan

1.0 INTRODUCTION

Mountain Valley Pipeline, LLC (MVP), a joint venture between EQT Midstream Partners, LP and affiliates of NextEra Energy, Inc.; Con Edison Gas Midstream LLC; WGL Holdings, Inc.; and RGC Midstream, LLC (collectively referred to as MVP), is seeking a Certificate of Public Convenience and Necessity (Certificate) from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed Mountain Valley Pipeline Project (Project) located in 17 counties in West Virginia and Virginia. MVP plans to construct an approximately 303-mile, 42-inch-diameter natural gas pipeline to provide timely, cost-effective access to the growing demand for natural gas for use by local distribution companies, industrial users, and power generation in the Mid-Atlantic and southeastern markets, as well as potential markets in the Appalachian region. Construction is anticipated to begin in 2017 and conclude in the fourth quarter of 2018. Construction on National Forest System lands will occur in 2018.

The proposed pipeline will extend from the existing Equitrans, L.P. transmission system and other natural gas facilities in Wetzel County, West Virginia to Transcontinental Gas Pipe Line Company, LLC's (Transco) Zone 5 compressor station 165 in Pittsylvania County, Virginia. In addition to the pipeline, the Project will include approximately 171,600 horsepower of compression at three compressor stations currently planned along the route, as well as measurement, regulation, and other ancillary facilities required for the safe and reliable operation of the pipeline. The pipeline is designed to transport up to 2.0 million dekatherms per day of natural gas.

A 3.5-mile long segment of the Project will cross portions of the Jefferson National Forest (JNF) in Monroe County in southern West Virginia and in Giles, Craig, and Montgomery counties in southwestern Virginia. The JNF is managed by the U.S. Forest Service (USFS) of the U.S. Department of Agriculture. Another 60-foot segment of the Project will cross the Weston and Gauley Bridge Turnpike Trail (Weston and Gauley Turnpike) in Braxton County, West Virginia, which is administered by the U.S. Army Corps of Engineers (USACE). Approval to cross land managed by two or more federal agencies is the responsibility of the U.S. Department of the Interior, Bureau of Land Management (BLM) through issuance of a Right-of-Way Grant. Project-wide construction environmental compliance will be the responsibility of the FERC. The USFS and USACE will also ensure compliance across lands managed or administered by those agencies. Because the majority of federal lands crossed are managed by the USFS, this plan focuses on the JNF, noting any additional or different requirements that are specific to the crossing of the Weston and Gauley Turnpike.

The USFS will be responsible for enforcement of the terms and conditions of the BLM's right-of-way Grant on National Forest System lands during the term of the right-of-way Grant for the Mountain Valley Pipeline project. Compliance will be monitored on the JNF portion of this project by the USFS Project Manager and the Authorized Officer's designated compliance monitors. USFS will have stop work authority per terms outlined in the BLM right-of-way grant. USFS will also have stop work authority if unsafe work conditions are encountered during construction.

The Project has potential to impact sensitive environmental resources and, as a result, environmental protection measures have been developed to minimize potential impacts on these resources and will be applied, as applicable, to the Project.

2.0 CURRENT CONDITIONS

Several forested/woodland communities are found near the proposed 3.5-mile crossings of the JNF, including mixed mesophytic forests, conifer-northern hardwood forests, dry-mesic oak forests, dry and dry-mesic oak-pine forests, dry and xeric oak forests, woodlands, as well as xeric pine and pine-oak forests and woodlands. The following USFS Management Prescriptions will be crossed by the Project on the JNF: 4A (*Appalachian National Scenic Trail Corridor*); 4J (*Urban/Suburban Interface*), 6C (*Old-Growth Forest Communities Associated with Disturbance*); and 8A1 (*Mix of Successional Habitats in Forested Landscapes*). The exact extent of timber that will be affected during the initial clearing on the JNF in these areas will not be known until a timber cruise is conducted (discussed in more detail within Section 3.0). However, based on current information, approximately 82.7 acres of forested/woodland areas within the JNF will be impacted during initial clearing, which includes approximately 72.8 acres of land that are within Management Prescriptions identified as suitable for timber production (see Table 1).

Table 1

USFS Management Prescription Areas Impacted by the MVP Project on the Jefferson National Forest

Management Prescription a/	Construction Impacts (acres)	Permanent Operational Impacts (acres)
Prescriptions containing areas that are suitable for timber production		
4J	14.1	5.8
8A1	58.9	30.9
Prescriptions containing areas that are not suitable for timber production		
4A	2.7	1.6
6C	7.5	3.4
Grand Total	**83.2**	**41.7**

a/ 4J = Urban/Suburban Interface
8A1 = Mix of Successional Habitats in Forested Landscapes
4A = Appalachian National Scenic Trail Corridor
6C = Old-Growth Forest Communities Associated with Disturbance
Based on the route revision Implementation Route 20171011

MVP has conducted preliminary tree surveys of the Project Area on the JNF (MVP 2016). A total of 35 plots within the JNF were surveyed in order to determine the dominant species of trees present, tree age (based on tree core samples), estimated trees per acre, as well as the height and basal area of measured trees. The Project's tree survey report (MVP 2016) contains more details regarding the methods used during these initial surveys. Figures displaying the location of the 35 survey plots as well as the results of these surveys are provided in Attachment I-1. As shown in Attachment I-1, the density of trees identified along the Project's route ranged from 0.49 to 114.59 trees per acre, and the age of trees within the plots ranged from 35 to 250 years. Tree species identified during these surveys included various species of oak (e.g., *Quercus alba, Q. arboretum, Q. coccinea, Q. montana, Q. velutina*), pine (e.g., *Pinus echinata, P. pungens, P. strobus, P. virginiana*), hickory (e.g., *Carya glabra, C. ovata, C. tomentosa*), maple (e.g., *Acer pensylvanicum* and *A. rubrum*), birch (*Betula lenta*), hemlock (*Tsuga canadensis*), black cherry (*Prunus*

serotina), tulip poplar (*Liriodendron tulipfera*), black tupelo (*Nyssa sylvatica*), magnolia (*Magnolia acuminate*), sassafras (*Sassafras albidum*), and sourwood (*Oxydendrum arboretum*).

3.0 PLANNED TIMBER CRUISE

A detailed timber cruise will be conducted prior to the proposed timber removal by the USFS. The timber crews will determine the location, volumes, and species compositions of the timber that will be removed from the JNF as part of the Project.

Following completion of the timber cruise, a final appraisal will be conducted by the USFS and a Timber Removal Contract will be developed.

4.0 TIMBER REMOVAL

All merchantable timber, as defined by the JNF Merchantability Specifications, that is reasonably accessible will be paid for prior to cut and removal and will be removed from NFS lands in accordance with Forest Service regulations and Timber Removal Contract.

The following subsections provide general details regarding how timber will be cleared and removed from the Project Area on the JNF. More details regarding the proposed clearing of timber will be provided in the Timber Removal Contract, which will be developed following completion of the timber appraisal.

4.1 General Construction

Prior to initiation of timber clearing and construction on the JNF, all Project personnel will receive environmental training. Training will emphasize the need to comply with all environmental laws and regulations, including all Project-specific permitting documents. The roles and responsibilities of all pertinent parties, flagging/staking methodology, and disturbance limits will be some of the major topics covered in the training (see Appendix C, N, and Z of the Plan of Development).

The pipeline's 125-foot-wide construction right-of-way (which has been narrowed to 75 feet wide in some locations) and temporary workspaces will be cleared of vegetation (including timber) prior to the initiation of construction. All areas to be cleared during construction will be clearly marked with paint and staked by the civil survey crew prior to the start of clearing operations. Also, in accordance with the invasive species plan, MVP will arrange a location in which a JNF designated employee will examine and certify that equipment is clean and permitted to be used on USFS property. Once timber removal has begun, merchantable wood products will be cut into usable lengths and moved to a log landing the same day it is cut in accordance with the USFS requirements. All non-merchantable brush and slash will remain on the right-of-way until pipeline construction activities begin. Once construction begins, the brush and slash will be utilized in downslope areas of the right-of-way and/or removed from the area in accordance with USFS requirements and the scenery management discussed in the Plan of Development.

Non-merchantable brush and slash will be retained on site to provide a level of erosion control until actual pipeline construction begins, at which time it will be windrowed to the edge of the right-of-way. Windrowing of non-merchantable brush and slash along the right-of-way will result in habitat for many types of wildlife including: rabbits and other small mammals, ruffed grouse, song birds and reptiles and provide food for insects. The windrows can also serve as escape cover from predators as well as locations for nesting and shelter from inclement weather. The windrows should be restricted to 8' tall, 20' wide, and 100' long with a 50' break between piles in order to provide fire breaks and wildlife crossings. Non-

merchantable brush and slash can be utilized in downslope areas of the right-of-way and access roads to aide in soil stabilization and erosion control. Layering of brush and slash can promote physical protection to the downslope areas of the right-of-way. Additionally, the layering can provide long-term support for revegetation in downslope areas of the right-of-way. Any remaining non-merchantable timber that cannot be windrowed will be chipped into trucks and removed from the site.

In roadless areas, non-merchantable brush and slash will either be stacked as described above within the approved 125-foot construction right-of-way or removed from the area. The Forest Service will ensure compliance with the timber removal contract provisions through standard timber sale administration procedures throughout timber removal activities.

Additionally, MVP will employ Environmental Inspectors to monitor environmental compliance during timber removal activities. Both the Forest Service Contract Administration Team and MVP Environmental Inspectors will be responsible for: 1) monitoring compliance with mitigating measures required by the Project's wildlife, migratory bird, and aquatic mitigation plans, permits, clearances, certificates, and other approvals of an environmental nature that are issued for the Project; 2) evaluating the contractor's implementation of the environmental mitigation measures required by the FERC Certificate, federal right-of-way grants, and any agreements made between MVP and the USFS; 3) issuing stop-activity orders and corrective actions to maintain environmental compliance; 4) documenting compliance with environmental requirements; and 5) preparing required status reports for submittal to the FERC environmental staff and the USFS.

Erosion control measures from the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) and Wetland and Waterbody Construction and Mitigation Procedures (Procedures) will be implemented within the disturbance areas, and erosion controls will be properly maintained throughout construction and restoration (see Appendix C of the Plan of Development). Appendices C through AA of the Plan of Development contain a description of the measures and Best Management Practices that will be implemented on the JNF to avoid or minimize impacts during the initial clearing of timber and construction of the Project.

4.2 Timber Clearing Methods

The exact methods that will be used to clear timber along the portion of the Project on the JNF will be proposed by the timber contractor and approved by the USFS following the Project's timber appraisal (see Section 3.0). The choice of timber contractor will be provided to the USFS prior to the start of tree clearing.

It is anticipated that the timber contractor will propose and utilize standard timber clearing methods appropriate for the site specific conditions in this region. The timber contractor will likely use standard mechanical cutting systems in areas that contain slopes with a gradient less than 35 percent. MVP has committed to using advanced timber clearing methods (e.g., as skyline systems or shovel logging) in areas that contain an average slope steeper than 35 percent (as exhibited in Appendix B), as requested by the USFS. The timber contractor will be informed of this commitment, and this requirement will be incorporated into the final Timber Removal Plan. A description of the potential timber clearing methods is provided below.

- *Mechanical Harvesting:* Mechanical harvesting may be employed whenever possible. The very nature of this style of work creates an efficient, safer environment for the workers. Under

mechanical harvesting, excavators (e.g., shovels), dozers, and skidders are used for timber extraction to roadside or yarder side for transportation out of the site.

- *Skyline Systems:* Skyline systems remove felled timber with the use of cables and blocks, using a tower and an anchor line. Skyline systems may be implemented in some areas because of steep terrain or limited access.

MVP will compensate the USFS for all merchantable timber cut on the JNF, based on the market value of the timber determined during the appraisal to be completed by the USFS, as well as agreements made between MVP and the USFS. This compensation will occur prior to the clearing of any timber. All merchantable timber will be cut and removed from the JNF per the USFS specification and requirements outlined in the USFS Handbook, agreements made with MVP, and the JNF Land and Resource Management Plan.

4.3 Timber Hauling

Timber will be cut and removed from NFS lands using methods discussed in section 4.2. In order to minimize disturbance to the JNF and reduce the extent of work areas that will be required, timber hauling routes and landing areas will be coincident with access roads and staging areas used for construction, to the extent practical. These areas are shown on the figures provided in Attachment I-2.

At this time, Pocahontas Road, Mystery Ridge Road, and the right-of-way itself will be the routes proposed for use as timber hauling routes for MVP. A detailed plan for the hauling routes and extraction of timber from the work area, including the layout of landing areas that would be used within the approved 125-foot right-of-way are include in Attachment I-2.

5.0 SCHEDULE

It is anticipated that the clearing of timber on the JNF will occur within a single calendar year. If conditions require that timber clearing be conducted during the winter months, MVP will implement the measures outlined in their Winter Construction Plan (see Appendix M of the Plan of Development). The start of clearing will be coordinated with the USFS following the timber cruise, appraisal, timber sale contact excitation, boundary painting, right-of-way grant and notice to proceed issuance. Timber clearing will follow the timber sale contract and JNF Forest Plan standards for timber harvesting.

6.0 PLAN UPDATES

This Timber Removal Plan outlines MVP's commitments to the USFS regarding how timber removal will be conducted on the JNF. As discussed in Section 3.0, a final Timber Removal Plan will be developed once the Project's timber cruise and appraisal has been conducted (which will provide information regarding the timber volumes and species that will be cut, as well as the market value of the timber). In addition, communication with the USFS is ongoing, and it is anticipated that additional recommendations will be provided by the USFS in response to this plan.

7.0 LITERATURE CITED

MVP (Mountain Valley Pipeline, LLC). 2016. Tree Surveys Within the Jefferson National Forest for the Mountain Valley Pipeline Project in Monroe County, West Virginia and Giles, and Montgomery Counties, Virginia. April 2016.

ATTACHMENT I-1
2016 TREE SURVEY PLOT LOCATIONS AND SURVEY RESULTS
(from MVP 2016)

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: West Virginia County: Monroe

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

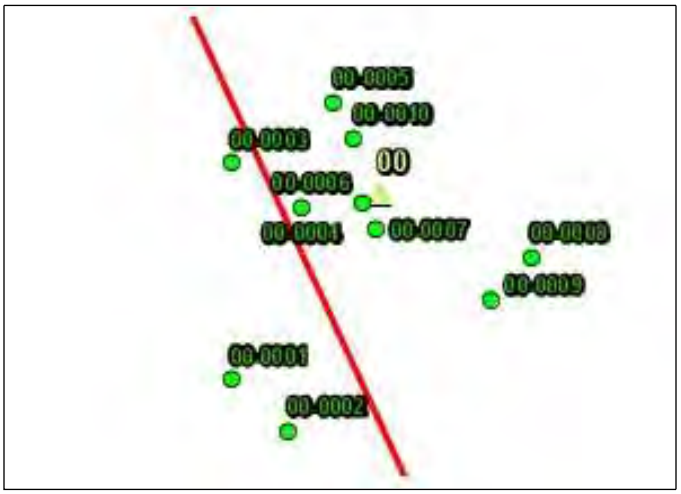
Stand ID: 1 Plot ID: 00 Percent Slope: 30 Trees Per Acre: 70.40 Site Index: <40

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	00-0009	*Quercus montana*	15	Alive	45	n/a	1.23	
03/01/2016	00-0003	*Quercus coccinea*	19	Alive	50	n/a	1.97	
03/01/2016	00-0005	*Quercus coccinea*	21	Alive	50	n/a	2.41	
03/01/2016	00-0002	*Quercus coccinea*	20	Alive	55	n/a	2.18	
03/01/2016	00-0007	*Quercus alba*	10	Alive	35	n/a	0.55	
03/01/2016	00-0001	*Quercus coccinea*	21	Alive	53	130	2.41	Core Sample Taken
03/01/2016	00-0010	*Quercus montana*	14	Dead	25	n/a	1.07	Snag
03/01/2016	00-0008	*Quercus montana*	17	Alive	45	n/a	1.58	
03/01/2016	00-0004	*Quercus montana*	13	Alive	40	n/a	0.92	
03/01/2016	00-0006	*Quercus coccinea*	21	Alive	55	n/a	2.41	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

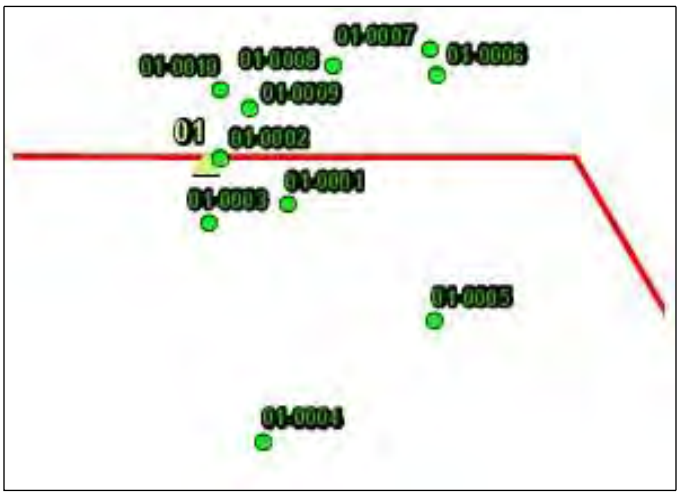
Stand ID: 2 Plot ID: 01 Percent Slope: 15 Trees Per Acre: 68.97 Site Index: <20

Comments: Located on ridge

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	01-0002	*Quercus alba*	17	Alive	40	n/a	1.58	
03/01/2016	01-0010	*Betula lenta*	12	Alive	40	n/a	0.79	
03/01/2016	01-0001	*Quercus alba*	18	Alive	40	n/a	1.77	
03/01/2016	01-0009	*Quercus coccinea*	38	Alive	45	n/a	7.88	
03/01/2016	01-0008	*Carya ovata*	14	Alive	45	n/a	1.07	
03/01/2016	01-0007	*Quercus coccinea*	12	Alive	45	n/a	0.79	
03/01/2016	01-0006	*Quercus coccinea*	19	Alive	50	n/a	1.97	
03/01/2016	01-0005	*Quercus alba*	18	Dead	40	n/a	1.77	Snag
03/01/2016	01-0004	*Quercus alba*	17	Alive	45	250	1.58	Core Sample Taken
03/01/2016	01-0003	*Quercus alba*	17	Dead	40	n/a	1.58	Snag

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

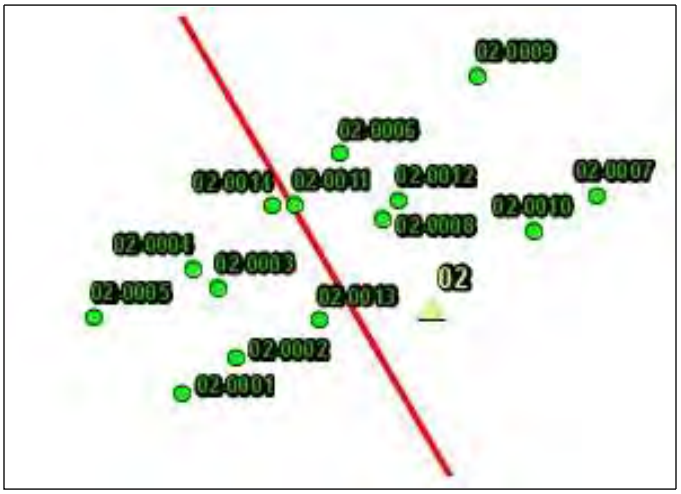
Stand ID: 3 Plot ID: 02 Percent Slope: 25 Trees Per Acre: 272.30 Site Index: <30

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	02-0013	*Quercus montana*	7	Alive	40	n/a	0.27	
03/01/2016	02-0012	*Quercus montana*	9	Alive	35	n/a	0.44	
03/01/2016	02-0010	*Quercus montana*	13	Alive	40	n/a	0.92	
03/01/2016	02-0009	*Nyssa sylvatica*	12	Alive	35	n/a	0.79	
03/01/2016	02-0008	*Quercus alba*	9	Alive	35	n/a	0.44	
03/01/2016	02-0014	*Quercus alba*	4	Alive	25	n/a	0.09	
03/01/2016	02-0007	*Pinus echinata*	17	Dead	20	n/a	1.58	Snag
03/01/2016	02-0006	*Quercus alba*	14	Alive	45	n/a	1.07	
03/01/2016	02-0005	*Quercus montana*	17	Alive	50	n/a	1.58	
03/01/2016	02-0011	*Quercus montana*	9	Alive	40	105	0.44	Core Sample Taken
03/01/2016	02-0004	*Quercus montana*	20	Alive	55	n/a	2.18	
03/01/2016	02-0003	*Quercus montana*	21	Alive	50	n/a	2.41	Leaning
03/01/2016	02-0002	*Acer rubrum*	9	Alive	40	n/a	0.44	
03/01/2016	02-0001	*Quercus montana*	19	Alive	50	n/a	1.97	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

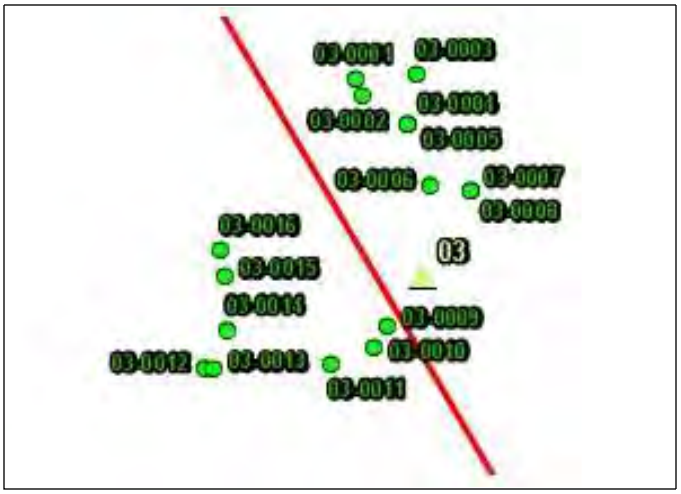
Stand ID: 4 Plot ID: 03 Percent Slope: 18 Trees Per Acre: 240.19 Site Index: 30 - 40

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	03-0015	*Sassafras albidum*	11	Dead	35	n/a	0.66	Snag
03/01/2016	03-0011	*Acer rubrum*	8	Alive	55	n/a	0.35	
03/01/2016	03-0013	*Quercus montana*	12	Alive	55	82	0.79	Core Sample Taken
03/01/2016	03-0010	*Quercus alba*	20	Alive	65	n/a	2.18	
03/01/2016	03-0014	*Sassafras albidum*	11	Alive	40	n/a	0.66	
03/01/2016	03-0009	*Quercus montana*	14	Alive	65	n/a	1.07	
03/01/2016	03-0008	*Quercus montana*	13	Alive	60	n/a	0.92	
03/01/2016	03-0007	*Sassafras albidum*	7	Partially alive	35	n/a	0.27	
03/01/2016	03-0006	*Sassafras albidum*	7	Alive	35	n/a	0.27	
03/01/2016	03-0001	*Quercus coccinea*	15	Alive	70	n/a	1.23	
03/01/2016	03-0005	*Quercus montana*	12	Alive	65	n/a	0.79	
03/01/2016	03-0004	*Quercus montana*	10	Alive	65	n/a	0.55	
03/01/2016	03-0012	*Quercus alba*	13	Alive	55	127	0.92	Core Sample Taken
03/01/2016	03-0003	*Quercus montana*	13	Alive	70	n/a	0.92	
03/01/2016	03-0016	*Sassafras albidum*	8	Alive	35	n/a	0.35	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

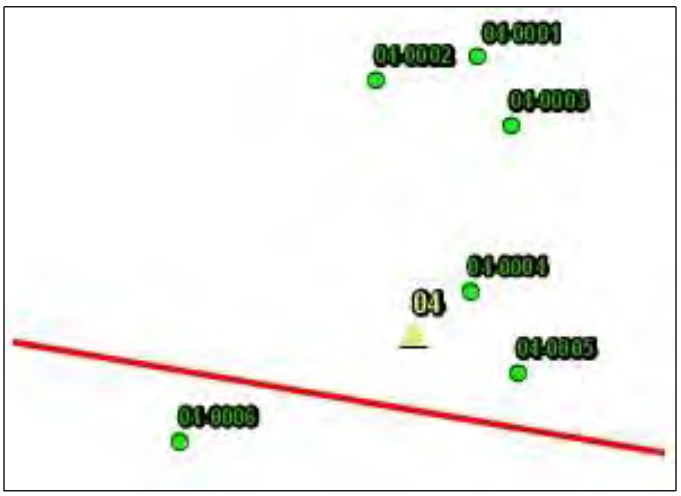
Stand ID: 5 Plot ID: 04 Percent Slope: 15 Trees Per Acre: 91.16 Site Index: 45

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	04-0006	*Quercus montana*	10	Alive	50	n/a	0.55	
03/01/2016	04-0005	*Acer rubrum*	7	Alive	40	n/a	0.27	
03/01/2016	04-0004	*Quercus montana*	11	Alive	60	88	0.66	Core Sample Taken
03/01/2016	04-0003	*Quercus montana*	12	Alive	55	n/a	0.79	
03/01/2016	04-0002	*Quercus montana*	13	Alive	60	n/a	0.92	
03/01/2016	04-0001	*Quercus coccinea*	14	Alive	66	n/a	1.07	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

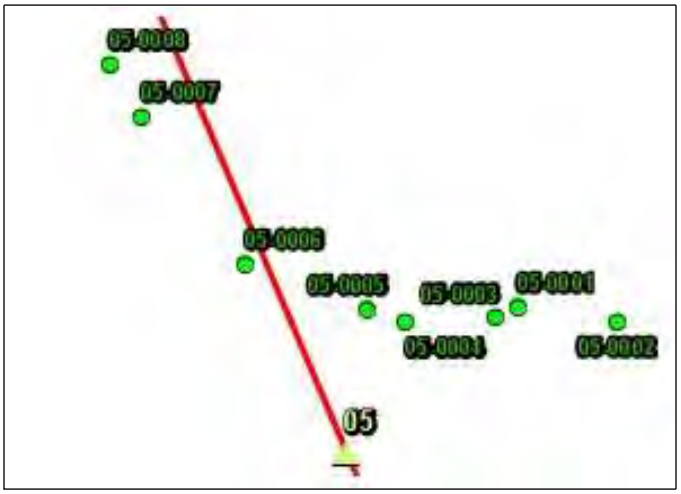
Stand ID: 6 Plot ID: 05 Percent Slope: 12 Trees Per Acre: 140.74 Site Index: 40 - 55

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/01/2016	05-0008	*Quercus montana*	12	Alive	60	n/a	0.79	
03/01/2016	05-0007	*Pinus virginiana*	12	Alive	55	n/a	0.79	
03/01/2016	05-0006	*Pinus virginiana*	13	Alive	55	n/a	0.92	
03/01/2016	05-0005	*Nyssa sylvatica*	5	Alive	30	n/a	0.14	
03/01/2016	05-0004	*Pinus virginiana*	9	Alive	50	n/a	0.44	
03/01/2016	05-0003	*Pinus virginiana*	12	Alive	60	116	0.79	Core Sample Taken
03/01/2016	05-0002	*Quercus montana*	17	Alive	65	141	1.58	Core Sample Taken
03/01/2016	05-0001	*Quercus montana*	19	Alive	68	n/a	1.97	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

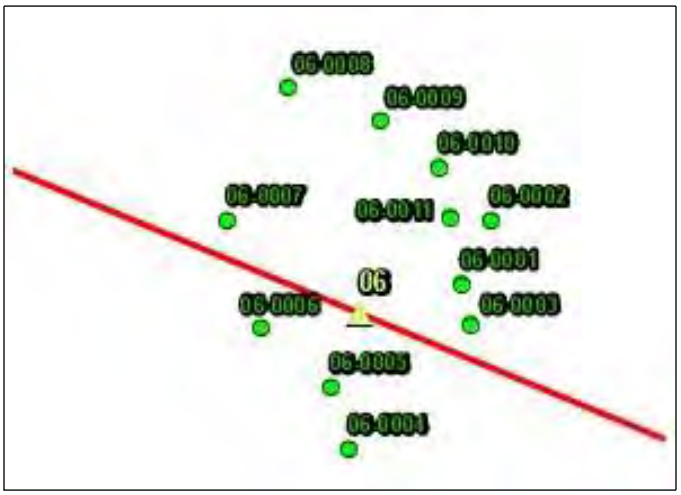
Stand ID: 6 Plot ID: 06 Percent Slope: 10 Trees Per Acre: 140.74 Site Index: n/a

Comments: No tree cores taken; same stand as plot 05

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	06-0011	*Quercus montana*	6	Alive	25	n/a	0.20	
03/02/2016	06-0010	*Quercus montana*	7	Alive	35	n/a	0.27	
03/02/2016	06-0009	*Quercus montana*	12	Alive	50	n/a	0.79	
03/02/2016	06-0008	*Quercus montana*	16	Alive	55	n/a	1.40	
03/02/2016	06-0007	*Quercus montana*	20	Alive	60	n/a	2.18	
03/02/2016	06-0006	*Quercus montana*	13	Alive	55	n/a	0.92	
03/02/2016	06-0005	*Quercus montana*	12	Alive	55	n/a	0.79	
03/02/2016	06-0004	*Quercus montana*	20	Alive	60	n/a	2.18	
03/02/2016	06-0003	*Pinus virginiana*	15	Alive	50	n/a	1.23	
03/02/2016	06-0002	*Quercus montana*	13	Alive	50	n/a	0.92	
03/02/2016	06-0001	*Quercus montana*	16	Alive	53	n/a	1.40	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 7 Plot ID: 07 Percent Slope: 15 Trees Per Acre: 437.69 Site Index: 35 - 40

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	07-0012	*Nyssa sylvatica*	3	Alive	25	n/a	0.05	
03/02/2016	07-0008	*Acer rubrum*	5	Alive	35	n/a	0.14	
03/02/2016	07-0007	*Acer rubrum*	5	Alive	25	n/a	0.14	
03/02/2016	07-0006	*Acer rubrum*	6	Alive	40	n/a	0.20	
03/02/2016	07-0005	*Quercus coccinea*	16	Alive	55	n/a	1.40	
03/02/2016	07-0010	*Nyssa sylvatica*	6	Alive	40	n/a	0.20	
03/02/2016	07-0004	*Quercus montana*	11	Alive	50	100	0.66	Core Sample Taken
03/02/2016	07-0003	*Quercus alba*	15	Alive	60	n/a	1.23	
03/02/2016	07-0002	*Quercus montana*	7	Alive	45	n/a	0.27	
03/02/2016	07-0001	*Quercus coccinea*	11	Alive	54	95	0.66	Core Sample Taken
03/02/2016	07-0009	*Acer rubrum*	6	Alive	40	n/a	0.20	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 8 Plot ID: 08 Percent Slope: 10 Trees Per Acre: 180.66 Site Index: 40 - 50

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	08-0010	*Quercus coccinea*	15	Alive	65	n/a	1.23	
03/02/2016	08-0009	*Quercus alba*	17	Alive	70	n/a	1.58	
03/02/2016	08-0008	*Carya tomentosa*	11	Alive	70	n/a	0.66	
03/02/2016	08-0007	*Quercus coccinea*	12	Alive	60	76	0.79	Core Sample Taken
03/02/2016	08-0006	*Carya tomentosa*	5	Alive	25	n/a	0.14	
03/02/2016	08-0005	*Oxydendrum arboreum*	5	Alive	25	n/a	0.14	
03/02/2016	08-0004	*Quercus coccinea*	16	Alive	60	n/a	1.40	
03/02/2016	08-0003	*Quercus alba*	14	Alive	65	90	1.07	Core Sample Taken
03/02/2016	08-0002	*Quercus coccinea*	9	Dead	50	n/a	0.44	Snag
03/02/2016	08-0001	*Quercus coccinea*	17	Alive	67	n/a	1.58	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

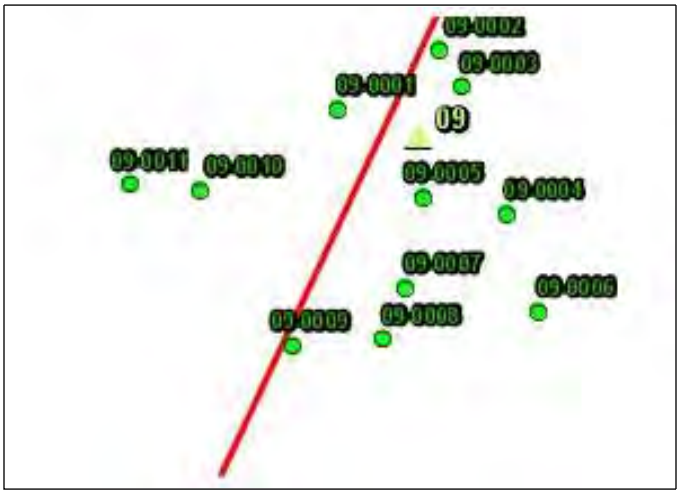
Stand ID: 9 Plot ID: 09 Percent Slope: 15 Trees Per Acre: 89.43 Site Index: 50 - 60

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	09-0003	*Quercus coccinea*	18	Alive	70	n/a	1.77	
03/02/2016	09-0009	*Quercus alba*	13	Alive	65	n/a	0.92	
03/02/2016	09-0001	*Quercus coccinea*	20	Alive	75	62	2.18	Core Sample Taken
03/02/2016	09-0008	*Quercus rubra*	19	Dead	65	n/a	1.97	Snag
03/02/2016	09-0007	*Betula lenta*	7	Alive	40	n/a	0.27	
03/02/2016	09-0002	*Quercus alba*	22	Alive	75	n/a	2.64	
03/02/2016	09-0006	*Quercus velutina*	21	Alive	75	n/a	2.41	
03/02/2016	09-0010	*Quercus rubra*	14	Alive	65	n/a	1.07	
03/02/2016	09-0011	*Quercus rubra*	18	Alive	70	95	1.77	Core Sample Taken
03/02/2016	09-0005	*Quercus rubra*	27	Alive	75	n/a	3.98	
03/02/2016	09-0004	*Betula lenta*	12	Alive	55	n/a	0.79	

Plot Photo

Tree Location Map



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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

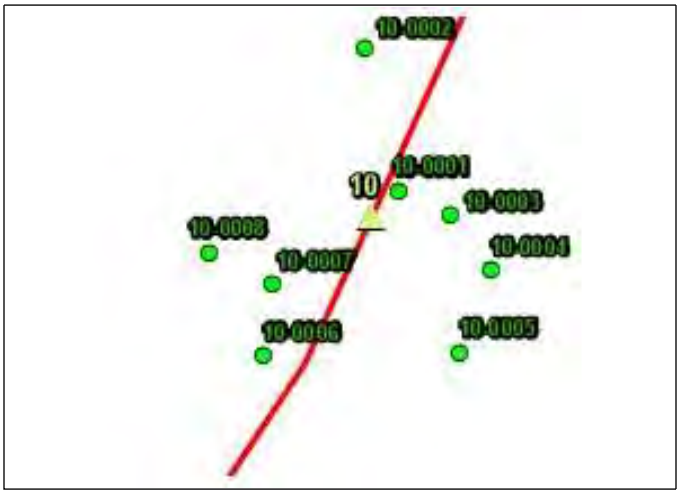
Stand ID: 9 Plot ID: 10 Percent Slope: 15 Trees Per Acre: 89.43 Site Index: n/a

Comments: No cores taken; mostly snags and same stand composition as 09

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/02/2016	10-0008	*Quercus coccinea*	24	Dead	65	n/a	3.14	Snag
03/02/2016	10-0007	*Quercus coccinea*	22	Alive	70	n/a	2.64	
03/02/2016	10-0006	*Quercus rubra*	26	Dead	65	n/a	3.69	Snag
03/02/2016	10-0005	*Carya glabra*	13	Alive	65	n/a	0.92	
03/02/2016	10-0004	*Quercus rubra*	14	Dead	55	n/a	1.07	Snag
03/02/2016	10-0003	*Acer rubrum*	11	Alive	55	n/a	0.66	
03/02/2016	10-0002	*Quercus coccinea*	27	Dead	65	n/a	3.98	Snag
03/02/2016	10-0001	*Quercus coccinea*	25	Dead	70	n/a	3.41	Snag

Plot Photo

Tree Location Map



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4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 9 Plot ID: 11 Percent Slope: 20 Trees Per Acre: 89.43 Site Index: n/a

Comments: Similar stand composition to plot 10; no cores taken

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	11-0010	*Quercus coccinea*	15	Alive	75	n/a	1.23	
03/03/2016	11-0009	*Acer rubrum*	5	Alive	30	n/a	0.14	
03/03/2016	11-0008	*Quercus montana*	15	Alive	70	n/a	1.23	
03/03/2016	11-0002	*Quercus coccinea*	26	Alive	90	n/a	3.69	
03/03/2016	11-0001	*Quercus coccinea*	26	Alive	95	n/a	3.69	
03/03/2016	11-0007	*Quercus coccinea*	36	Alive	70	n/a	7.07	
03/03/2016	11-0006	*Quercus coccinea*	23	Dead	75	n/a	2.89	Snag
03/03/2016	11-0005	*Acer pensylvanicum*	8	Alive	25	n/a	0.35	
03/03/2016	11-0004	*Quercus montana*	9	Alive	65	n/a	0.44	
03/03/2016	11-0003	*Quercus montana*	14	Alive	70	n/a	1.07	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

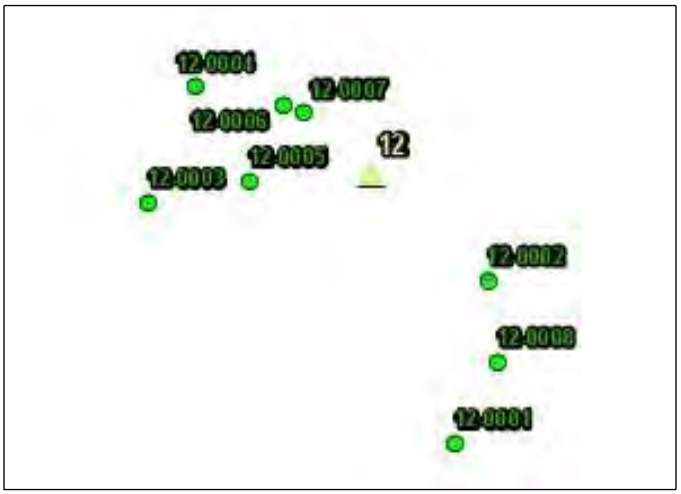
Stand ID: 10 Plot ID: 12 Percent Slope: 20 Trees Per Acre: 141.51 Site Index: 50 - 60

Comments: Sparse remnant mixed oak canopy; hemlock canopy and subcanopy present along stream; thick rhododendron understory

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	12-0008	*Tsuga canadensis*	8	Dead	40	n/a	0.35	Snag
03/04/2016	12-0007	*Tsuga canadensis*	14	Alive	50	n/a	1.07	Top broken
03/04/2016	12-0006	*Quercus velutina*	9	Alive	55	n/a	0.44	
03/04/2016	12-0005	*Acer rubrum*	7	Alive	55	n/a	0.27	
03/04/2016	12-0004	*Quercus velutina*	18	Alive	70	n/a	1.77	
03/04/2016	12-0003	*Quercus velutina*	17	Alive	75	105	1.58	Core Sample Taken
03/04/2016	12-0002	*Acer rubrum*	7	Alive	35	n/a	0.27	Leaning
03/04/2016	12-0001	*Tsuga canadensis*	14	Alive	75	62	1.07	Core Sample Taken

Plot Photo

Tree Location Map



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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

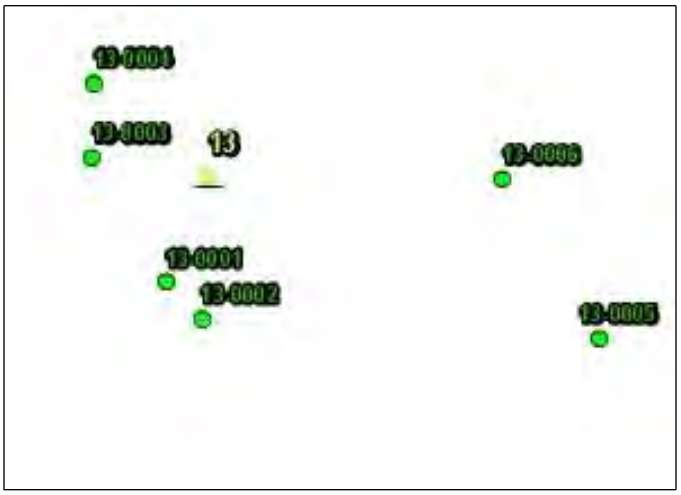
Stand ID: 10 Plot ID: 13 Percent Slope: 25 Trees Per Acre: 141.51 Site Index: n/a

Comments: No cores taken; Thick rhododendron in understory; uneven-aged stand with mixed oak canopy and mixed mesophytic subcanopy

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	13-0006	*Quercus montana*	13	Alive	55	n/a	0.92	
03/04/2016	13-0005	*Tsuga canadensis*	5	Alive	20	n/a	0.14	
03/04/2016	13-0004	*Quercus velutina*	24	Alive	55	n/a	3.14	Top broken
03/04/2016	13-0003	*Acer rubrum*	7	Alive	25	n/a	0.27	
03/04/2016	13-0002	*Quercus alba*	18	Alive	75	n/a	1.77	
03/04/2016	13-0001	*Acer rubrum*	5	Alive	30	n/a	0.14	

Plot Photo

Tree Location Map



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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 11 Plot ID: 14 Percent Slope: 20 Trees Per Acre: 137.51 Site Index: 51

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	14-0006	*Oxydendrum arboreum*	8	Alive	40	n/a	0.35	
03/04/2016	14-0005	*Nyssa sylvatica*	5	Alive	30	n/a	0.14	
03/04/2016	14-0004	*Nyssa sylvatica*	8	Alive	40	n/a	0.35	
03/04/2016	14-0003	*Nyssa sylvatica*	10	Alive	50	n/a	0.55	
03/04/2016	14-0002	*Quercus velutina*	15	Alive	70	95	1.23	Core Sample Taken
03/04/2016	14-0001	*Quercus montana*	21	Alive	75	n/a	2.41	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 12 Plot ID: 15 Percent Slope: 10 Trees Per Acre: 112.26 Site Index: 57 - 58

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	15-0011	*Quercus montana*	14	Alive	70	n/a	1.07	
03/04/2016	15-0006	*Quercus coccinea*	19	Alive	70	n/a	1.97	
03/04/2016	15-0005	*Quercus montana*	7	Alive	40	n/a	0.27	
03/04/2016	15-0004	*Acer rubrum*	10	Alive	55	n/a	0.55	
03/04/2016	15-0003	*Quercus alba*	11	Alive	55	n/a	0.66	
03/04/2016	15-0002	*Quercus alba*	14	Alive	65	n/a	1.07	
03/04/2016	15-0009	*Quercus coccinea*	15	Alive	70	n/a	1.23	
03/04/2016	15-0008	*Quercus montana*	23	Alive	75	n/a	2.89	
03/04/2016	15-0007	*Quercus coccinea*	16	Alive	80	95	1.40	Core Sample Taken
03/04/2016	15-0010	*Quercus coccinea*	15	Dead	30	n/a	1.23	Snag
03/04/2016	15-0001	*Quercus montana*	20	Alive	80	100	2.18	Core Sample Taken

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 13 Plot ID: 16 Percent Slope: 15 Trees Per Acre: 42.10 Site Index: 73

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	16-0011	*Quercus rubra*	28	Alive	125	n/a	4.28	
03/04/2016	16-0010	*Magnolia acuminata*	19	Alive	95	n/a	1.97	
03/04/2016	16-0009	*Quercus rubra*	21	Alive	80	n/a	2.41	
03/04/2016	16-0006	*Quercus rubra*	23	Alive	100	88	2.89	Core Sample Taken
03/04/2016	16-0005	*Magnolia acuminata*	20	Alive	110	120	2.18	Core Sample Taken
03/04/2016	16-0003	*Quercus montana*	23	Alive	110	n/a	2.89	
03/04/2016	16-0002	*Quercus rubra*	34	Alive	130	n/a	6.30	
03/04/2016	16-0004	*Betula lenta*	13	Alive	90	n/a	0.92	
03/04/2016	16-0007	*Quercus rubra*	27	Alive	90	n/a	3.98	
03/04/2016	16-0008	*Quercus rubra*	15	Alive	75	n/a	1.23	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 14 Plot ID: 17 Percent Slope: 20 Trees Per Acre: 117.03 Site Index: n/a

Comments: No cores taken; similar stand composition to plot 18

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/04/2016	17-0010	*Quercus montana*	9	Alive	60	n/a	0.44	
03/04/2016	17-0009	*Quercus montana*	9	Alive	60	n/a	0.44	
03/04/2016	17-0008	*Quercus montana*	20	Alive	80	n/a	2.18	
03/04/2016	17-0007	*Quercus montana*	13	Alive	75	n/a	0.92	
03/04/2016	17-0006	*Quercus montana*	12	Alive	70	n/a	0.79	
03/04/2016	17-0005	*Acer rubrum*	8	Alive	60	n/a	0.35	
03/04/2016	17-0004	*Quercus montana*	11	Alive	60	n/a	0.66	
03/04/2016	17-0003	*Quercus montana*	9	Alive	55	n/a	0.44	
03/04/2016	17-0011	*Quercus montana*	12	Alive	70	n/a	0.79	
03/04/2016	17-0002	*Quercus montana*	13	Alive	60	n/a	0.92	
03/04/2016	17-0001	*Quercus coccinea*	15	Alive	80	n/a	1.23	
03/04/2016	17-0012	*Oxydendrum arboreum*	12	Alive	65	n/a	0.79	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 14 Plot ID: 18 Percent Slope: 20 Trees Per Acre: 117.03 Site Index: 50

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	18-0009	*Quercus montana*	14	Alive	70	n/a	1.07	
03/03/2016	18-0008	*Quercus montana*	19	Alive	75	n/a	1.97	
03/03/2016	18-0007	*Quercus montana*	32	Alive	85	n/a	5.58	
03/03/2016	18-0006	*Quercus montana*	23	Alive	80	n/a	2.89	
03/03/2016	18-0005	*Quercus velutina*	17	Alive	75	90	1.58	Core Sample Taken
03/03/2016	18-0004	*Quercus velutina*	12	Alive	70	n/a	0.79	
03/03/2016	18-0003	*Quercus montana*	12	Alive	65	n/a	0.79	
03/03/2016	18-0010	*Quercus montana*	17	Alive	75	130	1.58	Core Sample Taken
03/03/2016	18-0002	*Quercus velutina*	19	Alive	85	n/a	1.97	
03/03/2016	18-0001	*Quercus coccinea*	34	Alive	85	n/a	6.30	
03/03/2016	18-0011	*Quercus coccinea*	16	Alive	75	n/a	1.40	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

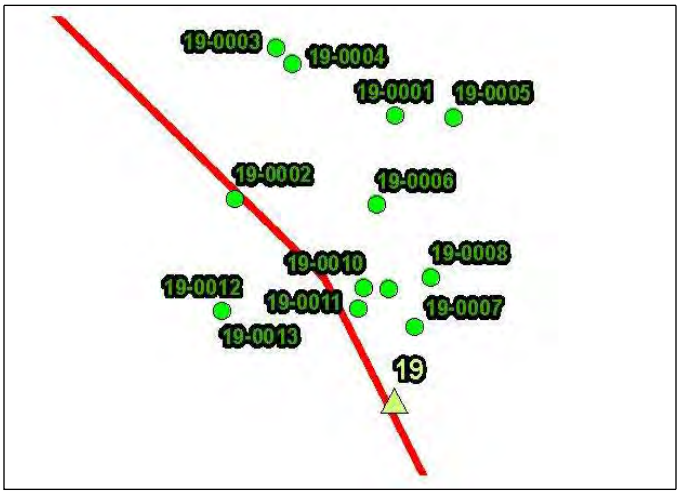
Stand ID: 15 Plot ID: 19 Percent Slope: 15 Trees Per Acre: 398.97 Site Index: 60

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	19-0011	*Quercus montana*	11	Dead	55	n/a	0.66	Snag
03/03/2016	19-0010	*Quercus montana*	11	Dead	60	n/a	0.66	Snag
03/03/2016	19-0009	*Acer rubrum*	7	Alive	40	n/a	0.27	
03/03/2016	19-0008	*Oxydendrum arboreum*	5	Alive	25	n/a	0.14	
03/03/2016	19-0007	*Quercus velutina*	14	Dead	35	n/a	1.07	Snag
03/03/2016	19-0006	*Quercus montana*	6	Dead	10	n/a	0.20	Snag
03/03/2016	19-0005	*Acer rubrum*	5	Alive	20	n/a	0.14	
03/03/2016	19-0004	*Quercus montana*	10	Dead	50	n/a	0.55	Snag
03/03/2016	19-0012	*Acer rubrum*	11	Alive	60	50	0.66	Core Sample Taken
03/03/2016	19-0003	*Quercus montana*	14	Dead	55	n/a	1.07	Snag
03/03/2016	19-0013	*Acer rubrum*	13	Alive	65	n/a	0.92	
03/03/2016	19-0002	*Nyssa sylvatica*	4	Alive	20	n/a	0.09	
03/03/2016	19-0001	*Acer rubrum*	10	Alive	55	n/a	0.55	

Plot Photo

Tree Location Map



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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Giles

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

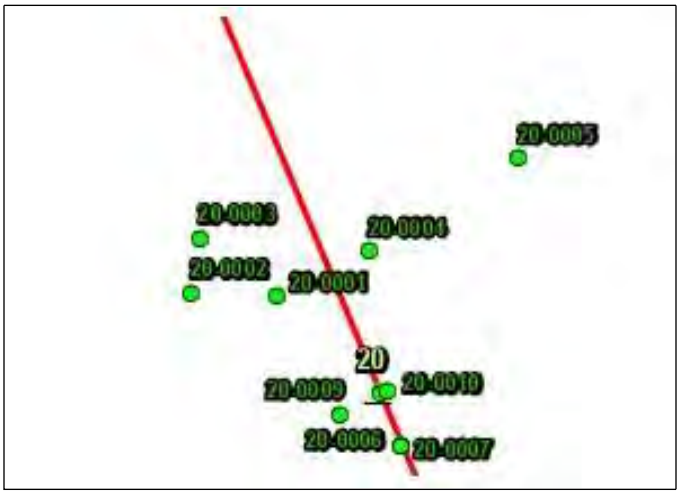
Stand ID: 16 Plot ID: 20 Percent Slope: 20 Trees Per Acre: 288.81 Site Index: 63 - 72

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/03/2016	20-0001	*Quercus alba*	17	Alive	80	67	1.58	Core Sample Taken
03/03/2016	20-0010	*Prunus serotina*	4	Alive	25	n/a	0.09	
03/03/2016	20-0009	*Prunus serotina*	6	Alive	45	n/a	0.20	
03/03/2016	20-0008	*Prunus serotina*	6	Alive	40	n/a	0.20	
03/03/2016	20-0007	*Liriodendron tulipifera*	11	Alive	65	n/a	0.66	
03/03/2016	20-0006	*Liriodendron tulipifera*	8	Alive	55	n/a	0.35	
03/03/2016	20-0005	*Quercus alba*	27	Alive	85	n/a	3.98	
03/03/2016	20-0002	*Quercus velutina*	19	Alive	80	82	1.97	Core Sample Taken
03/03/2016	20-0004	*Acer rubrum*	17	Alive	70	n/a	1.58	
03/03/2016	20-0003	*Quercus montana*	11	Alive	80	60	0.66	Core Sample Taken

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

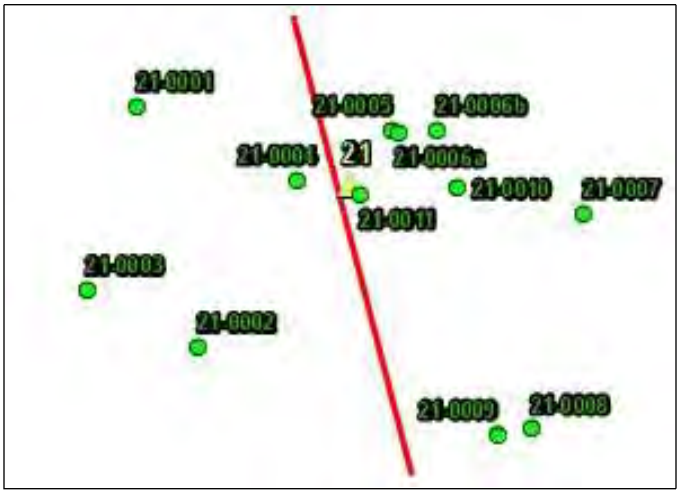
Stand ID: 17 Plot ID: 21 Percent Slope: 30 Trees Per Acre: 120.31 Site Index: 37 - 50

Comments: Plot moved downslope to avoid boulders; also moved eastward to match centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	21-0009	*Quercus montana*	13	Dead	45	n/a	0.92	Snag
03/05/2016	21-0008	*Quercus montana*	25	Dead	30	n/a	3.41	Snag
03/05/2016	21-0007	*Carya tomentosa*	13	Alive	65	n/a	0.92	
03/05/2016	21-0006b	*Nyssa sylvatica*	8	Alive	45	n/a	0.35	
03/05/2016	21-0006a	*Carya tomentosa*	10	Alive	40	n/a	0.55	Leaning
03/05/2016	21-0005	*Quercus velutina*	10	Alive	55	n/a	0.55	
03/05/2016	21-0004	*Quercus velutina*	10	Alive	55	n/a	0.55	
03/05/2016	21-0003	*Quercus montana*	14	Alive	70	n/a	1.07	
03/05/2016	21-0002	*Quercus velutina*	19	Alive	75	n/a	1.97	
03/05/2016	21-0001	*Quercus velutina*	21	Alive	75	147	2.41	Core Sample Taken
03/05/2016	21-0011	*Carya tomentosa*	12	Alive	60	125	0.79	Core Sample Taken
03/05/2016	21-0010	*Quercus montana*	10	Alive	45	n/a	0.55	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

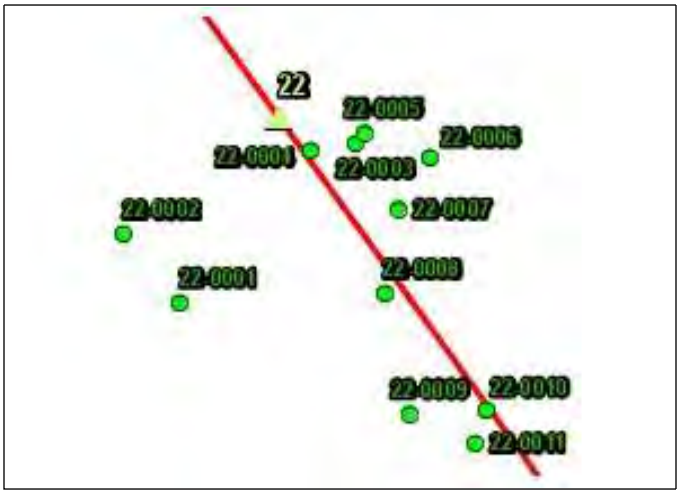
Stand ID: 17 Plot ID: 22 Percent Slope: 20 Trees Per Acre: 120.31 Site Index: n/a

Comments: No cores taken; similar stand composition to plot 21

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	22-0009	*Quercus montana*	19	Alive	70	n/a	1.97	
03/05/2016	22-0008	*Quercus montana*	11	Alive	60	n/a	0.66	
03/05/2016	22-0007	*Quercus montana*	7	Alive	45	n/a	0.27	
03/05/2016	22-0006	*Acer rubrum*	10	Alive	55	n/a	0.55	
03/05/2016	22-0005	*Oxydendrum arboreum*	8	Alive	30	n/a	0.35	
03/05/2016	22-0004	*Carya tomentosa*	11	Alive	65	n/a	0.66	
03/05/2016	22-0003	*Quercus velutina*	19	Alive	80	n/a	1.97	
03/05/2016	22-0010	*Pinus virginiana*	18	Alive	80	n/a	1.77	Bear claw marks
03/05/2016	22-0002	*Pinus virginiana*	18	Alive	85	n/a	1.77	
03/05/2016	22-0001	*Quercus velutina*	21	Alive	75	n/a	2.41	
03/05/2016	22-0011	*Quercus alba*	25	Alive	75	n/a	3.41	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 18 Plot ID: 23 Percent Slope: 15 Trees Per Acre: 36.41 Site Index: 55 - 111

Comments: Spring/stream through plot

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	23-0010	*Liriodendron tulipifera*	23	Alive	125	83	2.89	Core Sample Taken
03/05/2016	23-0009	*Liriodendron tulipifera*	24	Alive	130	n/a	3.14	
03/05/2016	23-0008	*Liriodendron tulipifera*	15	Alive	120	n/a	1.23	
03/05/2016	23-0007	*Quercus montana*	19	Alive	80	n/a	1.97	
03/05/2016	23-0006	*Quercus montana*	18	Alive	80	137	1.77	Core Sample Taken
03/05/2016	23-0005	*Quercus montana*	32	Alive	90	n/a	5.58	
03/05/2016	23-0004	*Quercus montana*	29	Dead	70	n/a	4.59	Snag
03/05/2016	23-0003	*Liriodendron tulipifera*	41	Alive	125	n/a	9.17	
03/05/2016	23-0002	*Liriodendron tulipifera*	19	Alive	125	n/a	1.97	
03/05/2016	23-0001	*Liriodendron tulipifera*	23	Alive	130	n/a	2.89	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 19 Plot ID: 24 Percent Slope: 20 Trees Per Acre: 272.60 Site Index: 92

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	24-0010	*Acer rubrum*	10	Alive	70	n/a	0.55	
03/05/2016	24-0009	*Acer rubrum*	11	Alive	70	n/a	0.66	
03/05/2016	24-0008	*Quercus velutina*	8	Alive	65	n/a	0.35	
03/05/2016	24-0007	*Quercus velutina*	12	Alive	75	35	0.79	Core Sample Taken
03/05/2016	24-0006	*Quercus montana*	8	Alive	70	n/a	0.35	
03/05/2016	24-0005	*Quercus velutina*	12	Alive	75	n/a	0.79	
03/05/2016	24-0004	*Quercus velutina*	12	Alive	70	n/a	0.79	
03/05/2016	24-0011	*Betula lenta*	4	Alive	40	n/a	0.09	
03/05/2016	24-0003	*Quercus velutina*	11	Alive	70	n/a	0.66	
03/05/2016	24-0002	*Quercus montana*	14	Alive	75	n/a	1.07	
03/05/2016	24-0001	*Quercus coccinea*	14	Alive	80	n/a	1.07	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

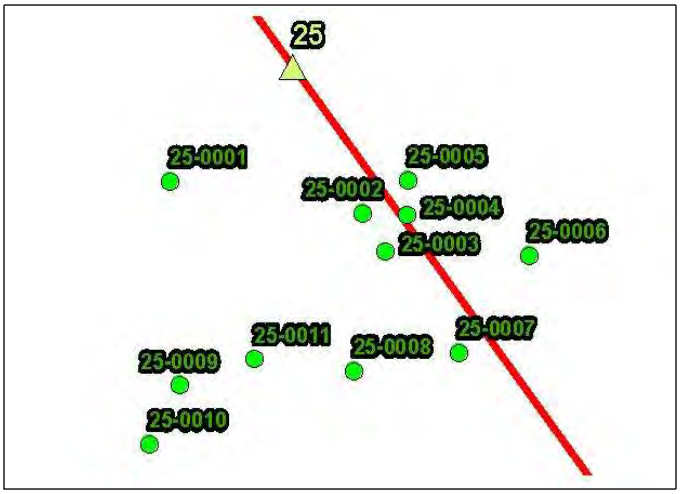
Stand ID: 20 Plot ID: 25 Percent Slope: 15 Trees Per Acre: 201.24 Site Index: 86

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	25-0009	*Liriodendron tulipifera*	8	Alive	80	n/a	0.35	
03/05/2016	25-0010	*Liriodendron tulipifera*	11	Alive	85	n/a	0.66	
03/05/2016	25-0008	*Quercus coccinea*	9	Alive	80	n/a	0.44	
03/05/2016	25-0007	*Liriodendron tulipifera*	13	Alive	95	n/a	0.92	
03/05/2016	25-0006	*Liriodendron tulipifera*	9	Alive	90	n/a	0.44	
03/05/2016	25-0005	*Liriodendron tulipifera*	8	Alive	70	n/a	0.35	
03/05/2016	25-0004	*Liriodendron tulipifera*	11	Alive	90	n/a	0.66	
03/05/2016	25-0003	*Carya glabra*	8	Alive	70	n/a	0.35	
03/05/2016	25-0002	*Quercus montana*	12	Alive	75	n/a	0.79	
03/05/2016	25-0001	*Liriodendron tulipifera*	10	Alive	80	40	0.55	Core Sample Taken
03/05/2016	25-0011	*Quercus coccinea*	11	Alive	85	n/a	0.66	

Plot Photo

Tree Location Map



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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 21 Plot ID: 26 Percent Slope: 2 Trees Per Acre: 208.59 Site Index: 61 - 76

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/05/2016	26-0010	*Quercus coccinea*	10	Dead	50	n/a	0.55	Snag
03/05/2016	26-0009	*Quercus coccinea*	5	Alive	45	n/a	0.14	
03/05/2016	26-0008	*Quercus coccinea*	12	Alive	85	n/a	0.79	
03/05/2016	26-0007	*Pinus strobus*	15	Alive	85	n/a	1.23	
03/05/2016	26-0006	*Liriodendron tulipifera*	8	Alive	70	n/a	0.35	
03/05/2016	26-0005	*Liriodendron tulipifera*	10	Alive	80	n/a	0.55	
03/05/2016	26-0004	*Liriodendron tulipifera*	7	Alive	70	n/a	0.27	
03/05/2016	26-0003	*Quercus coccinea*	11	Alive	75	n/a	0.66	
03/05/2016	26-0002	*Quercus coccinea*	10	Alive	70	43	0.55	Core Sample Taken
03/05/2016	26-0001	*Pinus strobus*	11	Alive	75	35	0.66	Core Sample Taken

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 22 Plot ID: 27 Percent Slope: 2 Trees Per Acre: 222.00 Site Index: 70

Comments: Core taken: plot moved to centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	27-0016	*Pinus strobus*	21	Alive	100	n/a	2.41	
03/06/2016	27-0011	*Pinus strobus*	11	Alive	60	n/a	0.66	
03/06/2016	27-0013	*Pinus strobus*	10	Alive	50	n/a	0.55	
03/06/2016	27-0010	*Pinus strobus*	6	Alive	45	n/a	0.20	
03/06/2016	27-0009	*Pinus strobus*	18	Alive	90	n/a	1.77	
03/06/2016	27-0008	*Quercus coccinea*	14	Alive	90	n/a	1.07	
03/06/2016	27-0007	*Liriodendron tulipifera*	13	Alive	90	n/a	0.92	
03/06/2016	27-0006	*Quercus coccinea*	11	Alive	60	n/a	0.66	
03/06/2016	27-0015	*Quercus coccinea*	18	Alive	70	n/a	1.77	
03/06/2016	27-0005	*Pinus strobus*	18	Alive	70	n/a	1.77	
03/06/2016	27-0004	*Quercus alba*	8	Alive	55	n/a	0.35	
03/06/2016	27-0003	*Pinus strobus*	22	Alive	100	n/a	2.64	
03/06/2016	27-0002	*Quercus coccinea*	21	Alive	90	n/a	2.41	
03/06/2016	27-0014	*Pinus virginiana*	9	Dead	50	n/a	0.44	Snag
03/06/2016	27-0012	*Pinus strobus*	8	Alive	50	n/a	0.35	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

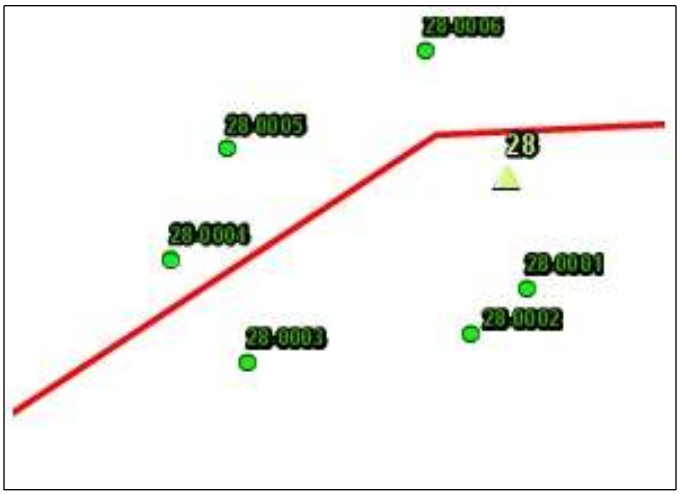
Stand ID: 23 Plot ID: 28 Percent Slope: 10 Trees Per Acre: 296.51 Site Index: n/a

Comments: Moved to centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	28-0006	*Quercus coccinea*	18	Alive	65	n/a	1.77	
03/06/2016	28-0005	*Quercus alba*	7	Alive	40	n/a	0.27	
03/06/2016	28-0004	*Quercus coccinea*	13	Alive	55	n/a	0.92	
03/06/2016	28-0003	*Acer rubrum*	3	Dead	25	n/a	0.05	
03/06/2016	28-0002	*Quercus coccinea*	13	Dead	60	n/a	0.92	
03/06/2016	28-0001	*Quercus coccinea*	16	Alive	75	n/a	1.40	

Plot Photo

Tree Location Map



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4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

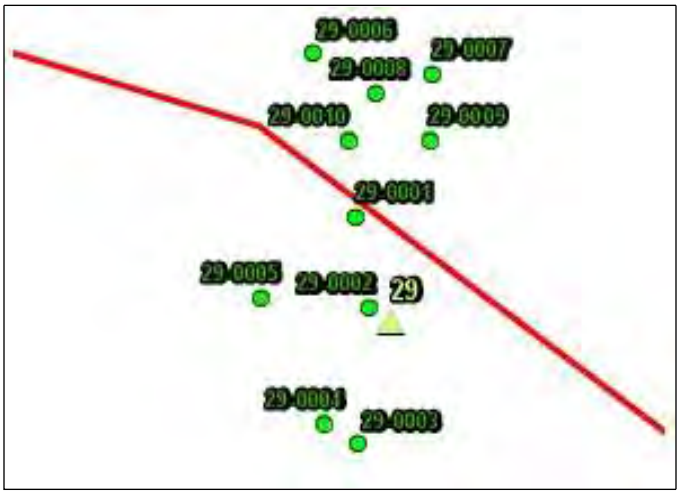
Stand ID: 23 Plot ID: 29 Percent Slope: 15 Trees Per Acre: 296.51 Site Index: 55

Comments:

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	29-0006	*Quercus coccinea*	21	Alive	70	n/a	2.41	
03/06/2016	29-0004	*Quercus montana*	10	Alive	60	n/a	0.55	
03/06/2016	29-0003	*Quercus coccinea*	17	Alive	70	n/a	1.58	
03/06/2016	29-0005	*Quercus montana*	10	Alive	60	n/a	0.55	
03/06/2016	29-0002	*Quercus montana*	9	Alive	35	n/a	0.44	
03/06/2016	29-0001	*Quercus coccinea*	19	Alive	70	81	1.97	Core Sample Taken
03/06/2016	29-0010	*Quercus montana*	7	Alive	50	n/a	0.27	
03/06/2016	29-0009	*Quercus coccinea*	18	Alive	70	n/a	1.77	
03/06/2016	29-0008	*Quercus coccinea*	12	Alive	65	n/a	0.79	
03/06/2016	29-0007	*Quercus coccinea*	17	Alive	80	n/a	1.58	

Plot Photo

Tree Location Map



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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

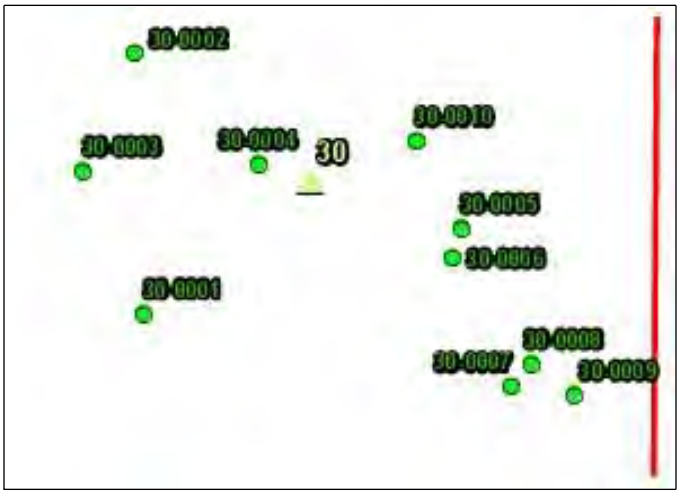
Stand ID: 24 Plot ID: 30 Percent Slope: 2 Trees Per Acre: 588.89 Site Index: <30

Comments: Moved to where flagging occurs

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	30-0007	*Quercus montana*	7	Alive	30	n/a	0.27	
03/06/2016	30-0005	*Quercus montana*	8	Alive	30	75	0.35	Core Sample Taken
03/06/2016	30-0004	*Quercus montana*	4	Alive	25	n/a	0.09	
03/06/2016	30-0003	*Quercus montana*	5	Alive	25	n/a	0.14	
03/06/2016	30-0002	*Quercus montana*	6	Alive	25	n/a	0.20	
03/06/2016	30-0001	*Pinus pungens*	7	Alive	25	n/a	0.27	
03/06/2016	30-0006	*Quercus montana*	7	Alive	30	n/a	0.27	
03/06/2016	30-0010	*Quercus montana*	4	Alive	20	n/a	0.09	
03/06/2016	30-0009	*Quercus coccinea*	7	Alive	35	n/a	0.27	
03/06/2016	30-0008	*Quercus montana*	4	Alive	15	n/a	0.09	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
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Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 25 Plot ID: 31 Percent Slope: 15 Trees Per Acre: 422.65 Site Index: n/a

Comments: No cores taken; similar stand conditions to plot 34

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	31-0009	*Nyssa sylvatica*	4	Alive	15	n/a	0.09	
03/06/2016	31-0008	*Pinus pungens*	8	Alive	40	n/a	0.35	
03/06/2016	31-0007	*Pinus pungens*	12	Alive	50	n/a	0.79	
03/06/2016	31-0006	*Pinus pungens*	13	Alive	50	n/a	0.92	
03/06/2016	31-0005	*Pinus pungens*	5	Alive	30	n/a	0.14	
03/06/2016	31-0004	*Quercus coccinea*	8	Alive	50	n/a	0.35	
03/06/2016	31-0003	*Quercus coccinea*	9	Alive	50	n/a	0.44	
03/06/2016	31-0016	*Quercus montana*	10	Alive	50	n/a	0.55	
03/06/2016	31-0015	*Quercus montana*	10	Alive	50	n/a	0.55	
03/06/2016	31-0014	*Quercus montana*	11	Alive	50	n/a	0.66	
03/06/2016	31-0002	*Pinus pungens*	11	Alive	45	n/a	0.66	
03/06/2016	31-0013	*Quercus montana*	11	Alive	50	n/a	0.66	
03/06/2016	31-0011	*Pinus pungens*	10	Alive	50	n/a	0.55	
03/06/2016	31-0001	*Pinus pungens*	11	Alive	40	n/a	0.66	
03/06/2016	31-0012	*Pinus pungens*	10	Alive	50	n/a	0.55	

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

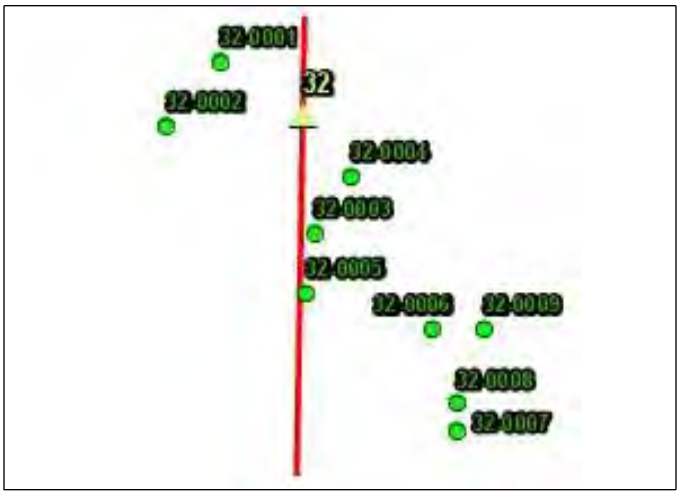
Stand ID: 25 Plot ID: 32 Percent Slope: 25 Trees Per Acre: 422.65 Site Index: n/a

Comments: No cores taken; same stand

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	32-0008	*Quercus montana*	8	Alive	30	n/a	0.35	
03/06/2016	32-0007	*Quercus montana*	8	Alive	30	n/a	0.35	
03/06/2016	32-0006	*Nyssa sylvatica*	2	Alive	15	n/a	0.02	
03/06/2016	32-0005	*Quercus coccinea*	8	Alive	35	n/a	0.35	
03/06/2016	32-0004	*Quercus montana*	12	Alive	35	n/a	0.79	
03/06/2016	32-0003	*Quercus montana*	3	Alive	15	n/a	0.05	
03/06/2016	32-0002	*Quercus montana*	4	Alive	20	n/a	0.09	
03/06/2016	32-0001	*Pinus pungens*	10	Dead	20	n/a	0.55	Snag
03/06/2016	32-0009	*Quercus montana*	12	Alive	35	n/a	0.79	

Plot Photo

Tree Location Map



Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

Stand ID: 25 Plot ID: 33 Percent Slope: 30 Trees Per Acre: 422.65 Site Index: n/a

Comments: Plot moved to reflect centerline flagging

Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	33-0008	*Quercus montana*	8	Alive	15	n/a	0.35	
03/06/2016	33-0007	*Quercus montana*	8	Alive	20	n/a	0.35	
03/06/2016	33-0006	*Quercus montana*	4	Alive	10	n/a	0.09	
03/06/2016	33-0005b	*Quercus montana*	7	Alive	15	n/a	0.27	
03/06/2016	33-0005a	*Quercus montana*	6	Alive	15	n/a	0.20	
03/06/2016	33-0004	*Quercus montana*	7	Alive	25	n/a	0.27	
03/06/2016	33-0003	*Quercus montana*	11	Alive	25	n/a	0.66	
03/06/2016	33-0002	*Pinus pungens*	10	Alive	30	n/a	0.55	
03/06/2016	33-0001	*Pinus pungens*	11	Alive	25	62	0.66	Core Sample Taken

Plot Photo

Tree Location Map

Property of: Environmental Solutions & Innovations, Inc
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Tree Plot Survey Data

Project Number: 593.02 Project Name: MVP - JNF Tree Survey 2016 State: Virginia County: Montgomery

Permitted Staff: Valerie Clarkston Field Technician: Doug Gilbert

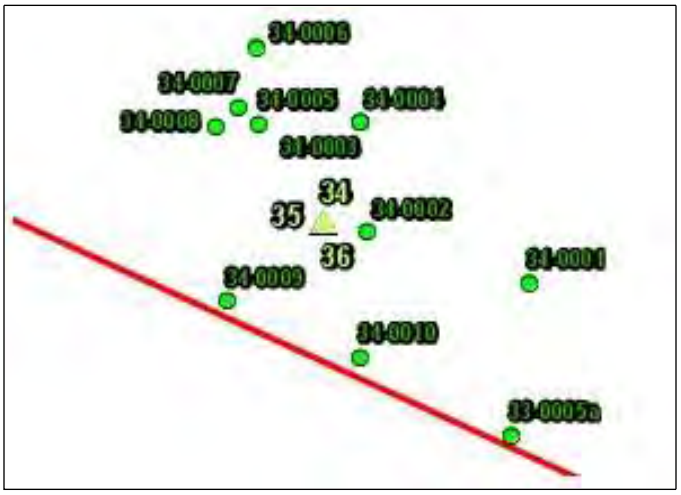
Stand ID: 25 Plot ID: 34 Percent Slope: 15 Trees Per Acre: 422.65 Site Index: 40

Comments: Moved based on centerline flagging

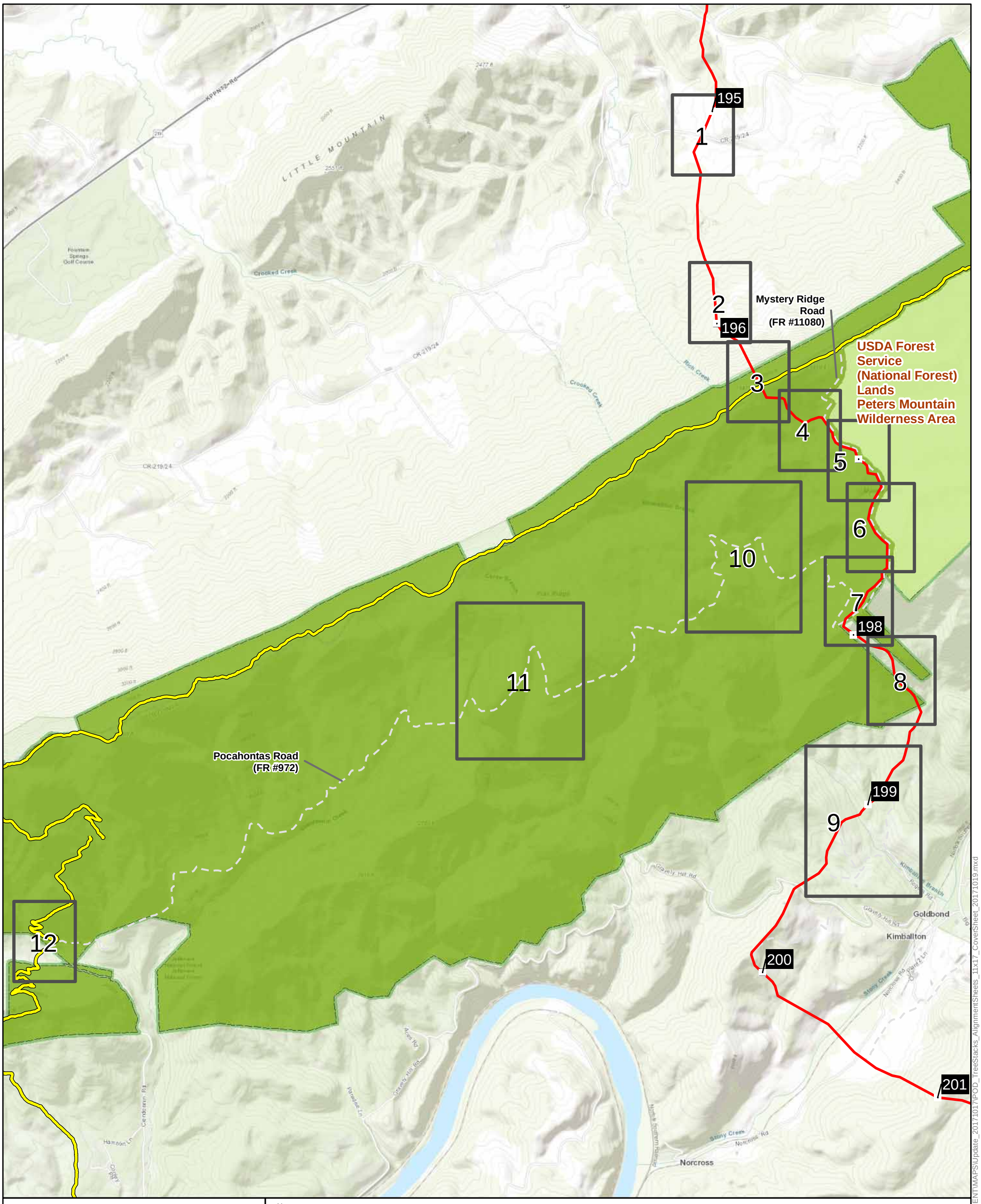
Date	Tree ID	Tree Species	Tree DBH	Tree Status	Tree Height	Estimated Tree Age	Tree Basal Area (SqFt)	Comments
03/06/2016	34-0009	*Quercus montana*	16	Alive	50	n/a	1.40	
03/06/2016	34-0008	*Quercus montana*	7	Alive	30	n/a	0.27	
03/06/2016	34-0007	*Quercus montana*	5	Alive	25	n/a	0.14	
03/06/2016	34-0006	*Quercus montana*	19	Alive	55	n/a	1.97	
03/06/2016	34-0005	*Quercus montana*	14	Alive	55	n/a	1.07	
03/06/2016	34-0004	*Quercus montana*	11	Alive	50	n/a	0.66	
03/06/2016	34-0003	*Quercus montana*	9	Alive	20	n/a	0.44	
03/06/2016	34-0002	*Quercus montana*	10	Alive	50	n/a	0.55	
03/06/2016	34-0001	*Quercus montana*	11	Alive	50	75	0.66	Core Sample Taken
03/06/2016	34-0010	*Pinus pungens*	9	Alive	50	n/a	0.44	

Plot Photo

Tree Location Map



ATTACHMENT I-2
FIGURES DISPLAYING TIMBER HAULING ROUTES AND LANDING AREAS



Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:26,000

0 0.5 1 Miles

Mountain Valley PIPELINE

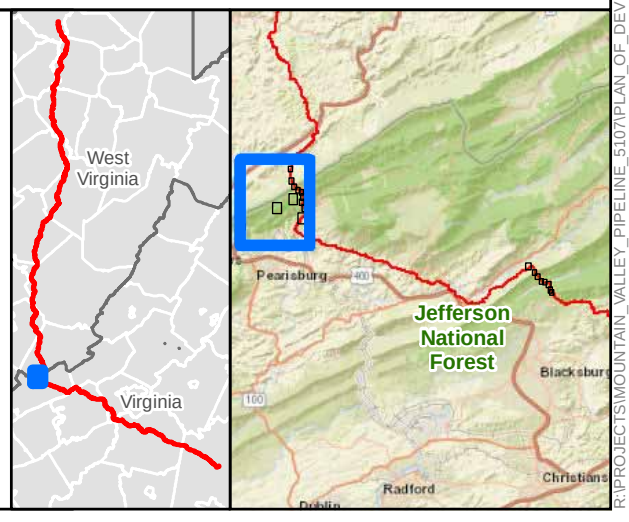
Tree Stack and Access Map Index North

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Map Sheet Index
- Milepost
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- Road
- Wilderness Area
- USDA Forest Service (National Forest) Lands



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Huffman
Wolf Knob Trl
Laurel Creek Ln
Northside Rd
Clover Hollow Trl
42
Cumberland Gap Rd
Walnut Tree Ln
SINKING CREEK MOUNTAIN
3189 ft
CRAIG
MONTGOMERY
13
218
14
219
15
16
17
220
18
19
20
221
222
Craig Creek Rd
USDA Forest Service
(National Forest) Lands
Brush Mountain
Wilderness
Brush Mountain Road
(FR #188)
Jefferson Forest Ln
East Bengal Trl
Chowning Trl
Susannah Dr
Patton Ct
Preston Forest Dr
Smithfield Dr
McDowell
S Jefferson Forest Rd
Mill Creek
Shady Grove

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:20,000

0 0.375 0.75 Miles

Mountain Valley PIPELINE

Tree Stack and Access Map Index South

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Map Sheet Index
- Milepost
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- Road
- Wilderness Area
- USDA Forest Service (National Forest) Lands

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195

195.1

195.2

195.3

ACCESS
FROM GREEN
VALLEY RD

2000

2050

2100

2150

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

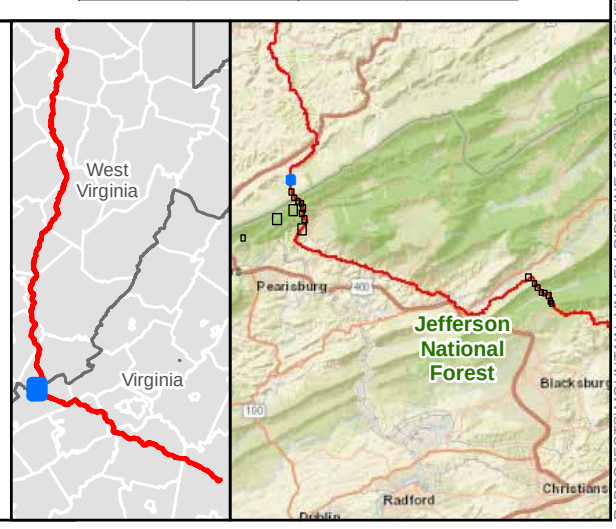
Tree Stack and Access
Page 1 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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2300
2350
2400
2450
195.8
ACCESS FROM GREEN VALLEY RD
2500
2550
ACCESS FROM GREEN VALLEY RD
2600
195.9
2650
ACCESS FROM GREEN VALLEY RD
2700
196
2750
2800
2850
196.1
2900
2950

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

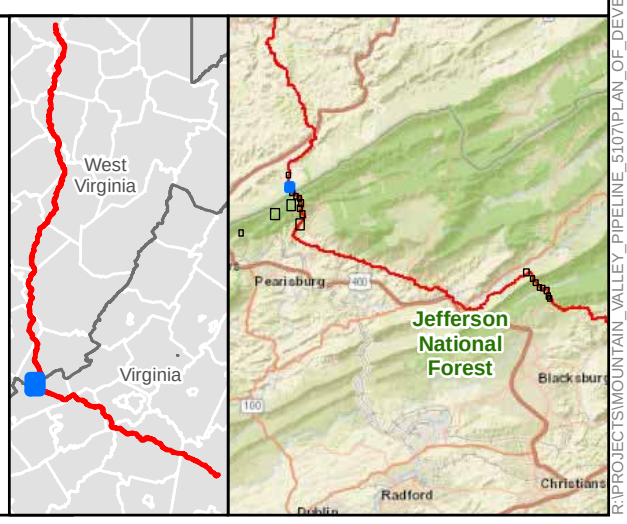
Tree Stack and Access
Page 2 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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2900
2950
3000
3050
3100
3150
3200
3250
3300
3350
3400
3450
3450
3400
3350
3300
3250
3200
3150

196.2
196.3
196.4
196.5

ACCESS
FROM GREEN
VALLEY RD

ACCESS
VIA POCAHONTAS AND
MYSTERY RIDGE ROADS

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

Tree Stack and Access
Page 3 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point

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3400
3350
3300
3250
3200
3150
3100
3050
3000
3050

196.5
196.6
196.7
196.8
196.9

ACCESS VIA
POCAHONTAS AND
MYSTERY RIDGE ROADS

USDA Forest
Service (National
Forest) Lands
Peters Mountain
Wilderness Area

Mystery Ridge Road
(Forest Road # 11080)

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

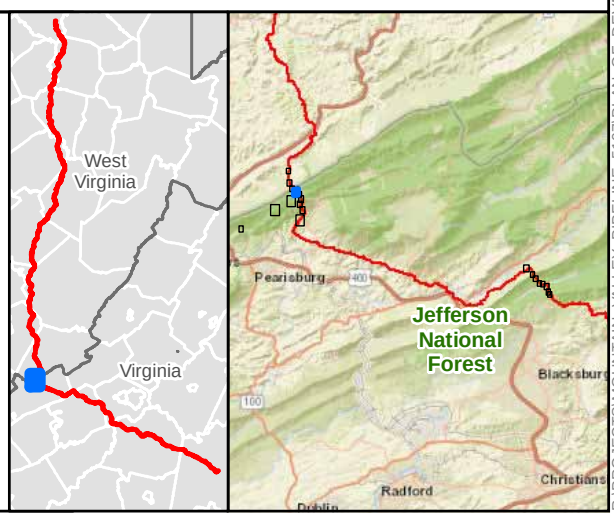
Tree Stack and Access
Page 4 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Peters Mountain Wilderness
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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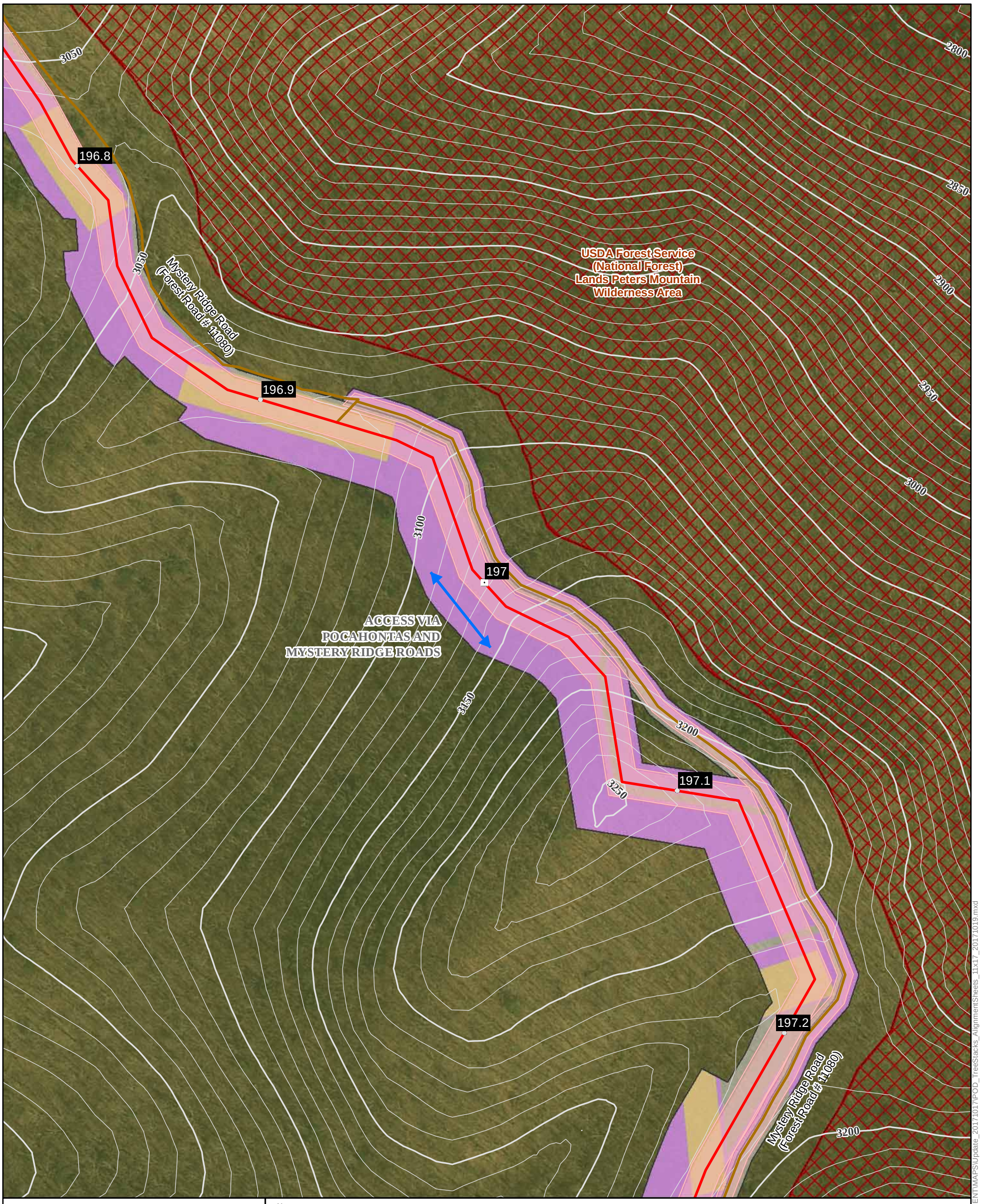


Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

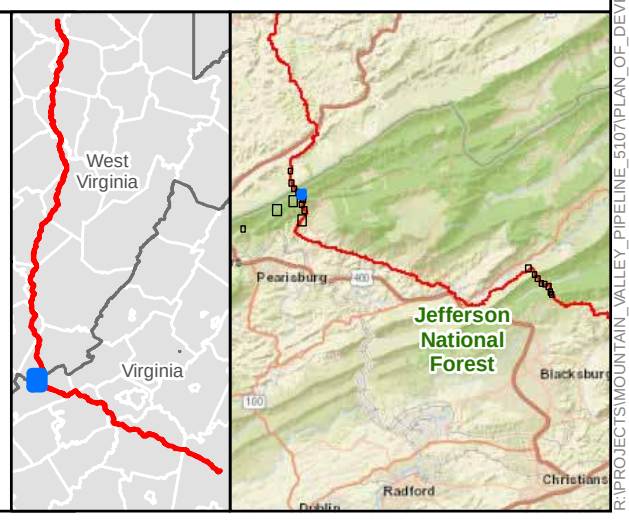
Tree Stack and Access
Page 5 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Peters Mountain Wilderness
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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197.2
197.3
197.4
197.5
Mystery Ridge Road
(Forest Road # 11080)
USDA Forest Service
(National Forest)
Lands Peters Mountain
Wilderness Area
ACCESS VIA
POCAHONTAS AND
MYSTERY RIDGE ROADS
3200
3150
3250
3300
3100
3050

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

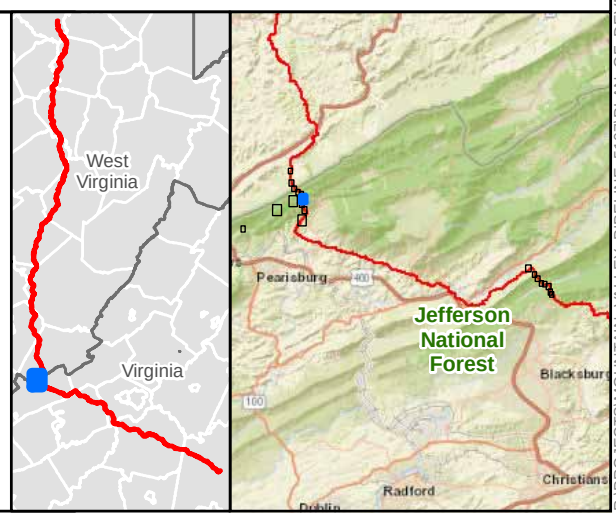
Tree Stack and Access
Page 6 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Peters Mountain Wilderness
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

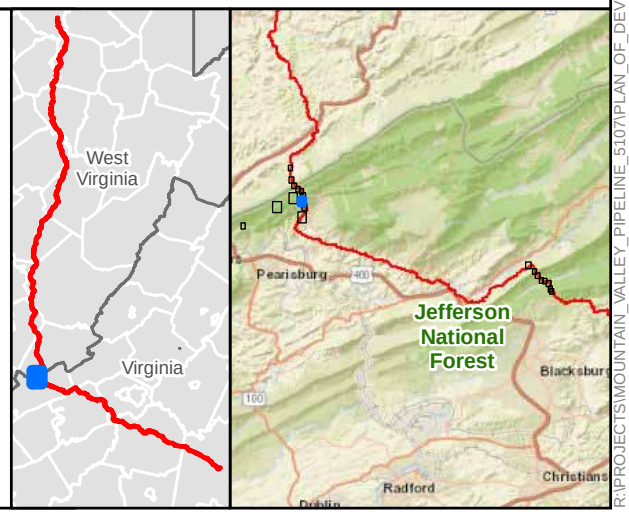
Tree Stack and Access
Page 7 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Peters Mountain Wilderness
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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198.1
198.2
198.3
198.4
198.5
ACCESS VIA POCAHONTAS ROAD
ACCESS FROM MP 198.4 TO LOADOUT AT RT 623
2850
2800
2750
2700
2650
2600
2550
2500
2450
2400
2350
2300
2250
2200
2150

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

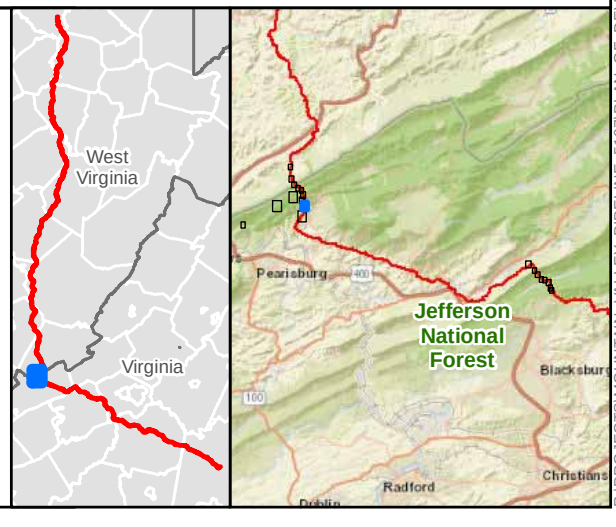
Tree Stack and Access
Page 8 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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198.7
198.8
198.9
199
199.1
199.2
199.3
199.4
199.5
ACCESS FROM ROGERS ROAD
ACCESS FROM ROGERS ROAD
ACCESS FROM ROGERS ROAD
Rogers Rd
2100
2200
2150
2050
2000
1950
1900
2200
1850
1800
1950
1750
1950

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:3,400

0 0.05 0.1 Miles

Mountain Valley PIPELINE

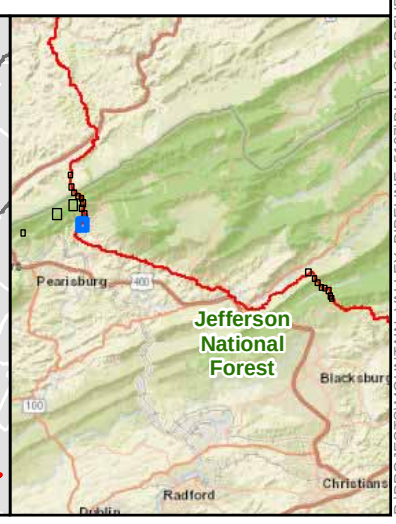
Tree Stack and Access
Page 9 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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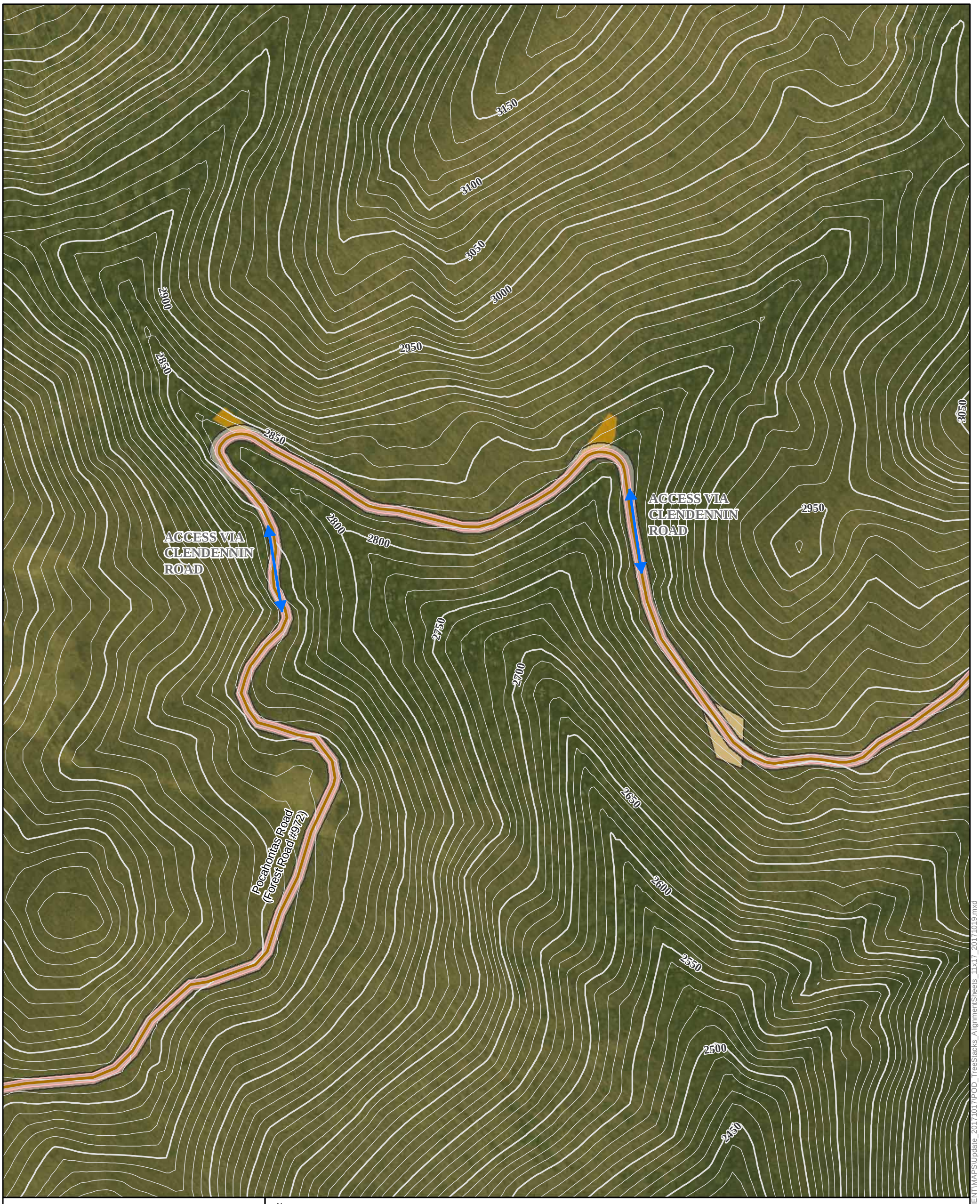


Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:3,400

0 0.05 0.1 Miles

Mountain Valley PIPELINE

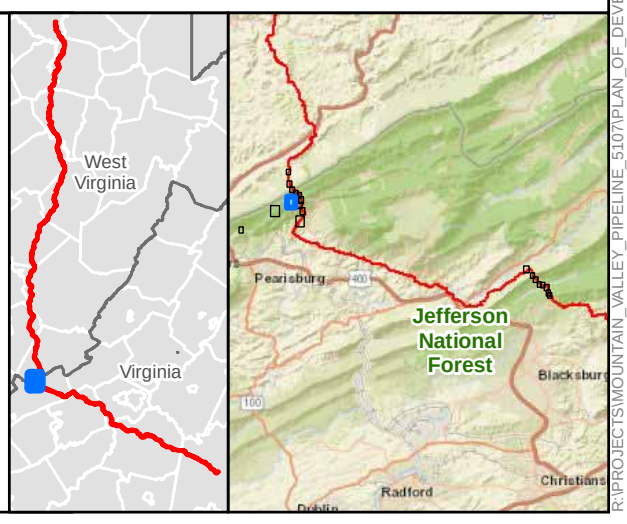
Tree Stack and Access
Page 10 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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ACCESS VIA CLENDENNIN ROAD

ACCESS VIA CLENDENNIN ROAD

Pocahontas Road (Forest Road #972)

3350 3300 3250 3200 3150 3100 3050 3000 2950 2900 2850 2800 2750 2700 2650 2600 2550 2500 2450 2950

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:3,400

0 0.05 0.1 Miles

Mountain Valley PIPELINE

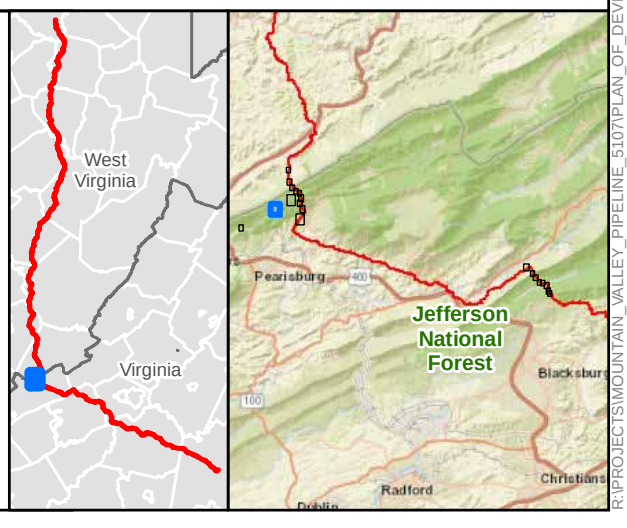
Tree Stack and Access
Page 11 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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2550
2500
2450
2400
2350
2300
2250
2200
2150
2100
2050
Pocahontas Road
(Forest Road #972)
ACCESS VIA
CLENDENNIN
ROAD
Clendennin Road (SR 641)
ACCESS TO
POCAHONTAS RD FROM
CLENDENNIN RD

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

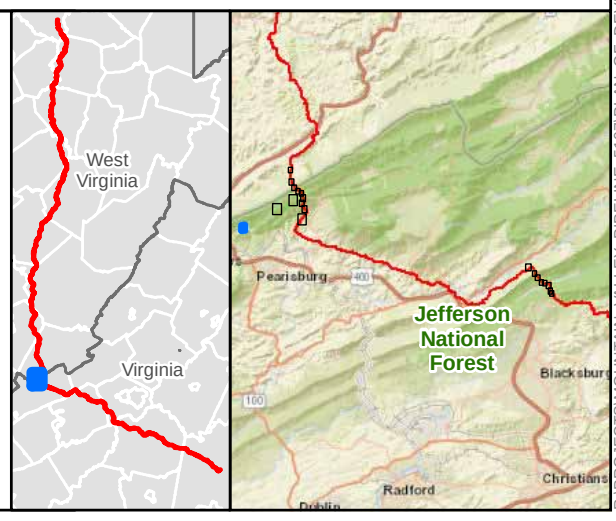
Tree Stack and Access
Page 12 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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ACCESS VIA
CUMBERLAND GAP
ROAD (ROUTE 42)

ACCESS VIA
CUMBERLAND GAP
ROAD (ROUTE 42)

ACCESS VIA
CUMBERLAND GAP
ROAD (ROUTE 42)

218.2

218.1

218

217.9

2100
2150
2200
2250
2300
2350
2400
2450
2500
2550

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:2,200

0 0.0425 0.085 Miles

Mountain Valley PIPELINE

Tree Stack and Access
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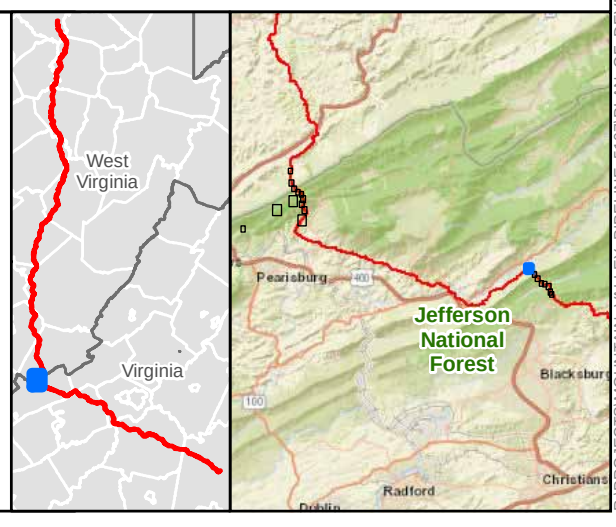
October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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ACCESS VIA CUMBERLAND GAP ROAD (ROUTE 42) (TRANSPORT LOGS NORTH OF RIDGELINE ALONG ROW TO CUMBERLAND GAP ROAD)

ACCESS VIA CRAIG CREEK ROAD

218.6

218.7

218.8

218.9

2650 2700 2750 2800 2850 2900 2950 3000

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

Tree Stack and Access
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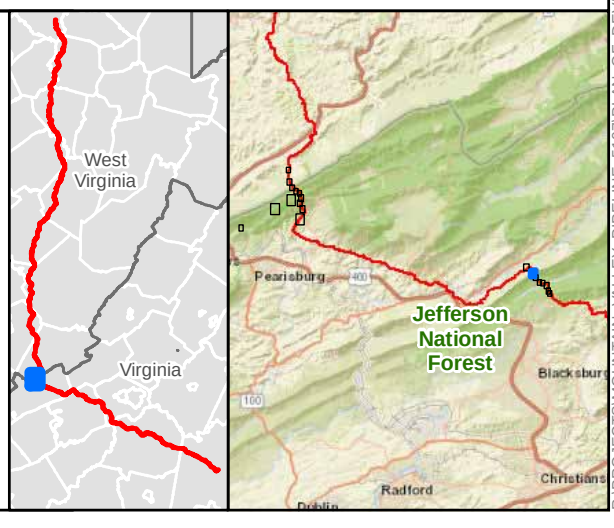
October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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218.9

219

ACCESS
VIA CRAIG
CREEK ROAD

219.1

219.2

2650
2600
2550
2500
2450
2400
2350
2300
2250
2200
2150
2100
2050

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

Tree Stack and Access
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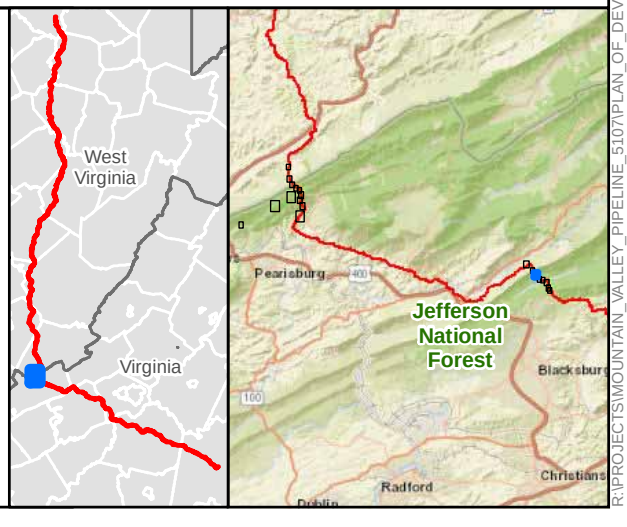
October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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219.2
219.3
219.4
219.5
219.6
2100
2050
2000
1950
ACCESS VIA CRAIG CREEK ROAD (ROUTE 621)
ACCESS VIA CRAIG CREEK ROAD (ROUTE 621)
ACCESS VIA CRAI CREEK ROAD (ROUTE 621)
Craig Creek Road

Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

Tree Stack and Access
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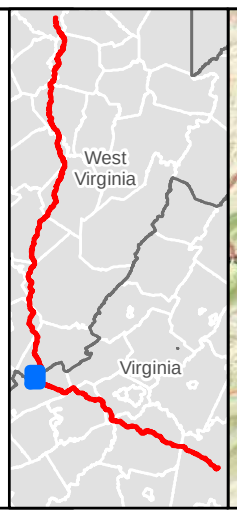
October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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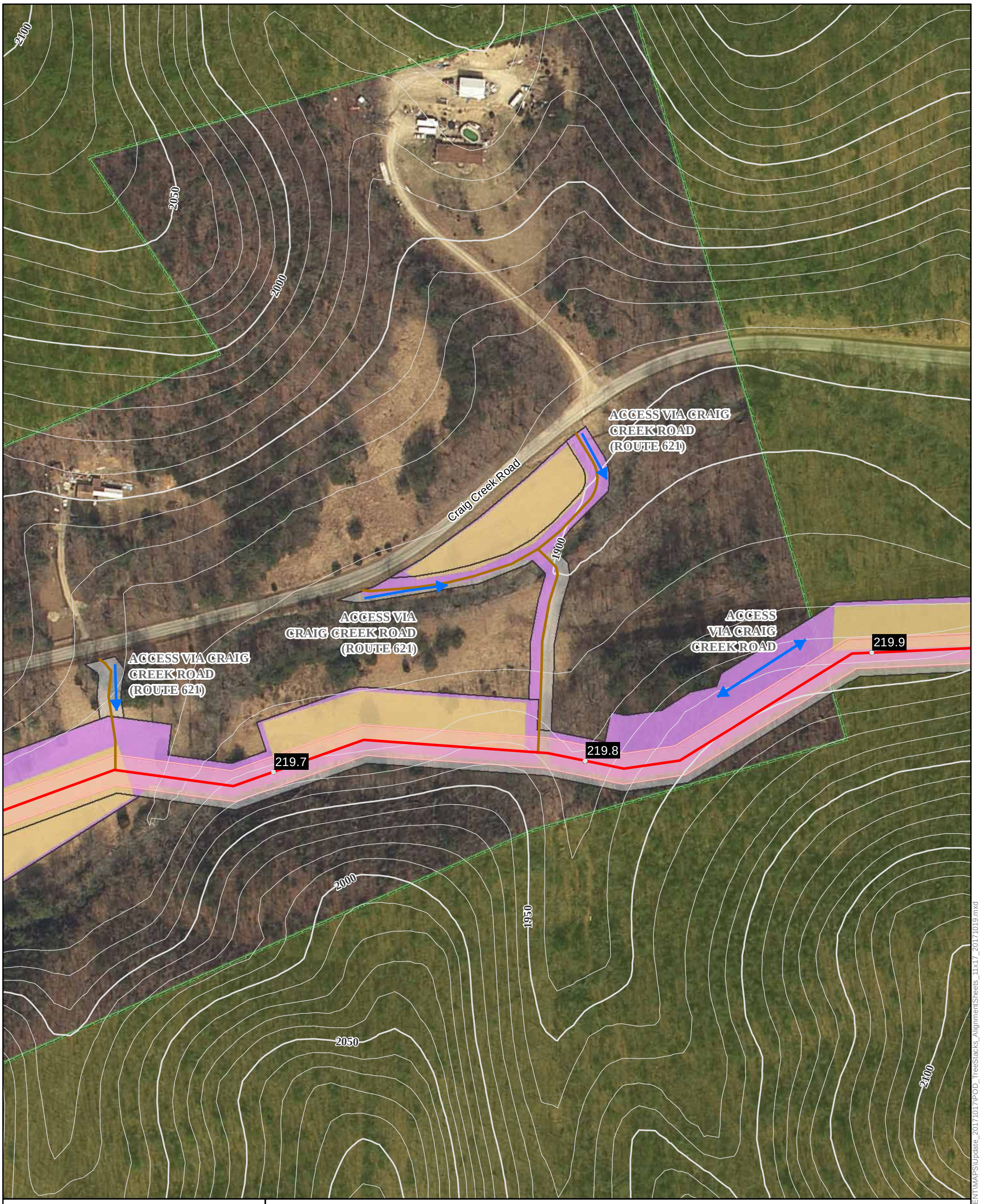


Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

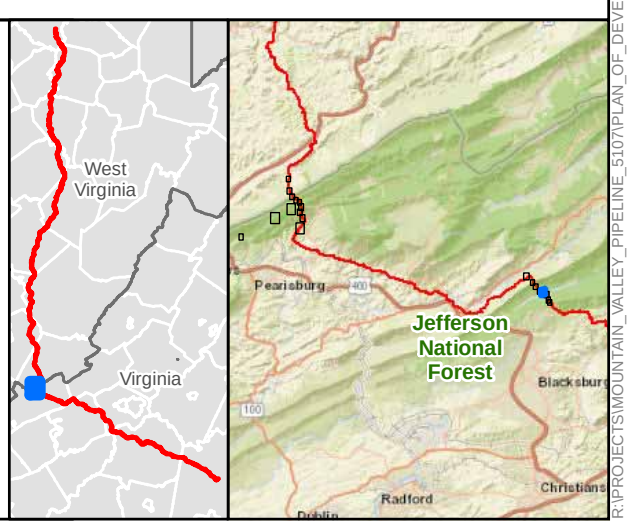
Tree Stack and Access
Page 17 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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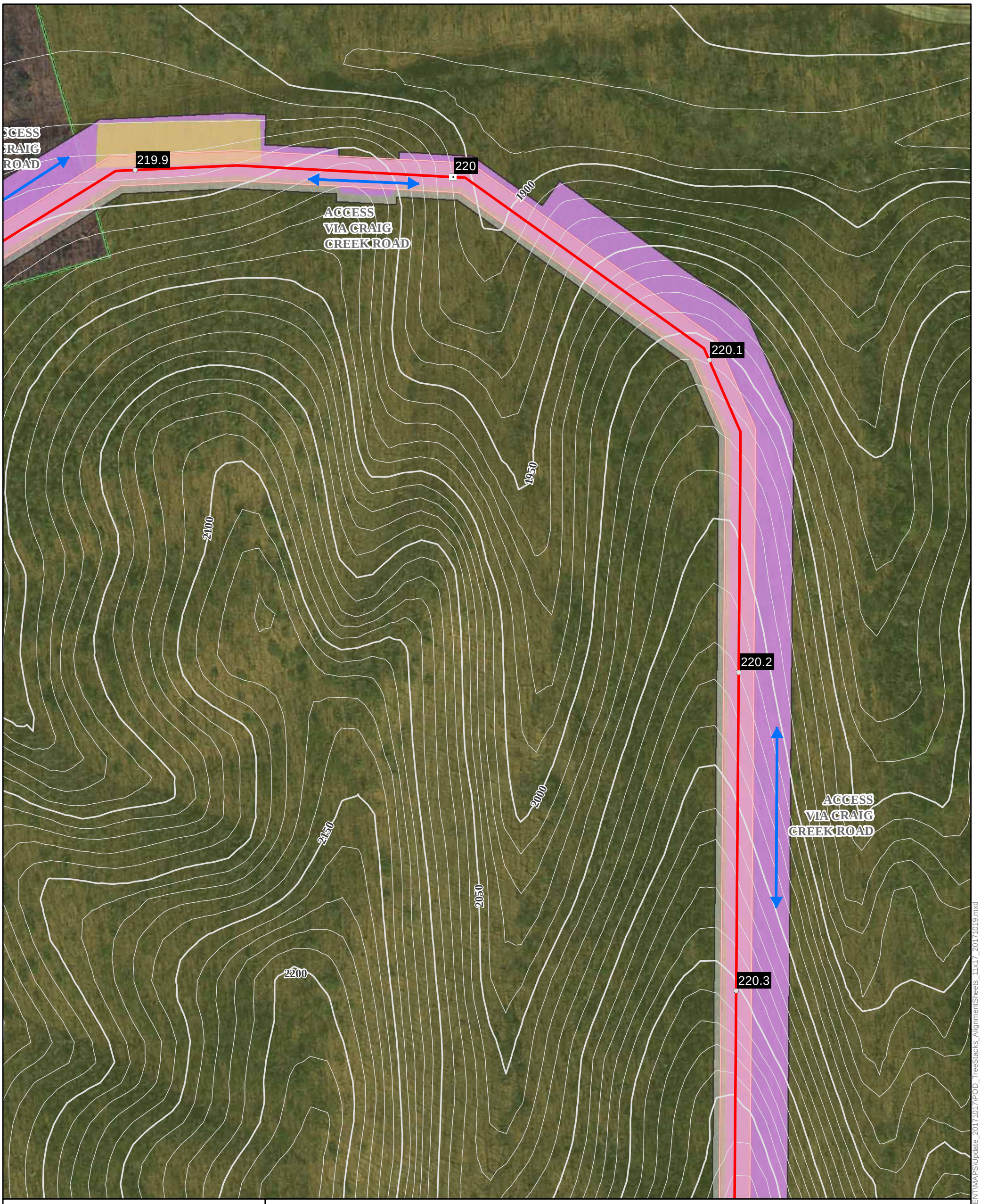


Mountain Valley Pipeline Project

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

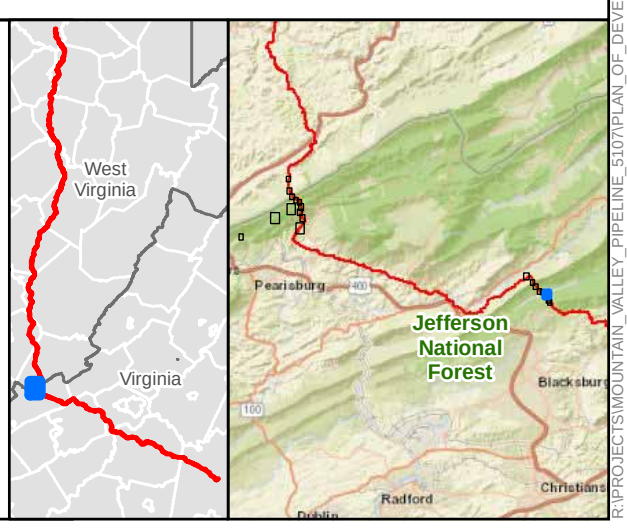
Tree Stack and Access
Page 18 of 20

October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

Tree Stack and Access
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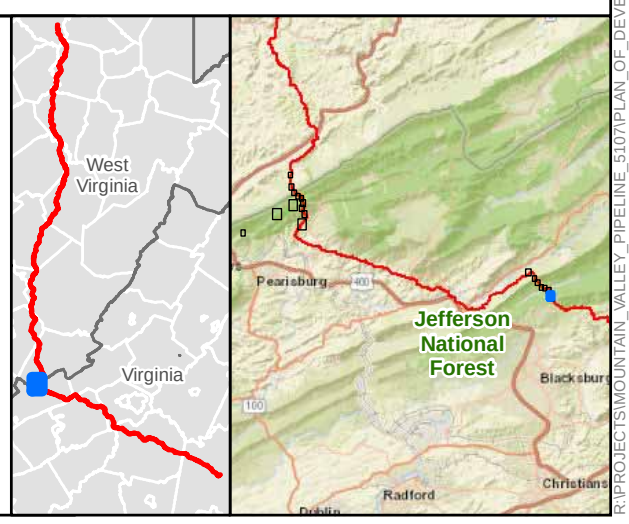
October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
- 50foot Contour (NED10m)
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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220.5
220.6
220.7
220.8
220.9
2250
2300
2350
2400
2450
2500
2550
2600
2650
2700
2750
2800
USDA Forest Service (National Forest) Lands
Brush Mountain Wilderness Area
ACCESS VIA CRAIG CREEK ROAD
ACCESS VIA CRAIG CREEK ROAD
Brush Mountain Road (Forest Road #188)

Mountain Valley Pipeline Project

N

NAD 1983 UTM 17N

1:1,800

0 0.0325 0.065 Miles

Mountain Valley PIPELINE

Tree Stack and Access
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October 2017

Data Sources: ESRI Streaming Data, 2014, ESRI, 2014, Ventyx, 2014.

Legend

- Mile
- Tenth-mile
- Proposed Route
- Appalachian National Scenic Trail (ANST)
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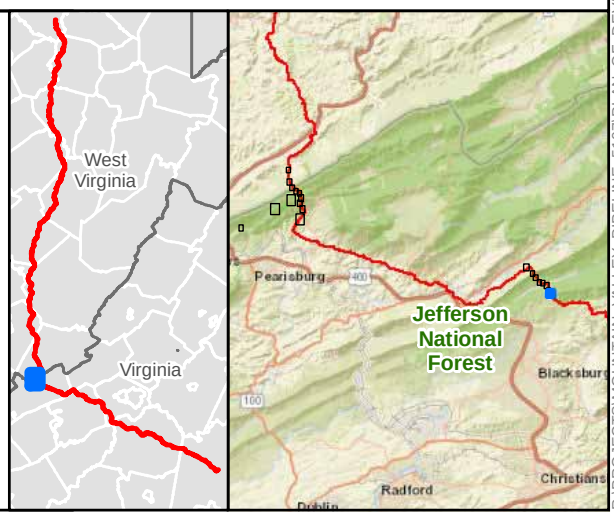
- 10foot Contour (NED10m)
- Road
- Permanent Impact
- Temporary Impact
- USDA Forest Service (National Forest) Lands
- Brush Mountain Wilderness
- Timber Load-Out Area
- Timber Staging Area
- Access Point



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