



## **Mountain Valley Pipeline Access Roads with Stream/Wetland Crossings**

During the design of the Mountain Valley Pipeline Project (Project), Mountain Valley Pipeline LLC (Mountain Valley) reviewed existing infrastructure that would facilitate transportation of materials, equipment, and workers to the Project site without the need to construct new roads. Mountain Valley made use of existing public and private roads (including driveways, logging roads/trails, farm roads, and other existing corridors that would provide adequate areas for access) for Project access to the extent practical. The use of existing roads minimized or avoided impacts to streams, wetlands, and upland areas. Existing public and private roads are sufficient to provide Project access to most work areas. Minor upgrades (i.e., temporary widening, grading, gravel placement, etc.) will be necessary on some existing roads prior to Project use to make them suitable for heavy construction equipment. However, the construction of new access roads is required in some locations to overcome inadequate access.

Mountain Valley has considered the avoidance of potential impacts to wetlands and waterbodies in selecting and locating the proposed access roads. In areas where these resources are present, Mountain Valley minimized impacts by reducing the construction limit of disturbance and by spanning the resource through the use of temporary wetland and waterbody crossing structures (timber mats, prefabricated bridges, or railcar bridges) during construction activities. To further minimize impacts, Mountain Valley will not utilize temporary placement of earthen fill material within waterbodies or wetlands during use of Project access roads. Mountain Valley has taken all practicable measures to avoid impacts to streams and wetlands associated with its temporary and permanent access roads.

Since the initial permit application to the Army Corps of Engineers in 2017, Mountain Valley has reduced impacts to access roads significantly in both Virginia and West Virginia. Total stream impacts from access roads have decreased in the Application by almost 11,000 linear feet—over 9,000 linear feet in West Virginia and over 1,600 linear feet in Virginia. Similarly, wetland total wetland impacts also decreased. From 2017 to the Application, wetland disturbances were reduced by over four acres: over 3.75 acres of reduction in West Virginia and almost 0.5 acre in Virginia. This was accomplished by evaluating each crossing in the field and identifying ways to avoid the placement of temporary fill by spanning the resource, narrowing the access road, and/or adjusting the Project's limits of disturbance. In areas where impacts could not be avoided, the impacts were fully minimized while still providing safe access to the Project.

Most of Mountain Valley's access road crossings were installed in 2018 under the now-vacated Nationwide Permit 12 verifications. As discussed above, the majority of the installed roads were along existing roads, using already established travel lanes, some with existing culverts and spans.

The following table summarizes access roads that have resource impacts and provides information on how impacts were fully minimized to the extent practicable.

USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Huntington	MVP-WE-001	Existing	S-ST18	UNT to Mobley Run	Wetzel	Intermittent	Permanent Access Road	4-2	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to forested areas and private property. Shifting the access road to the east would increase impacts to streams ST18 and ST19.
Huntington	MVP-WE-011	Existing	W-IJ31	N/A	Wetzel	PEM	Permanent Access Road	4-18	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to forested areas and private property. Shifting the access road to the east would result in impacts to currently avoided cultural resources. Impacts were minimized by using the existing access road and crossing the wetland at its narrowest point.
Huntington	MVP-WE-014.01	Existing	S-QR34	UNT to Stout Run	Wetzel	Ephemeral	Permanent & Temporary Access Road	4-23	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent aquatic resources, including streams S-A119, S-A120, S-A121, and S-KL10. The location of the existing travel lane alignment also takes advantage of pre-existing culverts on streams S-A119 and S-A121.
Huntington	MVP-WE-014.02	Existing	S-A120	Stout Run	Wetzel	Intermittent	Permanent & Temporary Access Roads	4-23	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the forested riparian corridor and private property. The stream is currently spanned with the support structures along the stream banks. The permanent structure will maintain connectivity between the upstream segment and downstream segment.
Huntington	MVP-WE-016	Existing	S-J56 S-J58 S-J59 W-WX4 W-WX5	Manion Run/ UNT to Manion Run	Wetzel	Perennial Intermittent PEM	Permanent & Temporary Access Roads	4-28	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the forested area, riparian corridor, and private property. The access road alignment crosses streams S-J56 and S-J58 where a previously installed culvert unrelated to the Project is located. Impacts to stream S-J59 were reduced by using the existing travel lane's alignment. Shifting to avoid this intermittent stream would result in impacts to wetland W-J33, which is currently avoided. Impacts to wetlands W-WX4 and W-WX5 were minimized by using the existing alignment, which is located between the resources; a shift in any direction would increase impacts to these wetlands.

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Pittsburgh	MVP-MLV-AR-04	New	S-J54	UNT to Little Tenmile Creek	Harrison	Perennial	Permanent Access Road	4-43	Crossing was installed under the previously authorized NWP 12. This new permanent access road is necessary to provide access to a mainline valve. Stream S-J54 parallels the existing county road in this location, and crossing the stream is unavoidable. Shifting the crossing to the north would require a crossing of Little Tenmile Creek, a larger perennial stream. Shifting the crossing to the south would place the access road closer to private residential structures. The permanent structure will maintain connectivity between the upstream segment and downstream segment.
Pittsburgh	MVP-HA-020	Existing	S-B79	UNT to Big Elk Creek	Harrison	Ephemeral	Permanent & Temporary Access Roads	4-39	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Shifting the access road in this area would increase impacts to the forested areas and private property. Impacts were minimized by installing a culvert (as opposed to earthen fill) to maintain connectivity between the upstream and downstream segments.
Pittsburgh	MVP-HA-024	Existing	W-J32-PEM-1	N/A	Harrison	PEM	Temporary Access Road	4-44	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Using this existing travel lane as an access road, which crosses the wetland at its narrowest point, significantly reduces impacts. In addition, the impacts are temporary and will be restored once the Project is completed. Shifting the access road would require a road along a hillslope, additional tree clearing, and additional impacts to private property.
Pittsburgh	MVP-HA-025	Existing	W-A39	N/A	Harrison	PEM	Permanent Access Road	4-51	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Shifting the access road would require a road along a hillslope, require additional tree clearing, and increase impacts to private property.
Pittsburgh	MVP-HA-026	Existing	S-A128	Rockcamp Run	Harrison	Perennial	Permanent Access Road	4-51	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Prior to Mountain Valley using this road, several culverts were already installed. Impacts were minimized by aligning the access road over the pre-existing culverts and not installing new culverts at another location.
Pittsburgh	MVP-HA-028	Existing	W-ST11 W-ST12-PEM W-ST12-PSS	N/A	Harrison	PEM/PSS	Temporary Access Road	4-56	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the forested area and private property. Impacts to wetlands W-ST12-PEM and W-ST12-PSS have also been minimized by using the existing travel lane. In addition, access road impacts are temporary and will be restored once the Project is completed.

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Pittsburgh	MVP-HA-029.03	Existing	S-OP8 S-OP9	UNT to Indian Run	Harrison	Ephemeral	Temporary Access Road	4-59	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the forested area. In addition, impacts were minimized by installing a culvert in stream S-OP8 (as opposed to earthen fill) to maintain connectivity between the upstream and downstream segments.
Pittsburgh	MVP-HA-029.04	Existing	S-B6a	Indian Run	Harrison	Perennial	Temporary Access Road	4-59	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the riparian corridor and private property. Using the existing travel lane avoids impacts to the adjacent aquatic resources, including wetlands W-F68, W-F67b, and W-F66 and stream S-F56.
Pittsburgh	MVP-HA-040	Existing	W-F52 W-F55	N/A	Harrison	PEM	Temporary Access Road	4-76	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to forested area and private property or new impacts to stream S-F48.
Huntington	MVP-DO-041	Existing	W-K52	N/A	Doddridge	PEM	Permanent Access Road	4-78	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the forested area; it would require a road along a hillslope and additional tree clearing.
Huntington	MVP-DO-048.01	New	S-A110/K62 W-A23	UNT to Laurel Run	Doddridge	Intermittent PEM	Permanent Access Road	4-85	Proposed access road to a permanent anode bed overlaps with pipeline ROW to avoid additional impacts to aquatic resources, including wetland W-A23 and stream S-A110/K62, and to avoid impacts to stream S-A109. Proposed permanent fill installation is pending.
Pittsburgh	MVP-HA-050	Existing	W-A24	N/A	Harrison	PEM	Temporary Access Road	4-91	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road – minimizing impacts by creating a minor crossing along the edge of the resource. Creating a new access road in this location would create additional forest clearing and impacts to private properties.
Pittsburgh	MVP-HA-051	Existing	S-K94 W-J40	Kincheloe Creek	Lewis	Perennial PEM	Temporary Access Road	4-92	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location (by shifting it to the east or west) would increase impacts to the adjacent aquatic resources, including stream S-K95 and wetland W-J40. In addition, impacts are temporary and will be restored once the Project is completed.

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Pittsburgh	MVP-LE-055	Existing	W-IJ23 W-IJ24	N/A	Lewis	PEM	Temporary Access Road	4-100	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Impacts to wetlands W-IJ23 and W-IJ24 were minimized by using the existing, pre-Project travel lane alignment, which is located between the resources. In addition, the current access road alignment avoids wetland W-I27 and streams S-I69, S-I68, S-VV25, and S-LL2.
Pittsburgh	MVP-LE-057	Existing	W-J20	N/A	Lewis	PEM	Permanent Access Road	4-103	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Utilizing the alignment of this existing travel lane limits impacts to adjacent forested areas and avoids aquatic resources, including wetlands W-J17, W-J18, W-J19, W-J21, W-J16, W-J14, W-J15, and W-UV12.
Huntington	MVP-LE-057.02	Existing	W-B57	N/A	Lewis	PEM	Temporary Access Road	4-104	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Utilizing this existing travel lane reduces additional forest clearing and impacts to private properties.
Pittsburgh	MVP-LE-064	Existing	W-K31	N/A	Lewis	PEM	Temporary Access Road	4-109	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Using the alignment of this existing travel lane avoids impacts to wetlands W-K29 and W-K30.
Pittsburgh	MVP-LE-065	Existing	S-B69 W-B46	UNT to Left Fork Freemans Creek	Lewis	Ephemeral PEM	Temporary Access Road	4-110	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Using the alignment of the pre-Project existing access road avoids impacts to stream S-B68 and wetlands W-B48, W-B49, W-B50, and W-B52. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-LE-068	Existing	W-I22-PEM	N/A	Lewis	PEM	Permanent Access Road	4-114	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Using the alignment of this existing access road minimized impacts wetland W-I22-PEM and uses a pre-existing culvert installed in stream S-I64.
Huntington	MVP-LE-070	Existing	S-K43	Cove Lick	Lewis	Perennial	Permanent Access Road	4-121	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Using the alignment of this existing access road minimizes impacts to stream S-K43 by using a pre-existing culvert. A shift to avoid this crossing would increase impacts to this stream and stream S-K44 and would impact wetlands W-SR01 and W-L40a, both of which are currently avoided.

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Huntington	MVP-LE-073.01	Existing	S-I63	Sand Fork	Lewis	Perennial	Permanent Access Road	4-128	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to forested areas and private properties. The permanent crossings will not be earthen fill and will allow for continuous flow and connectivity between the upstream and downstream segments.
Huntington	MVP-LE-074	Existing	S-L76 W-H98	Indian Fork	Lewis	Perennial PEM	Permanent Access Road	4-137 4-136	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Using the alignment of this existing access road avoids additional impacts to stream S-L77 since the current road takes advantage of a pre-existing culvert in the stream. Creating a new access road in this location would increase impacts to the adjacent forested areas and private properties.
Huntington	MVP-LE-077.01	Existing	S-VV13b S-VV13d S-VV16 W-CD16 W-CD18 W-CD19 W-CD21 W-CD23 W-CD24 W-CD25 W-CD26 W-CD36	Second Big Run/UNT Second Big Run	Lewis	Perennial Ephemeral PEM	Temporary Access Road & ATWS	4-144 4-146	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. The alignment of this existing travel lane also has several culverts that were installed before the Project began. Using this alignment minimizes impacts to the resources by using the pre-existing culverts. Creating a new access road in either direction at this location would increase impacts to the adjacent forested areas and to the adjacent aquatic resources, including wetlands W-CD20, S-VV13b, W-CD26, W-CD27, W-CD28, W-CD34, and W-CD35 and stream S-VV13a.
Huntington	MVP-LE-077.02	Existing	S-VV16 S-VV18 S-VV19 S-VV20 W-VV10	UNT to Second Big Run	Lewis	Ephemeral/PEM	Temporary Access Road	4-146 4-145	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. The alignment of this existing travel lane also has several culverts that were installed before the Project began. Using this alignment minimizes impacts to the resources by using the pre-existing culverts. Creating a new access road in either direction at this location would increase impacts to the adjacent forested areas (tree clearing and steep hillslope construction) and would still impact the listed aquatic resources.



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Huntington	MVP-LE-077.03	Existing	S-UV11 S-VV21 S-VV22 W-VV11 W-VV12	Oil Creek/UNT to Oil Creek	Lewis	Perennial Ephemeral PEM	Permanent & Temporary Access Roads	4-148	Crossings were installed under the previously authorized NWP 12. A pre-Project, existing travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent riparian areas, including tree clearing and steep hillslope road construction. In addition, temporary impacts will be restored once the Project is completed. Please note that permanent fill associated with the permanent access road will be installed prior to Project completion.
Huntington	MVP-LE-083	Existing	S-L61	Crooked Run	Lewis	Intermittent	Permanent Access Road	4-151	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the forested area and private property. The existing alignment also avoids impacts to the adjacent aquatic resources, including streams S-H135 and S-L62 to the south/east and S-L64, S-L63 and S-L61 to the north. The location of the access road also takes advantage of a pre-existing culvert on stream S-L63.
Huntington	MVP-BR-088	Existing	S-L57	UNT to Barbecue Run	Braxton	Ephemeral	Temporary Access Road	4-165	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. The location of the access road also takes advantage of an existing span on stream S-L58. Creating a new access road in this location would increase impacts to forested area and private properties. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-BR-090.01	Existing/New	S-IJ27 S-IJ32	Little Knawl Creek/UNT to Little Knawl Creek	Braxton	Perennial	Permanent Access Road	4-168	An existing, pre-Project travel lane will be used for a portion of this access road and is necessary to provide permanent access to the pipeline ROW for operational maintenance and associated activities. The majority of the existing travel lane parallels Stream S-IJ27 and crosses the resource in two locations. Impacts will be minimized by maintaining the existing travel lane alignment and crossing the streams in the same location. Using the existing alignment will significantly reduce impacts on S-IJ27 and other resources in the area.
Huntington	MVP-BR-103.01	Existing	W-QR11 W-QR12 W-QR13 S-QR26	UNT to Little Kanawha River	Braxton	PEM/Perennial	Temporary Access Road	4-181 4-180	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. The existing travel lane parallels the Little Kanawha River, thereby limiting the opportunity to shift the access road alignment. The current alignment avoids impacts to wetland W-QR10 and cultural resources in the area. Shifting the alignment would increase impacts to forested areas and private property. In addition, impacts are temporary and will be restored once the Project is completed.

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Huntington	MVP-WB-110	Existing	S-A98	UNT to Left Fork Holly River	Webster	Intermittent	Temporary Access Road	4-198	An existing, pre-Project travel lane will be used for this proposed access road. Utilizing an existing travel lane will limit impacts to adjacent forested areas and private property.
Huntington	MVP-MLV-AR-12 and MLV-AR-12.03	Existing	W-E28 W-E30	N/A	Webster	PSS	Permanent Access Road	4-269	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Shifting the road to the east would increase impacts to private property, forested areas, wetland W-E28, and stream S-E62. Shifting the road to the west would increase impacts to the riparian corridor, streams S-E62 and S-E58, and wetland W-E29.
Huntington	MVP-WB-114	Existing	W-R2 W-R3	N/A	Webster	PEM	Temporary Access Road	4-201	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested area and would require additional tree clearing and road construction along hillslopes. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-WB-116	Existing	S-S4 W-R4	UNT to Oldlick Creek	Webster	Ephemeral PEM	Temporary Access Road	4-204	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested area and would require additional tree clearing and road construction along steep hillslopes. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-WB-119	Existing	S-B62	Narrows Run	Webster	Perennial	Permanent Access Road	4-215	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. The existing travel lane runs parallel to stream S-B62; creating a new access road in this location would require tree clearing and construction along a steep hillslope. The location of the access road also takes advantage of pre-existing culverts and avoids impacts to streams S-B49, S-B50, S-B51, S-B52, S-B53, S-B54, S-B55, S-56, S-B57, S-B58, S-B59, S-B60, S-B61, S-B63, S-B64, S-B65, and S-B66 and wetlands W-B42, W-B43, and W-B44.
Huntington	MVP-WB-120.01	Existing	W-T4 W-H83	N/A	Webster	PEM	Temporary Access Road	4-224 4-222	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas, requiring tree clearing and construction along a steep hillslope. The location of the access road also takes advantage of existing culverts and avoids impacts to streams S-KL78, S-T16a, S-T17, S-T18, S-T19, S-T20, S-T21, S-T22 and wetlands W-T2 and W-T3. In addition, impacts are temporary and will be restored once the Project is completed.



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Huntington	MVP-WB-123	Existing	W-O13	N/A	Webster	PEM	Permanent Access Road	4-244	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and private property. The location of the access road also takes advantage of existing culverts and avoids impacts to wetlands W-O1, W-O2, W-O3, W-O4, W-O6, W-O7, W-O8, W-O9, W-O10, W-O11, W-O12, W-GH10, W-GH11, W-GH12, W-O14, W-HH100, W-O15, W-O16, W-KK1, W-GH13, W-O17, and W-KK2.
Huntington	MVP-WB-124	Existing	S-A93 W-A19	UNT to Camp Creek	Webster	Ephemeral PEM	Temporary Access Road	4-235	An existing, pre-Project travel lane will be used for this access road. Utilizing an existing travel lane limits impacts to adjacent forested areas and riparian corridors and avoids adjacent aquatic resources, including streams S-A84, S-A85, S-A83/A91, and S-A86/A87.
Huntington	MVP-MLV-AR-10	Existing/New	W-H67	N/A	Webster	PFO	Temporary Access Road	4-236	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for a portion of this access road. Utilizing this existing travel lane limits impacts to adjacent forested areas and riparian corridors and avoids impacts to adjacent aquatic resources, including wetlands W-H66 and W-H65. It will also take advantage of pre-existing culverts on stream S-H105.
Huntington	MVP-WB-125	Existing	W-H70 W-H71 W-H72 W-H73 W-H74	N/A	Webster	PEM	Permanent Access Road	4-238 4-237	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas, requiring tree clearing and construction along a steep hillslope.
Huntington	MVP-WB-125.02	Existing	S-H107	UNT to Camp Creek	Webster	Intermittent	Permanent Access Road	4-236	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the forested areas and private property. The location of the access road also takes advantage of the existing culvert on stream S-H105 and the crossing between wetlands W-H65 and W-H66, which is located at the edge of the wetlands.
Huntington	MVP-WB-129	Existing	S-A79 S-A80 S-A81 W-A18	Laurel Creek/UNT to Laurel Creek	Webster	Perennial Intermittent Ephemeral PEM	Temporary Access Road	4-263	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas, riparian corridor, and private property. In addition, the access road impacts are temporary and will be restored once the Project is completed.

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Huntington	MVP-WB-132	Existing	S-F36a S-F36b S-F37 W-F40 W-F41	UNT to Birch River	Webster	Perennial PSS PEM	Temporary Access Road	4-278 4-279	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to forested areas, riparian corridor, and private property. The location of the access road also takes advantage of existing culverts and avoids impacts to wetlands W-F39, W-F38, W-F36, W-F37, W-F35, W-F34, W-F33, W-F32, W-F42, and W-F31 and streams S-F36a and S-F38. In addition, the access road impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-NI-136	Existing	S-E46	Strouds Creek	Webster	Perennial	Temporary Access Road	4-291	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the private property and cultural resources. In addition, access road impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-NI-141.01	Existing	S-B26 W-B26-PEM-1 W-B26-PEM-2	UNT to Cherry Run	Nicholas	Intermittent PEM	Temporary Access Road	4-299	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent aquatic resources, including wetlands W-B26-PSS-1, W-B26-PSS-2, W-B26-PEM-1, and W-B26-PEM-2. In addition, impacts are temporary and will be restored once the Project is completed. The location of the access road also takes advantage of existing culvert for stream S-B26, minimizes impacts to wetland W-B26-PEM-1 and avoids impacts to wetland W-B26-PSS.
Huntington	MVP-NI-146	Existing	S-H95 S-H96 W-H50	UNT to Big Beaver Creek	Nicholas	Ephemeral Intermittent PEM	Temporary Access Road	4-304	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and private property. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-NI-151.01	Existing	W-MN4	N/A	Nicholas	PEM	Temporary Access Road	4-316	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and private property. The access road is located between and avoids streams S-MN8 and S-MN9. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-NI-151.02	Existing	W-CV12 W-CV13	N/A	Nicholas	PEM	Temporary and Permanent Access Roads	4-312	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. The existing travel lane parallels the Gauley River. Creating a new access road to the north would not be possible. To the south, it would impact adjacent forested areas and private property.

USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Huntington	MVP-NI-151.04	Existing	W-RS04	N/A	Nicholas	PEM	Temporary Access Road	4-316	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and streams S-MN9 and S-MN8. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-NI-158	Existing	S-L35	Riley Branch	Nicholas	Perennial	Temporary Access Road	4-341	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and would still require a crossing of stream S-L35 to the north or to the south. The location of the access road also takes advantage of the existing culvert that carries S-L35 under the travel lane. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-GB-179	Existing	W-ST27 W-ST28	N/A	Greenbrier	PEM	Temporary Access Road	4-382	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and private property. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-GB-179.01	Existing	W-IJ58-PEM-3 W-IJ59 W-IJ60 W-KL40	N/A	Greenbrier	PEM	Temporary Access Road	4-387 4-388	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent riparian areas and private property. The location of the access road also takes advantage of the existing culverts, minimizes impacts to wetlands W-IJ58-PEM-3, W-IJ59, and W-IJ60, and avoids impacts to wetlands W-IJ58-PEM-1, W-IJ58-PEM-2, W-IJ58-PEM-5, W-IJ58-PSS-1, W-IJ58-PSS-2, W-IJ58-PSS-3, W-IJ58-PSS-4, W-IJ61, W-KL36, W-KL37, and W-KL38 and streams S-IJ66, S-IJ67, S-IJ68, S-IJ69, S-IJ70, S-IJ71, S-KL45, S-KL46, S-KL47. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-GB-182	Existing	W-V6	N/A	Greenbrier	PEM	Temporary Access Road	4-394	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas, requiring tree clearing and construction along steep hillslopes. The location of the access road also takes advantage of the existing culverts, minimizes impacts to wetland W-V6, and avoids impacts to streams S-M8, S-M9, and S-M10 and wetland W-M5. In addition, impacts are temporary and will be restored once the Project is completed.

USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Huntington	MVP-GB-185	Existing	W-L19	N/A	Greenbrier	PEM	Permanent Access Road	4-402	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested and residential areas. The location of the access road also takes advantage of the existing culvert, which avoids impacts to stream S-L22.
Huntington	MVP-GB-187.03	Existing	W-L2	N/A	Greenbrier	PEM	Temporary Access Road	4-405	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and wetlands W-L3 and W-L2 and stream S-L10.
Huntington	MVP-MLV-AR-17	Existing/New	W-QR2	N/A	Greenbrier	PEM	Permanent Access Road	4-397	A temporary crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for the majority of this access road. The permanent crossing will be installed during Project completion and is necessary to provide access to a mainline valve. Shifting the road to the east or to the west would increase forest area impacts and impacts to private property. The wetland is being crossed at its narrowest point and along its border.
Huntington	MVP-GB-189	Existing	S-I23a S-IJ53 S-IJ54 W-IJ47-PEM	UNT to Boggs Creek	Greenbrier	Intermittent Perennial Ephemeral PEM	Permanent Access Road	4-409 4-410	An existing, pre-Project travel lane will be used for this access road. Utilizing this existing travel lane will limit impacts to adjacent forested areas, adjacent residential areas, and adjacent aquatic resources, including wetlands W-KL30, W-KL29-PEM, W-KL29-PSS, and W-IJ47-PFO. The alignment of the existing travel lane also takes advantage of pre-existing culverts on stream S-IJ53. Proposed permanent fill will be installed during Project completion.
Huntington	MVP-GB-190	Existing	W-W10	N/A	Greenbrier	PEM	Temporary Access Road	4-412	An existing, pre-Project travel lane will be used for this access road. Utilizing this existing travel lane will limit impacts to adjacent forested areas, and adjacent residential areas. The alignment of the existing pre-Project travel lane avoids impacts to wetlands W-IJ45, W-W11 and streams S-W20 S-W21, S-W22, and S-W23.
Huntington	MVP-GB-193	Existing	S-UV2	Morris Fork	Greenbrier	Perennial	Permanent Access Road	4-423	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane will be used for this access road. Utilizing this existing travel lane will limit impacts to adjacent forested areas, adjacent residential areas, and adjacent cultural resources. The alignment of the existing travel lane avoids impacts to wetlands W-UV2, W-UV7, W-UV6, and W-UV5. Proposed permanent crossing will be installed before Project completion, but connectivity between the upstream and downstream segments will remain.
Huntington	MVP-GB-196	Existing	S-FF1	UNT to Meadow River	Greenbrier	Ephemeral	Permanent Access Road	4-425	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Utilizing an existing travel lane limits impacts to adjacent forested areas and private property. Proposed permanent fill will be installed during Project completion.

USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Huntington	MVP-SU-198	Existing	S-M4	UNT to Red Spring Branch	Summers	Ephemeral	Temporary Access Road	4-434	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas through additional tree clearing, require construction along steep hillslopes, and result in additional impacts to private property. In addition, impacts are temporary and will be restored once the Project is completed.
Huntington	MVP-SU-199	Existing	S-I10 SI12 W-I10	UNT to Lick Creek/Lick Creek	Summers	Intermittent PEM	Permanent Access Road	4-439 4-438 4-437	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas through additional tree clearing, require construction along steep hillslopes, and result in additional impacts to private property. Proposed permanent fill will be installed during Project completion.
Huntington	MVP-SU-205	Existing	S-EF53 W-MM20-PFO	UNT to Greenbrier River	Summers	Intermittent PFO	Temporary Access Road	4-464	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Utilizing the existing travel lane limits impacts to adjacent forested areas, including minimizing impacts to W-MM20-PFO.
Huntington	MVP-SU-207	Existing	S-K10	UNT to Greenbrier River	Summers	Intermittent	Permanent Access Road and Temporary Access Road	4-465	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Utilizing the existing travel lane limits impacts to the adjacent floodplain area and avoids cultural resources. The proposed permanent culvert crossing will be installed during Project completion. A timber mat crossing is currently installed at the crossing.
Huntington	MVP-SU-208.01	Existing	S-K4	UNT to Keller Creek	Summers	Intermittent	Temporary Access Road	4-468	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and private property. The location of the access road also takes advantage of pre-existing culverts on stream S-K3, thereby avoiding additional impacts.
Huntington	MVP-MO-218	Existing	W-A13 S-A61 S-CV26 S-A63	UNT to Slate Run/Slate Run	Monroe	Ephemeral Perennial PEM	Temporary Access Road and Permanent Access Road	4-493 4-492	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and adjacent private property. The existing travel lane alignment reduces impacts by using the pre-existing culvert for stream S-CV26 and avoids adjacent cultural resources. In addition, a portion of the permanent pipeline right-of-way is also being used as for the permanent access, reducing the need for additional permanent impacts. Please note that a timber mat has been installed along the existing travel lane at the proposed S-A61 permanent culvert stream crossing.



USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Huntington	MVP-MO-220	Existing	S-F18	UNT to Hans Creek	Monroe	Perennial	Permanent Access Road	4-496	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Utilizing this existing travel lane avoids impacts to adjacent forested areas and adjacent residential/business areas. The alignment of the existing travel lane avoids additional impacts to stream S-F18 and avoids stream S-IJ75, wetland W-IJ79, and an existing pond. Proposed permanent fill will be installed during Project completion.
Huntington	MVP-MO-223	Existing	W-MN14	N/A	Monroe	PEM	Temporary Access Road	4-500	An existing, pre-Project travel lane will be used for this access road. Utilizing an existing travel lane will limit impacts to adjacent residential areas and private property. The current alignment also avoids greater impacts to wetland W-MN14 and avoids stream S-MN2.
Huntington	MVP-MO-230	Existing	S-E40	Dry Creek	Monroe	Perennial	Temporary Access Road	4-515	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would still require a crossing of stream S-E40 to the north or to the south, in addition to impacting private property. The impact is temporary and will be restored once the Project is completed.
Huntington	MVP-MO-231.01	Existing	S-C40 W-C17	UNT to Painter Run	Monroe	Perennial/PEM	Temporary Access Road	4-521	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Using this existing travel lane alignment reduces impacts on wetland W-C17 (crossing location is at its narrowest point and along the edge) and stream S-C40. It also avoids impacts to stream S-C42 and wetland W-C19. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-GI-241.03	Existing	S-YZ1	Doe Creek	Giles	Intermittent	Temporary Access Road	4-546	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to adjacent forested areas and mapped karst geology. The location of the access road also takes advantage of the pre-existing culverts and minimizes impacts to stream S-YZ1 (which runs parallel to the existing access road). In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-GI-245.02	Existing	S-QQ3	UNT to Sinking Creek	Giles	Ephemeral	Temporary Access Road	4-560	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project driveway and travel lane were used for this access road. Creating a new access road in this location would increase impacts to a FEMA floodplain/floodway, adjacent forested areas, and adjacent residential areas. The location of the access road also avoids impacts to stream S-S-KL9 and reduces impacts to stream S-QQ3-b.



USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Norfolk	MVP-MLV-AR-25.01	Existing	S-IJ16-a	UNT to Sinking Creek	Giles	Ephemeral	Permanent Access Road	4-559	Temporary crossing was installed under the previously authorized NWP 12. An existing pre-Project travel lane was used for this access road. Creating a new access road in this location would increase overall impacts to mapped karst geology, adjacent forested areas, and private property. The existing alignment avoids the majority of stream S-IJ16-a (which runs parallel to the west of the existing road), with only a very minor crossing at the access point from State Route 608. The permanent structure will be installed to maintain connectivity between the upstream and downstream segment.
Norfolk	MVP-GI-242.01	Existing	S-MN11-Downstream S-MN11-Upstream	UNT to Sinking Creek	Giles	Ephemeral	Temporary Access Road	4-554	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to adjacent forested areas and private property. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-GI-243.01	Existing	S-RR4	UNT to Sinking Creek	Giles	Perennial	Temporary Access Road	4-556	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project driveway and travel lane were used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested area and private property. The existing alignment avoids additional impacts to stream S-RR3 (which is currently crossed by a pre-existing culvert), stream S-RR4, and wetland W-SH07. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-GI-244	Existing/New	S-IJ19 S-IJ18-INT	UNT to Sinking Creek	Giles	Ephemeral Intermittent	Temporary Access Road	4-555	Crossings were installed under the previously authorized NWP 12. An existing pre-Project travel lane was used for the majority of the access road; however, a new travel lane is required to be constructed to provide access to the ROW. To avoid additional impacts to the adjacent forested areas, private property, and mapped karst geology, the existing travel lane was used as much as possible. The access road alignment minimizes impacts to streams S-IJ18-INT and S-IJ19 by crossing each one once and perpendicularly.
Norfolk	MVP-GI-253.02	Existing	S-MM17 W-MM10	UNT to Sinking Creek	Giles	Perennial PEM	Temporary Access Road	4-569	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project driveway and travel lane were used for this access road. Creating a new access road in this location would increase impacts to the adjacent agricultural/livestock area and mapped karst geology. Using the existing access road alignment avoids impacts to two ponds, which are adjacent to the road.

USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Norfolk	MVP-CR-258.02	Existing	S-QQ2	Sinking Creek	Craig	Perennial	Temporary Access Road	4-581	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the FEMA floodplain, adjacent forested areas, adjacent residential areas, and mapped karst geology. The existing alignment minimizes impacts to stream S-QQ2 by only crossing the resource once and perpendicularly. The current alignment also avoids stream S-CD13.
Norfolk	MVP-MN-258.04	Existing	S-RR13	Craig Creek	Montgomery	Perennial	Temporary Access Road	4-585	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the FEMA floodplain/floodway and adjacent forested areas. The existing alignment minimizes impacts to stream S-RR13 by having a perpendicular crossing and avoids an additional crossing of stream S-RR14.
Norfolk	MVP-MLV-AR-28	Existing	W-KL58	N/A	Montgomery	PEM	Permanent Access Road	4-631	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent private property. The road also parallels an active railroad, which further limits opportunities to shift the alignment. The existing travel lane is also located within the permanent easement of the ROW, thereby decreasing additional impacts. The current access road alignment avoids impacts to streams S-CD10 and S-CD11.
Norfolk	MVP-MN-266.03	Existing	W-AD4	N/A	Montgomery	PEM	Temporary Access Road	4-596	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the adjacent forested areas and private properties.
Norfolk	MVP-MN-268.01	Existing	S-G36	North Fork Roanoke River	Montgomery	Perennial	Temporary Access Road	4-602	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to the FEMA floodplain, adjacent forested areas, and agricultural lands. The existing alignment minimizes impacts by crossing S-G36 only once and perpendicularly and avoids stream S-NN8 and wetland W-NN7. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-RO-281.02	Existing	S-EF57	UNT to Bottom Creek	Roanoke	Intermittent	Temporary Access Road	4-645	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to adjacent forested areas. The existing alignment crosses S-EF57 only once and perpendicularly and avoids streams S-EF34 and S-CD13. In addition, impacts are temporary and will be restored once the Project is completed.

USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Norfolk	MVP-RO-282	Existing	W-EF17 W-EF18	N/A	Roanoke	PFO PSS	Temporary Access Road	4-647	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to adjacent forested areas. Utilizing the existing travel lane minimizes impacts by crossing streams S-EF32 and S-EF35 using the pre-existing culverts. The existing alignment avoids additional impacts to streams S-EF33 and minimizes impacts to wetlands W-EF17 and W-EF18 by crossing the resources along their perimeters. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-RO-283	Existing	S-IJ85 W-IJ96-PEM	UNT to Bottom Creek	Roanoke	Perennial PEM	Temporary Access Road	4-650	An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to adjacent forested areas. The existing alignment avoids additional impacts to aquatic resources, including wetlands W-IJ99, W-IJ98, W-IJ97, W-IJ108, W-IJ95-PSS, W-IJ107, W-IJ95-PEM-2, W-IJ106, W-IJ95-PFO, and W-IJ95-PEM-1 and stream S-IJ88.
Norfolk	MVP-RO-287	Existing	W-IJ62 W-Z6 W-Z7	N/A	Roanoke	PEM PFO PSS	Temporary Access Road	4-656 4-657	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road. Creating a new access road in this location would increase impacts to adjacent forested and agricultural areas. The existing travel land minimizes impacts to streams S-Z16, S-Z16-1, and S-Z17 by taking advantage of pre-existing culverts. The existing alignment avoids wetlands W-IJ62 and W-Z7 and streams S-Z17, S-Z16, and S-Z16-1 to the north and wetlands W-Z8, W-Z9, W-Y3 and W-Z10 and streams S-Z17 and S-Y11 to the south. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-RO-288	Existing	W-KL1 W-Q11 W-IJ10	N/A	Roanoke	PEM	Permanent Access Road	4-656	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project driveway and travel lane were used for this access road. Creating a new access road in this location would increase impacts to adjacent forested and agricultural areas as well as private residential areas. The existing alignment takes advantage of pre-existing culverts for streams S-KL4 and S-Q20. The existing alignment avoids wetlands W-KL1, W-IJ10, W-KL3, W-KL4-PSS, W-KL4-PEM-2, and W-KL4-PEM and stream S-KL4 to the north and wetlands W-KL5, W-Q10, and W-Q11 and streams S-KL4 and S-Q20 to the south. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-FR-290	New	S-RR18 W-KL41 W-RR3 W-RR4	UNT to Green Creek	Franklin	Intermittent PEM	Permanent Access Road	4-662 4-661	Crossings were installed under the previously authorized NWP 12. The new road is necessary to provide permanent access to the pipeline ROW for operational maintenance and associated activities. Impacts to stream S-RR16 are minimized by taking advantage of a pre-existing culvert. Stream S-RR17 is completely avoided. The permanent structure will maintain connectivity between the upstream segment and downstream segment and will be installed during Project completion.

USACE District	MVP Road Name	Access Road (Existing/New/or Removed from Plans)	Stream/Wetland ID	NHD Stream Name	County	Flow Regime (Stream)/Cowardin Class (Wetlands) <sup>2</sup>	Project Activity	Figure	Rationale
Norfolk	MVP-FR-291	Existing	W-EF3	N/A	Franklin	PEM	Permanent Access Road	4-665	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project travel lane was used for this access road, which takes advantage of the pre-existing culvert for stream S-EF17. Creating a new access road in this location would increase impacts to adjacent forested areas. The existing alignment avoids stream S-EF17. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-FR-310	Existing	S-S11	UNT to Maggodee Creek	Franklin	Perennial	Temporary Access Road	4-710	Crossing was installed under the previously authorized NWP 12. An existing, pre-Project driveway and travel lane were used for this access road. Creating a new access road in this location would increase impacts to adjacent residential and agricultural areas. The existing alignment avoids stream S-S10, which runs parallel to the road to the northeast, and a residential structure to the southwest. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-FR-313	Existing	S-MM23 S-MM29	Maple Branch UNT to Maple Branch	Franklin	Perennial	Temporary Access Road	4-714	Crossings were installed under the previously authorized NWP 12. An existing, pre-Project driveway, farm road, and travel lane were used for this access road. Creating a new access road in this location would increase impacts to adjacent forested and agricultural areas. The existing alignment minimizes impacts to stream S-MM29 by crossing the resource once and perpendicularly. In addition, impacts are temporary and will be restored once the Project is completed.
Norfolk	MVP-PI-343	New	S-H42	UNT to Little Cherrystone Creek	Pittsylvania	Perennial	Permanent Access Road	4-785	Crossing was installed under the previously authorized NWP 12. The new road is necessary to provide permanent access to permanent valve sites. The chosen alignment avoids impacts to streams S-H41, S-KL15, S-KL16, S-H43, S-H49, and S-H48 and wetlands W-H21 and W-H18-PSS. The permanent culvert in stream S-H42 will maintain connectivity between the upstream segment and downstream segment of the stream.