

Minimal – A resource or activity that may be looked upon as a liability in the area. It typically lacks any positive attributes and may actually diminish the quality of the surrounding area.

(2) Modifier Ratings

The visual compatibility of the with- and without-Project elements is also rated in terms of three modifiers: Spatial Dominance, Scale Contrast, and Compatibility. The modifiers are described below and are recorded on VRAP Form 6 (Appendix B).

Spatial Dominance – The prevalent occupation of a space in a landscape by an object(s) or landscape element. Spatial dominance can be described in terms of being Dominant, Co-dominant, or Subordinate.

Scale Contrast – The difference in absolute or relative scale in relation to other distinct objects or areas in the landscape. Scale contrast can be described as being Severe, Moderate, or Minimal.

Compatibility – The degree to which landscape elements and characteristics are still unified within their setting. Compatibility can be described in terms of being Compatible, Somewhat Compatible, or Not Compatible.

(3) Landscape Composition

The last viewpoint assessment item examines the landscape composition for the with- and without-Project conditions. Landscape composition is the organization of the elements of the landscape. Some elements are more vulnerable to visual contrast (prominent) than others (inconspicuous). Each viewpoint simulation is assessed as a whole instead of as individual elements. Landscape composition is then described in terms of being Prominent, Significant, or Inconspicuous and are recorded on VRAP Form 6 (Appendix B).

Prominent – focal, feature, or enclosed landscapes.

Significant – panoramic or weak focal, feature, or enclosed landscapes.

Inconspicuous – canopied, indistinct, or obscured landscapes.

ii. Appraisal

Appraisal involves identifying the desirability of the impacts by assigning social values of the impacts. The MCS criteria are designed to guide the appraisal by providing a basis for determining whether the visual impact caused by a project is desirable. The VIA Value is compared with the visual impact guidelines contained in the MCS:

<u>Management Class</u>	<u>VIA Value</u>
<i>Preservation</i>	0
<i>Retention</i>	10 to -2
<i>Partial Retention</i>	10 to -5
<i>Modification</i>	10 to -7
<i>Rehabilitation</i>	10 to -10

A value of zero indicates that there is no change in landscape components between the with- and without-Project components. A below zero rating indicates that the change between landscape components with- and without-Project components is diminishing the quality of the area. The lower the rating, the higher the degree of change (i.e., the more the Project elements are diminishing the quality of the area). A rating above zero also indicates a change in landscape components between the with- and without- Project components is an improvement in landscape components and an asset to the area.

4. SUMMARY OF VISUAL IMPACTS

Visual impacts associated with the pipeline crossing of the WGBT Trail will include vegetation clearing outside the limits of the USACE-owned tracts and pipeline marking. The pipeline route approaches the WGBT Trail from the north, parallels the northern side of the Trail for approximately 0.15 mile, then turns 90 degrees and crosses the Trail to the southern side and continues south away from the Trail. The edge of the pipeline ROW is approximately 50 feet from the edge of the Trail where the two run parallel.

MVP will cross the WGBT Trail using a conventional bore, which will preserve a buffer of screening vegetation adjacent to the Trail at the crossing. The bore pits will be located approximately 20' feet from the fence line edge of the Trail (Appendix A, Figure 3). The bore pit on the northern side of the Trail will be located in an open field, and the bore pit to the south will be located beyond a small rise in the terrain. The majority of impacts are anticipated to occur as a result of tree clearing and will be more apparent in "leaf-off" conditions (i.e., during fall and winter months). Impacts are expected to be reduced during "leaf-on" conditions (i.e., during spring and summer months) when tree clearing will be mostly to completely screened by vegetation. Visual impacts described below for each viewpoint include both leaf-off and leaf-on conditions.

As noted above, the viewpoints used for this assessment were selected from along the WGBT Trail: at the WGBT Trail/pipeline crossing (KOP 105), west of the WGBT Trail/pipeline crossing (KOP 106), and east of the Trail/pipeline crossing where the pipeline ROW parallels the Trail (KOP 107). A 10-year forecast timeframe was used for the visual assessment, assuming that vegetation within the pipeline

ROW will become re-established by that time to the point that will be maintained for the life of the Project. Based on the viewpoint assessment, it was determined that the VIA Value from KOPs 105 and 107 is -1, indicating that the change in the landscape components between the with- and without-Project components is diminishing the quality of the area at and near the WGBT Trail/pipeline crossing. In this case, the vegetation clearing outside the limits of the WGBT Trail associated with the pipeline ROW begins to diminish the quality of the area. From KOP 106, the VIA Value was determined to be zero, indicating that the change in the landscape components between the with- and without-Project components is neither adding to or diminishing the quality of the area, but staying relatively the same. A description of impacts from each of the viewpoints is described below. VRAP Forms that were used to inventory and determine the VIA Values are included in Appendix B.

According to the vegetation-modeled viewshed for the WGBT Trail/pipeline crossing at KOP 105 (Appendix A, Figure 3), visibility will be limited to the Trail/pipeline crossing and less than 100 feet either side of the pipeline ROW. The bore pits will not be visible according to the viewshed. A visual simulation (Appendix A, Figure 6) was prepared showing leaf-off conditions. Vegetation removal associated with the pipeline ROW will be visible beyond the open field on the northern side of the Trail where vegetation clearing will create an opening in the tree canopy. On the southern side of the Trail, some tree thinning associated with the pipeline ROW may be apparent south of the bore pit. However, the bore pit will not be visible as it will be located behind a small rise in the terrain. In leaf-on conditions, the visual impacts at KOP 105 will be minimized as the opening in the tree canopy to the north will be reduced and the tree thinning to the south will be screened by vegetation.

According to the vegetation-modeled viewshed for the location west of the WGBT Trail/pipeline crossing at KOP 106 (Appendix A, Figure 4), visibility will be limited to the area immediately adjacent to KOP 106, and the Project will not be visible from this location. A visual simulation (Appendix A, Figure 7) was prepared showing leaf-off conditions. Tree thinning associated with the pipeline ROW may be apparent south of the bore pit located on the south side of the Trail. However, tree thinning will not be very noticeable due to the dense stands of trees between the viewer and the pipeline ROW. Views of the pipeline ROW on the north side of the Trail will be screened by terrain and topography. In leaf-on conditions, views of the pipeline ROW to the south of the Trail will be screened by vegetation.

According to the vegetation-modeled viewshed for the location east of the WGBT Trail/pipeline crossing at KOP 107 (Appendix A, Figure 5), visibility will be limited primarily to the open field on the north side of the Trail. A visual simulation (Appendix A, Figure 8) was prepared showing leaf-off conditions. Tree thinning will be apparent where the pipeline ROW parallels the Trail. In leaf-on conditions, views of the pipeline ROW from this viewpoint will most likely be screened by vegetation along the northern side of the Trail. The bore pit and pipeline ROW on the southern side of the Trail will be located beyond a small rise and not visible from this viewpoint.

Overall, views are relatively short due to the length of the pipeline ROW paralleling the Trail, which would result in the Project only being visible for as long as it takes to walk 0.15 mile. Most visual

impacts will occur during construction, and the landscape will, for the most part, appear undisturbed following reclamation.

5. MCS COMPATIBILITY

The MCS class identified for the analysis area is Retention,³ based on the assessment framework and MCS classification process described in Section 3.c. The VRAP Forms used to determine the MCS class are included in Appendix B. As noted in Section 4, the VIA Value for the viewpoint assessment is -1 for KOPs 105 and 107, and zero for KOP 106, which fall within the visual impact guidelines for the Retention management class. In addition, the vegetation clearing associated with the pipeline ROW would be mostly screened during leaf-on conditions, and the pipeline ROW would be a subordinate feature in the landscape. During leaf-off conditions, when the pipeline ROW becomes more visible, it would repeat the form and line of the existing linear Trail corridor. For these reasons, the implementation of the Project would be compatible with the MCS class.

6. VISUAL MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES

The results of the VIA yielded mostly low visual impacts to the WGBT Trail as a result of construction and operation of the Project. In addition, the Project is compatible with the MCS class. MVP has proposed impact minimization measures to lower potential visual impacts from the Project identified during the analysis.

Minimization measures, identified by both MVP and USACE, have been or will be applied to reduce or eliminate impacts. These impact minimization measures include:

- The WGBT Trail crossing will be done at a right angle to ensure the shortest duration of view for the crossing;
- MVP is proposing a bore length of approximately 130 feet under the USACE property, which will avoid the surface of the USACE property in its entirety;
- Vegetation along the edge of the WGBT Trail will be preserved by using a conventional bore method leaving a buffer of approximately 20 feet from the fence line edge of the Trail to the beginning of tree clearing for the bore pits during construction and maintenance; and
- The WGBT Trail will be crossed by the Project by using a conventional bore method to ensure there will be no disruptions to hikers on the WGBT Trail.

³ The MCS class identified for this VIA was developed without input or review from the USACE and was only developed to establish a baseline in order to measure the changes in the landscape due to the implementation of the Project.

As noted above, the VIA Value at each KOP meets the Retention classification. With the implementation of the impact minimization measures listed above, the Project would not result in any significant visual impacts to visual resources on the WBG Trail.

7. KEY VISUAL STUDY PERSONNEL

The key personnel for the visual resources study are as follows:

a. Robert Evans, Visual Resources Analyst/Task Lead

Mr. Evans has a master's degree in Landscape Architecture and is an active member of American Society of Landscape Architects. He has over 10 years of experience conducting and supporting visual assessments in numerous US states including AZ, CA, NV, NM, OR, WA, ID, WY, TX, AK, OK, TN, NH, MA, NY, and HI and has completed the BLM's VRM training in 2008. Mr. Evans is also a member of the Scenic Resources Working Group, which is a subcommittee of the National Association of Environmental Professionals. The group focuses on upcoming and emerging technology that can effect visual resource analysis and mitigation.

b. Lori Davidson, Visual Resources Analyst

Ms. Davidson is a licensed Landscape Architect with over 10 years of experience in environmental planning and landscape architecture with an extensive focus on visual resource inventory and analysis. Specific areas of expertise include conducting comprehensive visual resource inventories and impact analysis and preparing visual resource studies in support of National Environmental Policy Act compliance, Federal Energy Regulatory Commission compliance, California Energy Commission compliance, Bureau of Ocean Energy Management compliance, and the Arizona Power Plant and Transmission Line Siting Committee compliance for the Arizona Corporation Commission, as well as for other state or local regulations and policies. Ms. Davidson has project experience in visual impact assessment and analysis on both local and federal linear transmission projects, solar and wind facilities, and oil and gas facilities throughout the United States. Ms. Davidson also completed the U.S. Bureau of Land Management's Visual Resource Management training course in 2012.

8. REFERENCES

BLM (U.S. Department of the Interior, Bureau of Land Management). no date. *Visual Impact Assessment Methodologies for Other Federal Agencies. Manual H-8410-1 – Visual Resource Inventory*. Available online at <http://blmwyomingvisual.anl.gov/assess-simulate/other-federal/>.

Smardon, R.C., Palmer, J.F., Knopf, A., Grinde, K. Henderson, J.E., Peyman-Dove, L.D. 1988. *Instruction Report EL-88-1: Visual Resource Assessment Procedure for US Army Corps of Engineers*. Available online at: <http://blmwyomingvisual.anl.gov/docs/vrap.pdf>.

USACE (US Army Corps of Engineers). no date. Burnsville Lake – Weston Gauley Bridge Turnpike Trail Brochure. Available online at: <http://www.lrh.usace.army.mil/Portals/38/docs/recreation/WGBTP%20Trail%20Brochureprint.pdf>.

Appendix A

Visual Simulation

APPENDIX A

VIEWSHED ANALYSIS AND VISUAL SIMULATIONS

Figure 1

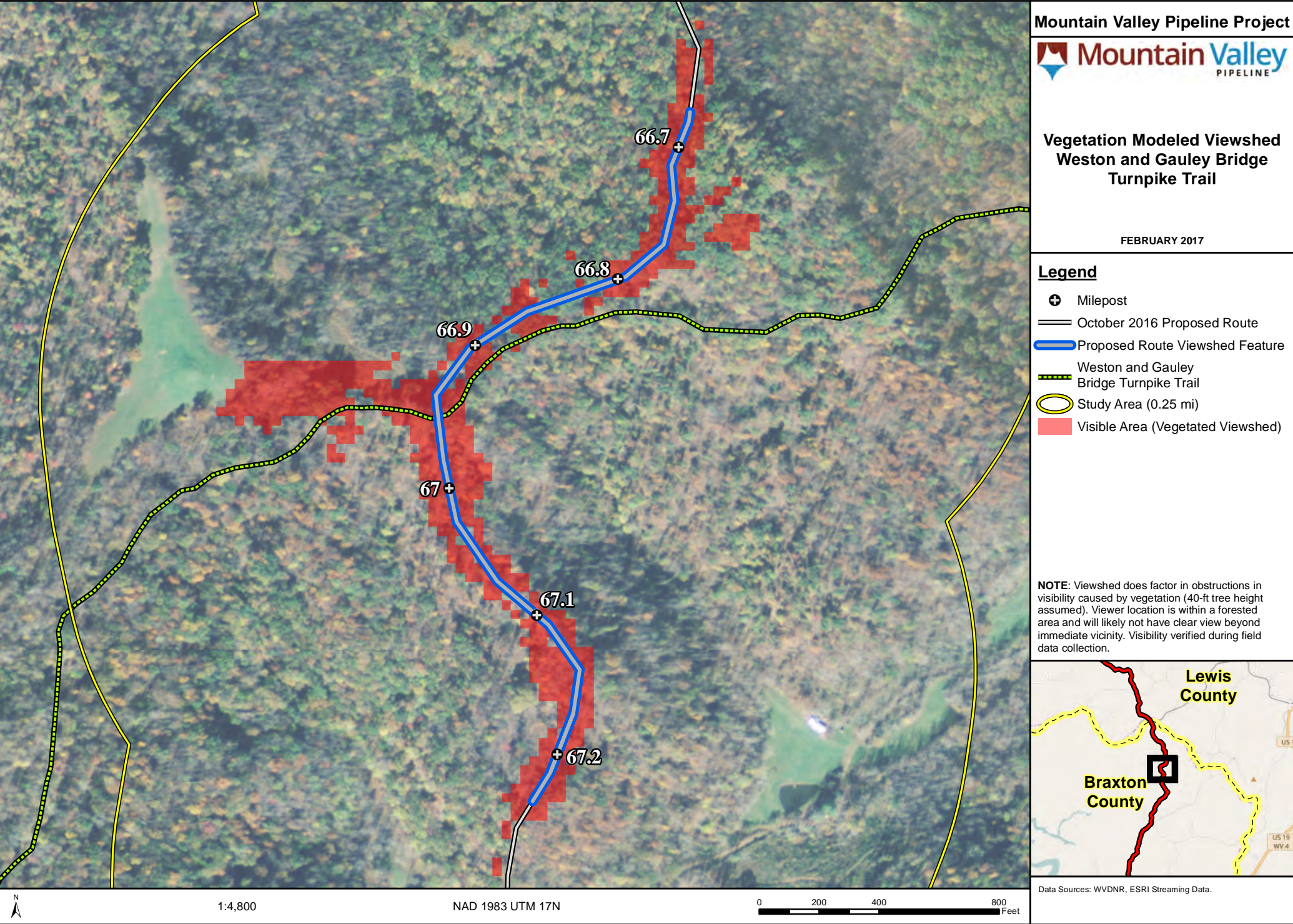


Figure 2

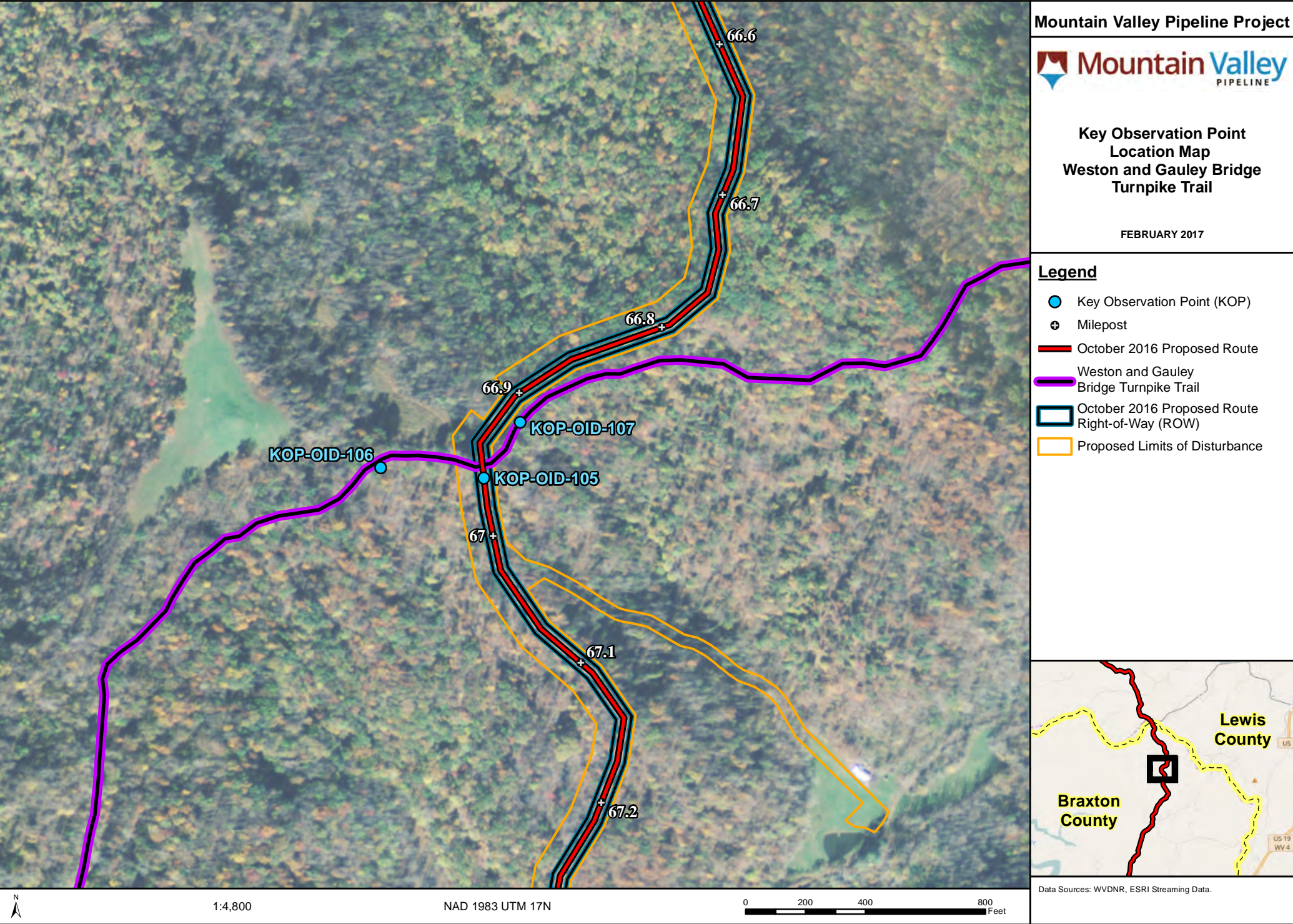


Figure 3

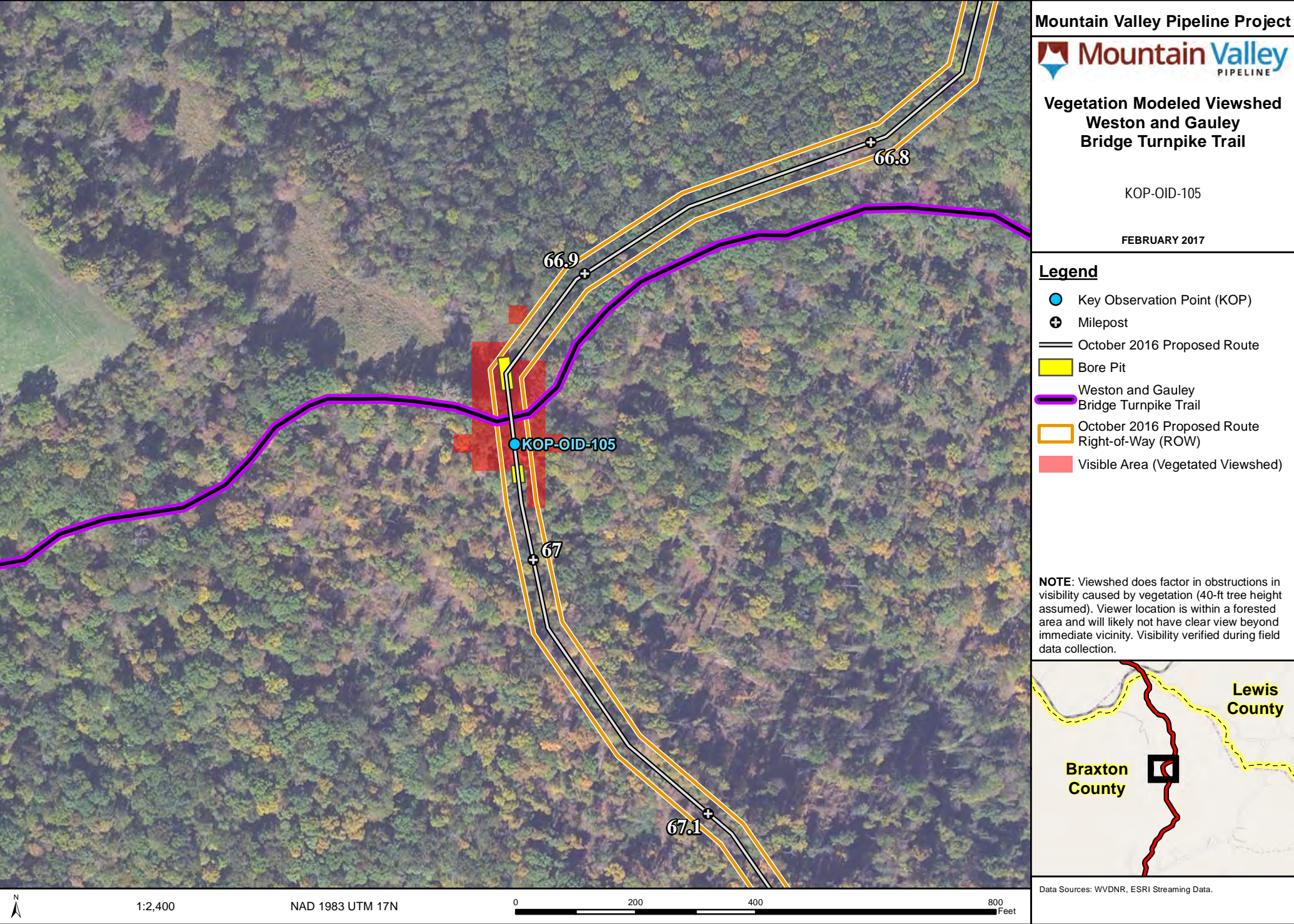


Figure 4

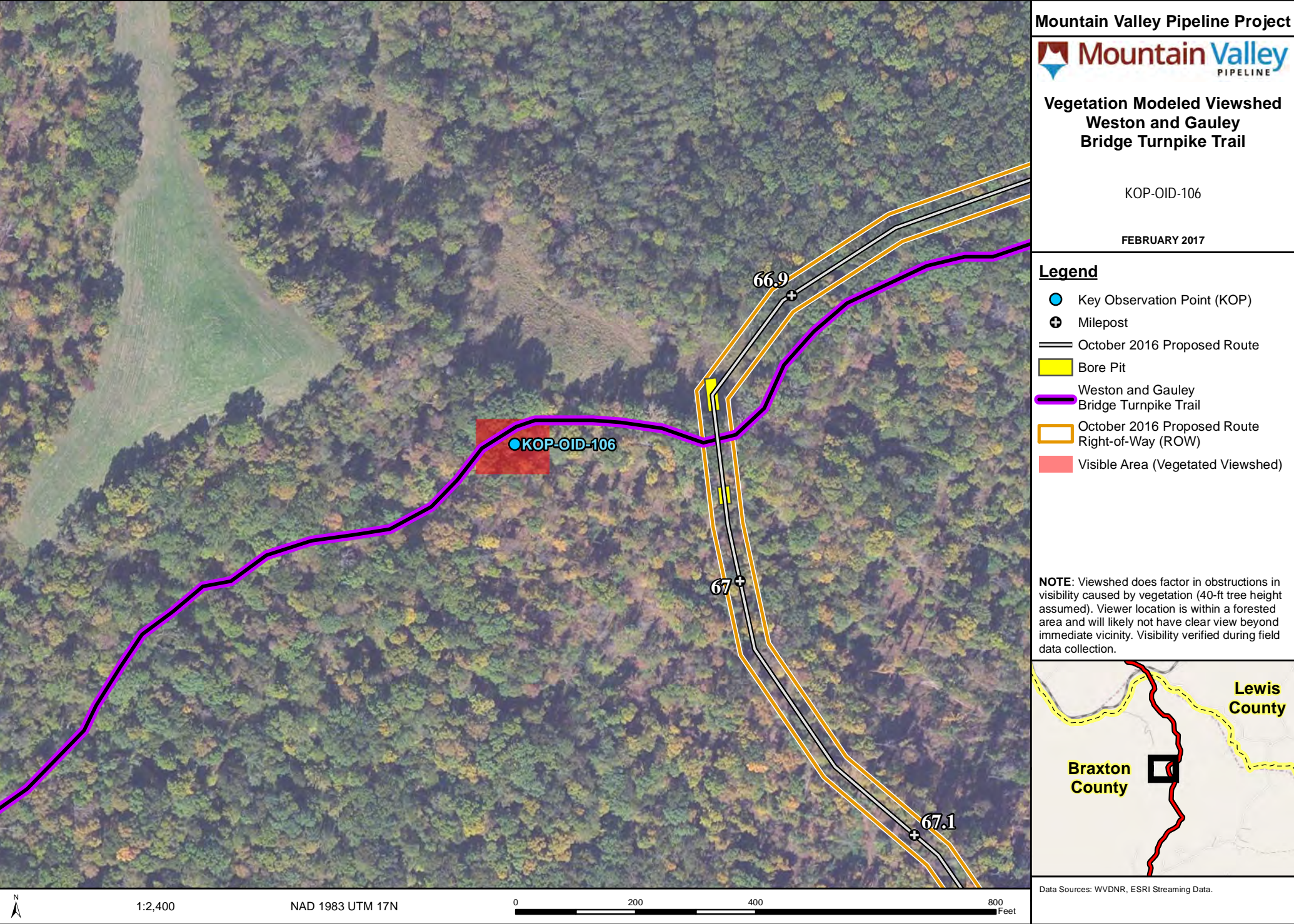
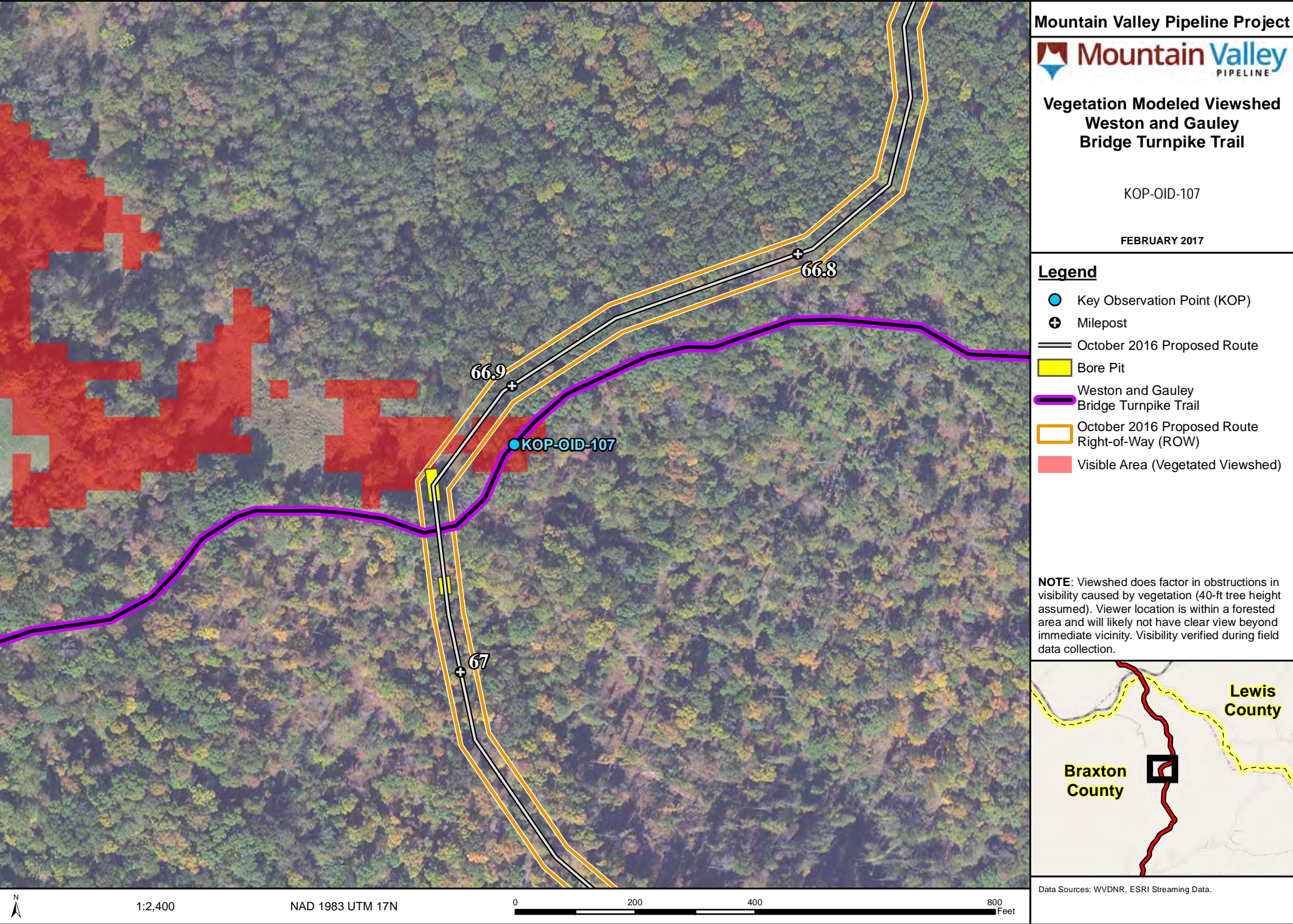


Figure 5



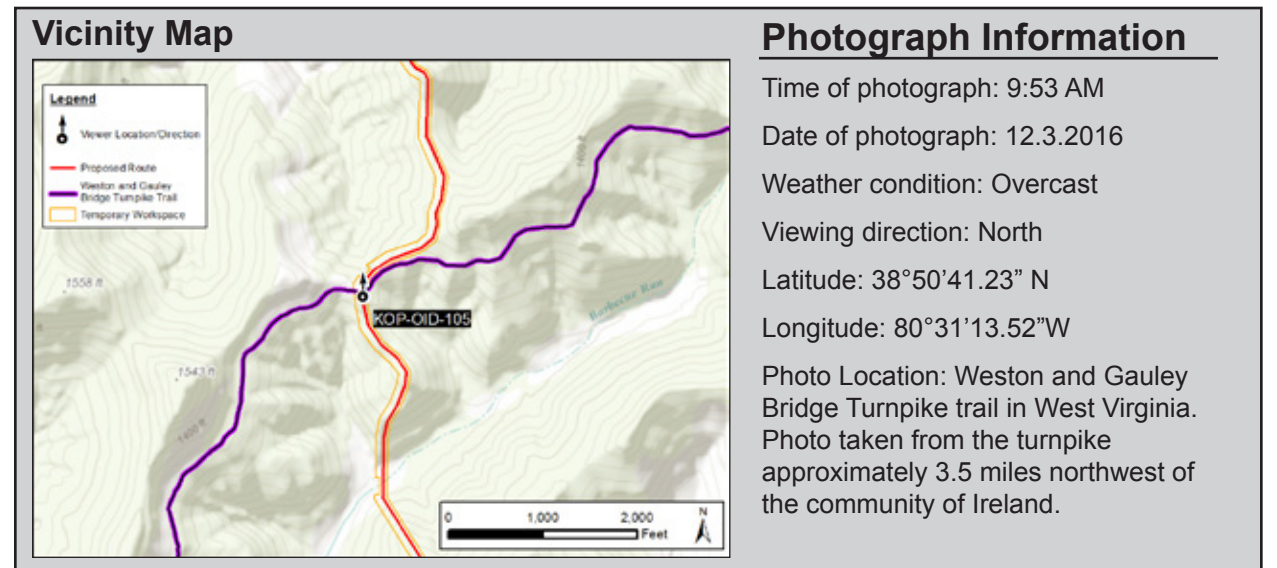
Existing Condition



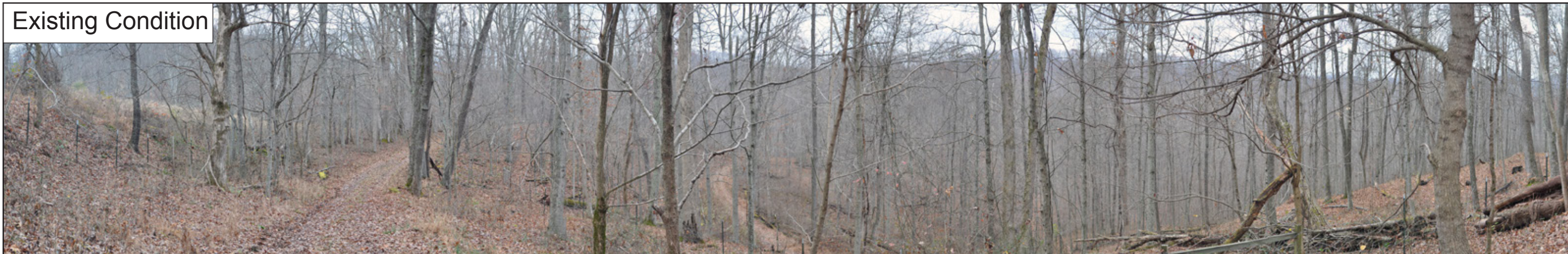
Post Construction



The photo was taken from the Weston and Gauley Bridge Turnpike Trail (Trail) at the Trail/pipeline crossing looking north. The pipeline would be bored under the Trail with the bore pits located approximately 20 feet from the fence line edge of the Trail. Vegetation removal associated with the pipeline right-of-way would be visible beyond the open field on the northern side of the Trail. The yellow dashed line indicates the approximate pipeline alignment.



Existing Condition

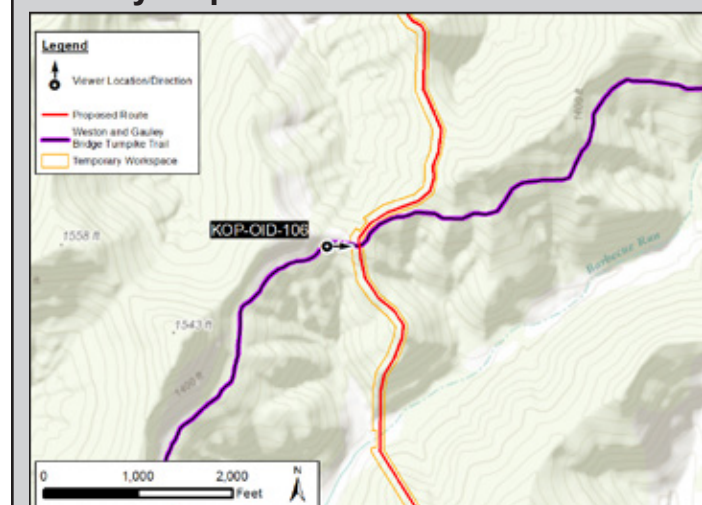


Post Construction



The photo was taken from the Weston and Gauley Bridge Turnpike Trail (Trail) west of the Trail/pipeline crossing looking east. The pipeline would be bored under the Trail with the bore pits located approximately 20 feet from the fence line edge of the Trail. From this viewpoint the bore pit on the northern side of the Trail would be located in an open field and the pipeline right-of-way beyond that would be screened. The bore pit on the southern side of the Trail would be located behind a low ridge and not visible from KOP 106. In “leaf-off” conditions, tree thinning may be apparent further south of the bore pit location, but not readily noticeable. In “leaf-on” conditions, views of the pipeline right-of-way from KOP 106 would be screened by vegetation. The yellow dashed line indicates the approximate pipeline alignment.

Vicinity Map



Photograph Information

Time of photograph: 9:58 AM
 Date of photograph: 12.3.2016
 Weather condition: Overcast
 Viewing direction: West
 Latitude: 38°50'41.59"N
 Longitude: 80°31'17.87"W
 Photo Location: Weston and Gauley Bridge Turnpike trail in West Virginia. Photo taken from the turnpike approximately 3.5 miles northwest of the community of Ireland.

Existing Condition

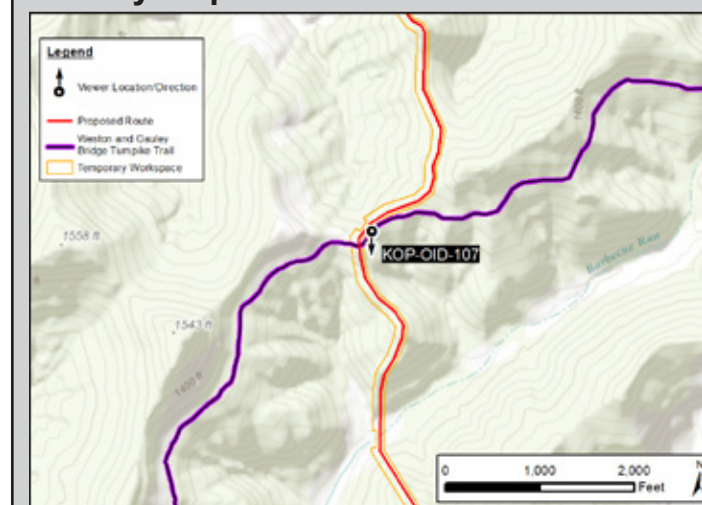


Post Construction



The photo was taken from the Weston and Gauley Bridge Turnpike Trail (Trail) east of the Trail/pipeline crossing looking west. The pipeline would be bored under the Trail with the bore pits located approximately 20 feet from the fence line edge of the Trail. From KOP 107 the bore pit on the northern side would be located in an open field. In “leaf-off” conditions, tree thinning may be apparent where the pipeline right-of-way parallels the Trail. In “leaf-on” conditions, views of the pipeline right-of-way from KOP 107 would most likely be screened by vegetation along the northern side of the Trail. The bore pit and pipeline right-of-way on the southern side of the Trail would be located beyond a small rise and not visible from KOP 107. The yellow dashed line indicates the approximate pipeline alignment.

Vicinity Map



Photograph Information

Time of photograph: 10:02 AM
 Date of photograph: 12.3.2016
 Weather condition: Overcast
 Viewing direction: West - Northwest
 Latitude: 38°50'43.06"N
 Longitude: 80°31'11.98"W
 Photo Location: Weston and Gauley Bridge Turnpike Trail in West Virginia. Photo taken from the turnpike approximately 3.5 miles northwest of the community of Ireland.

Appendix B

USACE VRAP Forms

APPENDIX B

USACE VRAP FORMS

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1****MCS
VIA****SIMILARITY ZONE ()****BASIC ()****DETAILED ()****INVENTORY (X)****FORECASTING ()****PROJECT NAME** Mountain Valley Pipeline**DATE** 12-3-2016**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME****VIEWPOINT() ZONE()****WEATHER** Cold, overcast**WITH PLAN () WITHOUT PLAN ()****PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD YEARS**

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The area along the Weston and Gauley Bridge Turnpike Trail (WGBT Trail of Trail) is primarily natural and comprised of heavily forested hills/mountains, small open grass fields. Forests are deciduous.

Access: Access is limited to the WGBT Trail and a two-track unpaved road that appears to be used for access for rural residents in the area.

Land Uses: The landscape is primarily undeveloped aside from the WGBT Trail, which is managed and maintained by the USACE. Rural residential structures are dispersed throughout the area and located in valleys (near open fields) adjacent to the mountains.

Maintenance: The Trail appears to be well maintained and is free of debris/rubbish. Maintenance is also evident due to small piles of trees/underbrush near the access gates and some logs along the Trail.

Visibility: During leaf-on conditions (Summer/Spring) visibility along the Trail is limited to a few feet off the Trail or farther if looking down the Trail or where there is an opening in the trees adjacent to the open field. During leaf-off conditions (Fall/Winter) there is more visibility looking out from the Trail to the surrounding landscape.

Recreation: Walking, hiking, biking, and horseback riding

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 **MCS**
VIA

SIMILARITY ZONE (X)

BASIC ()

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT () ZONE ()

WITH PLAN () WITHOUT PLAN ()

PROJECT DETAILS AND COMMENTS

WGBT Trail is listed on the NRHP

INVENTORY (X)

FORECASTING ()

DATE 12-3-2016

TIME

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALE

STREAM
NONE
SMALL

RIVER
MEANDER

LAKE/RES.
SWIFT
MEDIUM

WETLANDS
RAPID

MARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPE

WILDERNESS
RECREAT.

UNDEVEL
AGRIC.

RURAL
RESIDENT.

SUBURBAN
COMMER.

URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPE

ABSENT
DISCORDANT

PRESENT
INCONSPICUOUS

DOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPE

ABSENT
DISCORDANT

PRESENT
INCONSPICUOUS

DOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITION

SCREENED
INFERIOR

PARTIALLY SCREENED
NORMAL

PANORAMA
SUPERIOR

Does this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1****MCS**
VIA**SIMILARITY ZONE ()****INVENTORY ()****BASIC ()****FORECASTING (X)****DETAILED ()****PROJECT NAME** Mountain Valley Pipeline**DATE** 1-12-2017**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME****VIEWPOINT()** **ZONE()****WEATHER****WITH PLAN ()** **WITHOUT PLAN ()****PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD** 10 YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The Weston Gauley Bridge Turnpike trail (WGBT Trail or Trail) is listed on the NPS National Recreation Trail Register and the National Register of Historic Places listed for its significance as an early transportation route and its association with Civil War activities in West Virginia. The Trail is maintained as close as possible to its original construction in the 1850's. The USACE currently maintains the WGBT trail. Due to the federal designation as a historic place modifications and/or development are not anticipated in the area. It is also not anticipated that the two-track unpaved road would not be improved beyond its current condition due to the limited number of rural residents in the area. Visual characteristics and visual quality of the area can expected to remain the same.

ASSESSMENT FRAMEWORK**FORM 3 MCS****PROFESSIONAL (X)****COMPOSITE (X)****STUDY AREA** Weston and Gauley Bridge
Turnpike Trail**DATE** 1/12/2017**NOTES:****PERSONNEL** L. Davidson

	DISTINCT	AVERAGE	MINIMAL
WATER RESOURCES	Water not present	Water not present	Water not present
LANDFORM	Mountainous terrain	Rolling hills	
VEGETATION	Fall color	Deciduous mixed hardwood forest	Open grass area
LANDUSE	Recreation - historic trail, undeveloped		
USER ACTIVITY	Hiking, biking, and horseback riding		

Are there any federal/state/local (institutional) policies that directly affect the visual and aesthetic resources of the area? If so list them below.

The WGBT Trail is listed on the NPS National Recreational Trail and the National Register of Historic Places.

Note any important technical recognition in the area, i.e. important scenic areas often used for literary/artistic purposes, wildlife habitat, archaeological site, etc.

Note other important issues concerning aesthetic resources that you think will affect the assessment.

ASSESSMENT SUMMARY**FORM 4 MCS****STUDY AREA** Weston and Gauley Bridge
Turnpike Trail**DATE** 1-12-2017**ZONE** +**PERSONNEL** L. Davidson**NOTES:**

	DISTINCT 3	AVERAGE 2	MINIMAL 1	COMMENTS
WATER RESOURCES				
LANDFORM		2		
VEGETATION	3			
LANDUSE	3			
USER ACTIVITY	3			
SPECIAL CONSIDERATIONS*	3			
TOTALS	12	2		

TOTAL ASSESSMENT VALUE 14

*The following will give you the value for Special Considerations. A sum of 3 or more distinct, 1-2 average, and 0 minimal.

	Yes 1	No 0
Does this zone contain any Cultural or Historical Landmarks?	1	
Is this zone, or areas within it, known for its distinct visual quality and/or wildlife observation?	1	
Is this zone free from pollution and litter?	1	
Are there other aesthetic elements that add to this resource?		0
Total	3	

MANAGEMENT CLASSIFICATION SUMMARY**FORM 5 MCS****STUDY AREA** Weston and Gauley Bridge
Turnpike Trail**DATE** 1-12-2017**PERSONNEL** L. Davidson**TES:****MANAGEMENT CLASS****TOTAL ASSESSMENT VALUE**

Preservation	17 and above
Retention	14-16
Partial Retention	11-13
Modification	8-10
Rehabilitation	7 and below

ZONE +	CLASSIFICATION	COMMENTS
1	Retention	The WGBT Trail has been maintained as close as possible to its original construction in the 1850's. The areas is primarily undeveloped with the exception of the Trail and a two-track unpaved road.

VISUAL RESOURCE SUMMARY/DESCRIPTION

FORM 1 **MCS**
VIA

SIMILARITY ZONE ()

INVENTORY (X)

BASIC (X)

FORECASTING ()

DETAILED ()

PROJECT NAME Mountain Valley Pipeline

DATE 12-3-2016

LOCATION Weston and Gauley Bridge Turnpike Trail

TIME 9:53 am

VIEWPOINT(X) ZONE ()

WEATHER Cold, overcast

WITH PLAN () WITHOUT PLAN ()

PERSONNEL L. Davidson

PROJECT DETAILS AND COMMENTS

TIME PERIOD YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The area along the Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is primarily natural and comprised of heavily forested hills/mountains with a small open grassy field. The only development apparent, besides the WGBT Trail, are two steel access gates. The gates are steel tube and painted green to blend in with the surrounding.

Access: Access is limited to the WGBT Trail and a two-track dirt road that appear as access for rural residents in the area.

Land Uses: The landscape is primarily undeveloped aside from the WGBT Trail, which is managed and maintained by the USACE. Rural residential structures are dispersed throughout the area and located in valleys (near open fields) adjacent to the mountains.

Maintenance: The Trail appears to be well maintained and is free of debris/rubbish. Maintenance is also evident due to small piles of trees/underbrush near the access gates and some logs along the Trail.

Visibility: During leaf-on conditions (Summer/Spring) visibility along the Trail is limited to a few feet off the Trail, farther if looking down the Trail, or where there is an opening in the trees adjacent to the small open field. During leaf-off conditions (Fall/Winter) there is more visibility looking out from the Trail to the surrounding landscape. From this viewpoint the open field is more visible and there are views of the distant mountain ranges, however, due to the density of the forest, the tree trunks and branches limited visibility and obscure views. The two-track unpaved road is not visible from KOP 105 as the road is located at a lower elevation than the Trail and would be screened by topography and vegetation.

Recreation: Walking, hiking, biking, and horseback riding

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN () WITHOUT PLAN ()

PROJECT DETAILS AND COMMENTS

INVENTORY (X)

FORECASTING ()

DATE 12-3-2016

TIME 9:53 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1** **MCS**
VIA**SIMILARITY ZONE ()****INVENTORY ()****BASIC (X)****FORECASTING (X)****DETAILED ()****PROJECT NAME** Mountain Valley Pipeline**DATE** 12-3-2016**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME** 9:53 am**VIEWPOINT(X)** **ZONE ()****WEATHER** Cold, overcast**WITH PLAN ()** **WITHOUT PLAN (X)****PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD** 10 YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is listed on the NPS National Recreation Trail Register and the National Register of Historic Places listed for its significance as an early transportation route and its association with Civil War activities in West Virginia. The WGBT Trail is maintained as close as possible to its original construction in the 1850's. The USACE currently maintains the WGBT Trail. Due to the federal designation as a historic place modifications and/or development are not anticipated to the WGBT Trail aside from routine maintenance activity. Therefore, the landscape would not change and views would be maintained as they are.

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1** **MCS**
VIA**SIMILARITY ZONE ()****INVENTORY ()****BASIC (X)****FORECASTING (X)****DETAILED ()****PROJECT NAME** Mountain Valley Pipeline**DATE** 12-3-2016**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME** 9:53 am**VIEWPOINT(X)** **ZONE ()****WEATHER** Cold, overcast**WITH PLAN (X)** **WITHOUT PLAN ()****PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD** 10 YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is listed on the NPS National Recreation Trail Register and the National Register of Historic Places listed for its significance as an early transportation route and its association with Civil War activities in West Virginia. The Trail is maintained as close as possible to its original construction in the 1850's. The USACE currently maintains the WGBT Trail. Due to the federal designation as a historic place modifications and/or development are not anticipated to the WGBT Trail aside from routine maintenance activity. However, with the proposed Project implemented there would be changes in the landscape setting which would include loss of vegetation along the pipeline right-of-way, adjacent to the WGBT Trail. Ground disturbance associated with the implementation of the Project would be re-seeded and would appear similar to the open field, except linear in nature.

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN () WITHOUT PLAN (X)

PROJECT DETAILS AND COMMENTS

INVENTORY ()

FORECASTING (X)

DATE 12-3-2016

TIME 9:53 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD 10 YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN (X) WITHOUT PLAN ()

PROJECT DETAILS AND COMMENTS

INVENTORY ()

FORECASTING (X)

DATE 12-3-2016

TIME 9:53 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD 10 YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VIEWPOINT ASSESSMENT

FORM 6 VIA

BASIC (X)

PROJECT NAME Mountain Valley Pipeline Project
 LOCATION Weston and Gauley Bridge Turnpike Trail
 VIEWPOINT MAP REFERENCE KOP 105
 ALTERNATIVE ()

DETAILED ()

DATE 12-3-2016
 TIME NA
 WEATHER NA
 PERSONNEL L. Davidson
 of

PROJECT DETAILS AND COMMENTS

USE THE LETTER 'A' FOR
 WITH PLAN CONDITION.

USE THE LETTER 'B' FOR
 WITHOUT PLAN CONDITION

	DISTINCT 3	AVERAGE 2	MINIMAL 1	DIFFERENCE	COMPATIBILITY C Compatible SC Somewhat Compatible NC Not Compatible	SCALE CONTRAST MI Minimal MO Moderate S Severe	SPATIAL DOMINANCE S Subordinate C Co-dominant D Dominant	COMMENTS
WATER RESOURCES				0	NA	NA	NA	Water not present
LANDFORM		A/B		0	C	MI	S	
VEGETATION	B	A		-1	SC	MO	CO	Removal of veg
LANDUSE	A/B			0	C	MI	CO	
USER ACTIVITY	A/B			0	C	MI	S	
SPECIAL CONSIDERATIONS *	A/B			0	SC	MO	S	

		INCONSPICUOUS	SIGNIFICANT	PROMINENT
LANDSCAPE COMPOSITION	WITH PLAN	X		
	WITHOUT PLAN	X		

* The following will give you the value for Special Considerations. A sum of 3 or more distinct, 1-2 average, and 0 minimal.

	Yes 1	No 0
Does this zone contain any Cultural or Historical Landmarks?	A/B	
Is this zone, or areas within it, known for its distinct visual quality and/or wildlife observation?	A/B	
Is this zone free from pollution and litter?	A/B	
Are there other aesthetic elements that add to this resource?		A/B
Total	3	0

VISUAL IMPACT ASSESSMENT SUMMARY**FORM 8 VIA****PROJECT NAME** Mountain Valley Pipeline**BASIC** (X) **DETAILED** ()**LOCATION** Weston and Gauley Bridge Turnpike Trail**DATE** 12-3-2016**ALTERNATIVE** ()**PERSONNEL** VIA Team**WITH PLAN** (X) **WITHOUT PLAN** ()**PROJECT DETAILS AND COMMENTS****VISUAL IMPACT
ASSESSMENT VALUE**

	EVALUATOR	EVALUATOR	EVALUATOR	EVALUATOR	TOTAL OF EVALUATORS	QUOTIENT
WATER	0				1	0
LANDFORM	0				1	0
VEGETATION	-1				1	-1
LANDUSE	0				1	0
USER ACTIVITY	0				1	0
SPECIAL CONSIDERATIONS	0				1	0

VISUAL IMPACT ASSESSMENT VALUE -1**MODIFIER RATING**

CR=Compatibility Rating SC=Scale Contrast Rating SDR=Spatial Dominance Rating

**MAJORITY
RATING**

	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR	MAJORITY RATING
WATER	NA	NA	NA										NA NA NA
LANDFORM	C	MI	S										C MI S
VEGETATION	SC	MO	CO										SC MO CO
LANDUSE	C	MI	CO										C MI CO
USER ACTIVITY	C	MI	S										C MI S
LANDSCAPE COMPOSITION													
P Prominent S Significant I Inconspicuous	I												

VISUAL RESOURCE SUMMARY/DESCRIPTION

FORM 1 **MCS**
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

INVENTORY (X)

FORECASTING ()

PROJECT NAME Mountain Valley Pipeline

DATE 12-3-2016

LOCATION Weston and Gauley Bridge Turnpike Trail

TIME 9:58 am

VIEWPOINT(X) ZONE ()

WEATHER Cold, overcast

WITH PLAN () WITHOUT PLAN ()

PERSONNEL L. Davidson

PROJECT DETAILS AND COMMENTS

TIME PERIOD YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The area along the Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is primarily natural and comprised of heavily forested hills/mountains with a small open field. The only development apparent, besides the WGBT Trail, is a two-track unpaved road located south of the Trail.

Access: Access is limited to the WGBT Trail and two-track unpaved road that appears to be access for rural residents in the area.

Land Uses: The landscape is primarily undeveloped aside from the WGBT Trail, which is managed and maintained by the USACE, and the two-track unpaved road.

Maintenance: The Trail appears to be well maintained and is free of debris/rubbish. Maintenance is also evident due to small piles of trees/underbrush near the access gates and some logs along the Trail.

Visibility: During leaf-on conditions (Summer/Spring) visibility along the Trail is limited to a few feet off the Trail. During leaf-off conditions (Fall/Winter) there is more visibility looking out from the Trail to the surrounding landscape. From this viewpoint a small portion of the open field is visible and there are views of the distant mountain ranges (the silhouette of the mountains are visible), however, due to the density of the forest, the tree trunks and branches limit visibility and obscure views. In addition, a portion of the two-track unpaved road is visible during leaf-off conditions and appears to be similar in form, line and color to the Trail.

Recreation: Walking, hiking, biking, and horseback riding

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN () WITHOUT PLAN ()

PROJECT DETAILS AND COMMENTS

INVENTORY (X)

FORECASTING ()

DATE 12-3-2016

TIME 9:58 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1** **MCS**
VIA**SIMILARITY ZONE ()****INVENTORY ()****BASIC (X)****FORECASTING (X)****DETAILED ()****PROJECT NAME** Mountain Valley Pipeline**DATE** 12-3-2016**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME** 9:58 am**VIEWPOINT(X)** **ZONE ()****WEATHER** Cold, overcast**WITH PLAN ()** **WITHOUT PLAN (X)****PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD** 10 YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is listed on the NPS National Recreation Trail Register and the National Register of Historic Places listed for its significance as an early transportation route and its association with Civil War activities in West Virginia. The WGBT Trail is maintained as close as possible to its original construction in the 1850's. The USACE currently maintains the WGBT Trail. Due to the federal designation as a historic place modifications and/or development are not anticipated to the WGBT Trail aside from routine maintenance activity. It is also not anticipated that the two-track unpaved road would not be improved beyond its current condition due to the limited number of rural residents in the area. Therefore, the landscape would not change and views would be maintained as they are.

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1** **MCS**
VIA**SIMILARITY ZONE ()****INVENTORY ()****BASIC (X)****FORECASTING (X)****DETAILED ()****PROJECT NAME** Mountain Valley Pipeline**DATE** 12-3-2016**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME** 9:58 am**VIEWPOINT(X)** **ZONE ()****WEATHER** Cold, overcast**WITH PLAN (X)** **WITHOUT PLAN ()****PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD** 10 YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is listed on the NPS National Recreation Trail Register and the National Register of Historic Places listed for its significance as an early transportation route and its association with Civil War activities in West Virginia. The Trail is maintained as close as possible to its original construction in the 1850's. The USACE currently maintains the WGBT Trail. Due to the federal designation as a historic place modifications and/or development are not anticipated to the WGBT Trail aside from routine maintenance activity. Although with the proposed Project implemented there would be changes in the landscape setting, including loss of vegetation along the pipeline right-of-way adjacent to the WGBT Trail, it is not anticipated that these changes would be readily apparent from KOP 106. Terrain and vegetation between the view point and the pipeline would screen most changes (i.e. tree thinning, clearing).

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN () WITHOUT PLAN (X)

PROJECT DETAILS AND COMMENTS

INVENTORY ()

FORECASTING (X)

DATE 12-3-2016

TIME 9:58 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD 10 YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN (X) WITHOUT PLAN ()

PROJECT DETAILS AND COMMENTS

INVENTORY ()

FORECASTING (X)

DATE 12-3-2016

TIME 9:58 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD 10 YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VIEWPOINT ASSESSMENT

FORM 6 VIA

BASIC (X)

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT MAP REFERENCE KOP 106

ALTERNATIVE ()

PROJECT DETAILS AND COMMENTS

DETAILED ()

DATE 12-3-2016

TIME NA

WEATHER NA

PERSONNEL L. Davidson

of

USE THE LETTER 'A' FOR
WITH PLAN CONDITION.USE THE LETTER 'B' FOR
WITHOUT PLAN CONDITION

	DISTINCT 3	AVERAGE 2	MINIMAL 1	DIFFERENCE	COMPATIBILITY C Compatible SC Somewhat Compatible NC Not Compatible	SCALE CONTRAST MI Minimal MO Moderate S Severe	SPATIAL DOMINANCE S Subordinate C Co-dominant D Dominant	COMMENTS
WATER RESOURCES				0	NA	NA	NA	Water not present
LANDFORM		A/B		0	C	MI	S	
VEGETATION	A/B			0	C	MI	S	
LANDUSE	A/B			0	C	MI	S	
USER ACTIVITY	A/B			0	C	MI	S	
SPECIAL CONSIDERATIONS *	A/B			0	SC	MO	S	

		INCONSPICUOUS	SIGNIFICANT	PROMINENT
LANDSCAPE COMPOSITION	WITH PLAN	X		
	WITHOUT PLAN	X		

* The following will give you the value for Special Considerations. A sum of 3 or more distinct, 1-2 average, and 0 minimal.

	Yes 1	No 0
Does this zone contain any Cultural or Historical Landmarks?	A/B	
Is this zone, or areas within it, known for its distinct visual quality and/or wildlife observation?	A/B	
Is this zone free from pollution and litter?	A/B	
Are there other aesthetic elements that add to this resource?		A/B
Total	3	0

VISUAL IMPACT ASSESSMENT SUMMARY**FORM 8 VIA****PROJECT NAME** Mountain Valley Pipeline**BASIC** (X) **DETAILED** ()**LOCATION** Weston and Gauley Bridge Turnpike Trail**DATE** 12-3-2016**ALTERNATIVE** ()**PERSONNEL** VIA Team**WITH PLAN** (X) **WITHOUT PLAN** ()**PROJECT DETAILS AND COMMENTS****VISUAL IMPACT
ASSESSMENT VALUE**

	EVALUATOR	EVALUATOR	EVALUATOR	EVALUATOR	TOTAL OF EVALUATORS	QUOTIENT
WATER	0				1	0
LANDFORM	0				1	0
VEGETATION	-1				1	0
LANDUSE	0				1	0
USER ACTIVITY	0				1	0
SPECIAL CONSIDERATIONS	0				1	0

VISUAL IMPACT ASSESSMENT VALUE 0**MODIFIER RATING**

CR = Compatibility Rating SC = Scale Contrast Rating SDR = Spatial Dominance Rating

**MAJORITY
RATING**

	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR
WATER	NA	NA	NA										NA	NA	NA
LANDFORM	C	MI	S										C	MI	S
VEGETATION	SC	MO	CO										C	MI	S
LANDUSE	C	MI	CO										C	MI	S
USER ACTIVITY	C	MI	S										C	MI	S
LANDSCAPE COMPOSITION P Prominent S Significant I Inconspicuous	I														

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1** **MCS**
VIA**SIMILARITY ZONE ()****INVENTORY (X)****BASIC (X)****FORECASTING ()****DETAILED ()****PROJECT NAME** Mountain Valley Pipeline**DATE** 12-3-2016**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME** 10:55 am**VIEWPOINT(X)** **ZONE ()****WEATHER** Cold, overcast**WITH PLAN ()** **WITHOUT PLAN ()****PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD** **YEARS**

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The area along the Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is primarily natural and comprised of heavily forested hills/mountains with a small open field. The only development apparent, besides the WGBT Trail, are two steel access gates. The gates are steel tube and painted green to blend in with the surrounding.

Access: Access is limited to the WGBT Trail. No other access is apparent.

Land Uses: The landscape is primarily undeveloped aside from the WGBT Trail, which is managed and maintained by the USACE.

Maintenance: The Trail appears to be well maintained and is free of debris/rubbish. Maintenance is also evident due to small piles of trees/underbrush near the access gates and some logs along the Trail.

Visibility: During leaf-on conditions (Summer/Spring) visibility along the Trail is limited to a few feet off the Trail or farther if looking down the Trail or where there is an opening in the trees adjacent to the grassy field. During leaf-off conditions (Fall/Winter) there is more visibility looking out from the Trail to the surrounding landscape. From this viewpoint the open field is more visible and there are views of the distant mountain ranges, however, due to the density of the forest, the tree trunks and branches limited visibility and obscure views.

Recreation: Walking, hiking, biking, and horseback riding

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN () WITHOUT PLAN ()

PROJECT DETAILS AND COMMENTS

INVENTORY (X)

FORECASTING ()

DATE 12-3-2016

TIME 10:55 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VISUAL RESOURCE SUMMARY/DESCRIPTION

FORM 1 MCS
VIA

SIMILARITY ZONE ()

INVENTORY ()

BASIC (X)

FORECASTING (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline

DATE 1-12-2017

LOCATION Weston and Gauley Bridge Turnpike Trail

TIME

VIEWPOINT(X) ZONE ()

WEATHER

WITH PLAN () WITHOUT PLAN (X)

PERSONNEL L. Davidson

PROJECT DETAILS AND COMMENTS

TIME PERIOD 10 YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The Weston and Gauley Bridge Turnpike Trail (WGBT Trail and Trail) is listed on the NPS National Recreation Trail Register and the National Register of Historic Places listed for its significance as an early transportation route and its association with Civil War activities in West Virginia. The Trail is maintained as close as possible to its original construction in the 1850's. The USACE currently maintains the WGBT Trail. Due to the federal designation as a historic place modifications and/or development are not anticipated to the WGBT Trail aside from routine maintenance activity. Therefore, the landscape would not change and views would be maintained as they are.

VISUAL RESOURCE SUMMARY/DESCRIPTION**FORM 1** **MCS**
VIA**SIMILARITY ZONE ()****BASIC** ☒**DETAILED** ()**INVENTORY** ()**FORECASTING** ☒**PROJECT NAME** Mountain Valley Pipeline**DATE** 12-3-2016**LOCATION** Weston and Gauley Bridge Turnpike Trail**TIME** 10:55 am**VIEWPOINT** ☒ **ZONE** ()**WEATHER** Cold, overcast**WITH PLAN** ☒ **WITHOUT PLAN** ()**PERSONNEL** L. Davidson**PROJECT DETAILS AND COMMENTS****TIME PERIOD** 10 YEARS

In your own words, describe the visual resource of the zone. In doing so, try to describe the elements that unify the area so that it can be considered a zone. Make note of other aesthetic characteristics that are present.

The Weston and Gauley Bridge Turnpike Trail (WGBT Trail or Trail) is listed on the NPS National Recreation Trail Register and the National Register of Historic Places listed for its significance as an early transportation route and its association with Civil War activities in West Virginia. The Trail is maintained as close as possible to its original construction in the 1850's. The USACE currently maintains the WGBT Trail. Due to the federal designation as a historic place modifications and/or development are not anticipated to the WGBT Trail aside from routine maintenance activity. However, with the proposed Project implemented there would be changes in the landscape setting which would include loss of vegetation along the pipeline right-of-way, adjacent to the WGBT Trail. Ground disturbance associated with the implementation of the Project would be re-seeded and would appear similar to the open field, except linear in nature.

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN () WITHOUT PLAN (X)

PROJECT DETAILS AND COMMENTS

INVENTORY ()

FORECASTING (X)

DATE 12-3-2016

TIME 10:55 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD 10 YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VISUAL RESOURCE INVENTORY/FORECAST

FORM 2 MCS
VIA

SIMILARITY ZONE ()

BASIC (X)

DETAILED ()

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT (X) ZONE ()

WITH PLAN (X) WITHOUT PLAN ()

PROJECT DETAILS AND COMMENTS

INVENTORY ()

FORECASTING (X)

DATE 12-3-2016

TIME 10:55 am

WEATHER Cold, overcast

PERSONNEL L. Davidson

of

TIME PERIOD 10 YEARS

WATER None apparent

RESOURCE
MOVEMENT
SCALESTREAM
NONE
SMALLRIVER
MEANDERLAKE/RES.
SWIFT
MEDIUMWETLANDS
RAPIDMARINE
FALLS
LARGE

LANDFORM

TYPE

COASTAL

PLAINS

ROLLING
HILLS

HILLS

MOUNTAINS

VEGETATION

COVER

0

0-25%

25-50%

50-75%

75-100%

DIVERSITY

NONE

LITTLE

PRESENT

SUBSTAN.

EXTENSIVE

SEAS CHANGE

NONE

PRESENT

SUBSTANTIAL

LAND/WATER USE

INTENSITY
TYPEWILDERNESS
RECREAT.UNDEVEL
AGRIC.RURAL
RESIDENT.SUBURBAN
COMMER.URBAN
INDUST.

ACCESS

TYPE

TRAIL

WALKWAY

SECOND. RD. PRIMARY RD. HIGHWAY

USER ACTIVITY

DEGREE

LOW

MEDIUM

HIGH

FREQUENCY

LOW

MEDIUM

HIGH

LITTER/POLLUTION

AMOUNT

NONE

PRESENT

EXTENSIVE

ADJACENT SCENERY

SIMILARITY

NOT

SOMEWHAT

VERY

SOUNDS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

SMELLS

PRESENCE
TYPEABSENT
DISCORDANTPRESENT
INCONSPICUOUSDOMINANT
HARMONIOUS

VISIBILITY

AMOUNT
POSITIONSCREENED
INFERIORPARTIALLY SCREENED
NORMALPANORAMA
SUPERIORDoes this area contain any other significant attributes?
If Yes, explain in Comments above.

Yes

No

Is this area known for its wildlife observation?

Yes

No

Does this area contain any cultural or historical landmarks?

Yes

No

VIEWPOINT ASSESSMENT

FORM 6 VIA

BASIC (X)

PROJECT NAME Mountain Valley Pipeline Project

LOCATION Weston and Gauley Bridge Turnpike Trail

VIEWPOINT MAP REFERENCE Point 107

ALTERNATIVE ()

PROJECT DETAILS AND COMMENTS

DETAILED ()

DATE 12-3-2016

TIME NA

WEATHER NA

PERSONNEL L. Davidson

of

USE THE LETTER 'A' FOR
WITH PLAN CONDITION.USE THE LETTER 'B' FOR
WITHOUT PLAN CONDITION

	DISTINCT 3	AVERAGE 2	MINIMAL 1	DIFFERENCE	COMPATIBILITY C Compatible SC Somewhat Compatible NC Not Compatible	SCALE CONTRAST MI Minimal MO Moderate S Severe	SPATIAL DOMINANCE S Subordinate C Co-dominant D Dominant	COMMENTS
WATER RESOURCES				0	NA	NA	NA	Water not present
LANDFORM		A/B		0	C	MI	S	
VEGETATION	B	A		-1	SC	MO	CO	Removal of veg
LANDUSE	A/B			0	C	MI	CO	
USER ACTIVITY	A/B			0	C	MI	S	
SPECIAL CONSIDERATIONS *	A/B			0	SC	MO	S	

		INCONSPICUOUS	SIGNIFICANT	PROMINENT
LANDSCAPE COMPOSITION	WITH PLAN	X		
	WITHOUT PLAN	X		

* The following will give you the value for Special Considerations. A sum of 3 or more distinct, 1-2 average, and 0 minimal.

	Yes 1	No 0
Does this zone contain any Cultural or Historical Landmarks?	A/B	
Is this zone, or areas within it, known for its distinct visual quality and/or wildlife observation?	A/B	
Is this zone free from pollution and litter?	A/B	
Are there other aesthetic elements that add to this resource?		A/B
Total	3	0

VISUAL IMPACT ASSESSMENT SUMMARY**FORM 8 VIA****PROJECT NAME** Mountain Valley Pipeline**BASIC** (X) **DETAILED** ()**LOCATION** Weston and Gauley Bridge Turnpike Trail**DATE** 12-3-2016**ALTERNATIVE** ()**PERSONNEL** VIA Team**WITH PLAN** (X) **WITHOUT PLAN** ()**PROJECT DETAILS AND COMMENTS****VISUAL IMPACT
ASSESSMENT VALUE**

	EVALUATOR	EVALUATOR	EVALUATOR	EVALUATOR	TOTAL OF EVALUATORS	QUOTIENT
WATER	0				1	0
LANDFORM	0				1	0
VEGETATION	-1				1	-1
LANDUSE	0				1	0
USER ACTIVITY	0				1	0
SPECIAL CONSIDERATIONS	0				1	0

VISUAL IMPACT ASSESSMENT VALUE -1**MODIFIER RATING**

CR=Compatibility Rating SC=Scale Contrast Rating SDR=Spatial Dominance Rating

**MAJORITY
RATING**

	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR	CR	SCR	SDR
WATER	NA	NA	NA										NA	NA	NA
LANDFORM	C	MI	S										C	MI	S
VEGETATION	SC	MO	CO										SC	MO	CO
LANDUSE	C	MI	CO										C	MI	CO
USER ACTIVITY	C	MI	S										C	MI	S
LANDSCAPE COMPOSITION P Prominent S Significant I Inconspicuous	I														

APPENDIX E

Visual Impact Analysis for the Appalachian National Scenic Trail (USFS)

MOUNTAIN VALLEY PIPELINE PROJECT
JEFFERSON NATIONAL FOREST VISUAL IMPACT
ASSESSMENT

FERC DOCKET # CP16-10
DHR FILE #2014 1194

Prepared for



EQT Plaza, 625 Liberty Avenue

Pittsburgh, PA 15222

Prepared by



160 Federal Street, 3rd Floor

Boston, MA 02110

February 2017

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Appendices

- Appendix A Project Map, Viewshed Analysis, and Visibility Analysis
- Appendix B Visual Simulations and Project Photography
- Appendix C Contrast Field Forms

ABBREVIATIONS AND ACRONYMS

3D	Three-dimensional
ANST	Appalachian National Scenic Trail
BLM	Bureau of Land Management
BMP	Best Management Practice
Forest Plan	Jefferson National Forest Land and Resource Management Plan
GPS	Global Positioning System
KOP	Key Observation Point
MAP	Management Area Prescription
MP	milepost
MVP	Mountain Valley Pipeline LLC
Project	Mountain Valley Pipeline Project
ROW	Right-of-Way
RVCCC	Roanoke Valley Cool Cities Coalition
SIO	Scenic Integrity Objective
SMS	Scenery Management System
USFS	United States Forest Service
VIA	Visual Impact Assessment
VRM	Visual Resource Management

1. INTRODUCTION

The Mountain Valley Pipeline Project (Project) is a natural gas pipeline system that spans approximately 303 miles from northwestern West Virginia to southern Virginia. This Visual Impact Assessment (VIA) for the Jefferson National Forest has been prepared to inform federal agency decisions regarding the issuance of approvals necessary to allow construction and operation of the Project. The Project will be constructed and owned by Mountain Valley Pipeline, LLC (MVP), which is a joint venture of EQT Midstream Partners, LP; NextEra US Gas Assets, LLC; Con Edison Gas Midstream, LLC; WGL Midstream; and RGC Midstream, LLC. EQT Midstream Partners will operate the pipeline. The pipeline will be 42 inches in diameter and will require temporary right-of-way (ROW) during construction that is approximately 125 feet wide. After construction, MVP will maintain a 50-foot-wide permanent ROW.

The Project will cross approximately 3.4 miles of the Jefferson National Forest in Monroe County, West Virginia and Giles and Montgomery counties, Virginia, where it crosses Peters Mountain between mileposts (MPs) 195.3 and 196.9 (1.6 miles), Sinking Creek Mountain between MPs 217.2 and 218.0 (0.8 mile), and Brush Mountain between MPs 218.4 and 219.4 (1.0 mile). The Jefferson National Forest is managed by the U.S. Forest Service (USFS) and, administratively combined with the George Washington National Forest, encompasses nearly 1.8 million acres in West Virginia, Virginia, and Kentucky. The National Forest is managed for multiple uses including camping, hiking, wildlife conservation, and active management for timber and wood product production. This VIA analyzes potential visual impacts of the Project within the Jefferson National Forest, including the Appalachian National Scenic Trail (ANST), Craig Creek Road, and Pocahontas Road.

2. ANALYSIS APPROACH SUMMARY

MVP assessed visual impacts using both the USFS's Scenery Management System (SMS) and the Bureau of Land Management's (BLM's) Visual Resource Management (VRM) system. The SMS provides the primary guidance for evaluating landscape character, visual quality (scenic integrity), and impact assessment. BLM's VRM system's rating approach provides guidance for evaluating visual contrast.

Based on the best existing guidance and available data, MVP assessed visual impacts by using both the USFS SMS and BLM VRM systems to analyze visual impacts on USFS lands. Visual impacts resulting from the Project's crossing of the Jefferson National Forest were identified based on estimated changes to existing scenic integrity that would result from the Project. Per USFS practice, the primary focus is to evaluate potential changes to scenic quality and landscape character against the USFS Scenic Integrity Objectives (SIOs) for the Jefferson National Forest. The SIOs define the desired condition and the degree of deviation in visual resources that may occur in a given landscape (USFS 1995). The SIOs for the lands within the analysis area are defined in the Land and Resource Management Plan (Forest Plan) for the Jefferson National Forest. The Forest Plan provides a framework for integrated resource management and guides all project and activity decision making on USFS lands.

While the USFS has a procedure for ranking managed lands and assigning SIOs, the USFS does not have a formal procedure to assess visual impacts. Consequently, a variety of methods may be used by USFS staff for visual impact assessment. However, the USFS's SMS includes landscape character descriptions and scenic integrity objectives for USFS landscapes that can be used to help assess the compatibility of a proposed project with the surrounding landscape (BLM 2016).

Once a landscape character goal and scenic integrity objective have been established for an area, the compatibility of a project proposed for the area can be assessed by evaluating the effect that the addition of the project to the landscape would have on the area's landscape character and the landscape's scenic integrity. Changes to the existing landscape character and scenic integrity are components of the project's visual impact. Assessing these changes requires determination of the likely visual contrasts created by the project, a key component of the project's visual impact.

MVP has determined the visual impacts of the Project through the Jefferson National Forest by evaluating impacts against the desired landscape character and SIO as identified in the Forest Plan. Factors such as visual dominance, degree of deviation from existing landscape character, and intactness of the landscape were considered in this comparison.

3. STUDY APPROACH

The main tasks that MVP undertook to prepare this VIA were: (1) establish an understanding of the visual character and qualities of the existing landscape environment in the Project area through viewpoint selection, (2) determine areas from which the proposed Project would be visible, (3) identify visual contrast resulting from changes as they affect the existing landscape character and qualities in the Project area, and (4) assess compliance with USFS SIOs. The following sections describe in more detail how MVP accomplished each of these tasks.

a. Define Analysis Area

The analysis area for the VIA is generally defined as up to 10 miles from the Project's proposed crossing of the Jefferson National Forest, including the ANST corridor, but may extend further to capture scenic overlooks on the ANST. For instance, the visual impact distance for the Sugar Run Mountain scenic vista is 12.2 miles.¹ Likewise, the visual impact distance for Sawtooth Ridge is 11 miles.

b. Identify Key Observation Points

Key Observation Points (KOPs) are viewing locations that are evaluated for potential visual impact and are representative of visually sensitive areas from which viewers may be affected by Project-

¹ This distance was selected based on the Department of the Interior's December 22, 2016 comments on the Project's Draft Environmental Impact Statement.

related changes in the landscape setting. MVP, in consultation with the USFS, selected 14 KOPs on USFS lands and used these KOPs to investigate potential visual impacts of the Project. KOPs for this analysis include popular overlooks along the ANST, sections of the ANST, Craig Creek Road, and the Sugar Camp Trailhead. The KOPs are listed in Table 1 in Section 4 below.

c. Identify Scenic Integrity Objectives

The SMS uses SIOs to describe the goals of a landscape relative to its assumed natural state in five levels: Very High (Unaltered), High (Appears Unaltered), Moderate (Slightly Altered), Low (Moderately Altered), and Very Low (Heavily Altered). When discussing SIOs, the degree of alteration is measured in terms of visual contrast with the surrounding natural landscape. The objectives of each SIO classification are described below (USFS 1995):

- Very High SIO – Very High scenic integrity refers to landscapes where the valued landscape character “is” intact with only minute deviations, if any. The existing landscape character and sense of place are expressed at the highest possible level.
- High SIO – High scenic integrity refers to landscapes where the valued landscape character “appears” intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.
- Moderate SIO – Moderate scenic integrity refers to landscapes where the valued landscape character “appears slightly altered.” Noticeable deviations must remain visually subordinate to the landscape character being viewed.
- Low SIO – Low scenic integrity refers to landscapes where the valued landscape character “appears moderately altered.” Deviations begin to dominate the valued landscape character being viewed, but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed. They should not only appear as valued character outside the landscape being viewed but compatible or complimentary to the character within.
- Very Low SIO – Very Low scenic integrity refers to landscapes where the valued landscape character “appears heavily altered.” Deviations may strongly dominate the valued landscape character. They do not have to borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed. However, deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition.

The existing SIO of the area crossed by the Project that is closest to or seen from each KOP is identified in Table 1 in Section 4.a below.² Determining the consistency of the Project with SIOs involves comparing existing landscape integrity with integrity that would occur after construction of the Project. Impacts to landscape scenery were determined by measuring the extent of effects of the pipeline route (e.g., vegetation clearing) on the scenic landscape through USFS scenic attractiveness ratings and scenic quality on private, state, and other federal lands.

d. Identify Scenic Class Ratings

The Forest Plan divides the Jefferson National Forest into 11 management areas, “which reflect biological, physical, watershed, and social differences in managing each area of land” (USFS 2004). The proposed alignment would cross two of these management areas: Upper James River and New River. Each management area has different attributes that require a slightly different management emphasis. These differences are reflected in the management prescriptions, “which reflect different desired conditions and provide the specific information used to develop projects to implement the Forest Plan” (USFS 2004). The proposed alignment for the Project crosses five separate management prescriptions within the management areas: the Appalachian Trail Corridor (4A), Mix of Successional Habitats in Forested Landscapes (8A1), Old Growth Forest Communities-Disturbance Associated (6C), Urban/Suburban Interface (4J), and Riparian Corridors (11).³

Each management prescription also has a scenic class rating. The USFS uses the data gathered and mapped for scenic attractiveness and landscape visibility and then assigns a numerical scenic class rating to all lands within the Jefferson National Forest. These ratings, 1-7, indicate the relative scenic importance, or value, of discrete landscape areas. Mapped scenic classes are used during forest planning to compare the value of scenery with other resources, such as timber, wildlife, old-growth, or minerals. For this VIA, the scenic class ratings are used to assess scenic quality. The scenic class rating(s) for each KOP is identified in Table 2 below.

e. Identify Visibility Changes Associated with the Proposed Project

MVP prepared photographic simulations under typical viewing conditions for 11 of the KOPs to demonstrate how the Project, once constructed, would look in the landscape to future viewers (see Appendix B). MVP chose to prepare simulations for these KOPs because they either had high visibility or

² Note that, if the Project is approved, the USFS will reallocate the area around the Project right-of-way from the existing management prescriptions (other than management prescription 4A, the ANST) to management prescription 5C, Designated Utility Corridor. Per the terms of the Forest Plan, this will have the effect of reducing some of the existing SIOs from High to Moderate or from Moderate to Low.

³ Management Prescription 11, Riparian Corridors, is not separately mapped, but rather is embedded in other management prescriptions. Because the Project’s crossing of Management Prescription 11 is not visible from any of the KOPs analyzed in this VIA, this management prescription is not discussed further.

were a sensitive viewpoint along the ANST. Information from photographic simulations is supported with additional graphic techniques, such as elevations, and construction details to provide a complete understanding of the proposed Project in contrast to the existing landscape conditions. Along with showing how the Project looks from a particular viewpoint, simulations demonstrate where views are effectively screened by topography, surrounding vegetation, and/or structures.

The software used to create the visual simulations includes:

- ArcMap – Used for Project data mapping;
- Promote Systems Global Positioning System (GPS) – Used for photo and modeling location accuracy;
- 3D Studio Max – Used for 3D modeling, texturing, lighting, and rendering;
- PTGui – Used for digital photo panorama creation; and
- Adobe Photoshop CS4 – Used for photo editing and compositing.

The simulations are based on digital photography collected at the selected viewpoint locations. The viewpoint locations were documented with field notes and GPS coordinates. Visual simulations were then prepared by combining site photography with accurate, rendered computer models of Project facilities to predict what would be seen after construction of the Project in the photographed setting. The 3D model includes site-specific reclamation techniques, such as replanting natural seed mixtures, to demonstrate long-term visual impacts after construction. Using a geographic information system to generate a terrain model, the 3D model was placed in real-world coordinates to ensure accuracy. Simulations were developed by aligning each photographic viewpoint with the models and superimposing the models on the photographs. Creation of the simulations also used a real-world lighting system in the model when rendering each of the strategic viewpoints. This lighting system geographically represents lighting as it would appear at the time of day and date the photo was taken. Once complete, the renderings were added to the existing photographs to create a “before and after” product. The simulations demonstrate what the Project ROW would look like post construction but before revegetation. Therefore, it is a worst-case scenario. The visibility of the ROW would diminish once grass and shrubbery has been reestablished within the ROW.

f. Conduct Viewshed Analyses

Viewshed analyses were conducted to analyze visibility of the Project from each KOP. These analyses examined the extent of visibility without vegetation at each individual location. These bare-earth viewsheds illustrate a worst-case scenario of visibility by not accounting for the screening opportunities offered by dominant hardwood vegetation. Computerized methods were used to identify areas from which the ROW might be visible. This was done by creating a digital elevation model of the area based on United States Geological Survey terrain data and using the visibility function within the computer model Viewshed Analysis for ArcGIS™ Spatial Analyst.

Figures in Appendix A illustrate the visual screening effect of terrain, without taking vegetation into consideration. The figures reflect the elevation within and near the Project area, which is undulating and mountainous. Even without considering the effect of the forested areas surrounding the Project area, potential visibility is effectively limited due to the terrain in the area.

A more detailed analysis was conducted for the ANST crossing due to concerns regarding this resource. This more detailed analysis included three viewshed analyses conducted at different extents (a one-mile radius of the crossing and zoomed-in viewsheds to look at the specific bore locations) and locations (Appendix A, Figures 16-18). One viewshed (Appendix A, Figure 18) was created by digitizing the surrounding vegetation in ArcGIS and setting the vegetation data at a height of 40 feet to mimic the height of surrounding trees.

g. Conduct Visual Impact Assessment

Visual impact can be defined as the change in visual quality that would result from a proposed action; i.e., the difference between existing visual quality and visual quality with the proposed Project. Visual impact is measured as the amount of contrast with the existing landscape caused by a project; the degree to which a development adversely affects the visual quality of the landscape is directly related to the amount of visual contrast between it and the existing landscape character.

Visual impacts of the Project were determined at each KOP by assessing the amount of visual contrast introduced into the existing landscape and the level of viewer sensitivity from that location. As noted above, visual contrast incorporates the elements of the BLM VRM system rating approach. Contrast in the landscape was determined by the differences in form, line, color, texture, scale, and landscape juxtaposition between the existing conditions and conditions after implementation of the Project. Contrast levels were determined by comparing the entirety of the visual elements present for each KOP with the total amount of contrast resulting from the introduction of Project elements and were assigned an overall rating of strong, moderate, weak, or none. These values and factors that determine impacts were developed by the BLM and were incorporated into the visual impact assessment. Descriptions of each value are listed below (BLM 1986b).

- *None* – The contrast is not visible or perceived. No visual contrast would occur where the visual contrast of activities is not visually evident, where the Project is smaller in scale or design compared to the existing nearby or parallel utility facilities in the landscape, or where manipulation of existing vegetation creates no visual contrast.
- *Weak* – The contrast can be seen but does not attract attention. This level of contrast can be caused, for example, by using existing access or construction roads, where there is minimal vegetation removal, or where existing ROWs of similar scale exist nearby or parallel in the landscape.
- *Moderate* – The contrast begins to attract attention and begins to dominate the characteristic of the landscape. This contrast can be caused, for example, by expansion of existing access roads or construction of new access roads in rolling terrain with occasional short, steep slopes; where agricultural vegetation or grassland is removed for site or access road construction; or where the Project is smaller in scale compared to the existing nearby or parallel utility facilities in the landscape.

- *Strong* – The contrast demands attention and is dominant in the landscape. This contrast can be caused, for example, by construction of access roads in steep terrain, where riparian or forest vegetation is removed for a pipeline ROW clearing or access roads, and where the landscape has no existing visual disturbance.

Other environmental factors can influence the amount of visual contrast introduced by Project components (BLM 1986a).

- *Distance* – The contrast created by a project usually is less as viewing distance increases.
- *Available Panorama* – The amount of visual contrast increases as the proportion of the proposed facilities visible in the available view increases.
- *Angle of Observation* – Viewing the project from different angles can greatly affect the apparent size of a project and the resulting level of visual contrast.
- *Length of Time in View* – The longer the project is in view, the greater the level of visual contrast.
- *Relative Size or Scale* – The level of visual contrast created by a project is directly related to its size and scale compared to the surrounding landscape it is located in.
- *Lighting Conditions* – The direction and angle of the sun affects the color, intensity, shadow, reflection, form, and texture of visual aspects of proposed project components.

With respect to distance, the USFS visual assessment methodology categorizes views into foreground, middleground, and background distance zones. These distance zones provide a frame of reference for classifying the degree to which details of the viewed Project would affect visual resources. The “foreground” area, identified as occurring from 0 to 0.5 mile from the Project, is considered to be the location from which Project element details would be visually clear. In the “middleground,” classified as the area from 0.5 to 4 miles from the Project, viewers still have the potential to distinguish individual forms and can observe some texture and color as well. At a “background” distance, from 4 miles to the horizon, viewers would lose texture and color but may be able to distinguish land patterns.

Visual resource change, or visual contrast, is the sum of the change in landscape character and visual quality. The viewer response to a proposed project is the result of a combination of viewer expectations, duration of view, and use volume (number of viewers). In this VIA, the resulting visual impacts were determined by combining the level of visual resource change with the degree to which people are likely to be impacted and react adversely to the change.

4. SUMMARY OF VISUAL IMPACTS

Visual impacts associated with the Project crossing of the Jefferson National Forest would include temporary construction activities such as vegetation clearing; color contrast of soil in the cleared ROW or other ancillary structures such as roads; and the presence of vehicles and workers. Long-term impacts, which would exist for the life of the Project, would result from the existence of a cleared ROW and associated maintained access roads as well as pipeline marking. Short-term impacts, which would occur at regular intervals during the life of the Project, would include maintenance activities and the

presence of workers and maintenance vehicles. This section summarizes visual impacts analyzed for each KOP, followed by analyses of visual impacts along Craig Creek Road and Pocahontas Road.

a. Analysis of Key Observation Points

Table 1 below provides a summary of the impact analysis from and description of each KOP. Each analysis includes a description of existing scenic class rating, scenic inventory objective, potential changes to visual quality (contrast), and resulting visual impact.

Table 1. Visual Impact Assessment for Each Key Observation Point							
KOP	Resource Name	Viewers	Scenic Class Rating	SIO ¹	Distance (miles)	Contrast	Impact
KOP-OID-92	ANST Crossing	Recreational	1	High	<0.1	None	None
KOP-OID-111	Angels Rest Overlook	Recreational	2	Moderate	6.0	Low	Low
KOP-OID-113	Kelly's Knob Overlook	Recreational	3, 5	Low, Moderate	2.0	Low	Low
KOP-OID-114	Kelly's Knob Overlook	Recreational	3, 5	Low, Moderate	2.0	Low	Low
KOP-OID-115	Kelly's Knob Overlook	Recreational	3, 5	Low, Moderate	2.0	Low	Low
KOP 125	Sugar Camp Trailhead	Recreational	1	High	1.6	Low	Low
KOP PT-02	Peter's Mountain Wilderness	Recreational	1	High	0.4	None	None
KOP-OID-103	Wind Rock Overlook	Recreational	2	Moderate	6.5	None	None
KOP-OID-22	Sawtooth Ridge	Recreational	NA	NA	11.0	None	None
KOP-OID-23	Dragon's Tooth	Recreational	NA	NA	7.8	None	None
KOP-OID-85	Rice Field	Recreational	1	High	4.1	Low	None
Audie Murphy Monument	ANST	Recreational	2, 3	Low	8.0	None	None
Sugar Run Mountain	ANST	Recreational	2	Moderate	12.2	Low	Low
Sinking Creek Mountain	ANST	Recreational	2, 3, 5	High	2.8	None	None

1. This is the SIO at the Project location that would be visible from or closest to the KOP.

The majority of visual impacts were rated as none due to distance from the viewer, contrast levels, and screening elements. Low and moderate visual impacts were identified at certain vistas, though impacts would be less than significant.

Described below, and shown in Appendix A, Figure 1, are 14 KOPs representing various views from the ANST that help illustrate what visual impacts can be anticipated once the Project has been constructed. The KOPs are discussed by name or the segment of trail they are associated with. These KOPs are summarized in Table 1 above.

KOP-OID-92 – KOP OID-92 is located on the ANST on the Peters Mountain segment looking southeast. The Project crosses the ANST at MP 196.3, approximately 343.0 feet from the KOP, at a location where the trail runs along Peters Mountain between Flat Ridge and Mystery Ridge. Elevations in

this area range from 3,100 feet to over 3,400 feet with vegetation comprised mainly of Appalachian Oak forest.

The location where the Project crosses the Jefferson National Forest and location of the KOP are in Management Prescription 4A, which is the Appalachian Trail corridor. For this management prescription, the Forest Plan states that, “Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate” (USFS 2004). All management activities must meet or exceed an SIO of High. The scenic class is rated as a 1, which indicates that the scenic quality is high.

Because MVP has proposed to bore 300 foot under the ANST, vegetation directly adjacent to the ANST will be left in place and the crossing location will remain intact. Therefore, vegetation in the foreground of the view will screen direct visibility of the cleared Project ROW as well as distant views. While the bare-earth viewshed for KOP-OID-92 (Appendix A, Figure 5) indicates a small swath of visibility on Peters Mountain and a much larger area of visibility in the adjacent valley north of Peters Mountain, these views will actually be screened by the dominant hardwood vegetation adjacent to the ANST. The vista was observed in the field during both leaf-on and leaf-off conditions. The view is fully screened by surrounding vegetation (during both conditions) and topography that yield no views of the proposed ROW.

A visual simulation was prepared showing both leaf-off and leaf-on conditions (Appendix B, Figures 1 and 2, respectively). The vegetation with leaf-off conditions would be dense enough to screen views because the bore location is down a ridge on the side of the mountain and is not visible in the simulation. There is a possibility that trees cleared for the ROW would change the density of the forest canopy off the side of the ridge, but that is not apparent in the simulation. The only location where a trail user would be able to see the cleared Project ROW is if the hiker walked approximately 100 feet off the trail and looked off the edge of the ridge that screens the view of the bore location. Otherwise, the ROW will not be visible to hikers on the trail due to the 300-foot buffer of vegetation that will be preserved on each side of the ANST.

The Project crossing will comply with the requirements of Management Prescription 4A, Appalachian Trail corridor, which has a High SIO, because there will be no visual impact at this KOP. The ROW will not be visible from the trail because MVP plans cross the ANST by conventional bore.

KOP-OID-111 – KOP-OID-111 is located on the ANST at the Angels Rest lookout point looking north across the New River and city of Pearisburg approximately six miles from the Project alignment. Elevation at the point is approximately 3,680 feet with vegetation comprised mainly of Appalachian Oak forest.

The land crossed by the Project alignment that is closest to this KOP is in Management Prescription 8A1, Mix of Successional Habitats in Forested Landscapes, which is managed for maintenance, enhancement, and restoration of native forest communities, particularly southern yellow pine and the wide variety of oak forest communities. The landscape character of this area retains a natural, forested appearance. The portion of the Management Prescription crossed by the Project is managed to meet a Moderate SIO. The scenic class is rated as a 2, which is the second highest scenic class and indicates the scenic quality is high. Note, however, that if the Project is approved and constructed on the Jefferson National Forest, the lands within the ROW for the pipeline would be reallocated to Management Prescription 5C - Designated Utility Corridors, except the ANST, which would remain Management Prescription 4A. The SIOs in Management Prescription 5C are either Moderate (for scenic classes 1 and 2) or Low (for scenic classes 3 to 7). Thus, after reallocation, the SIO for the lands crossed by the Project near this KOP would remain Moderate.

The bare-earth viewshed for KOP-OID-111 (Appendix A, Figure 3) indicates high areas of visibility across the valley that would have the potential to see miles of ROW. The vista was observed in the field during leaf-off conditions. A visual simulation (Appendix B, Figure 3) was prepared showing leaf-off conditions, which would be worst-case scenario viewing conditions. The view is broad and open. Elements visible in the simulation include the city of Pearisburg, the New River, various mountains, and industrial elements such as the Celanese industrial plant and numerous ROWs. The ROW is visible in the simulation, but it barely perceptible at this distance. The ROW does not stand out due to the numerous other ROWs in the view. The Project crossing will comply with the Moderate SIO because it will remain visually subordinate to the characteristic landscape being viewed. Contrast levels would be low from this KOP due to distance and numerous existing human-made changes. The low contrast and distance of view would result in low visual impacts to KOP-OID-111.

KOP-OID-115 – KOP-OID-115 is located on the ANST at the Kelly's Knob main lookout point looking south across the Sinking Creek Valley approximately 2.1 miles from the Project alignment (see KOP-OID-114 and KOP-OID-113 below for other KOPs on Kelly's Knob). Elevation at the point is approximately 3,715 feet with vegetation comprised mainly of Appalachian Oak forest.

The land crossed by the Project alignment that is closest to this KOP falls within Management Prescription 8A1, Mix of Successional Habitats in Forested Landscapes, and Management Prescription 6C, Old Growth Forest Communities-Disturbance Associated. Management Prescription 8A1 is managed for maintenance, enhancement, and restoration of native forest communities, particularly southern yellow pine and the wide variety of oak forest communities. The landscape character of this area retains a natural, forested appearance. The portion of Management Prescription 8A1 crossed by the Project is managed to meet a Moderate SIO and is in scenic class 5, which indicates that existing scenic quality is low.

Management Prescription 6C is managed to emphasize protection, restoration, and management of old growth forests and their associated wildlife, botanical, recreational, scientific, educational, cultural, and spiritual values. Within this management prescription, most of the area

contains forest communities where no forest management activities or intervention will take place. Most of the area contains forest canopies that are continuous, interspersed with small gaps from natural causes, with little evidence of past human activity. The landscape character is natural appearing. The portion of Management Prescription 6C crossed by the Project is managed to meet a mix of Low and Moderate SIOs and is in scenic class 3, which indicates existing scenic quality is moderate. However, if the Project is approved and constructed on the Jefferson National Forest, these lands within the ROW for the pipeline would be reallocated to Management Prescription 5C. Because they are in scenic class 3 and 5, their SIO would be Low after the reallocation.

The bare-earth viewshed for the Project alignment (Appendix A, Figure 9) indicates high areas of visibility on the hills and ridges south of the viewpoint, especially where the ROW crosses Sinking Creek Mountain in the middleground of the view. The vista was observed in the field during leaf-off conditions. MVP prepared a visual simulation of KOP-OID-115 (Appendix B, Figure 4) showing leaf-off conditions, which represent the worst-case scenario viewing conditions. The view is broad with few human-made intrusions visible other than clearings in the valley and a high-voltage transmission line in the middleground of the view. The ROW is visible in the simulation, but it barely perceptible at this distance. This simulation demonstrates that the ROW will be visible, but at a distance of 2.0 miles or further from the lookout, the contrast levels appear low.

Roanoke Valley Cool Cities Coalition (RVCCC) independently prepared a simulation for Kelly's Knob, which it submitted to FERC on January 4, 2017. The location of the RVCCC simulation could not be verified in the field, but additional simulations were prepared at various location around Kelly's Knob. These additional KOPs (KOP-OID-114 and KOP-OID-113) are discussed below.

The ROW visible in MVP's simulation of KOP-OID-115 crosses lands managed with a mix of Moderate and Low SIOs. The low visibility of the Project ROW will comply with the Low and Moderate SIOs, because the Project will remain visually subordinate to the characteristic landscape being viewed. Contrast levels would be low from this KOP due to distance and existing human-made changes to vegetation. The low contrast and distance of the view would result in a low visual impact to KOP-OID-115.

KOP-OID-114 – KOP-OID-114 (Appendix B, Figure 5) is located at an overlook near a campfire location adjacent to Kelly's Knob where the forest canopy opens up. KOP OID-114 is located adjacent to ANST and the Kelly's Knob lookout point looking south across the Sinking Creek Valley approximately 2.1 miles from the Project alignment. Elevation at the point is approximately 3,715 feet with vegetation comprised mainly of Appalachian Oak forest.

The land crossed by the Project alignment closest to this KOP falls within Management Prescription 8A1, Mix of Successional Habitats in Forested Landscapes, and Management Prescription 6C, Old Growth Forest Communities-Disturbance Associated. Management Prescription 8A1 is managed for maintenance, enhancement, and restoration of native forest communities, particularly southern yellow pine and the wide variety of oak forest communities. The landscape character of this area retains

a natural, forested appearance. The portion of Management Prescription 8A1 crossed by the Project is managed to meet a Moderate SIO and is in scenic class 5, which indicates that existing scenic quality is low. Management Prescription 6C is managed to emphasize protection, restoration, and management of old growth forests and their associated wildlife, botanical, recreational, scientific, educational, cultural, and spiritual values. Within this management prescription, most of the area contains forest communities where no forest management activities or intervention will take place. Most of the area contains forest canopies that are continuous, interspersed with small gaps from natural causes, with little evidence of past human activity. The landscape character is natural appearing. The portion of Management Prescription 6C crossed by the Project is managed to meet a mix of Low and Moderate SIOs and is in scenic class 3, which indicates existing scenic quality is moderate. However, if the Project is approved and constructed on the Jefferson National Forest, these lands within the ROW for the pipeline would be reallocated to Management Prescription 5C. Because they are in scenic class 3 and 5, their SIO would be Low after the reallocation.

The bare-earth viewshed for the Project alignment (Appendix A, Figure 11) indicates high areas of visibility on the hills and ridges south of the viewpoint especially where the ROW crosses Sinking Creek Mountain in the middleground of the view. The vista was observed in the field during leaf-off conditions. MVP prepared a visual simulation of KOP-OID-114 (Appendix B, Figure 5) showing leaf-off conditions, which represent the worst-case scenario viewing conditions. The view is partially screened with few human-made intrusions visible other than clearings in the valley and a high-voltage transmission line in the middleground of the view. The simulation is similar to KOP-OID-115 and shows that the ROW will be visible in the valley in the middleground but has low contrast due to its distance from the viewpoint and the existing development and land use patterns in the valley.

The ROW visible in this simulation crosses lands managed with Moderate and Low SIOs. The low visibility of the Project ROW will comply with the Low and Moderate SIOs because the Project will remain visually subordinate to the characteristic landscape being viewed. Where the ROW crosses the hill in the middleground, it would be feathered to soften the edges of the ROW and make the opening in the vegetation appear more natural. The low contrast in this area of low to moderate scenic quality would result in a low visual impact to KOP-OID-114.

KOP-OID-113 – KOP-OID-113 is located adjacent to the Kelly’s Knob lookout point looking south across the Sinking Creek Valley approximately 2.1 miles from the Project alignment. Elevation at the point is approximately 3,715 feet with vegetation comprised mainly of Appalachian Oak forest.

The land crossed by the Project alignment that is closest to this KOP falls within Management Prescription 8A1, Mix of Successional Habitats in Forested Landscapes, and Management Prescription 6C, Old Growth Forest Communities-Disturbance Associated. Management Prescription 8A1 is managed for maintenance, enhancement, and restoration of native forest communities, particularly southern yellow pine and the wide variety of oak forest communities. The landscape character of this area retains a natural, forested appearance. The portion of Management Prescription 8A1 crossed by the Project is managed to meet a Moderate SIO and is in scenic class 5, which indicates that existing scenic quality is

low. Management Prescription 6C is managed to emphasize protection, restoration, and management of old growth forests and their associated wildlife, botanical, recreational, scientific, educational, cultural, and spiritual values. Within this management prescription, most of the area contains forest communities where no forest management activities or intervention will take place. Most of the area contains forest canopies that are continuous, interspersed with small gaps from natural causes, with little evidence of past human activity. The landscape character is natural appearing. The portion of Management Prescription 6C crossed by the Project is managed to meet a mixture of Low and Moderate SIOs and is in scenic class 3, which indicates existing scenic quality is moderate. However, if the Project is approved and constructed on the Jefferson National Forest, these lands within the ROW for the pipeline would be reallocated to Management Prescription 5C. Because they are in scenic class 3 and 5, their SIO would be Low after the reallocation.

The bare-earth viewshed for the Project alignment (Appendix A, Figure 13) indicates high areas of visibility on the hills and ridges south of the viewpoint especially where the ROW crosses Sinking Creek Mountain in the middleground of the view. The vista was observed in the field during leaf-off conditions. MVP prepared a visual simulation of KOP-01D-113 (Appendix B, Figure 6) showing leaf-off conditions, which represent the worst-case scenario viewing conditions. KOP-01D-113 is located off of the main trail with no visible markers to indicate a viewing location. The view is partially screened with few human-made intrusions visible other than clearings in the valley and a high-voltage transmission line in the middleground of the view. The ROW is visible in the simulation, but it barely perceptible at this distance.

As noted above, the location of the RVCCC simulation for Kelly's Knob could not be verified in the field, but this KOP closely resembles the viewing angle of the RVCCC simulation. MVP's simulation for KOP-01D-113 (Appendix B, Figure 6) shows that the ROW is visible as it crosses a hill in the middleground of the view, similar to the RVCCC simulation, though the view for KOP-01D-113 is partially screened by the trees in the foreground. The simulation demonstrates that the ROW will be visible, but at a distance of 2.0 miles or further from the lookout, the contrast levels appear low.

The ROW visible in this simulation crosses lands managed with Moderate and Low SIOs. The low visibility of the Project ROW will comply with the Low and Moderate SIOs because the Project will remain visually subordinate to the characteristic landscape being viewed and partially screened by surrounding vegetation. Where the ROW crosses the hill in the middleground, it may be feathered to soften the edges of the ROW and make the opening in the vegetation appear more natural. Contrast levels would be low from this KOP due to distance and existing human-made changes to vegetation and the partial screening offered by surrounding vegetation. The low contrast and partial screening would result in a low visual impact to KOP-01D-113.

KOP 125 – KOP 125 is located at the Sugar Camp Farm Trailhead, which is a trailhead for the Groundhog Trail that connects to the ANST and is part of the George Washington and Jefferson National Forest. Located approximately 2.0 miles north from the ANST, the trailhead is approximately 1.77 miles east from MP 194.4 of the Project. The visual setting is mostly rural residential and agricultural with

views dominated by Peters Mountain to the south and southeast of this point. Elevation at the point is approximately 2,157 feet with vegetation comprised mainly of Appalachian Oak forest.

The portion of the Project visible from this KOP that crosses the Jefferson National Forest is located in Management Prescription 4A, which is the Appalachian Trail corridor. For this management prescription, the Forest Plan states that, “Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate” (USFS 2004). All management activities must meet or exceed an SIO of High. The scenic class is rated as a 1, which indicates that the scenic quality is high.

The bare-earth viewshed for the Project alignment (Appendix A, Figure 7) indicates high areas of visibility all along the northern side of Peters Mountain in the middleground of the view. The vista was observed in the field during leaf-on conditions. A visual simulation (Appendix A, Figure 6) was prepared showing leaf-on conditions. The view is broad with few human-made visible changes other than trail signage. The ROW is visible in the simulation but is barely perceptible at this distance. The edge of the ROW is visible on the slope of Peters Mountain but blends in with the surrounding vegetation. The simulation demonstrates that the ROW will be visible, but at a distance of 1.6 miles with the dominant hardwood vegetation, contrast levels appear low. The Project ROW will comply with the High SIO, because to the ROW will not be visually evident to the casual observer and the landscape character will appear intact at this crossing. Due to the proposed method of crossing by horizontal bore, the Pipeline ROW will only be visible from the valley below the crossing, and there will be no visible notch in the vegetation at the top of Peters Mountain, leaving the ridgeline vegetation intact. Thus, there would be low visual impacts at KOP 125, and the Project crossing would comply with the USFS management standard.

KOP-PT-02 – KOP-PT-02 is located on the ANST at the boundary of Peters Mountain Wilderness, which is located in Giles County in southwest Virginia. Peters Mountain Wilderness, lying on the east slope of Peters Mountain, ranges in elevation from 3,956 feet on the mountaintop to a low of 2,300 feet on the southern border along Big Stony Creek. The vegetation is primarily upland oak with yellow poplar, red oak, and hickory. The wilderness is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted. The Project will not cross Peters Mountain Wilderness. The view at KOP-PT-02 is looking south to southwest toward the crossing of the ANST.

The portion of the Project visible from this KOP that crosses of the Jefferson National Forest is located in Management Prescription 4A, which is the Appalachian Trail corridor. For this management prescription, the Forest Plan states that, “Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate” (USFS 2004). All

management activities must meet or exceed an SIO of High. The scenic class is rated as a 1, which indicates that the scenic quality is high. The bare-earth viewshed from KOP-PT-02 (Appendix A, Figure 6) indicates high areas of visibility on the northern side of Peters Mountain of Little Mountain and the Dry Creek Valley. The bare-earth viewshed also shows an area on the southern side of Peters Mountain in the middleground of the view. The visibility within the ANST corridor is limited to less than 0.25 mile. A ridge in the foreground of the view screens direct visibility of the Project ROW, though distant views of the ROW will be likely in the adjacent valleys if vegetation is cleared. The vista was observed in the field during leaf-off conditions.

MVP prepared a visual simulation of KOP-PT-02 (Appendix B, Figure 8) showing leaf-off conditions. The view is canopied by vegetation with few human-made visible changes other than USFS signage. The ROW is not visible in the simulation due to screening terrain and vegetation. The simulation demonstrates that the ROW will be effectively screened with the dominant hardwood vegetation; thus, contrast levels are not perceptible. The ROW will comply with the High SIO of Management Prescription 4A because the ROW will not be visually evident to the casual observer and the landscape character will appear intact at this crossing. Due to the screening terrain and vegetation between the viewpoint and the ROW, there will be no visual impact at this KOP.

KOP-OID-103 – KOP-OID-103 is located at the Wind Rock overlook on the ANST at the boundary of Mountain Lake Wilderness. Mountain Lake Wilderness, which inside lies a highland plateau resting squarely on the Eastern Continental Divide, ranges in elevation from 2,200 to 4,000 feet. The vegetation is primarily a typical Appalachian hardwood forest with isolated stands of virgin spruce and hemlock. The wilderness is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted. The view at KOP-OID-103 is looking south toward the location of the ROW. The Project will not cross the Mountain Lake Wilderness; at the closest point, the Project will pass approximately 6.5 miles southwest of the wilderness area.

The lands crossed by the Project alignment that are closest to this KOP fall within Management Prescription 8A1, Mix of Successional Habitats in Forested Landscapes. The portion of Management Prescription 8A1 crossed by the Project is managed to meet a Moderate SIO and is in scenic class 2, which indicates that existing scenic quality is high. However, if the Project is approved and constructed on the Jefferson National Forest, these lands within the ROW for the pipeline would be reallocated to Management Prescription 5C. Because they are in scenic class 2, the lands would retain a Moderate SIO after the reallocation. The bare-earth viewshed from KOP-OID-103 (Appendix A, Figure 8) indicates high areas of visibility south of the viewpoint. A series of ridges and mountains in the middleground of the view screens direct visibility of the ROW. The vista was observed in the field during leaf-off conditions.

MVP prepared visual simulation of KOP-OID-103 (Appendix B, Figure 9) showing leaf-off conditions. The view is open and panoramic with few human-made visible changes other than a development in the middleground. The ROW is not visible in the simulation due to screening terrain and vegetation as well as the distance to the ROW. The simulation demonstrates that the ROW will be

effectively screened with the vegetation; thus, contrast levels are not perceptible. The Project will comply with the Moderate SIO of Management Prescription 8A1 because the ROW will not be visually evident to viewers at the Wind Rock overlook. Due to the screening terrain and vegetation between the viewpoint and the ROW, there will be no visual impact at this KOP.

KOP-OID-22 – KOP-OID-22 is located at the trailhead of Sawtooth Ridge at an elevation of approximately 1,962 feet. The vegetation is primarily a typical Appalachian hardwood forest. The viewpoint is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted. The view at KOP-OID-22 is looking east to southeast toward the location of the ROW. Direct views south are screened by vegetation.

At the closest point, the Project will be 11.0 miles from the viewpoint. This area where the viewpoint is located is not managed by the USFS, so no Management Prescriptions or SIOs apply. The bare-earth viewshed from KOP-OID-22 (Appendix A, Figure 13) indicates high areas of visibility east and south of the viewpoint. A series of mountains in the middleground and background, including Little Brushy and Fort Lewis Mountains, would completely screen the ROW. The vista was observed in the field during leaf-off conditions. The view is canopied by vegetation and partially screened with visible human-made visible changes in the middleground. Due to the screening terrain and vegetation between the viewpoint and the Project, as well as distance, the Project will not be visible. Therefore, there will be no impact on this area.

KOP-OID-23 – KOP OID-23 is located at the Dragon's Tooth overlook on the ANST looking south. Elevation at Dragon's Tooth is approximately 3,400 feet, and the vegetation is primarily a typical Appalachian hardwood forest intermixed with pine. Dragon's Tooth is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted.

At its closest point to this location, the ROW will pass approximately 7.8 miles south of the KOP, but this area is not on the JNF. No portion of the Proposed ROW will be visible from this KOP. Where the Project crosses Brush Mountain from MP 219.8 to MP 220.7, it is located on the JNF at a point 12.7 miles from the KOP which is not visible from this location. This area of Brush Mountain is in Management Prescription 4J, Urban/Suburban Interface, west of Blacksburg, Virginia, which emphasizes a "defensible space" that provides a buffer between human developments and forestland, reducing the risk of wildland fire. This prescription recognizes that these areas are people's "backyards" so a long-term goal of high quality, fire-resistant scenery is also emphasized. These landscapes will often appear altered in the short-term while the defensible space is created and a normal fire regime restored. The long-term goal is to maintain a moderate to high scenic integrity. This area is managed with a short-term SIO of Low until the ecosystem and landscape character are rehabilitated. In Management Prescription 4J, there are long-term Moderate and High SIOs; however, the land is currently managed with a Low SIO. If the Project is approved and constructed on the Jefferson National Forest, these lands within the ROW for the pipeline would be reallocated to Management Prescription 5C.

The bare-earth viewshed from KOP-01D-23 (Appendix A, Figure 12) indicates high areas of visibility south of the viewpoint outside the Jefferson National Forest. The viewshed analysis indicated that the Brush Mountain crossing on Jefferson National Forest would be completely screened by terrain. A series of ridges and mountains in the middleground of the view screens direct visibility of the ROW. The vista was observed in the field during leaf-off conditions.

MVP prepared a visual simulation of KOP-01D-23 (Appendix B, Figure 10) showing leaf-off conditions. The view toward the Project is completely screened with few human-made visible changes other than trail signage and development in the valleys surrounding the view. Most views appear to be oriented southeast to Ft. Lewis Mountain, though views would be more open if the hiker climbed to the top of the Dragon's Tooth rock formation. The ROW is not visible in the simulation due to screening terrain and vegetation as well as the distance to the ROW. Thus, contrast levels are not perceptible, and there will be no visual impact at this KOP.

KOP-01D-85 – KOP 01D-85 is located at the Rice Field section of the ANST looking northeast. Elevation at the Rice Field is approximately 3,371 feet, and the vegetation is primarily a typical Appalachian hardwood forest with the open grassy plain in the foreground and middleground of the view. KOP 01D-85 is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted.

The Project will cross the Jefferson National Forest approximately 4.1 miles north of the Rice Field. The portion of the Project visible from this KOP that crosses of the Jefferson National Forest is located in Management Prescription 4A, which is the Appalachian Trail corridor. For this management prescription, the Forest Plan states that, "Roads, utility transmission corridors, communication facilities, or signs of mineral development activity exist or may be seen within the prescription area, although the goal is to avoid these types of facilities and land uses to the greatest extent possible and blend facilities which cannot be avoided into the landscape so that they remain visually subordinate" (USFS 2004). All management activities must meet or exceed an SIO of High. The scenic class is rated as a 1, which indicates that the scenic quality is high.

The bare-earth viewshed from KOP-01D-85 (Appendix A, Figure 4) indicates high areas of visibility north of the viewpoint and in the surrounding valleys. However, a series of ridges in the middleground of the view screens direct visibility of the Project crossing on the Jefferson National Forest on Peters Mountain. The only views of Peters Mountain would be in the immediate foreground and middleground of the view (these views of Peters Mountain do not include the location Project crossing), though middleground and background views are possible in areas north and south of Peters Mountain. The vista was observed in the field during leaf-off conditions.

MVP prepared a visual simulation of KOP-01D-85 (Appendix B, Figure 11) showing leaf-off conditions. The view toward the Project is open and panoramic with human-made visible changes in the valleys surrounding the view. The ROW is visible in the simulation in the distance as it crosses Little Mountain, but the location where the ROW is visible is not on the National Forest. Due to topography,

where the ROW is located on f the Jefferson National Forest is not visible from this KOP. Thus, contrast levels where the ROW crosses the National Forest are not perceptible at this KOP, and thus the Project will comply with the High SIO of Management Prescription 4A. Therefore, there will be low visual impacts at this KOP because the ROW is visible only outside of USFS-managed lands, and there are many human-made changes in the valley and hills where the ROW is visible.

Audie Murphy Monument KOP – The Audie Murphy Monument is on the ANST on Brush Mountain looking south. Elevation at the monument is approximately 3,101 feet, and the vegetation is primarily a typical Appalachian hardwood forest. The viewpoint is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted.

The Project will cross the Jefferson National Forest approximately 10.2 miles southwest of this KOP on Brush Mountain where the lands are in Management Prescription 4J, Urban/Suburban Interface west of Blacksburg, Virginia. This Management Prescription emphasizes a “defensible space” that provides a buffer between human developments and forestland, reducing the risk of wildland fire. This prescription recognizes that these areas are people’s “backyards” so a long-term goal of high quality, fire-resistant scenery is also emphasized. These landscapes will often appear altered in the short-term while the defensible space is created and a normal fire regime restored. The long-term goal is to maintain a moderate to high scenic integrity. This area is managed with a short-term SIO of Low until the ecosystem and landscape character are rehabilitated. In Management Prescription 4J, there are long-term Moderate and High SIOs; however, the land is currently managed with a Low SIO and a mix of 2 and 3 scenic class. If the Project approved and constructed on the Jefferson National Forest, these lands within the ROW for the pipeline would be reallocated to Management Prescription 5C.

The bare-earth viewshed for the viewpoint (Appendix A, Figure 13) indicates high areas of visibility east and west of Brush Mountain in the surrounding valleys. A series of ridges in the middleground of the view screens direct visibility of the Project crossing on the National Forest. Because the view toward the Project is screened by vegetation, the Project will comply with the Low SIO. The Project will not be visually evident to the casual observer and the landscape character will appear intact. There will be no visual impact on this KOP.

Sugar Run Mountain KOP – This KOP is located at a lookout on the ANST on Sugar Run Mountain looking north. Elevation at the lookout is approximately 3,875 feet, and the vegetation is primarily typical Appalachian hardwood forest. The viewpoint is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted. The Project will cross the Jefferson National Forest approximately 12.2 miles north of this location.

The National Forest lands crossed by the Project alignment that are closest to this KOP fall within Management Prescription 8A1, Mix of Successional Habitats in Forested Landscapes. The portion of Management Prescription 8A1 crossed by the Project is managed to meet a Moderate SIO and is in

scenic class 2, which indicates that existing scenic quality is high. However, if the Project is approved and constructed on the Jefferson National Forest, these lands within the ROW for the pipeline would be reallocated to Management Prescription 5C. Because they are in scenic class 2, they would retain a Moderate SIO after the reallocation.

The bare-earth viewshed for this KOP (Appendix A, Figure 2) indicates high areas of visibility across the valley, which would have the potential to see miles of the Project ROW, though these areas where the Project could be visible would not be on the Jefferson National Forest. Though the ROW is visible outside the Jefferson National Forest in the bare-earth viewshed, it would be at such a distance that it would not be perceptible in the view. This assumption is based on the simulation from the Angel's Rest overlook which is 5.6 miles further away from the Project. With bare-earth conditions, Sugar Run Mountain would not have views of the ROW on Jefferson National Forest lands. Because the ROW on the National Forest would not be visible from this KOP, it would comply with the Moderate SIO for Management Prescription 8A1.

For the portion of the ROW that could be visible from the Sugar Run Mountain KOP outside the Jefferson National Forest, visual impacts would be none because the ROW will be collocated between two existing ROWs, which represent an incremental visual contrast, and the distance between the KOP and the ROW is significant. The lack of contrast of the Project at this distance would result in a no visual impacts to the Sugar Run Mountain portion of the ANST.

Sinking Creek Mountain – This KOP is located on the ANST on Sinking Creek Mountain looking southwest. The location is not listed as an ANST lookout but was chosen based on where the ANST is within close proximity to the Project on Sinking Creek Mountain. Elevation at the location is approximately 3,258 feet, and the vegetation is primarily typical Appalachian hardwood forest. The viewpoint is located in the Ridge and Valley Ecoregion, which is characterized by alternating forested ridges and agricultural valleys that are elongated and folded and faulted.

The Project will cross the Jefferson National Forest approximately 2.8 miles north of this KOP. The areas within the Forest that the ROW crosses are a mix of management prescriptions. From MP 218.8 to MP 219.4, the ROW is in Management Prescription 8A1, Mix of Successional Habitats in Forested Landscapes, which is managed for maintenance, enhancement, and restoration of native forest communities, particularly southern yellow pine and the wide variety of oak forest communities. The landscape character of this area retains a natural, forested appearance. The portion of Management Prescription 8A1 that crossed by the Project is managed to meet both Low and Moderate SIOs, with scenic class inventory ratings of 3, 5, and 2 as the ROW crosses Sinking Creek Mountain.

From MP 218.5 to MP 218.8, the Project crosses lands within Management Prescription 6C, the Old Growth Forest Communities-Disturbance Associated, which is managed to emphasize protection, restoration, and management of old growth forests and their associated wildlife, botanical, recreational, scientific, educational, cultural, and spiritual values. Within this prescription, most of the area contains forest communities where no forest management activities or intervention will take place. Most of the

area contains forest canopies that are continuous, interspersed with small gaps from natural causes, with little evidence of past human activity. The landscape character is natural appearing. The portion of Management Prescription 6C crossed by the ROW is managed to meet a mix of Low and Moderate SIO in a scenic class with a rating of 3.

From MP 219.8 to MP 220.7, the Project crosses lands within Management Prescription 4J, Urban/Suburban Interface, north of Blacksburg, Virginia, which emphasizes a “defensible space” that provides a buffer between human developments and forestland, reducing the risk of wildland fire. This prescription recognizes that these areas are people’s “backyards,” so a long-term goal of high quality, fire-resistant scenery is also emphasized. These landscapes often appear altered in the short-term while the defensible space is created and a normal fire regime restored. The long-term goal is to maintain moderate to high scenic integrity. This area is managed with a short-term SIO of Low until the ecosystem and landscape character are rehabilitated. In Management Prescription 4J, there are long-term Moderate and High SIOs; however, the land is currently managed with a Low SIO.

If the Project is approved and constructed on the Jefferson National Forest, the lands within these three management prescriptions that are within the ROW for the pipeline would be reallocated to Management Prescription 5C, with scenic class 2 areas having a Moderate SIO and scenic class 2, 3 and 5 areas having a Low SIO.

The bare-earth viewshed for Sinking Creek Mountain KOP (Appendix A, Figure 9) indicates high areas of visibility northwest of the location and the western ridge of Brush Mountain to the south, though not directly on Sinking Creek Mountain. The viewshed indicates that the ROW is not visible on Sinking Creek Mountain as there is intervening terrain between the viewpoint and the ROW, but there is the potential to see the ROW at the very crest of Brush Mountain. However, it is assumed that the dominant hardwood vegetation adjacent to the viewpoint would effectively screen any possible views of the crossing of Brush Mountain.

The Project crossing of the Jefferson National Forest as seen from this KOP will comply with the Moderate and Low SIOs, because the ROW will be effectively screened from the ANST on Sinking Creek Mountain by the surrounding dominant vegetation. The contrast is rated as none due to the vegetative screening. No contrast would result in no visual impacts. A lack of visual impacts will conform with the Low and Moderate SIOs on and adjacent to Sinking Creek Mountain.

b. Craig Creek Road Analysis

The Project ROW will cross Craig Creek Road between Sinking Creek Mountain and Brush Mountain. MVP intends to cross Craig Creek Road using a conventional bore, with the entry and exit points located approximately 30 feet from the road. Visibility of the Project from various KOPs along Craig Creek Road, both within and outside the Jefferson National Forest, was mapped in December 2016 (Appendix A, Figure 17). Below is a description of the visibility at each KOP as well as a discussion of the Management Prescriptions crossed by this portion of the Project and simulations from each potential

visibility location. It should be noted that Craig Creek Road and areas adjacent to the roadway are private and not managed by the USFS.

i. Travelers on Craig Creek Road

Viewers traveling eastbound on Craig Creek road will initially have potential visibility of the ROW approximately 0.23 mile from the crossing at KOP PT-28 (Appendix B, Figure 17). Appendix B, Figure 16, KOP PT-26, shows the location of the crossing of Craig Creek Road. Below each KOP is discussed along Craig Creek Road.

- KOP PT-21 (Appendix B, Figure 12) is located on Craig Creek Road approximately 0.6 mile east of the crossing of Craig Creek Road looking west. In the photograph, the road is a typical paved roadway with an adjacent guard rail and an existing power pole ROW. The trees adjacent to Craig Creek Road would screen views even with leaf-off conditions due to a 600-foot buffer of trees between the ROW and the roadway. The visual simulation (Appendix B, Figure 12) confirmed that there would be no visual impact to Craig Creek Road at this location.
- KOP PT-22 (Appendix B, Figure 13) is located on Craig Creek Road approximately 0.5 mile east of the crossing of Craig Creek Road looking west. In the photograph, the road is a typical paved roadway with an adjacent guard rail and signage. The trees adjacent to Craig Creek Road would screen views even with leaf-off conditions due to a 600-foot buffer of trees between the ROW and the roadway. As the visual simulation indicates, there would be no visual impact to Craig Creek Road at this location.
- KOP PT-23 (Appendix B, Figure 14) is located on Craig Creek Road approximately 0.3 miles east of the crossing of Craig Creek Road looking west. In the photograph, the road is a typical paved roadway with a guard rail in the distance. Craig Creek is visible from this portion of Craig Creek Road. The trees adjacent to Craig Creek Road would screen views even with leaf-off conditions due to a 450-foot buffer of trees between the ROW and the roadway. As the visual simulation indicates, there would be no visual impact to Craig Creek Road at this location.
- KOP PT-25 (Appendix B, Figure 15) is located on Craig Creek Road approximately 0.2 mile east of the crossing of Craig Creek Road looking west. In the photograph, the road is a typical paved roadway with an adjacent fence line and pasture. The simulation for KOP PT-25 (Appendix B, Figure 15) shows no visibility of the pipeline ROW but some visibility of a related access road. Therefore, visual impacts at KOP PT-25 would be low and would not be related to the ROW. No portion of the ROW will not be visible for any duration of this roadway segment. The contrast is rated as none for the proposed alignment due to the screening. The visibility of the access road would represent low contrast and low visual impacts for Craig Creek Road.
- KOP PT-26 (Appendix B, Figure 16) is located on Craig Creek Road directly adjacent (96 feet) to the crossing of Craig Creek Road looking east. In the photograph, the road is a typical paved

roadway with dense vegetation adjacent on both sides. The trees adjacent to Craig Creek Road would screen views even with leaf-off conditions due to a 30-foot buffer of trees between the roadway and the bore locations, and there are no visible Project elements other than the very end of a gravel access road in the distance. As the visual simulation indicates, there would be no visual impact to Craig Creek Road at this location.

- KOP PT-28 (Appendix B, Figure 17) is located on Craig Creek Road approximately 0.2 miles west of the crossing of Craig Creek Road looking east. In the photograph, the road is a typical paved roadway with adjacent fencing and an open pasture. At this distance the trees adjacent to Craig Creek Road would screen views even with leaf-off conditions, and there are no visible Project elements. As the visual simulation indicates, there would be no visual impact to Craig Creek Road at this location.

c. Pocahontas Road Analysis

Pocahontas Road is currently planned as an access road for the construction of the Project. The ANST shares the portion of Pocahontas Road from the ANST approximately 360 feet from the intersection of Pocahontas Road and Clendennin Road. This area is outside of the JNF. MVP will upgrade Pocahontas Road to use it for construction vehicles, including blading and widening in some areas. The upgrades are not anticipated to have any visual impacts to the ANST because there will be minimal changes to the road where it is shared with the ANST. Blading will not start until approximately 340 feet past where the trail exits the shared corridor of the road. The ANST is within the Pocahontas Road corridor from the location where the two meet all the way to Clendennin Road, a distance of approximately 427 feet. This portion of the ANST is on a private road, which has been simulated in Figures and discussed below.

- KOP PR-1 (Appendix B, Figure 18) is located on Pocahontas Road where the roadway corridor is managed as the ANST, looking northeast. In the photograph, the road is a typical gravel road surrounded by hardwood vegetation. There would be no additional road upgrades in the immediate area, and blading will not start on Pocahontas Road for another 300 feet, which is past the viewshed of this KOP and past where the roadway is shared with the ANST. As the visual simulation indicates, there would be no visual impact to the ANST at this location.
- KOP PR-2 (Appendix B, Figure 19) is located on Pocahontas Road where the roadway corridor is managed as the ANST, looking southwest. In the photograph, the road is a typical gravel road with a cattle guard and adjacent fencing. A new culvert will need to be installed approximately 50 feet from the viewer and will be visible. However, there will be no additional road upgrades in the immediate area, and blading will not start on Pocahontas Road for another 300 feet, which is past the viewshed of this KOP and past where the roadway is shared with the ANST. As the visual simulation indicates, there would be no visual impact to the ANST at this location.

- KOP PR-3 (Appendix B, Figure 20) is slightly above the roadway on the ANST as the trail descends down to Pocahontas Road from Peters Mountain. In the photograph, the road is clearly visible from the trail, and road upgrades such as the reinforcement of gravel would occur, though blading would not start on Pocahontas Road for another 300 feet past the viewshed and past where the roadway and ANST are collocated. As the visual simulation indicates, there would be low visual impacts to the ANST at this location.
- KOP PR-4 (Appendix B, Figure 21) is located on Pocahontas Road where the roadway corridor is managed as the ANST, looking northeast. In the photograph, the road is a typical gravel road with adjacent fencing and scattered potholes. It is likely that the potholes would be filled in with fresh gravel, and there will be the installation of a new culvert close to where the photograph was taken. However, there would be no additional road upgrades in the immediate area, and blading would not start on Pocahontas Road for another 500 feet past the viewshed of this KOP and past where the roadway and ANST are collocated. As the visual simulation indicates, there would be no visual impact to the ANST at this location.
- KOP PR-5 (Appendix B, Figure 22) is located on Pocahontas Road where the roadway corridor is managed as the ANST, looking southwest. In the photograph, the road is a typical gravel road with scattered potholes. There would be no upgrades to Pocahontas Road at this location. However, there would be no additional road upgrades in the immediate area, and blading would not start on Pocahontas Road for another 500 feet past the viewshed of this KOP and past where the roadway and ANST are collocated. As the visual simulation indicates, there would be no visual impact to the ANST at this location.
- KOP PR-6 (Appendix B, Figure 23) is located on Pocahontas Road where the roadway corridor is managed as the ANST, looking southwest toward Clendennin Road. In the photograph, the road is a typical gravel road with adjacent fencing, a cattle guard, and scattered potholes. The steps of the ANST are visible on the southwest side of Clendennin Road. It is likely that the potholes would be filled in with fresh gravel. However, there would be no additional road upgrades in the immediate area, and blading would not start on Pocahontas Road for another 620 feet past the viewshed of this KOP and past where the roadway and ANST are collocated. As the visual simulation indicates, there would be no visual impact to the ANST at this location.

Upgrades to Pocahontas Road where the road is managed as the ANST will be minimal, and the gravel roadway will resemble its current appearance. Because the ANST is collocated on Pocahontas Road on private lands outside the Jefferson National Forest, no SIOs or Management Prescriptions apply at the crossing.

5. VISUAL MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES

The results of the VIA indicate that construction and operation of the Project will have mostly low or no significant visual impacts to the ANST, including from managed vistas. To ensure compliance

with SIOs in the Jefferson National, MVP will implement the following mitigation measures and best management practices (BMPs), which MVP developed in consultation with USFS, to lower potential visual impacts from the Project identified during the analysis.

- In High SIO areas, MVP will feather the ROW to ensure that vegetative openings appear more natural and conform the natural form, line, color, and texture of the existing landscape. Temporary work spaces within forested areas would include some level of shrub plantings or shrub seed mixes to soften the hard edge formed between the existing/undisturbed forest and the maintained ROW. MVP intends to include woody seed mixes within temporary areas where forest regeneration is desired.
- Road or trail crossings will be done at a right angle, where feasible, to ensure the shortest duration of view for the crossing (USFS 1975).
- The ANST will be crossed by the Project by using a conventional bore method to ensure there will be no disruptions to hikers on the ANST. This method will also allow MVP to maintain a 300-foot vegetative buffer between the ROW and the ANST, eliminating visibility of the ROW to trail users at the crossing location.
- MVP has sited the alignment to conform to the natural lines in the landscape and followed existing ROWs, where feasible.

With low or no visual impacts as well as the implementation of the mitigation measures and BMPs listed above, the Project will not result in any significant visual impacts to visual resources on the Jefferson National Forest or popular ANST viewpoints.

6. KEY VISUAL STUDY ANALYST

The key analyst for the visual resources study was Robert Evans, Visual Resources Analyst/Task Lead. Mr. Evans has a master's degree in Landscape Architecture and is an active member of American Society of Landscape Architects. He has 10+ years conducting and supported visual assessments in numerous US states including AZ, CA, NV, NM, OR, WA, ID, WY, TX, AK, OK, TN, NH, MA, NY, and HI and has completed the BLM's VRM training in 2008. Mr. Evans is also a member of the Scenic Resources Working Group, which is a subcommittee of the National Association of Environmental Professionals. The group focuses on upcoming and emerging technology that can affect visual resource analysis and mitigation.

7. REFERENCES

Bacon, W.R. 1979. The visual management system of the Forest Service, USDA. In: Elsner, Gary H., and Richard C. Smardon, technical coordinators. 1979. *Proceedings of our national landscape: a conference on applied techniques for analysis and management of the visual resource* [Incline Village, Nev., April 23-25, 1979]. Gen. Tech. Rep. PSW-GTR-35. Berkeley, CA. Pacific Southwest Forest and Range Exp. Stn., Forest Service, U.S. Department of Agriculture: p. 660-665.

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APPENDIX A

PROJECT MAPPING

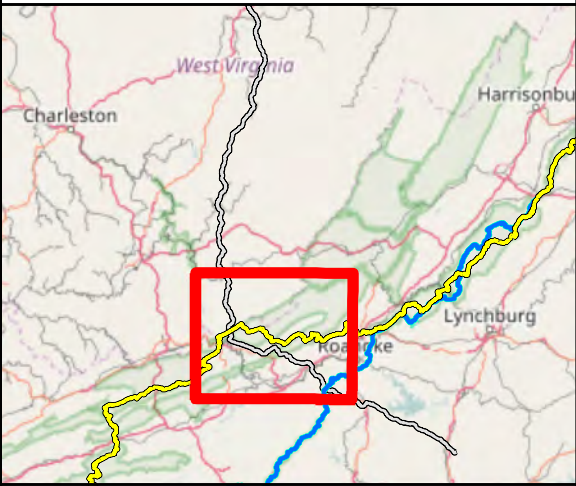
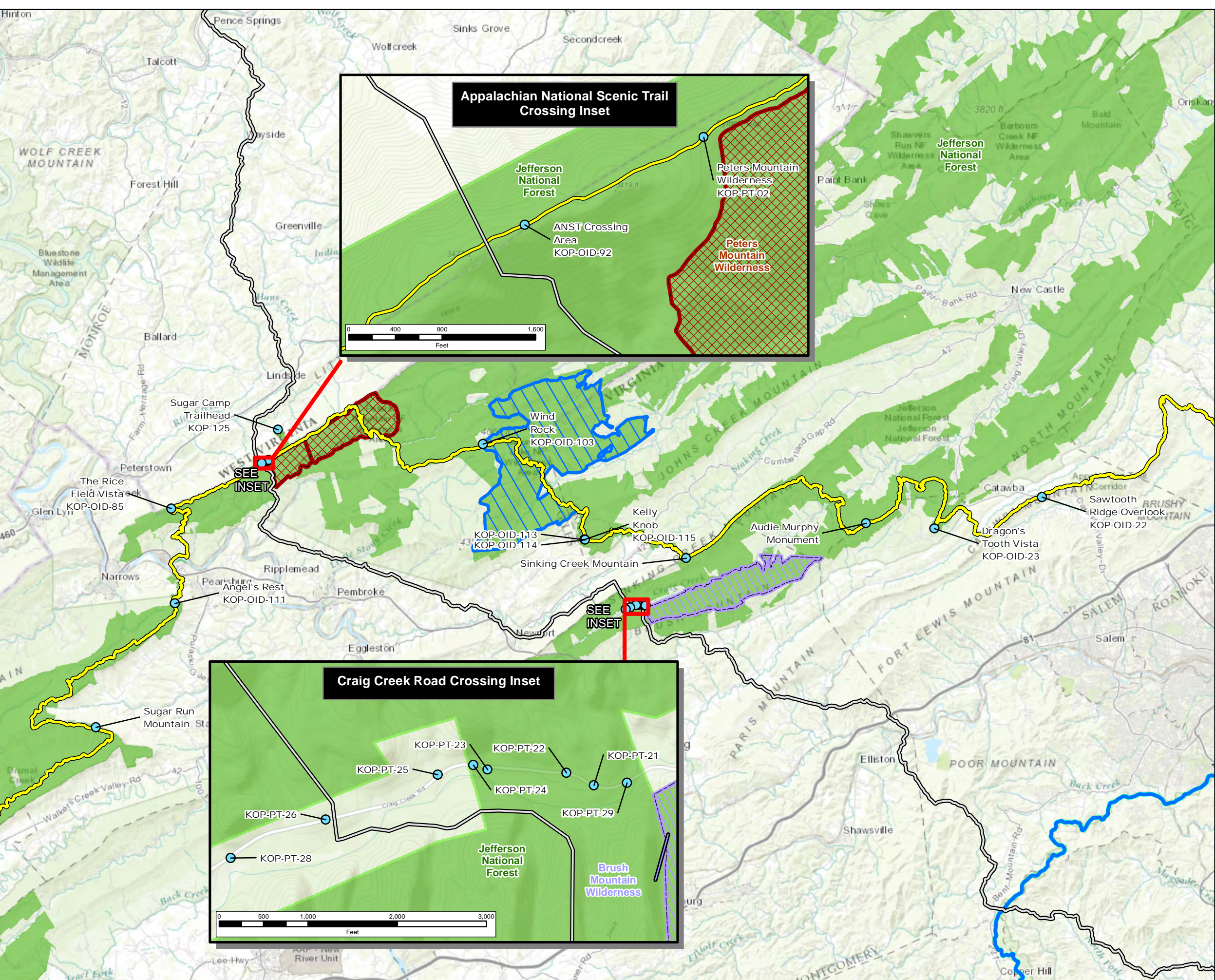


Key Observation Points Along the Appalachian National Scenic Trail and Craig Creek Road

JANUARY 2017

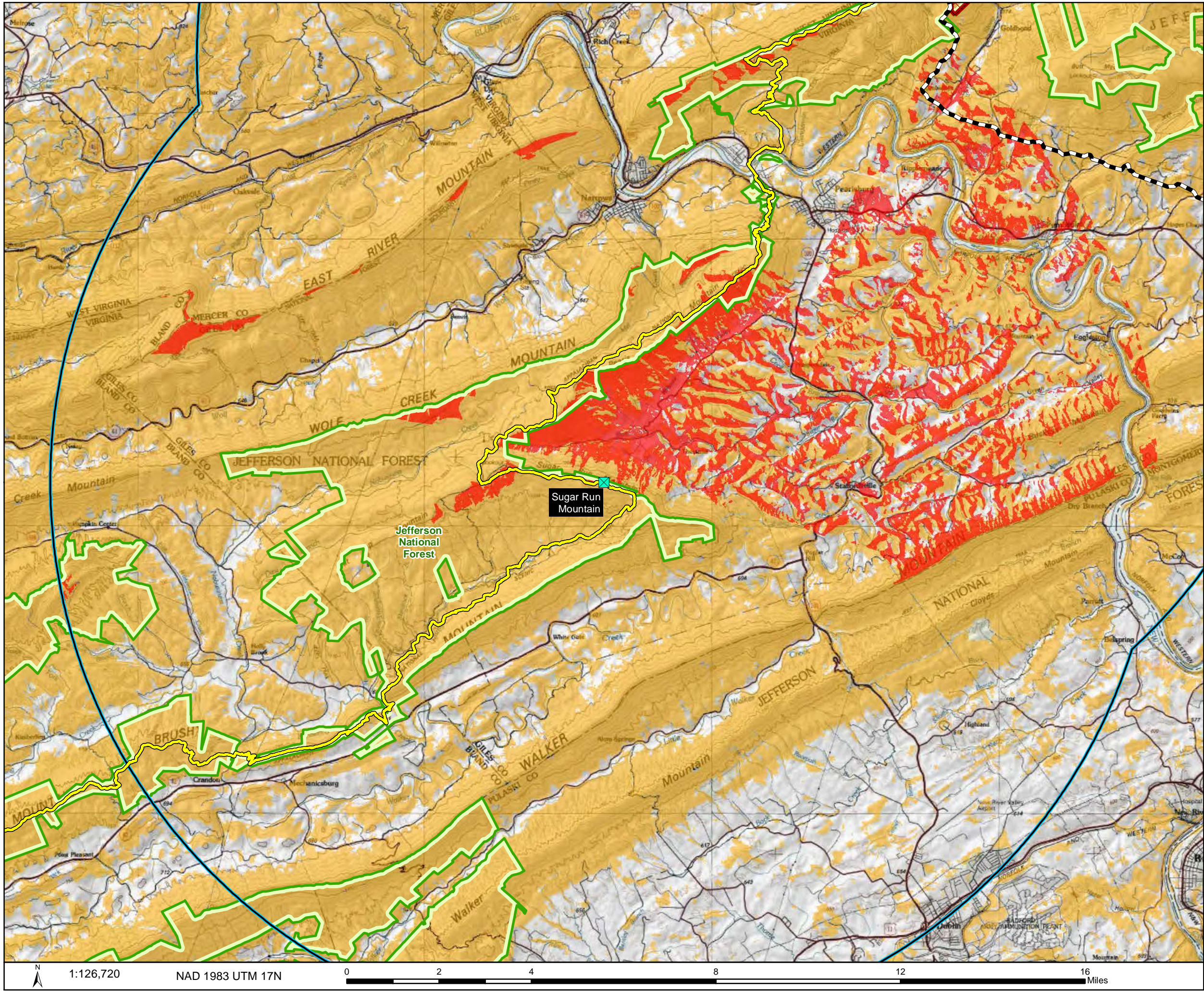
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- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Blue Ridge Parkway
- Peters Mountain Wilderness
- Brush Mountain Wilderness
- Mountain Lake Wilderness
- US National Forest Service Boundary



Data Sources: USGS, NPS, ESRI

Figure 1



Bare Earth Viewshed
Appalachian National Scenic Trail

Sugar Run Mountain

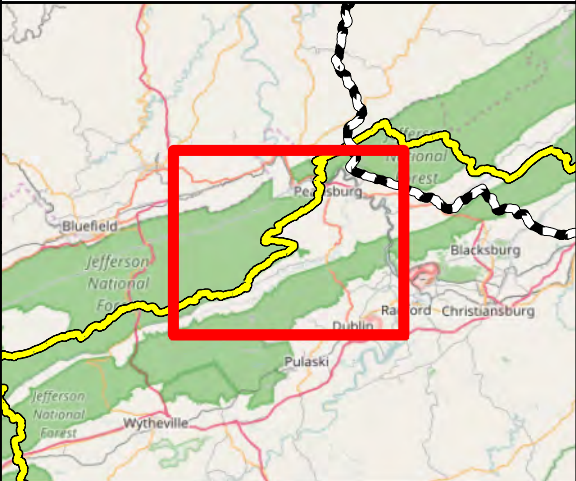
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JANUARY 2017

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- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 2

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Bare Earth Viewshed
Appalachian National Scenic Trail

Angel's Rest
KOP-01D-111

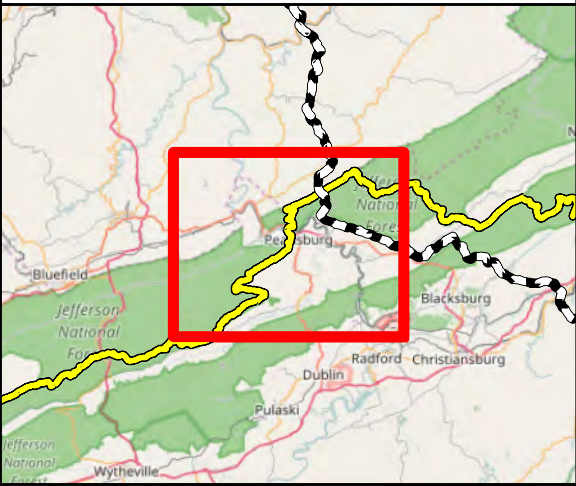
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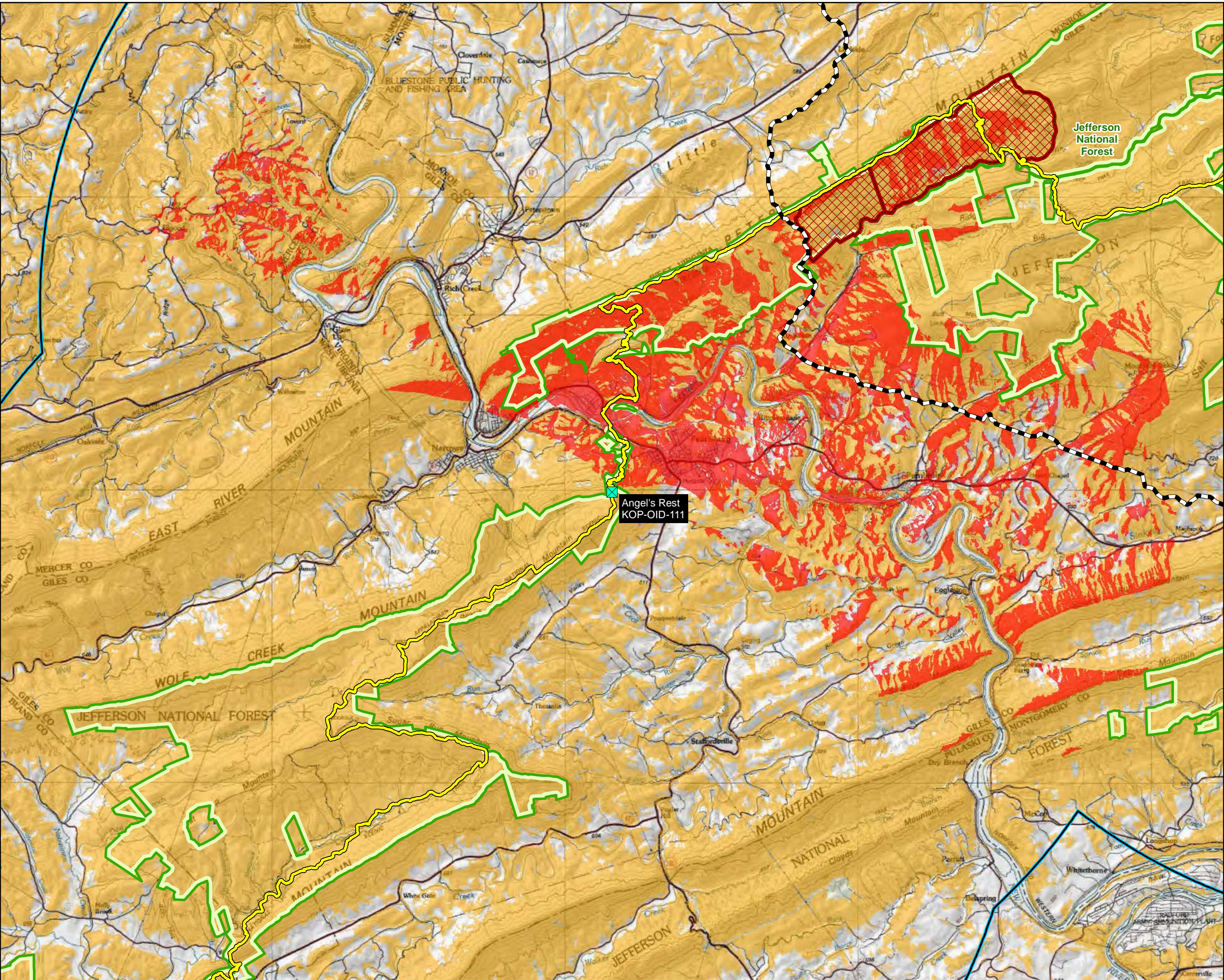
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- Visible Area (Bare Earth Viewshed)
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 3





Bare Earth Viewshed
Appalachian National Scenic Trail

The Rice Field Vista
KOP-OID-85

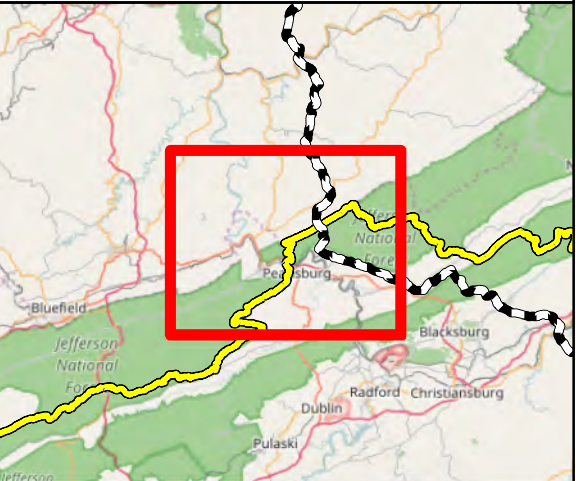
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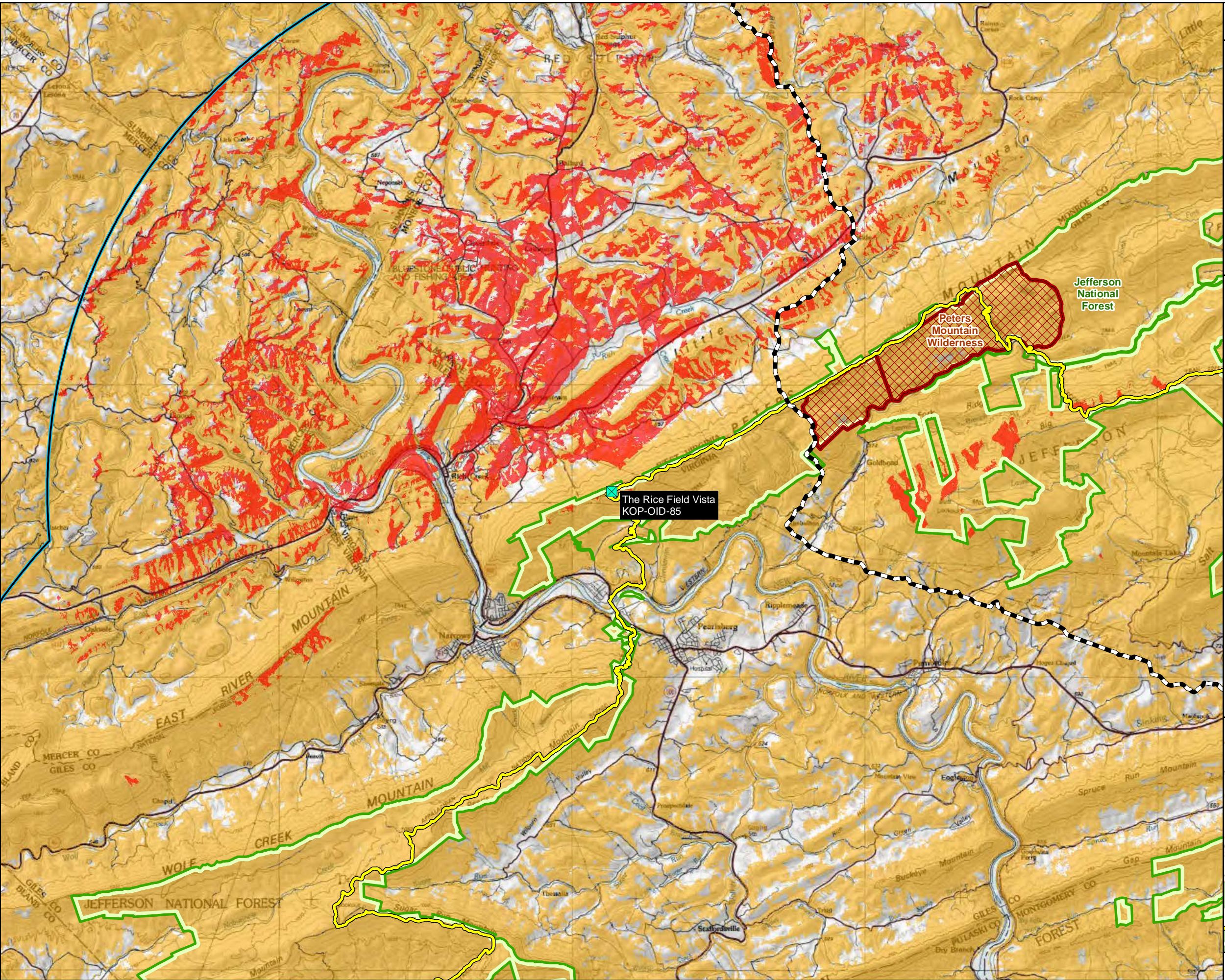
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- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 4





Bare Earth Viewshed
Appalachian National Scenic Trail

ANST Crossing Area
KOP-01D-92

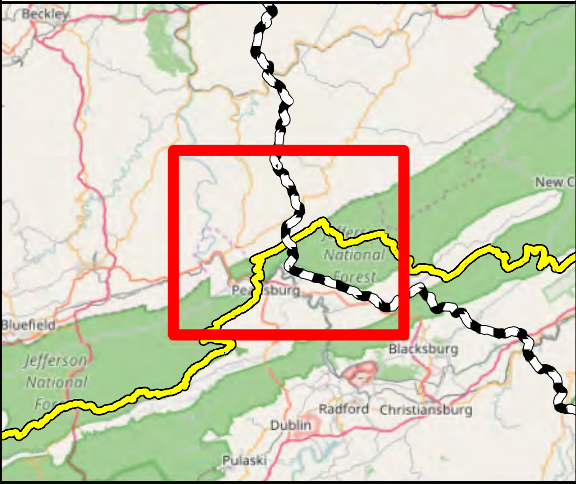
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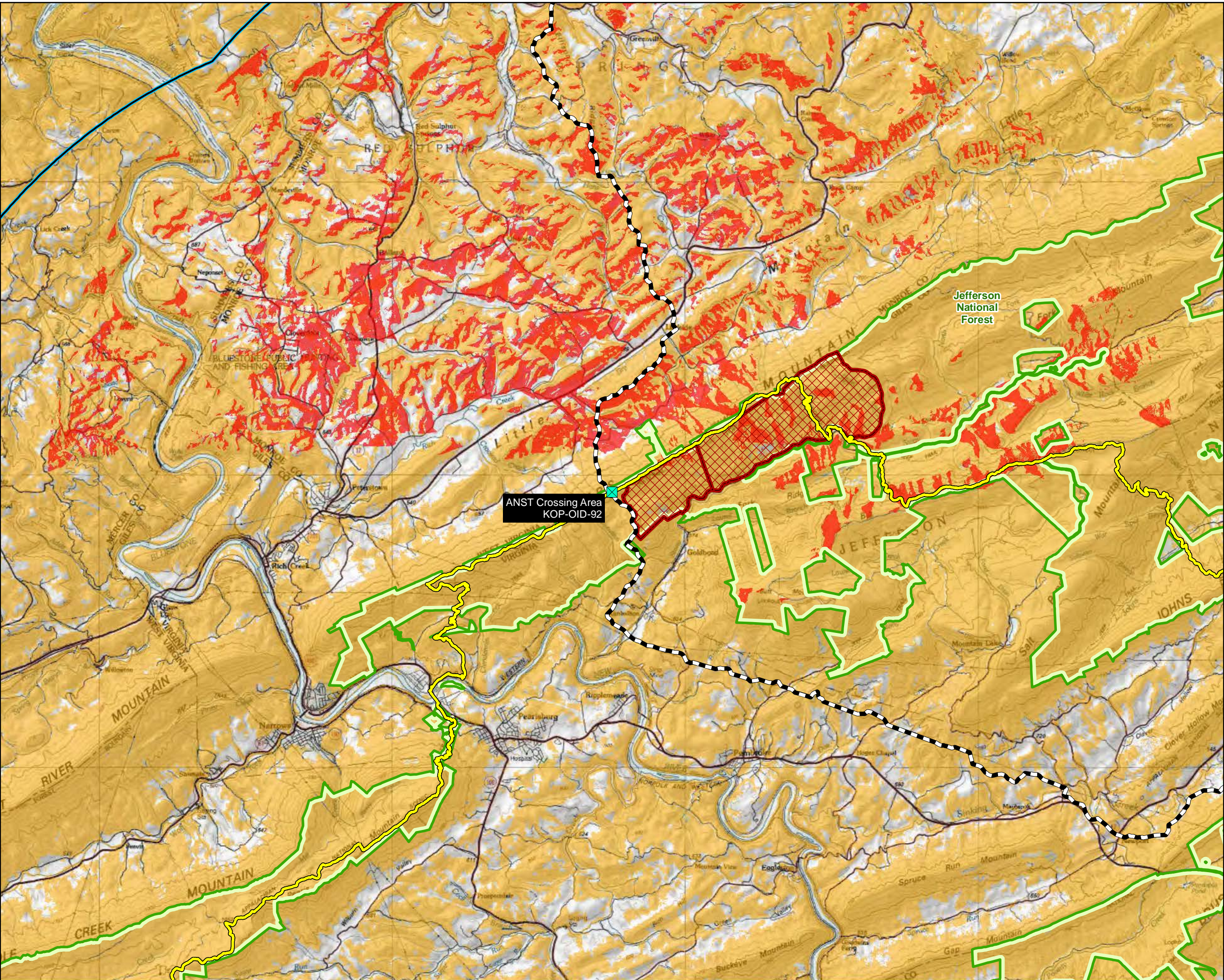
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- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 5





Bare Earth Viewshed
Appalachian National Scenic Trail

Peters Mountain Wilderness
KOP-PT-02

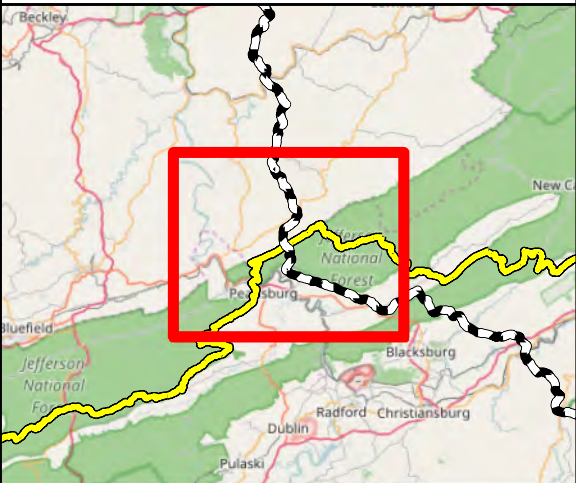
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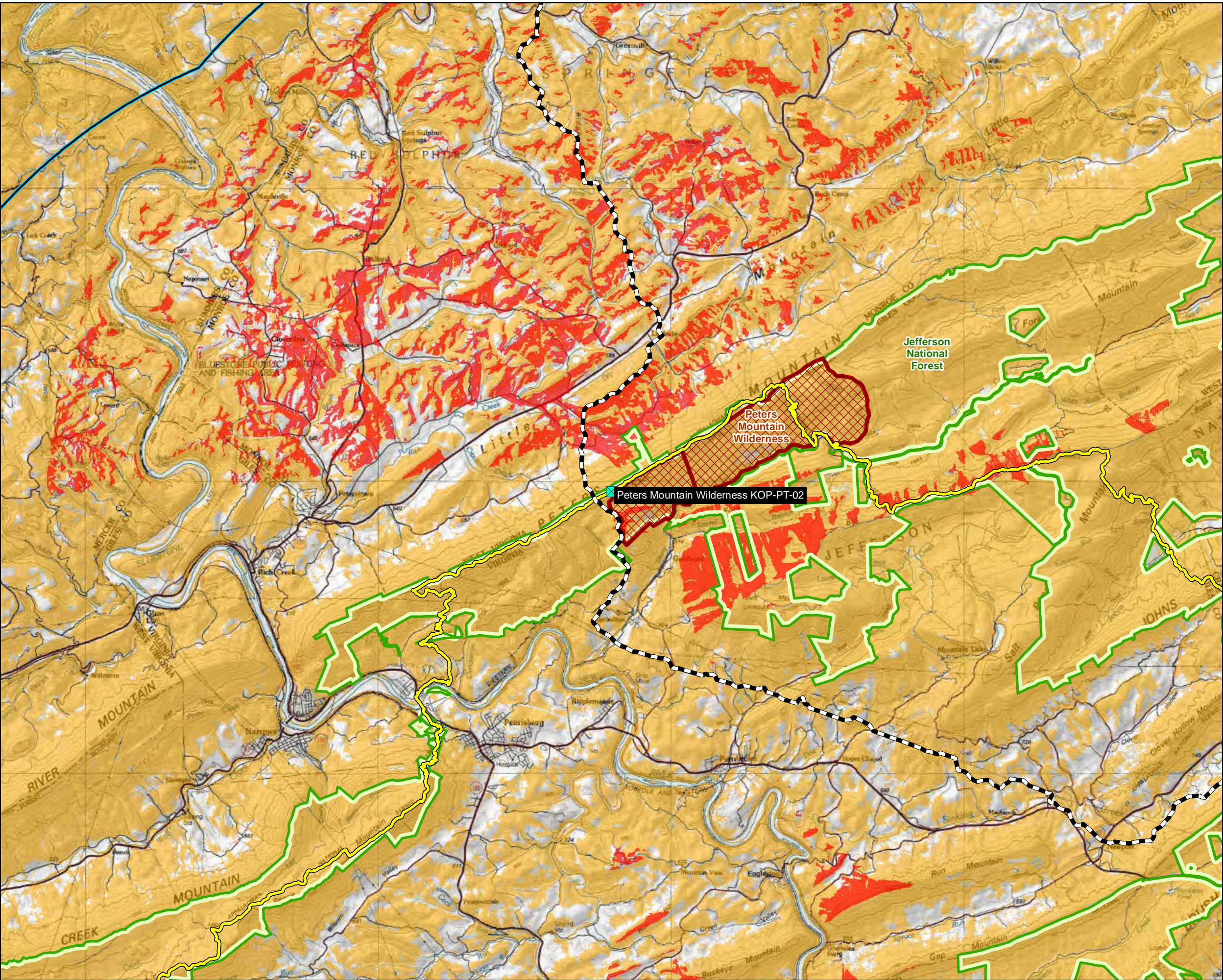
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- US National Forest Service Boundary
- Forested Area (NLCD)

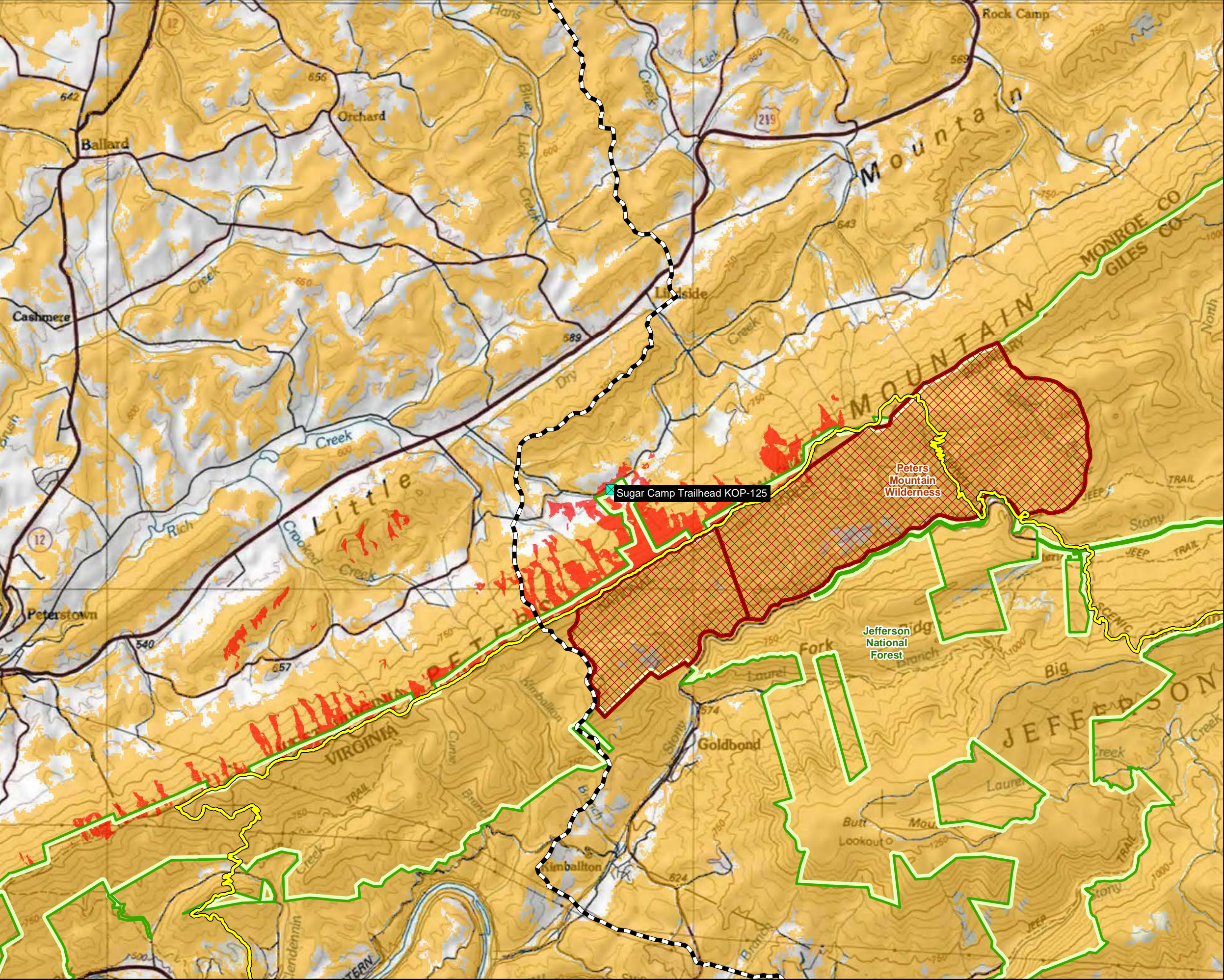
NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 6





Mountain Valley Pipeline Project



Mountain Valley
PIPELINE


Bare Earth Viewshed
Appalachian National Scenic Trail


Sugar Camp Trailhead
KOP-125


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Legend


 Key Observation Point (KOP)


 October 2016 Proposed Route


 Appalachian National Scenic Trail

 Combined Viewshed Extent (12 mi)

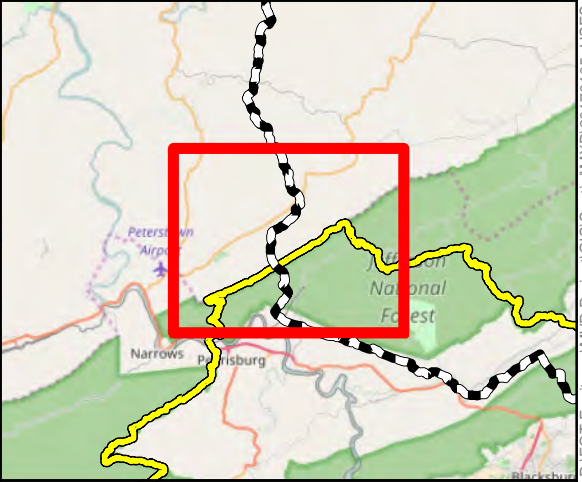
 Visible Area (Bare Earth Viewshed)

 Peters Mountain Wilderness

 US National Forest Service Boundary

 Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



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Bare Earth Viewshed
Appalachian National Scenic Trail

Wind Rock
KOP-OID-103

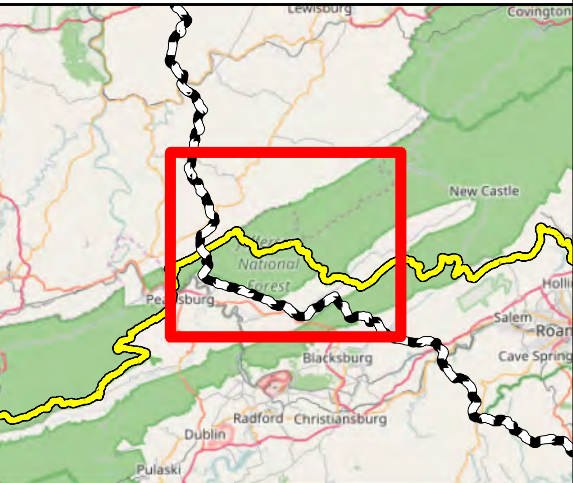
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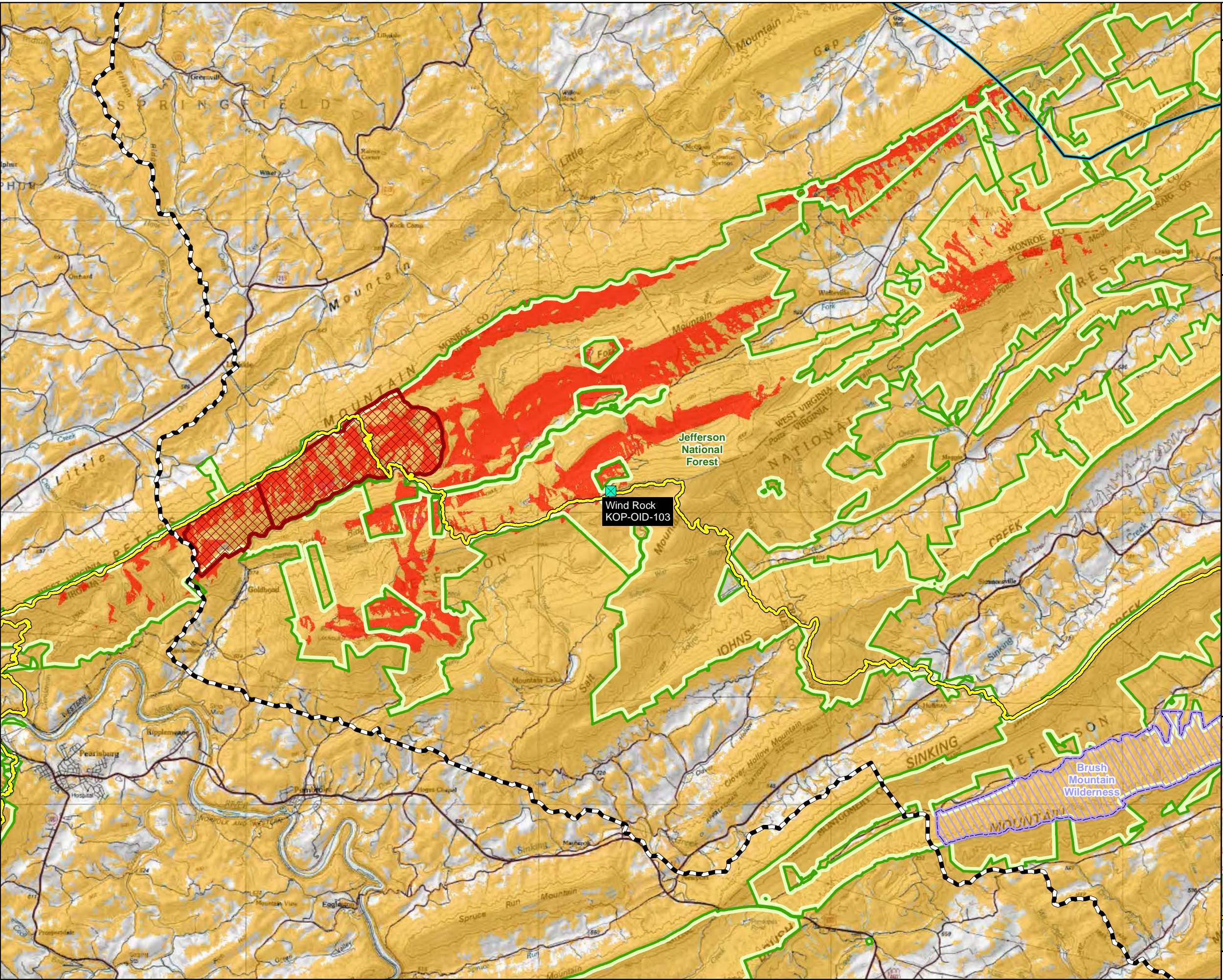
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- Combined Viewshed Extent (12 mi)
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- Brush Mountain Wilderness
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 8





Bare Earth Viewshed
Appalachian National Scenic Trail

Kelly Knob (Main)
KOP-OID-115

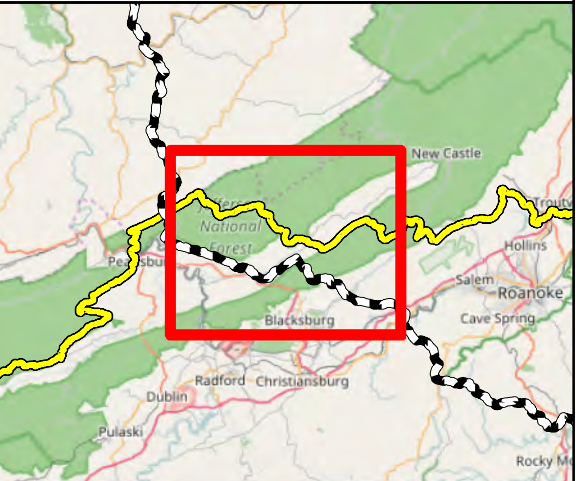
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JANUARY 2017

Legend

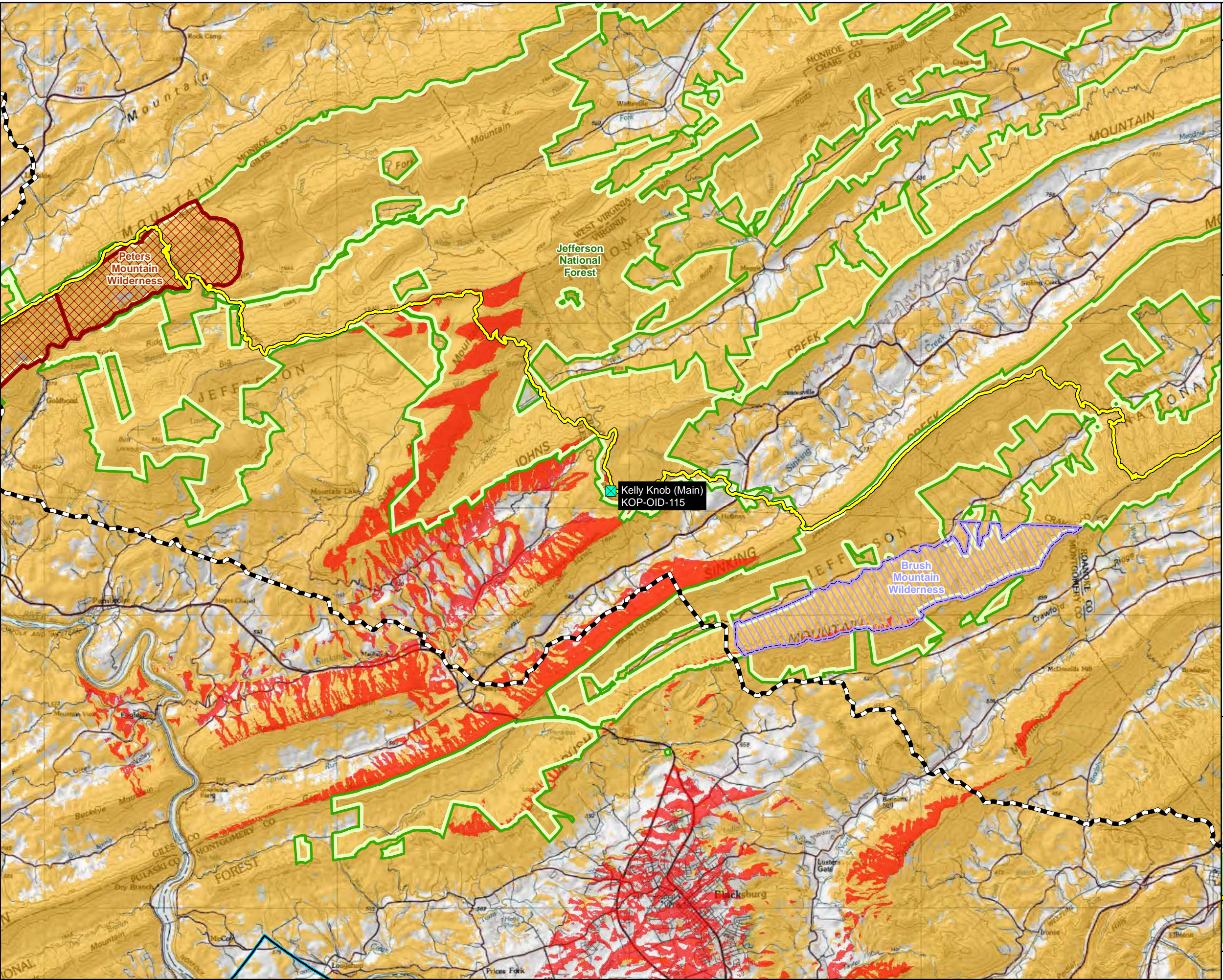
- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 9





Bare Earth Viewshed
Appalachian National Scenic Trail

Kelly Knob 1
KOP-01D-113

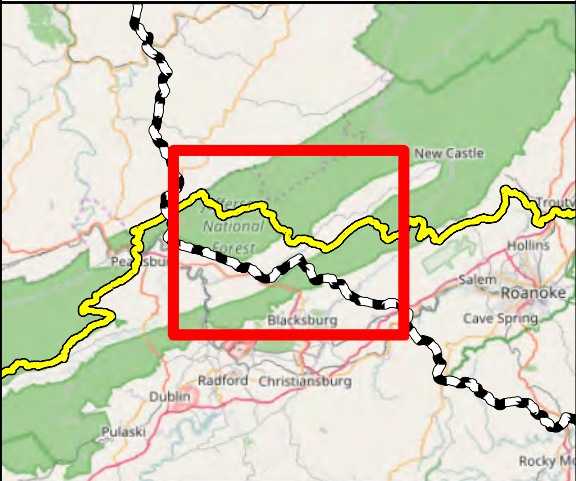
Page 9 of 14

JANUARY 2017

Legend

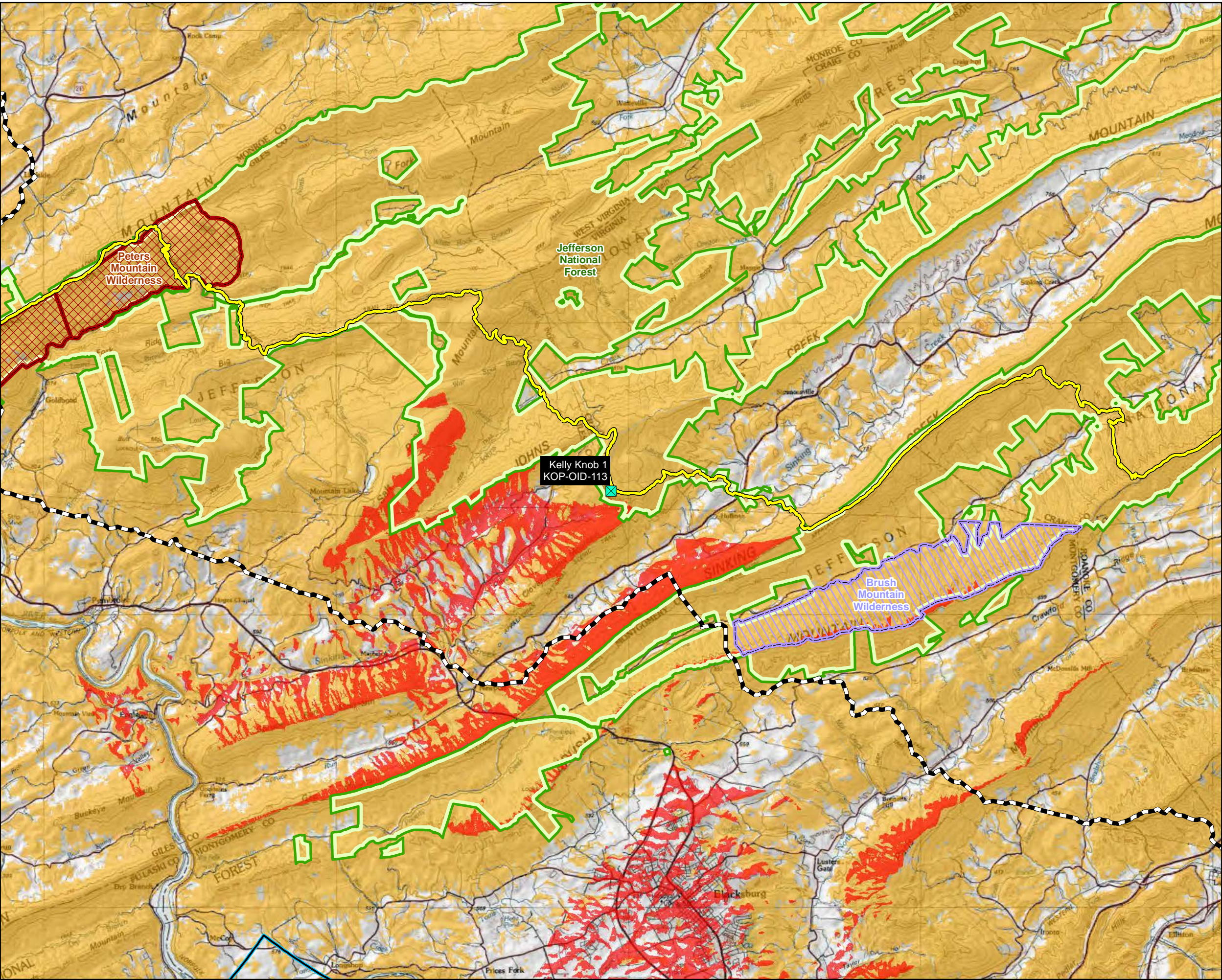
- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 10





Bare Earth Viewshed
Appalachian National Scenic Trail

Kelly Knob 2
KOP-01D-114

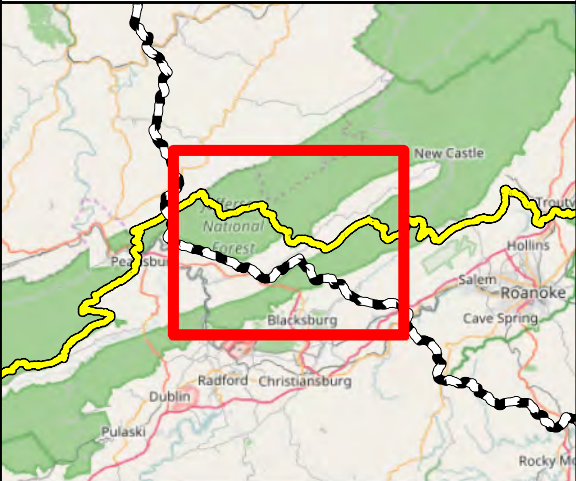
Page 10 of 14

JANUARY 2017

Legend

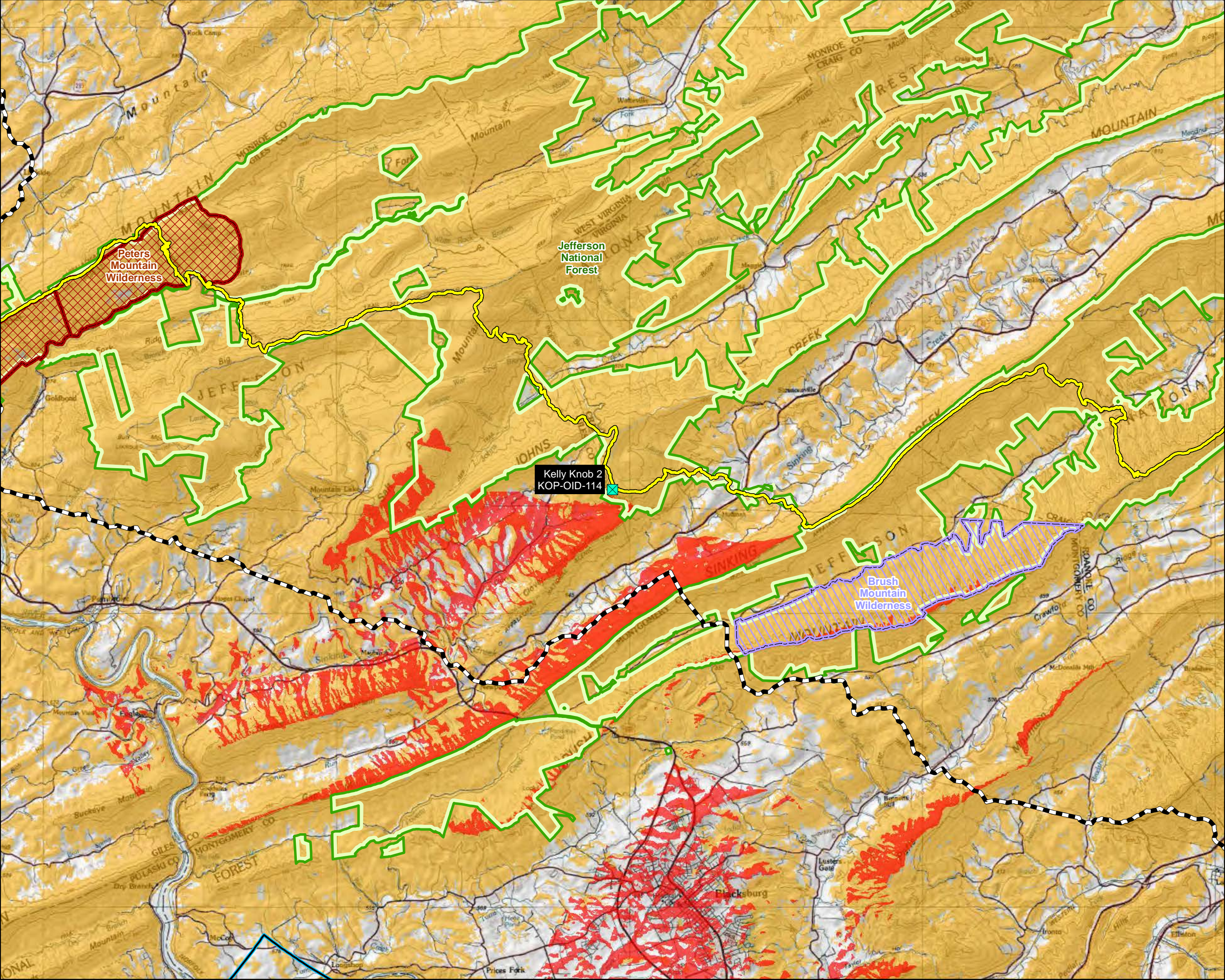
- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 11





Bare Earth Viewshed
Appalachian National Scenic Trail

Sinking Creek Mountain

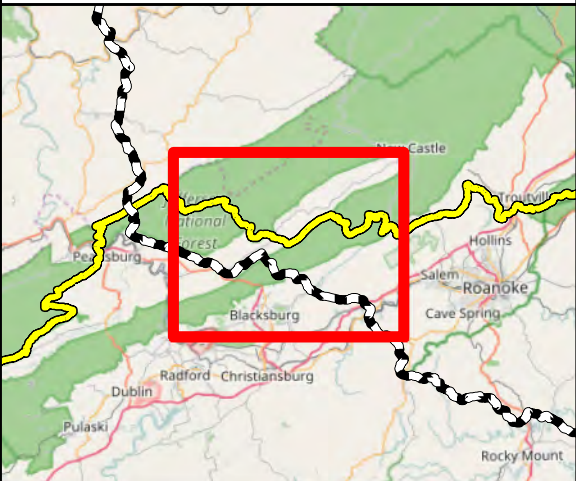
Page 11 of 14

JANUARY 2017

Legend

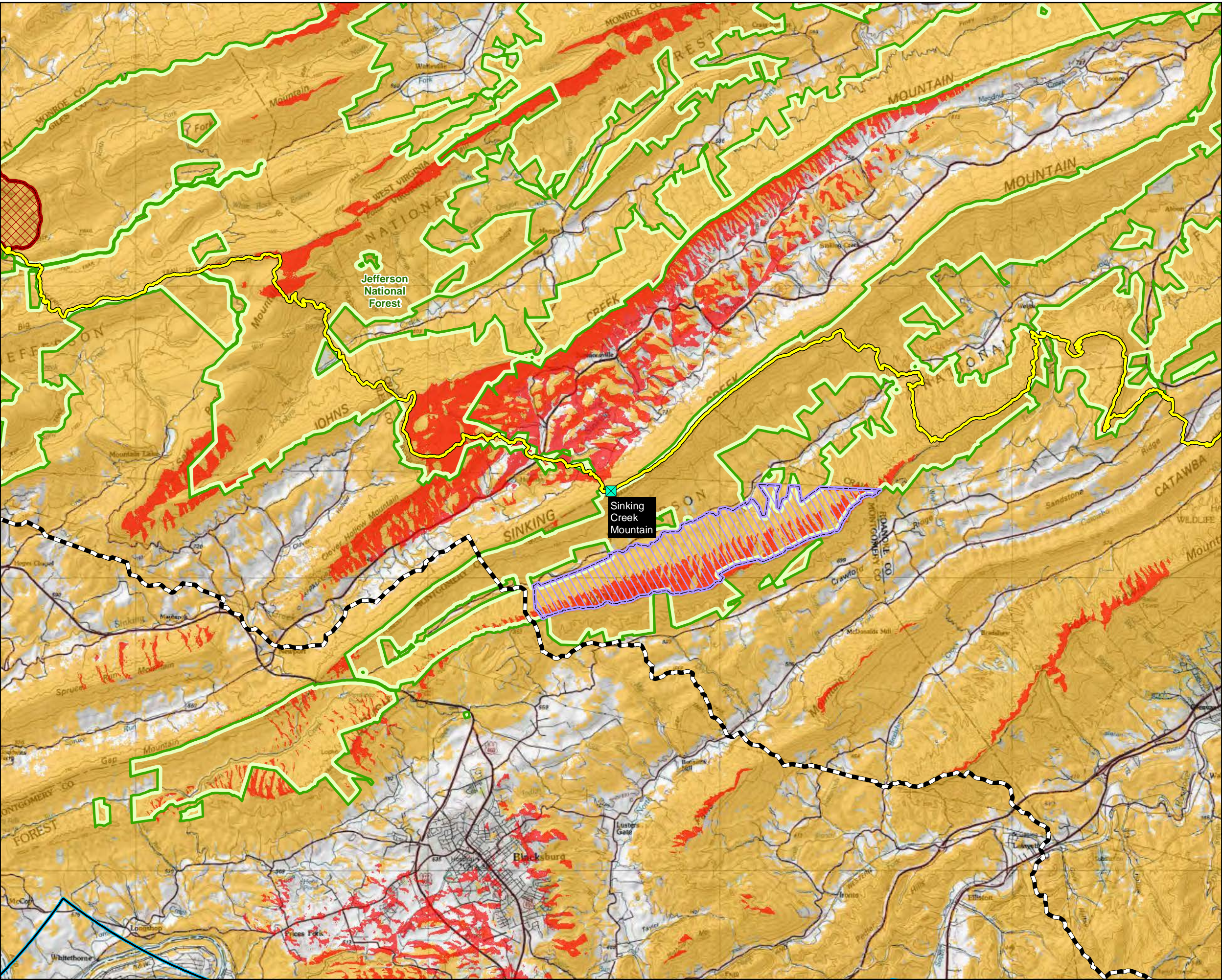
- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Brush Mountain Wilderness
- Peters Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 12





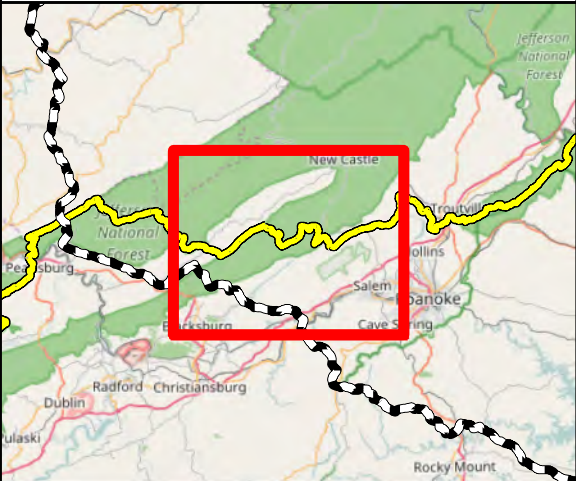
Bare Earth Viewshed
Appalachian National Scenic Trail

Audie Murphy Monument

Legend

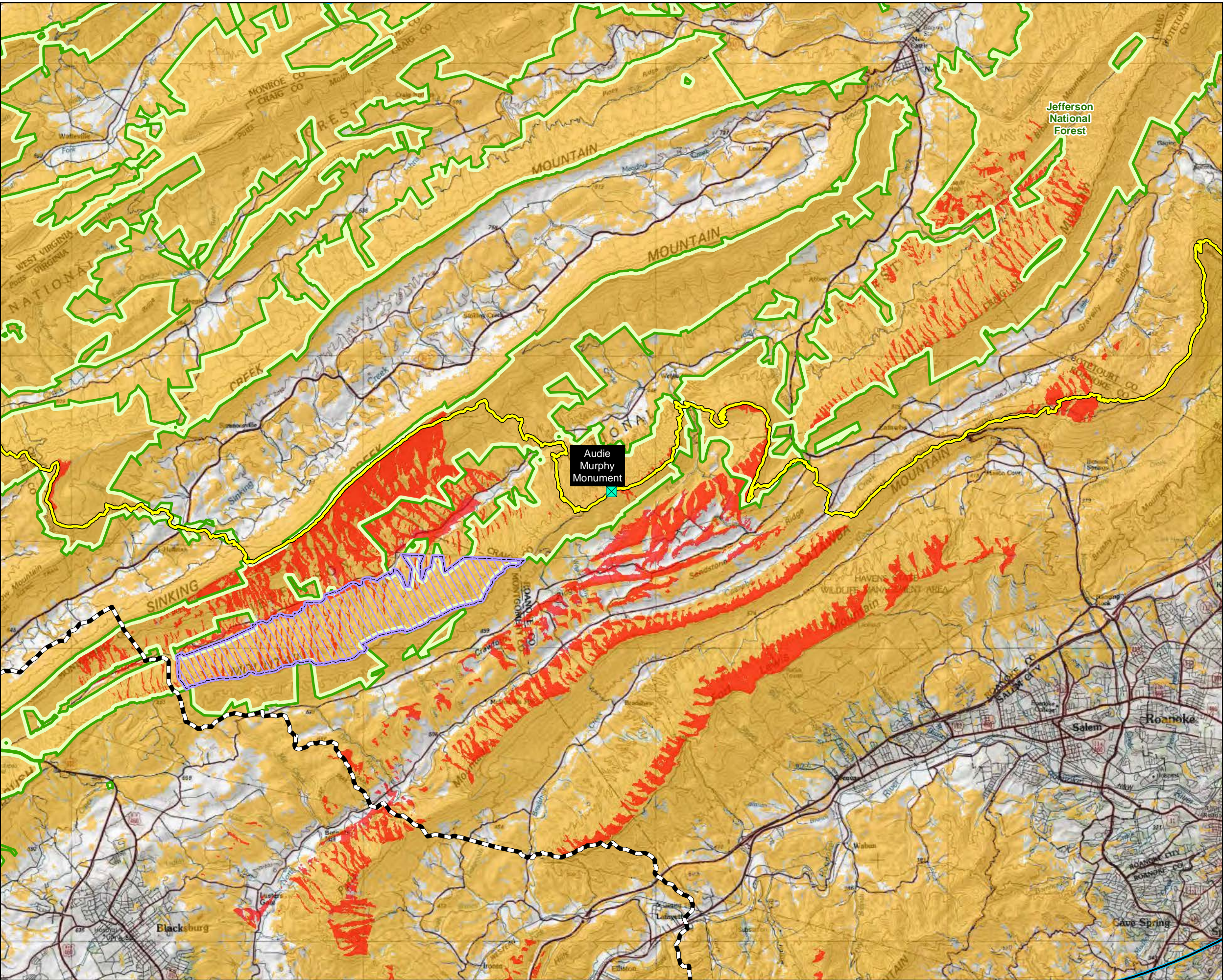
- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Brush Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 13





Bare Earth Viewshed
Appalachian National Scenic Trail

Dragon's Tooth Vista
KOP-OID-23

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JANUARY 2017

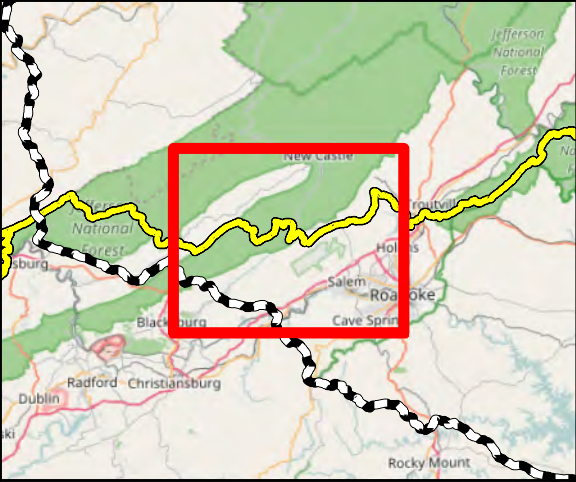
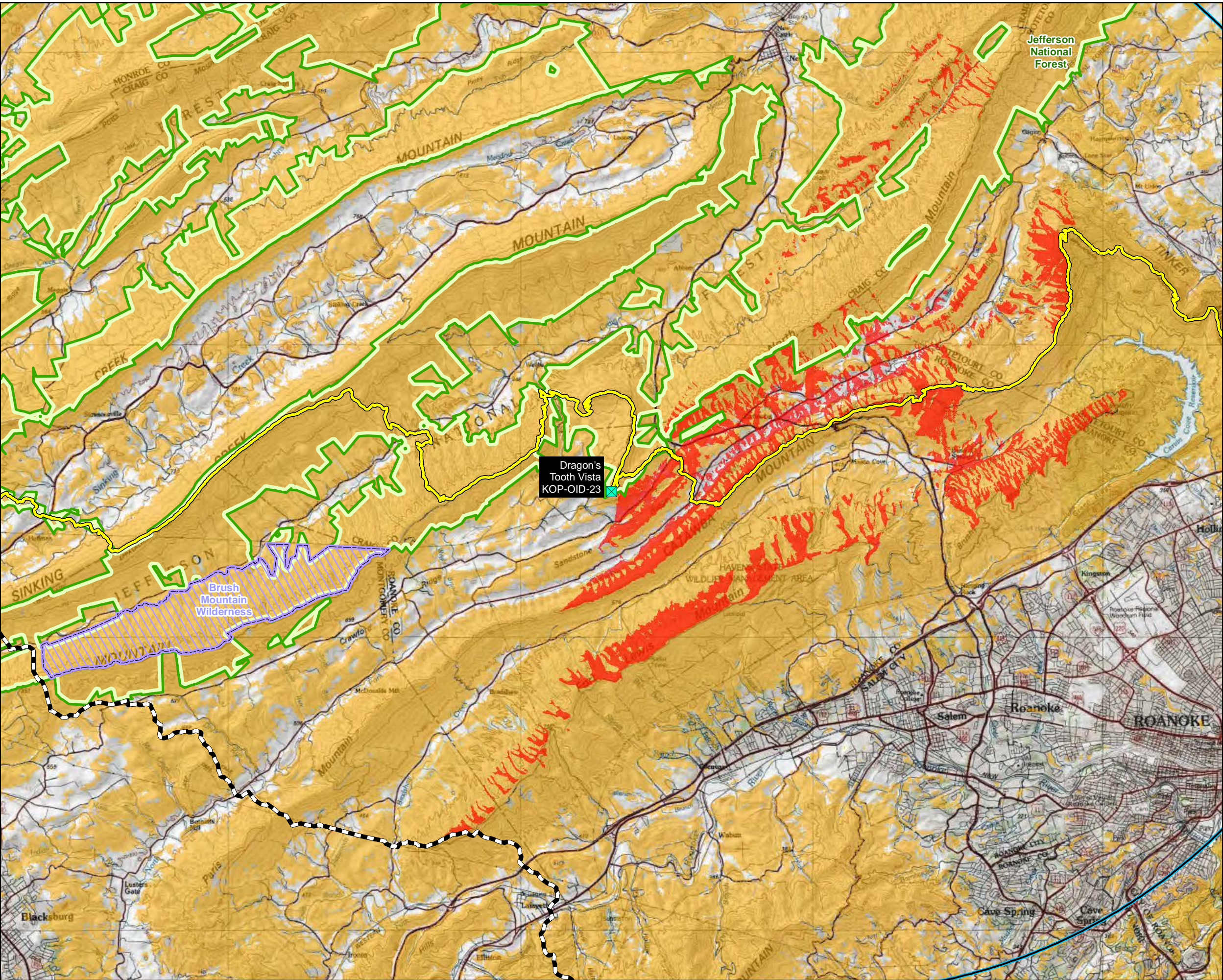
Legend

- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Brush Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.

Data Sources: NPS, USGS, NLCD

Figure 14





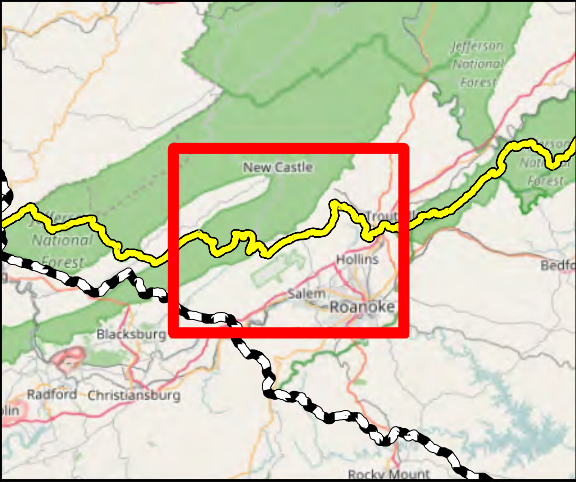
Bare Earth Viewshed
Appalachian National Scenic Trail

Sawtooth Ridge Overlook
KOP-01D-22

Legend

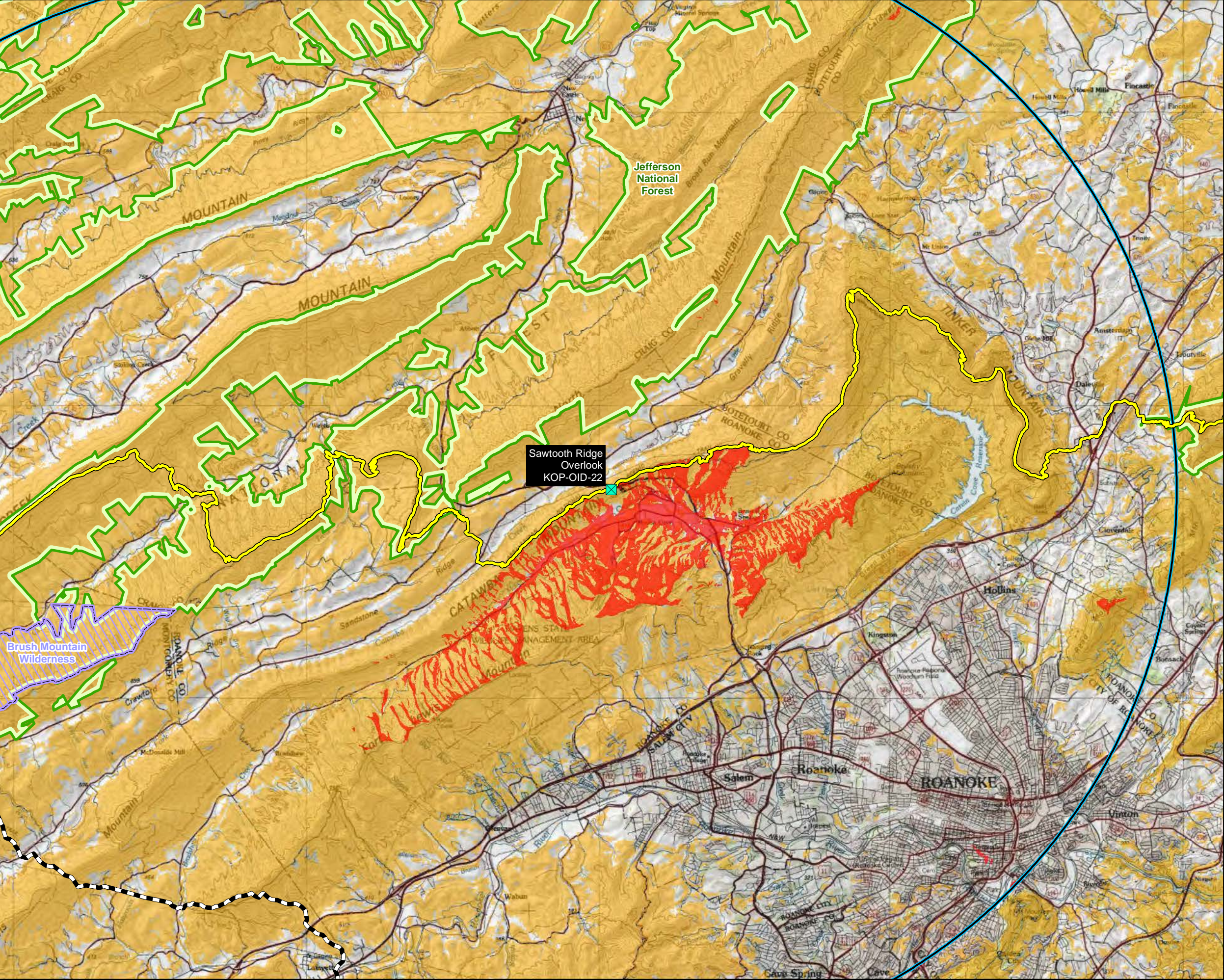
- Key Observation Point (KOP)
- October 2016 Proposed Route
- Appalachian National Scenic Trail
- Combined Viewshed Extent (12 mi)
- Visible Area (Bare Earth Viewshed)
- Brush Mountain Wilderness
- US National Forest Service Boundary
- Forested Area (NLCD)

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity.



Data Sources: NPS, USGS, NLCD

Figure 15



Document Path: P:\EQT-EquitransMVP Project\GIS\Spatial\MXD\20170105_USFS_Viewsheds\USFS_ANST_Viewsheds\USFS_ANST_KOPs_BareEarthViewsheds_20170118.mxd



Bare Earth Viewshed
Appalachian National Scenic Trail

JANUARY 2017

Legend

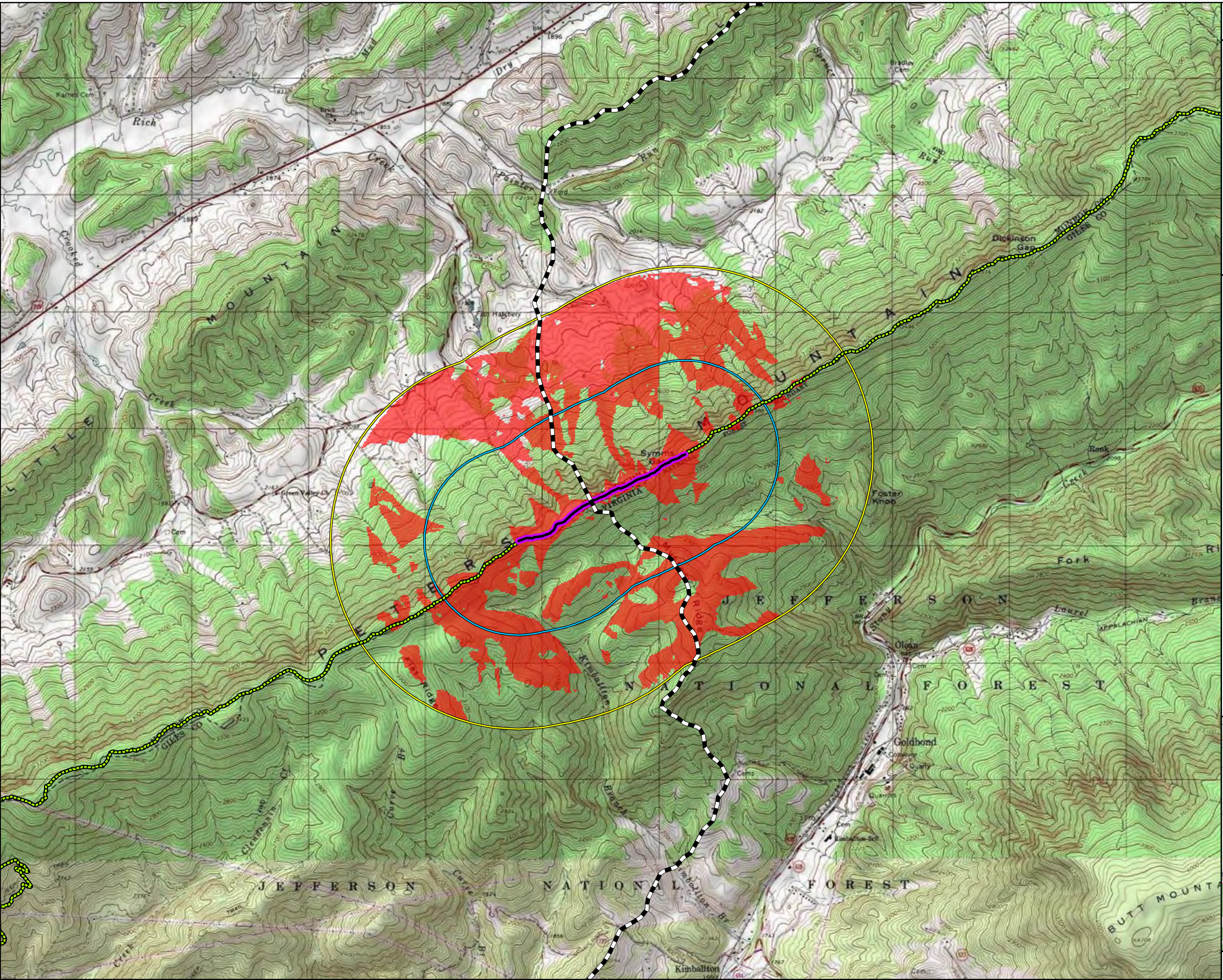
- Viewer Location (Along Trail)
- Foreground Distance Zone (0.5mi)
- Viewshed Extent (1mi)
- Visible Area (Bare Earth Viewshed)
- October 2016 Proposed Route
- Appalachian National Scenic Trail

NOTE: Bare earth viewshed does not factor in obstructions in visibility caused by vegetation. Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity. Visibility verified during field data collection.




Data Sources: NPS, USGS

Figure 16





Mountain Valley Pipeline Project




**Bare Earth Viewshed
Appalachian National Scenic Trail**

JANUARY 2017

Legend

- Viewer Location (Along Trail)
- Appalachian National Scenic Trail
- October 2016 Proposed Route
- Permanent Easement
- Temporary Workspace
- Bore Pit Location
- Visible Area (Bare Earth Viewshed)

NOTE: Viewshed does factor in obstructions in visibility caused by vegetation (40-ft tree height assumed). Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity. Visibility verified during field data collection.




Data Sources: NPS, USGS, NLCD

Figure 17



Mountain Valley Pipeline Project





Mountain Valley
PIPELINE


Vegetation Modeled Viewshed
Appalachian National Scenic Trail


JANUARY 2017


Legend


 Viewer Location (Along Trail)


 Appalachian National Scenic Trail

 October 2016 Proposed Route


 Permanent Easement

 Temporary Workspace

 Bore Pit Location


 Visible Area (Vegetation Viewshed)

NOTE: Viewshed does factor in obstructions in visibility caused by vegetation (40-ft tree height assumed). Viewer location is within a forested area and will likely not have clear view beyond immediate vicinity. Visibility verified during field data collection.

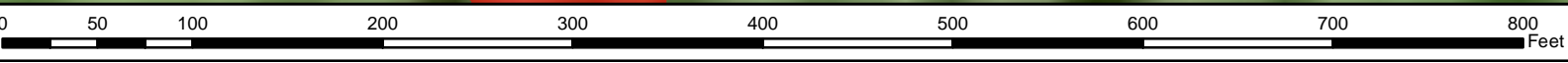


Data Sources: NPS, USGS, NLCD

Figure 18

 1:1,200

NAD 1983 UTM 17N

 0 50 100 200 300 400 500 600 700 800 Feet

Document Path: P:\EQT-Equitrans\MVP Project\GIS\Spatial\MXD\20170705_USFS_Updated_ANST_Viewsheds\ANST_BorePits_Linear_Vegetation_Viewshed_Zoomin_20170709.mxd

Mountain Valley Pipeline Project

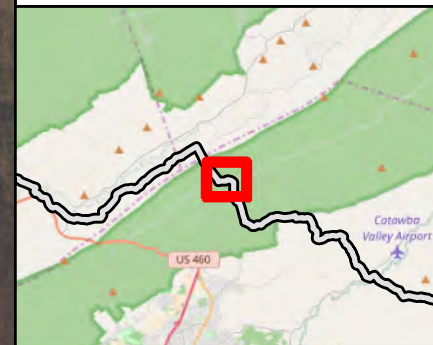


Craig Creek Road Visibility Jefferson National Forest

JANUARY 2017

Legend

- Key Observation Point (KOP)
- October 2016 Proposed Route
- Craig Creek Road Visibility**
 - Eastbound 1
 - Eastbound 2
 - Westbound 1
 - Westbound 2
- Brush Mountain Wilderness
- US National Forest Boundary



Data Sources: Appalachian Trail Conservancy, VA DCR, USDA, ESRI Streaming Data.

Figure 19

Document Path: P:\EQIT-Equitrans\MWP Project\GIS\Spatial\MXD\20170706_USFS_Viewsheets\USFS_CraigCkRd_Visibility_20170711.mxd

APPENDIX B

SIMULATIONS AND PHOTOGRAPHY



Existing Condition



Post Construction (Leaf-off condition) - Viewers from KOP 92 may see some thinning of trees, depending on trees cleared at the time of construction. The white arrow indicates the location of the bore pit, which would be located approximately 49 feet below the ridgeline.

Photograph Information

Time of photograph: 1:42 PM

Date of photograph: 12.2.2016

Weather condition: Partly sunny

Viewing direction: Southwest

Latitude: 37°24'10.95"N

Longitude: 80°41'19.74"W

Photo Location: Appalachian Trail corridor on Peters Mountain in West Virginia. Photo taken from a location adjacent to the pipeline crossing the trail. Photo illustrates "leaf-off" conditions.

Mountain Valley Pipeline Project

Key Observation Point 92

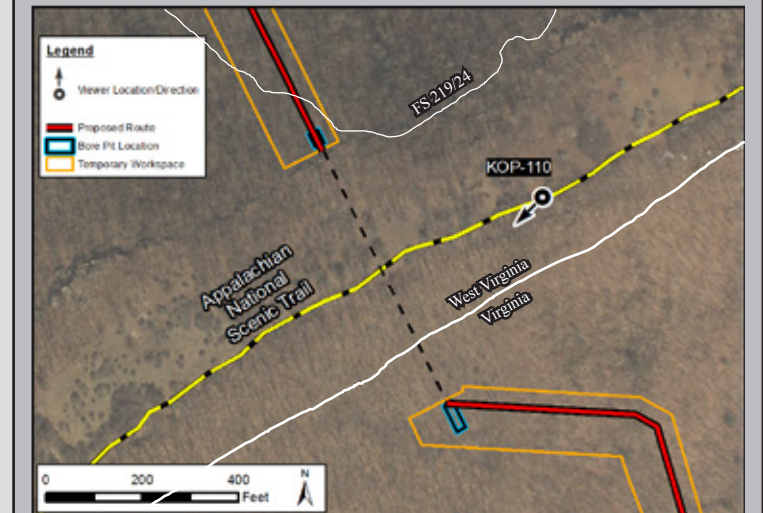
Figure 1



Existing Condition



Post Construction (Leaf-on condition) - From KOP 110, the project is not visible as the bore pit and pipeline are completely screened by terrain and vegetation. The red arrows indicate that the bore pits would be located to the north and south of the trail and would be completely screened by terrain and vegetation.



Photograph Information

Time of photograph: 11:00 AM

Date of photograph: 8.6.2015

Weather condition: Mostly Sunny

Viewing direction: Southwest

Latitude: 37°24'10.89"N

Longitude: 80°41'19.73"W

Photo Location: Appalachian Trail corridor on Peters Mountain in West Virginia. Photo taken from a location adjacent to the pipeline crossing the trail. Photo illustrates "leaf-on" conditions.

Mountain Valley Pipeline Project

Key Observation Point 110

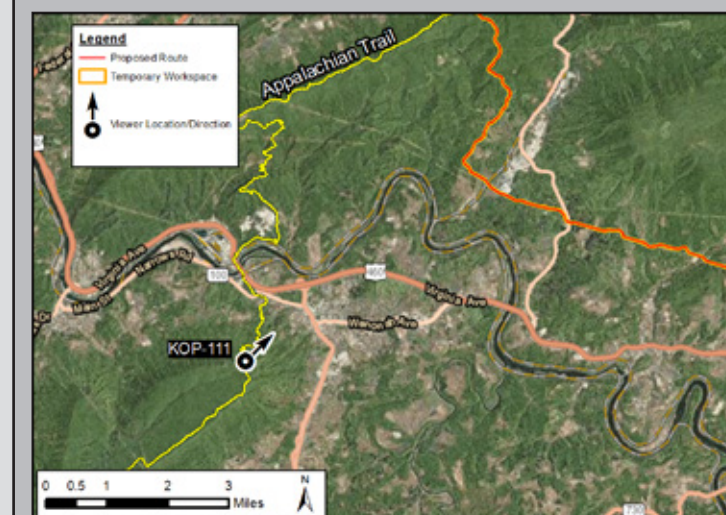




Existing Condition



Post Construction - The proposed pipeline would cross over Peters Mountain at a point approximately 6 miles northeast of the Angels Rest overlook. The red arrow indicates where the proposed pipeline would be visible crossing over Peters Mountain.



Photograph Information

Time of photograph: 1:57 PM

Date of photograph: 12.20.2016

Weather condition: Sunny

Viewing direction: Northeast

Latitude: 37°19'3.46"N

Longitude: 80°45'20.84"W

Photo Location: Photo taken from Appalachian Trail corridor at the Angels Rest overlook on Pearis Mountain in Virginia.

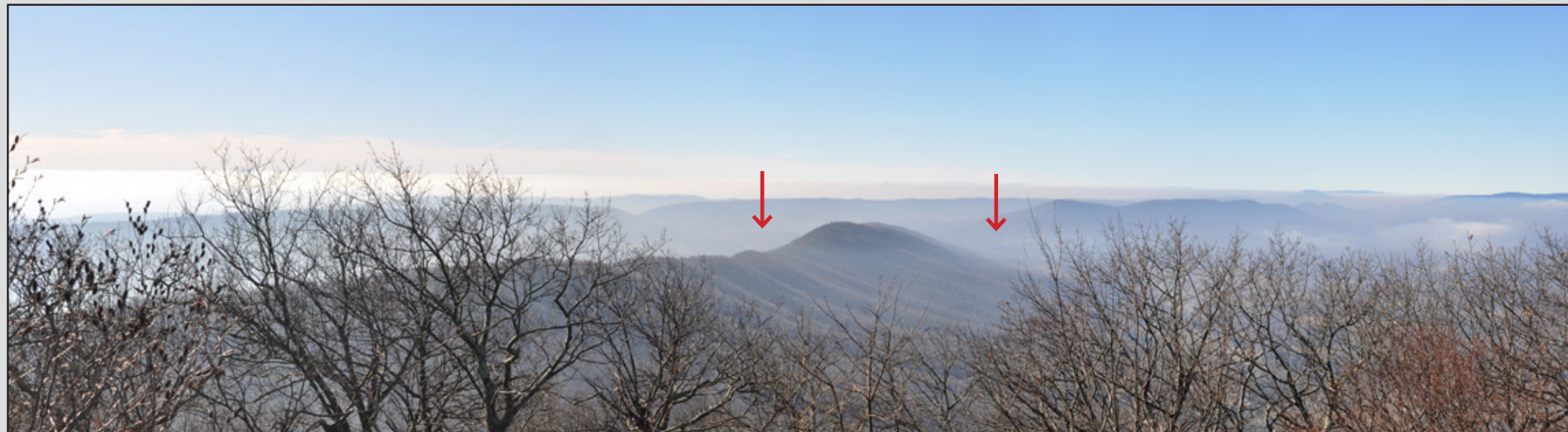
Mountain Valley Pipeline Project

Key Observation Point 111





Existing Condition



Post Construction - The proposed pipeline would cross the valley south of Johns Creek Mountain and over Peters Mountain at a point approximately 2 miles southeast of the Kelly’s Knob overlook. The red arrows indicate where the proposed pipeline would be visible crossing the valley. The proposed pipeline where it crosses over Peters Mountain is not visible from the overlook.

Photograph Information

Time of photograph: 9:52 AM

Date of photograph: 12.20.2016

Weather condition: Sunny, foggy conditions in the valley

Viewing direction: South

Latitude: 37°21'20.14"N

Longitude: 80°26'29.96"W

Photo Location: Photo taken from the Appalachian Trail corridor at the Kelly's Knob overlook on Johns Creek Mountain in Virginia.

Mountain Valley Pipeline Project

Key Observation Point 115

Figure 4



Existing Condition



Post Construction - The proposed pipeline would cross over Peters Mountain at a point approximately 2 miles southwest of the overlook near the campsite just east of the main Kelly’s Knob overlook. The red arrow indicates where the proposed pipeline would be visible crossing Sinking Creek Mountain through trees in the foreground. The proposed pipeline where it crosses over Peters Mountain is not visible from this viewpoint

Photograph Information

Time of photograph: 10:18 AM

Date of photograph: 12.20.2016

Weather condition: Sunny, foggy conditions in the valley

Viewing direction: South

Latitude: 37°21'19.57"N

Longitude: 80°26'29.01"W

Photo Location: Photo taken from the Appalachian Trail corridor near the campsite approximately 100 feet east of the Kelly’s Knob overlook on Johns Creek Mountain in Virginia.

Mountain Valley Pipeline Project

Key Observation Point 113

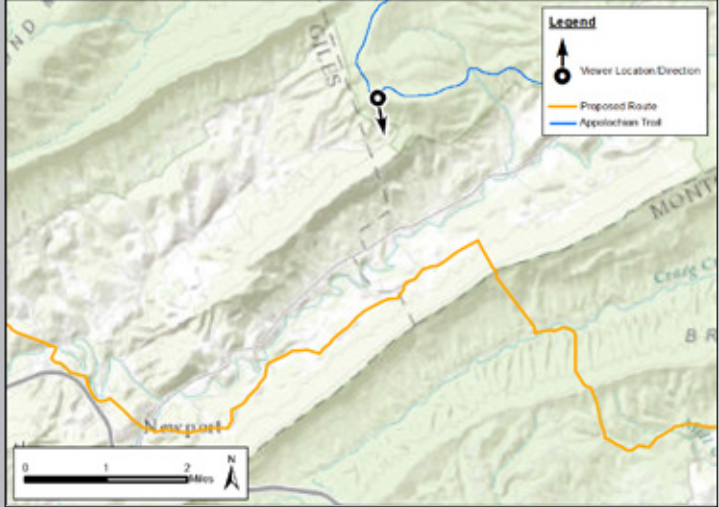
Figure 5



Existing Condition



Post Construction - The proposed pipeline would cross along the base of Sinking Creek Mountain approximately 2.25 miles from an overlook located east of the Kelly's Knob overlook. The red arrow indicates where the proposed pipeline would be visible crossing in front of Sinking Creek Mountain. The proposed pipeline where it crosses over Peters Mountain is not visible from this viewpoint.



Photograph Information

Time of photograph: 10:24 AM
 Date of photograph: 12.20.2016
 Weather condition: Sunny, foggy conditions within the valley
 Viewing direction: South
 Latitude: 37°21'19.57"N
 Longitude: 80°26'29.01"W
 Photo Location: Photo taken from the Appalachian Trail corridor approximately 180 feet east of the Kelly's Knob overlook on Johns Creek Mountain in Virginia.

Mountain Valley Pipeline Project

Key Observation Point 114

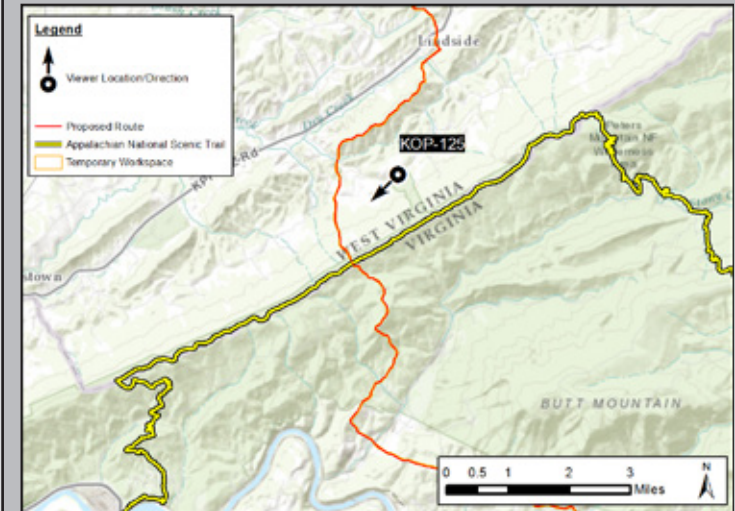
Figure 6



Existing Condition



Proposed Condition - Pipeline right-of-way crossing Peters Mountain



Photograph Information

Time of photograph: 3:37 PM
 Date of photograph: 8.5.2015
 Weather condition: Mostly Sunny
 Viewing direction: Southwest
 Latitude: 37°25'24.73"N
 Longitude: 80°40'35.06"W
 Photo Location: Sugar Camp Farm Trailhead, Monroe County, West Virginia. Photo taken from the trailhead located approximately 2 miles south of Lindside, West Virginia off of Forest Service Road 219/24.

Mountain Valley Pipeline Project

Key Observation Point 125

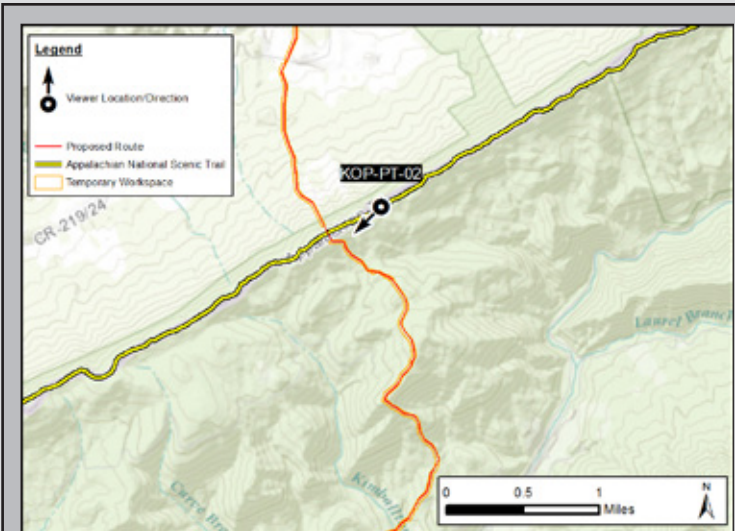
Figure 7



Existing Condition



Post Construction - The proposed pipeline would cross the Appalachian Trail approximately 0.4 mile southwest from the Peters Mountain Wilderness boundary. From KOP PT-02, the project is not visible as the bore pit and pipeline are completely screened by terrain and vegetation. The red arrow indicates approximately where the proposed pipeline would be located in the distance. The pipeline would be completely screened by terrain and vegetation.



Photograph Information

Time of photograph: 1:04 PM
 Date of photograph: 12.19.2016
 Weather condition: Overcast
 Viewing direction: Southwest
 Latitude: 37° 24' 18.40" N
 Longitude: 80° 41' 0.77" W
 Photo Location: Photo taken from the Appalachian Trail corridor at the edge of the Peters Mountain Wilderness boundary, approximately 1 mile southwest of the Sugar Trail Camp Trailhead in West Virginia.

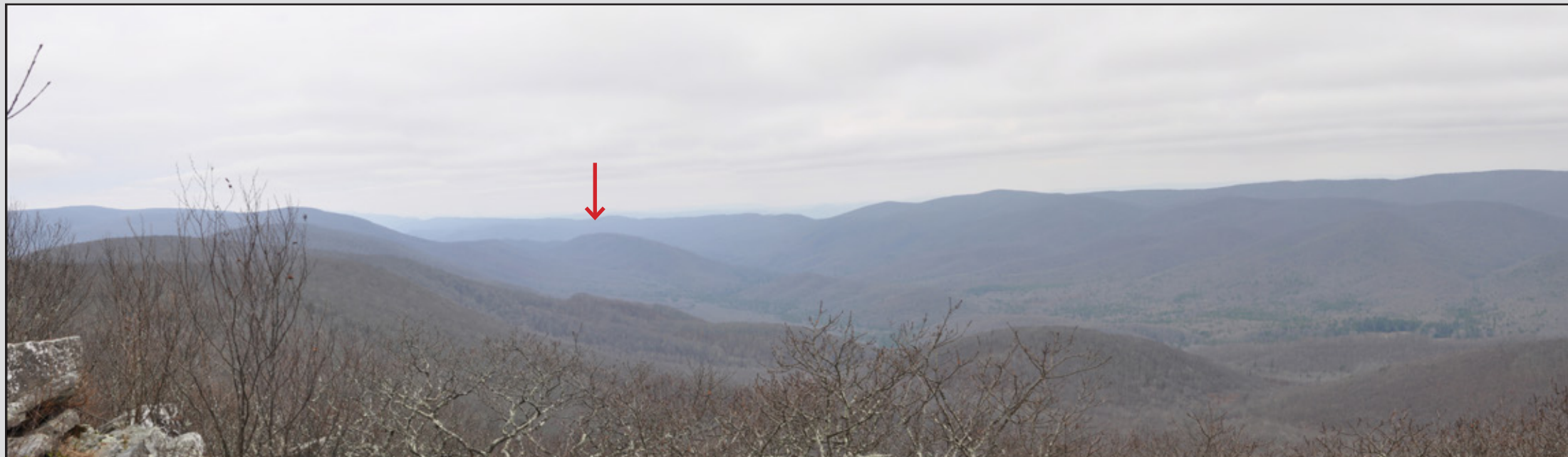
Mountain Valley Pipeline Project

Key Observation Point PT-02

Figure 8



Existing Condition



Post Construction - The proposed pipeline would cross over Peters Mountain approximately 7 miles from the Wind Rock overlook. The red arrow indicates where the proposed pipeline would be visible crossing over Peters Mountain.



Photograph Information

Time of photograph: 2:44 PM
 Date of photograph: 12.3.2016
 Weather condition: Overcast, hazy
 Viewing direction: Southwest
 Latitude: 37° 24' 51.08" N
 Longitude: 80° 31' 9.58" W
 Photo Location: Photo taken from the Appalachian Trail corridor from the Windy Rock overlook on Salt Pond Mountain in Virginia.

Mountain Valley Pipeline Project

Key Observation Point 103

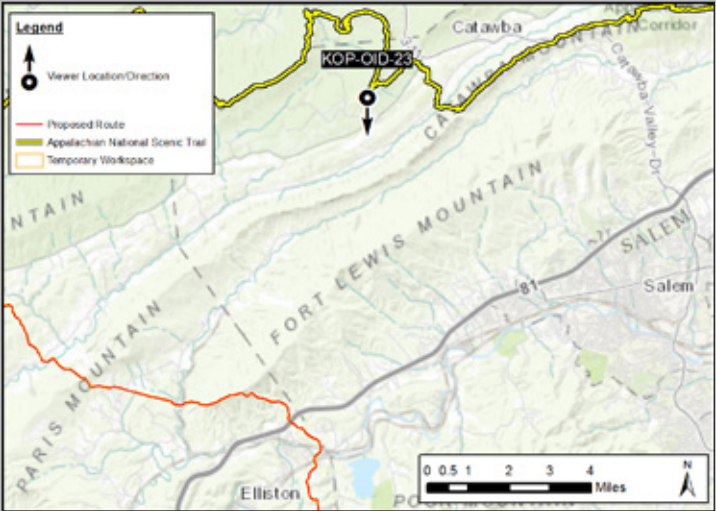
Figure 9



Existing Condition



Post Construction - The proposed pipeline would cross over Fort Lewis Mountain approximately 7.8 miles from the Dragon’s Tooth Vista. From KOP 23, views toward the project would be screened by vegetation. The red arrow indicates approximately where the proposed pipeline would cross Fort Lewis Mountain in the distance. The proposed pipeline would be completely screened by vegetation and terrain.



Photograph Information

Time of photograph: 1:29 PM
 Date of photograph: 12.5.2016
 Weather condition: Overcast, hazy
 Viewing direction: South
 Latitude: 37°21’38.25”N
 Longitude: 80°10’24.83”W
 Photo Location: Photo taken from the Appalachian Trail corridor from the Dragon’s Tooth Vista on North Mountain in Virginia.

Mountain Valley Pipeline Project

Key Observation Point 23



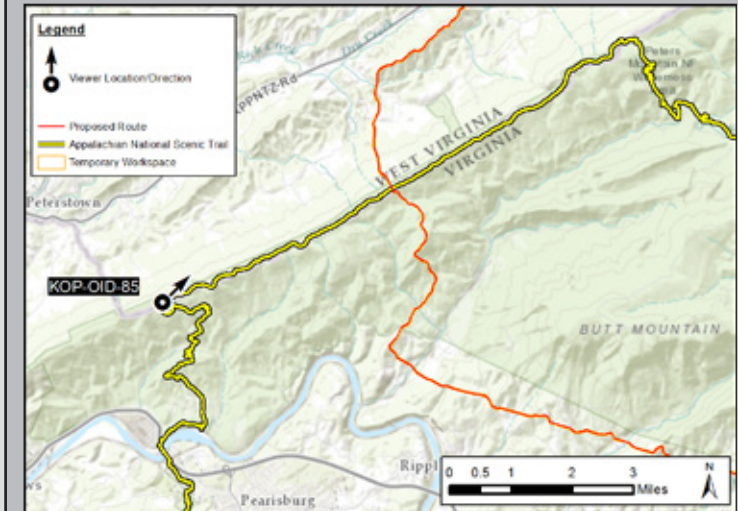
Figure 10



Existing Condition



Post Construction - The proposed pipeline would cross over Peters Mountain approximately 4.2 miles from the Rice Field Vista. The red arrow indicates where the proposed pipeline would be visible crossing over Little Mountain. Views of the pipeline crossing Peters Mountain would be screened.



Photograph Information

Time of photograph: 2:48 PM
 Date of photograph: 12.5.2016
 Weather condition: Overcast, hazy
 Viewing direction: Northeast
 Latitude: 37°22'32.34"N
 Longitude: 80°45'30.29"W
 Photo Location: Photo taken from the Appalachian Trail corridor from the Rice Field Vista on Peters Mountain on the border of Virginia and West Virginia.

Mountain Valley Pipeline Project

Key Observation Point 85

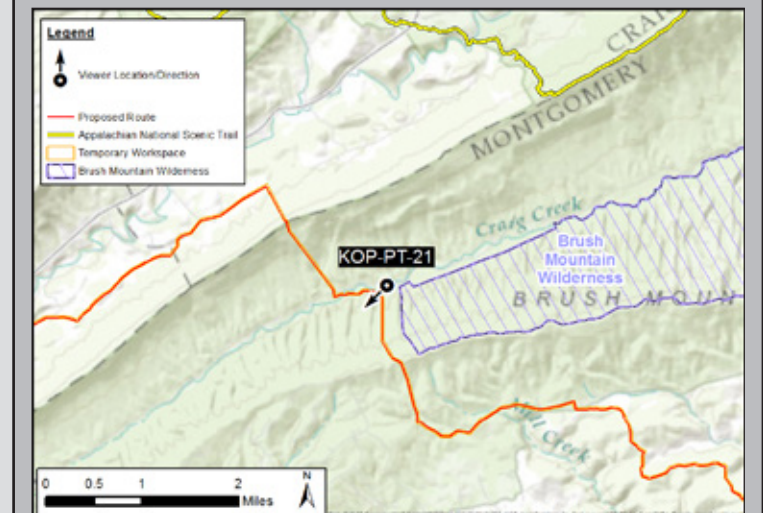
Figure 11



Existing Condition



Post Construction - The proposed pipeline crossing Sinking Creek Mountain and the adjacent valley would be screened by vegetation. The yellow arrow indicates approximately where the proposed pipeline would be located crossing over Brush Mountain. Views would be completely screened by terrain and vegetation.



Photograph Information

Time of photograph: 9:14 AM

Date of photograph: 12.21.2016

Weather condition: Mostly Sunny

Viewing direction: Southwest

Latitude: 37°18'53.51"N

Longitude: 80°23'47.44"W

Photo Location: Photo taken from Craig Creek Road approximately 4.1 miles northeast of Highway 460 in Virginia.

Mountain Valley Pipeline Project

Craig Creek Road KOP PT-21

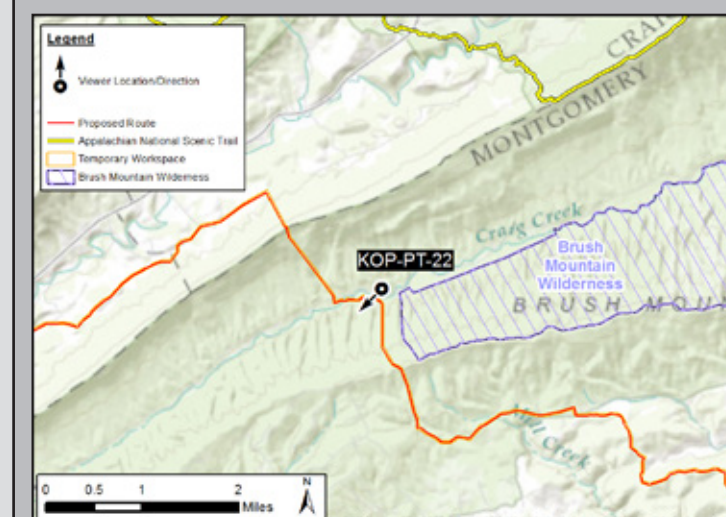




Existing Condition



Post Construction - The proposed pipeline crossing Sinking Creek Mountain and the adjacent valley would be screened by vegetation. The yellow arrow indicates approximately where the proposed pipeline would be located crossing Brush Mountain. The red arrow indicates where the pipeline would cross Gap Mountain. Both crossings would be completely screened by terrain and vegetation.



Photograph Information

Time of photograph: 9:21 AM

Date of photograph: 12.21.2016

Weather condition: Mostly Sunny

Viewing direction: Southwest

Latitude: 37°18'54.90"N

Longitude: 80°23'51.25"W

Photo Location: Photo taken from Craig Creek Road approximately 4 miles northeast of Highway 460 in Virginia.

Mountain Valley Pipeline Project

Craig Creek Road KOP PT-22



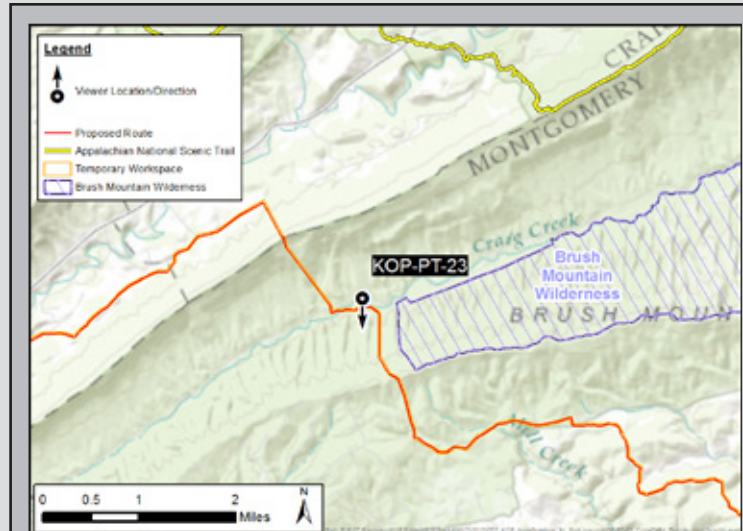
Figure 13



Existing Condition



Post Construction - The proposed pipeline crossing Sinking Creek Mountain and the adjacent valley would be screened by vegetation. The yellow arrow indicates approximately where the proposed pipeline would be located crossing the lower slopes of Brush Mountain. Views would be completely screened by terrain and vegetation.



Photograph Information

Time of photograph: 9:27 AM
 Date of photograph: 12.21.2016
 Weather condition: Mostly Sunny
 Viewing direction: South
 Latitude: 37°18'55.33"N
 Longitude: 80°24'2.22"W
 Photo Location: Photo taken from Craig Creek Road approximately 3.9 miles northeast of Highway 460 in Virginia.

Mountain Valley Pipeline Project

Craig Creek Road KOP PT-23



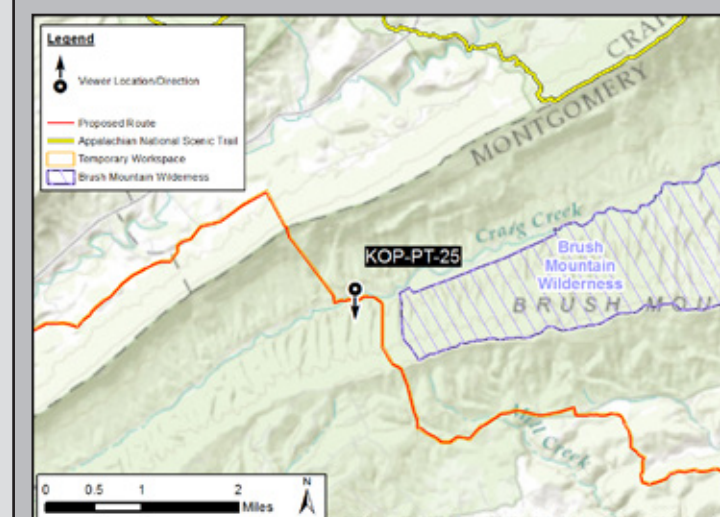
Figure 14



Existing Condition



Post Construction - The proposed pipeline access road would be visible leading from Craig Creek Road towards the pipeline right-of-way. However, the proposed pipeline crossing and where it crosses the valley adjacent to Craig Creek Road would be screened by vegetation and terrain. The yellow arrow indicates the road upgrades that would be visible from KOP PT-25. The red arrow indicates approximately where the pipeline would cross over Brush Mountain, and would be screened by vegetation from this location.



Photograph Information

Time of photograph: 9:32 AM

Date of photograph: 12.21.2016

Weather condition: Mostly Sunny

Viewing direction: South

Latitude: 37°18'55.33"N

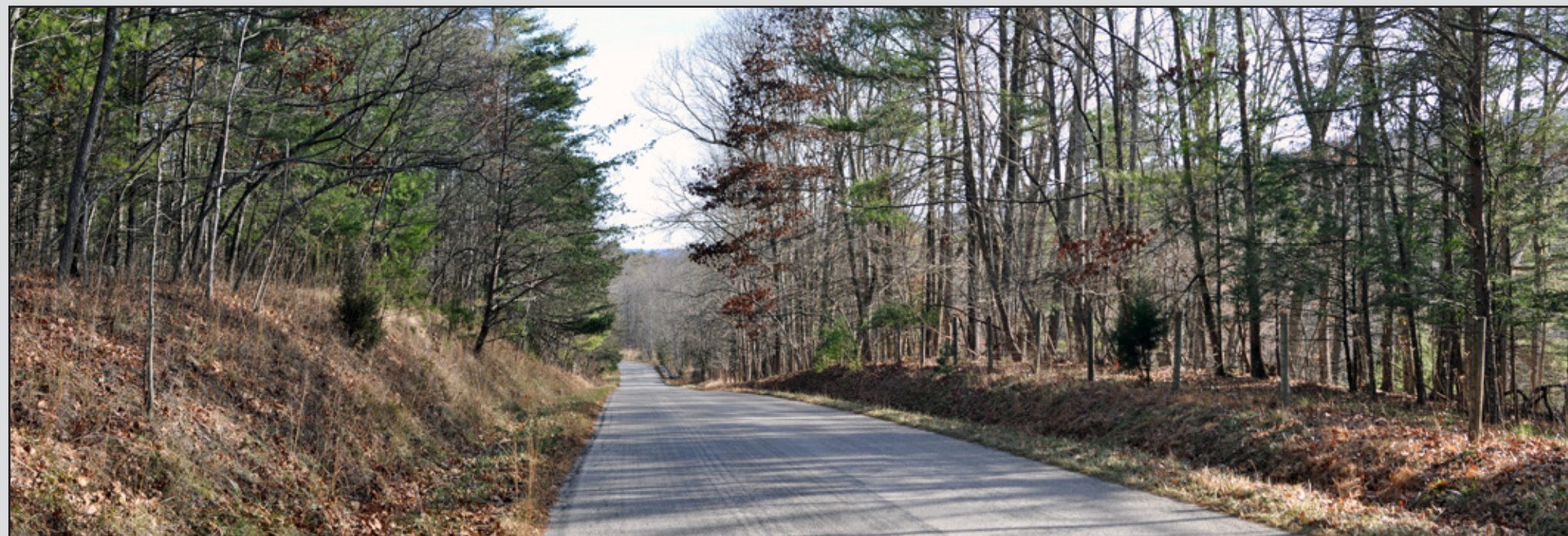
Longitude: 80°24'2.22"W

Photo Location: Photo taken from Craig Creek Road approximately 3.9 miles northeast of Highway 460 in Virginia.

Mountain Valley Pipeline Project

Craig Creek Road KOP PT-25

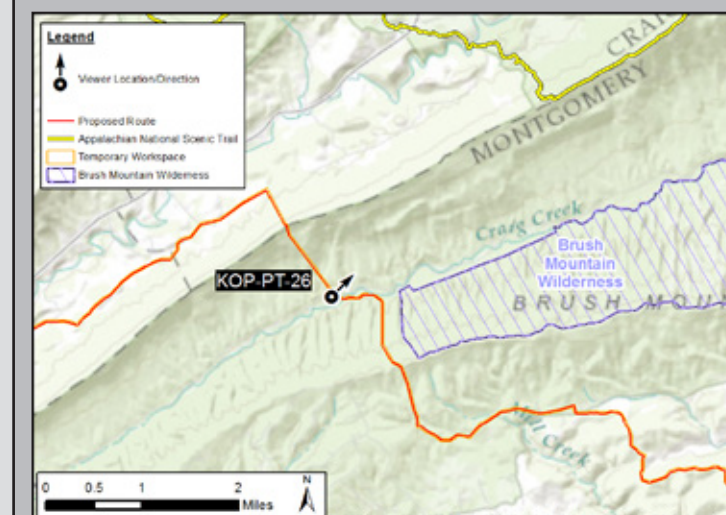




Existing Condition



Post Construction - The proposed pipeline would cross Craig Creek Road immediately adjacent to KOP PT-26. However, the pipeline would be bored under the road and the bore pits would be located approximately 60-100 feet from the road and would be screened by vegetation and terrain. The yellow arrows indicate that the bore pits would be located to the north and south of the road and would be completely screened.



Photograph Information

Time of photograph: 9:37 AM

Date of photograph: 12.21.2016

Weather condition: Mostly Sunny

Viewing direction: Northeast

Latitude: 37°18'49.88"N

Longitude: 80°24'24.54"W

Photo Location: Photo taken from Craig Creek Road approximately 3.6 miles northeast of Highway 460 in Virginia.

Mountain Valley Pipeline Project

Craig Creek Road KOP PT-26

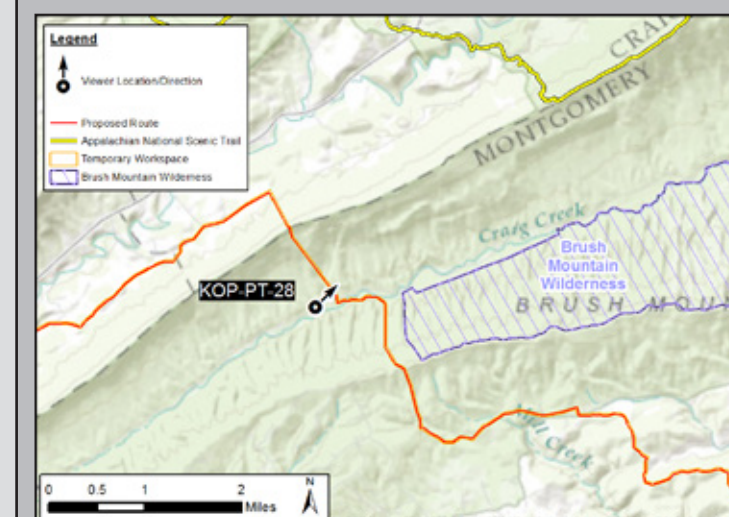




Existing Condition



Post Construction - The proposed pipeline would cross Craig Creek Road approximately 0.23 mile east of KOP PT-28. The pipeline would be screened by vegetation and terrain. The yellow arrow indicates where the proposed pipeline would be located crossing the open field and over Brush Mountain. Views of the pipeline from this location would be screened by vegetation.



Photograph Information

Time of photograph: 9:44 AM

Date of photograph: 12.21.2016

Weather condition: Mostly Sunny

Viewing direction: Northeast

Latitude: 37°18'45.53"N

Longitude: 80°24'37.87"W

Photo Location: Photo taken from Craig Creek Road approximately 3.4 miles northeast of Highway 460 in Virginia.

Mountain Valley Pipeline Project

Craig Creek Road KOP PT-28

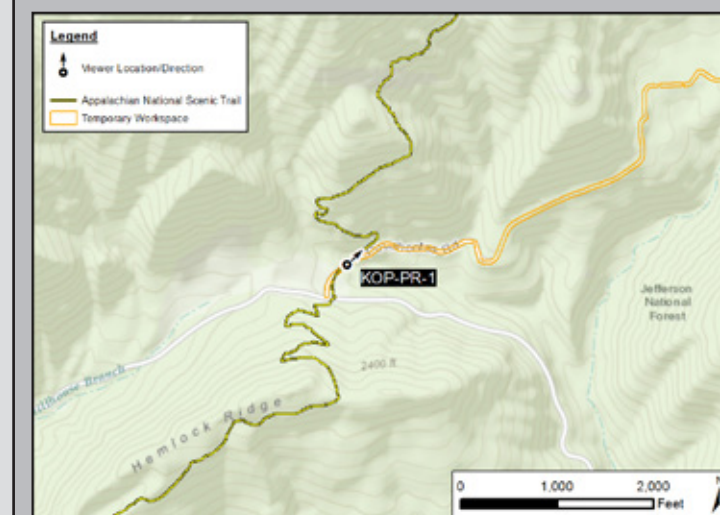




Existing Condition



Post Construction - No modifications would be visible from KOP PR-1. Modifications would be located over the hill and completely screened from this viewpoint.



Photograph Information

Time of photograph: 9:22 AM

Date of photograph: 1.21.2017

Weather condition: Foggy

Viewing direction: Northeast

Latitude: 37°21'56.43"N

Longitude: 80°44'46.72"W

Photo Location: Photo taken from Pocahontas Road where it crosses the Appalachian Trail, approximately 440 feet north of Route 641 and 2.8 miles northwest of the Town of Pearisburg, Virginia.

Mountain Valley Pipeline Project

Pocahontas Road KOP PR-1

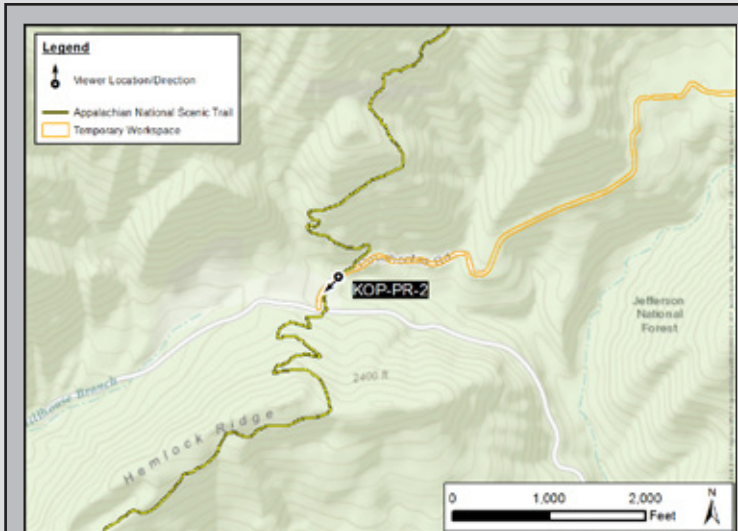




Existing Condition



Post Construction - From this location modifications to the gravel in the roadway would be apparent where culvert upgrades would occur.



Photograph Information

Time of photograph: 9:23AM
 Date of photograph: 1.21.2017
 Weather condition: Foggy
 Viewing direction: Southwest
 Latitude: 37°21'56.91"N
 Longitude: 80°44'46.67"W
 Photo Location: Photo taken from Pocahontas Road where it crosses the Appalachian Trail, approximately 440 feet north of Route 641 and 2.8 miles northwest of the Town of Pearisburt, Virginia.

Mountain Valley Pipeline Project

Pocahontas Road KOP PR-2



Existing Condition



Post Construction - From this location modifications to the roadway, including reinforcement of gravel along the edge of the roadway, would be apparent.

Photograph Information

Time of photograph: 9:07 AM
 Date of photograph: 2.21.2017
 Weather condition: Foggy
 Viewing direction: East - Southeast
 Latitude: 37°21'54.35"N
 Longitude: 80°44'45.13"W
 Photo Location: Photo taken from along the Appalachian Trail approximately 85 feet north of Pocahontas Road and 630 feet, and 2.8 miles northwest of the Town of Pearisburg, Virginia.

Mountain Valley Pipeline Project

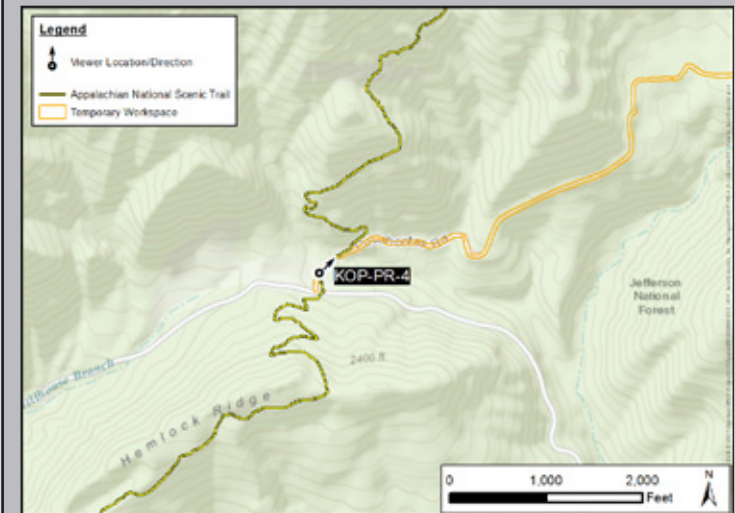
Pocahontas Road KOP PR-3



Existing Condition



Post Construction - From this location modifications to the gravel in the roadway would be apparent in the immediate foreground where culvert upgrades would occur.



Photograph Information

Time of photograph: 9:28 AM
 Date of photograph: 1.21.2017
 Weather condition: Foggy
 Viewing direction: North-Northeast
 Latitude: 37°21'57.05"N
 Longitude: 80°44'48.49"W
 Photo Location: Photo taken from Pocahontas Road approximately 200 feet north of Route 641 and 2.8 miles northwest of the Town of Pearisburg, Virginia.

Mountain Valley Pipeline Project

Pocahontas Road KOP PR-4

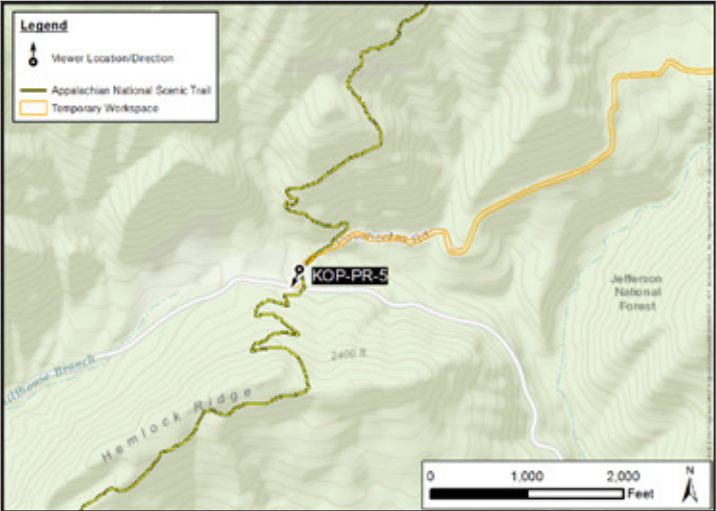
Figure 21



Existing Condition



Post Construction - No modifications would be visible from KOP PR-5.



Photograph Information

Time of photograph: 9:29 AM
Date of photograph: 1.21.2017
Weather condition: Foggy
Viewing direction: South-Southwest
Latitude: 37°21'57.60"N
Longitude: 80°44'48.33"W
Photo Location: Photo taken from Pocahontas Road approximately 200 feet north of Route 641 and 2.8 miles northwest of the Town of Pearisburg, Virginia.

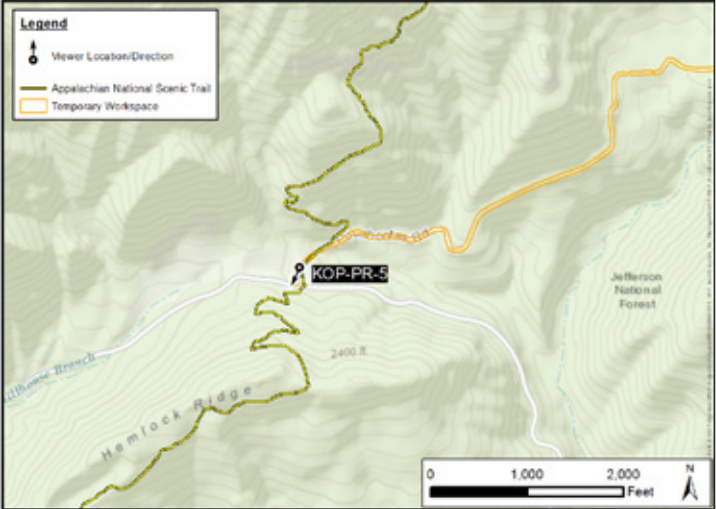
Mountain Valley Pipeline Project

Pocahontas Road KOP PR-5





Post Construction - No modifications would be visible from KOP PR-6.



Photograph Information

Time of photograph: 9:39 AM
 Date of photograph: 1.21.2017
 Weather condition: Foggy
 Viewing direction: South-Southwest
 Latitude: 37°21'53.80"N
 Longitude: 80°44'59.63"W
 Photo Location: Photo taken from Pocahontas Road approximately 85 feet north of Route 641 and 2.8 miles northwest of the Town of Pearisburg, Virginia.

Mountain Valley Pipeline Project

Pocahontas Road KOP PR-6



Figure 23

Visual Contracting Worksheets

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOP110		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	Angled and sloping and some distant mountain silhouettes	Vertical, contrasting strip, rough	NA
LINE	Undulating and angular	Vertical trees, simple geometric forms	NA
COLOR	Browns and greys	Brown, grey, green, some yellow hues, monotone	NA
TEXTURE	Smooth	Course and rough to granular grasses	NA

SECTION C. PROPOSED ACTIVITY DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	NA	NA	NA
LINE	NA	NA	NA
COLOR	NA	NA	NA
TEXTURE	NA	NA	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LANDWATER BODY (1)				VEGETATION (2)				STRUCTURES (3)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None				
ELEMENTS	Form				X				X				X	3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
	Line				X				X				X				
	Color				X				X				X				
	Texture				X				X				X				
Evaluator's Names														Date			
Robert Evans														1/11/2017			

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOP111		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	Angled and sloping with numerous distant mountain silhouettes, pyramidal, jagged, smooth band of water	Simple geometric forms created by openings in the vegetation	Angular geometric, diverse, contrasting, square
LINE	Strong horizon line, angular dendritic lines, strong band of river	Lines and edges created by vegetation clearings	Numerous lines and edges created by structures and roadways
COLOR	Browns and greys, yellow hues, glossy blue	Brown, grey, green, olives, some yellow hues, monotone	Metallic, grey, white, tan, pink
TEXTURE	Smooth to coarse land, smooth water	Contrasting and stippled as well as smooth	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	Linear diagonal line	Simple geometric form created by vegetation removal	NA
LINE	Linear weak band	Simple line created by vegetation removal	NA
COLOR	Brown hues	NA	NA
TEXTURE	Smooth	NA	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LANDWATER BODY (1)				VEGETATION (2)				STRUCTURES (3)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None				
ELEMENTS	Form			X				X					X	3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
	Line			X				X					X				
	Color			X					X				X				
	Texture				X				X				X				
Evaluator's Names														Date			
Robert Evans														1/11/2017			

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOP 115		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LANDWATER	2. VEGETATION	3. STRUCTURES
FORM	Angled and sloping with numerous distant mountain silhouettes, undulating	Simple geometric forms created by openings in the vegetation	Angular geometric, vertical
LINE	Strong horizon line, undulating, sweeping	Lines and edges created by vegetation clearings	Lines and edges created by structures (transmission line)
COLOR	Browns and greys, blue hues from atmospheric conditions	Brown, grey, green, olives, monotone	Metallic, grey
TEXTURE	Smooth to coarse, granular	Stippled and granular	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LANDWATER	2. VEGETATION	3. STRUCTURES
FORM	Linear horizontal line	Simple geometric form created by vegetation removal	NA
LINE	Linear band	Simple line created by vegetation removal	NA
COLOR	Green hues	Green and Brown hues	NA
TEXTURE	Smooth	Smooth	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LANDWATER BODY (1)				VEGETATION (2)				STRUCTURES (3)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
ELEMENTS	Form			X			X					X	Robert Evans			Date 1/11/2017	
	Line			X			X					X					
	Color			X				X									X
	Texture				X			X									X

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOP 125		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LANDWATER	2. VEGETATION	3. STRUCTURES
FORM	Undulating and sloping and some mountain silhouettes	Vertical, rough, solid	Vertical, low, few
LINE	Undulating, soft	Vertical trees, simple geometric forms, edge between field and forest	Vertical, weak
COLOR	Not apparent	Brown, grey, various greens and olives, some yellow hues,	Brown, grey
TEXTURE	Smooth	Course, clumped, random, contrasting	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LANDWATER	2. VEGETATION	3. STRUCTURES
FORM	NA	Slight edge	NA
LINE	NA	Weak line	NA
COLOR	NA	Green hues	NA
TEXTURE	NA	Patchy	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)		
		LANDWATER BODY (1)				VEGETATION (2)				STRUCTURES (3)						
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)		
ELEMENTS	Form				X			X				X	Robert Evans			1/11/2017
	Line				X			X				X				
	Color				X			X				X				
	Texture				X			X				X				
Evaluator's Names _____ Date _____																

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOPOID-22		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LANDWATER	2. VEGETATION	3. STRUCTURES
FORM	Undulating with numerous mountain silhouettes	Vertical, rough, even and balanced	Horizontal
LINE	Undulating silhouettes	Vertical trees, simple geometric forms in the middleground	Horizontal band
COLOR	Brown with blue hues created by atmospheric conditions	Brown, grey, burnt sienna, some yellow hues	Grey
TEXTURE	Smooth	Course, rough to smooth	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LANDWATER	2. VEGETATION	3. STRUCTURES
FORM	NA	NA	NA
LINE	NA	NA	NA
COLOR	NA	NA	NA
TEXTURE	NA	NA	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LANDWATER BODY (1)				VEGETATION (2)				STRUCTURES (3)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
ELEMENTS	Form				X				X				X			Evaluator's Names Robert Evans	Date 1/11/2017
	Line				X				X				X				
	Color				X				X				X				
	Texture				X				X				X				

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOPOID-23		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	Undulating with background mountain silhouettes, large round and vertical boundaries in the immediate foreground	Vertical, rough, uneven and patchy	NA
LINE	Undulating silhouettes, diverse and numerous	Vertical trees, hard geometric shapes	NA
COLOR	Brown, grey, blue hues created by atmospheric conditions	Brown, grey, burnt sienna, some yellow hues	NA
TEXTURE	Rough to smooth (gradational)	Course, rough	NA

SECTION C. PROPOSED ACTIVITY DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	NA	NA	NA
LINE	NA	NA	NA
COLOR	NA	NA	NA
TEXTURE	NA	NA	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES								2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LANDWATER BODY (1)				VEGETATION (2)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form				X				X				X
	Line				X				X				X
	Color				X				X				X
	Texture				X				X				X
										3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
										Evaluator's Names			
										Date			
										Robert Evans			
										1/11/2017			

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOPOID-23		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	Undulating with background mountain silhouettes, large round and vertical boundaries in the immediate foreground	Vertical, rough, uneven and patchy	NA
LINE	Undulating silhouettes, diverse and numerous	Vertical trees, hard geometric shapes	NA
COLOR	Brown, grey, blue hues created by atmospheric conditions	Brown, grey, burnt sienna, some yellow hues	NA
TEXTURE	Rough to smooth (gradational)	Course, rough	NA

SECTION C. PROPOSED ACTIVITY DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	NA	NA	NA
LINE	NA	NA	NA
COLOR	NA	NA	NA
TEXTURE	NA	NA	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES								2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LANDWATER BODY (1)				VEGETATION (2)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form				X				X				X
	Line				X				X				X
	Color				X				X				X
	Texture				X				X				X
3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)										Evaluator's Names			
										Date			
										Robert Evans			
										1/11/2017			

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 1/11/2017

District NA

Resource Area NA

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name Mountain Valley Pipeline	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point KOPOID-103		
3. VRM Class NA		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	Undulating with numerous mountain silhouettes	Vertical, rough, even and balanced	NA
LINE	Undulating, horizontal to convex	Vertical trees, simple geometric forms in the middleground	NA
COLOR	Brown with blue hues created by atmospheric conditions	Brown, grey, burnt sienna, some red hues	NA
TEXTURE	Smooth	Course, rough to smooth	NA

SECTION C. PROPOSED ACTIVITY DESCRIPTION

1. LANDWATER		2. VEGETATION	3. STRUCTURES
FORM	NA	NA	NA
LINE	NA	NA	NA
COLOR	NA	NA	NA
TEXTURE	NA	NA	NA

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST		FEATURES								2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LANDWATER BODY (1)				VEGETATION (2)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
ELEMENTS	Form				X				X				X
	Line				X				X				X
	Color				X				X				X
	Texture				X				X				X
										3. Additional mitigating measures recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
										Evaluator's Names			
										Date			
										Robert Evans			
										1/11/2017			

SECTION D. (Continued)

Comments from item 2.

Additional Mitigating Measures (See item 3)