

W-UU1



Photograph Number: 1

Feature Name: W-UU1

Cowardin Class: PFO

Direction: NNE

Date: 9/23/2015

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP City/County: Harrison Sampling Date: 09/23/2015
 Applicant/Owner: MVP State: WV Sampling Point: W-UU1
 Investigator(s): Townsend, Prilepin, Therkildson, Sexton Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave ditch Slope (%): 0%
 Subregion (LRR or MLRA): LRRN Lat: 39.290276 Long: -80.518892 Datum: NAD83
 Soil Map Unit Name: Urban land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:

Cowardin Code: PFO
 HGM: Riverine
 WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☒ No ☐ Depth (inches): 6"
 Saturation Present? Yes ☒ No ☐ Depth (inches): 0"
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Most of wetland is forested with salix, acer negundo.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-UU1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)
2. <u>Salix nigra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. <u>Platanus occidentalis</u>	<u>5</u>		<u>FACW</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. <u>Lindera benzoin</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ _____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is ≤3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Polygonum sp.</u> <u>10</u> 2. <u>Phalaris arundinacea</u> <u>50</u> <input checked="" type="checkbox"/> <u>FACW</u> 3. <u>Toxicodendron radicans</u> <u>5</u> 4. <u>Bidens sp.</u> <u>5</u> 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.) <u>>30% forested PFO</u>				

SOIL

Sampling Point: W-UU1

[illegible]

USACE FILE NO./Project Name:	Mountain Valley Pipeline Project			COORDINATES:	Lat.	39.290258	Lon.	-80.518898
STREAM/SITE ID AND SITE DESCRIPTION: (% stream slope, watershed size {acreage}, unaltered or impairments)				Wetland UU1 (W-UU1), 1.28ac watershed, HUC 12 watershed Salem Fork, riverine, RPWWD, forested wetland adjacent to gravel road and equipment staging area				
FORM OF MITIGATION:		Mitigation Bank						
DATE:	23-Sep-16	WEATHER CONDITIONS:				PRECIPITATION PAST 48 HRS:		
PART I - Wetland Indicators								
Impact Wetland ID:	Impact Wetland Classification	Impacts (acreage)	Mitigation Wetland Classification					
W-UU1	Forested	0.0045	Emergent					
Total Impact		0.0045						
PART II - Unit Scores								
Wetland Classification			Replacement Unit(s)					
Total Emergent			0.0045					
Total Scrub-Shrub			0					
Total Forested			0					
Total Open Water			0					

PART III - Advanced Mitigation	
Sustainable Determination Made on Advanced Mitigation (Y or N)	y

Estimated ILF Costs
\$270.00

PART IV- Factors
(See instruction page for default values for MITIGATION BANKING and ILF.)

Temporal Loss-Construction	
<i>*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit).</i>	
Years	0
Sub-Total	0

Temporal Loss-Maturity	
<i>*Note: Period between completion of compensatory mitigation measures and the time required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).</i>	
% Add. Mitigation	Temporal Loss-Maturity (Years)
0%	0
Sub-Total	0

Long-term Protection	
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone		
<i>*Note¹: Reference Instructional handout for the definitions of the Buffer Zone Mitigation</i>		
Average Buffer Width	Mitigation Type	
0	0-50	None
	51-150	None

PART V - Final Unit Score					
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance
Emergent	0.0045	Restoration	0.0045		-0.0045
Scrub-Shrub	0		0		0
Forested	0		0		0
Open Water	0		0		0
Net-Total	0.0045		0.0045	#DIV/0!	#DIV/0!

W-UU3



Photograph Number:	1	Feature Name:	W-UU3	Cowardin Class:	PFO
Direction:	NE	Date:	9/24/2015		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP City/County: Harrison Sampling Date: 09/24/2015
Applicant/Owner: MVP State: WV Sampling Point: W-UU3
Investigator(s): Townsend, Therkildson, Sexton, Prilepin Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave/ ditch Slope (%): 0%
Subregion (LRR or MLRA): LRRN Lat: 39.289928 Long: -80.518333 Datum: NAD83
Soil Map Unit Name: Urban land NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PFO

HGM: Riverine

WT: rpwwn

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☒ No ☐ Depth (inches): 2"
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-UU3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer negundo</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Acer negundo</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Glechome hederacea</u>	<u>15</u>		<u>FACU</u>	
2. <u>Impatiens capensis</u>	<u>15</u>		<u>FACW</u>	
3. <u>Myosotis scorpioides</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
4. <u>Lysimachia nummularia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.) This wetland has approx 60% tree cover on average, though point was taken in a more open portion where there was only 20% cover. Trees growing within wetland boundaries include acer negundo, salix nigra. Shrubs include spicebush and blackberry.				

SOIL

Sampling Point: W-UU3

[illegible]

USACE FILE NO./Project Name:	Mountain Valley Pipeline Project			COORDINATES:	Lat.	39.289750	Lon.	-80.518517
STREAM/SITE ID AND SITE DESCRIPTION: (% stream slope, watershed size {acreage}, unaltered or impairments)				Wetland UU3 (W-UU3), 1.14ac watershed, HUC 12 watershed Salem Fork, riverine, RPWWN, forested wetland crossed by existing access road culvert				
FORM OF MITIGATION:		Mitigation Bank						
DATE:	24-Sep-16	WEATHER CONDITIONS:				PRECIPITATION PAST 48 HRS:		
PART I - Wetland Indicators								
Impact Wetland ID:	Impact Wetland Classification	Impacts (acreage)	Mitigation Wetland Classification					
W-UU3	Forested	0.0065	Emergent					
Total Impact		0.0065						
PART II - Unit Scores								
Wetland Classification			Replacement Unit(s)					
Total Emergent			0.0065					
Total Scrub-Shrub			0					
Total Forested			0					
Total Open Water			0					

PART III - Advanced Mitigation	
Sustainable Determination Made on Advanced Mitigation (Y or N)	y

Estimated ILF Costs
\$390.00

PART IV- Factors
(See instruction page for default values for MITIGATION BANKING and ILF.)

Temporal Loss-Construction	
<i>*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit).</i>	
Years	0
Sub-Total	0

Temporal Loss-Maturity	
<i>*Note: Period between completion of compensatory mitigation measures and the time required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).</i>	
% Add. Mitigation	Temporal Loss-Maturity (Years)
0%	0
Sub-Total	0

Long-term Protection	
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone		
<i>*Note¹: Reference Instructional handout for the definitions of the Buffer Zone Mitigation</i>		
Average Buffer Width	Mitigation Type	
0	0-50	None
	51-150	None

PART V - Final Unit Score					
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance
Emergent	0.0065	Restoration	0.0065		-0.0065
Scrub-Shrub	0		0		0
Forested	0		0		0
Open Water	0		0		0
Net-Total	0.0065		0.0065	#DIV/0!	#DIV/0!

W-ST12



Photograph Number: 1

Feature Name: W-ST12

Cowardin Class: PSS

Direction: S

Date: 07/14/2016

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP City/County: Harrison Sampling Date: 07/14/2016
 Applicant/Owner: MVP State: WV Sampling Point: W-ST12 PSS
 Investigator(s): J. McGuirk, D. Quinn Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR N Lat: 39.337231 Long: -80.522291 Datum: NAD 83
 Soil Map Unit Name: Gilpin-Upshur complex, 15 to 25 percent slopes, severely eroded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks: Cowardin Code: PSS HGM: Riverine Water Type: RPWWD
Open

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (includes capillary fringe)	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-ST12 PSS

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
5 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Salix nigra</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Acer negundo</u>	<u>5</u>		<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
40 = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Verbesina alternifolia</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Euthamia graminifolia</u>	<u>10</u>		<u>FAC</u>	
3. <u>Dichanthelium clandestinum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. <u>Carex vulpinoidea</u>	<u>10</u>		<u>OBL</u>	
5. <u>Scirpus atrovirens</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
6. <u>Polygonum sagittatum</u>	<u>5</u>		<u>OBL</u>	
7. <u>Asclepias incarnata</u>	<u>5</u>		<u>OBL</u>	
8. <u>Carex lurida</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
9. <u>Solidago gigantea</u>	<u>10</u>		<u>FACW</u>	
10. <u>Impatiens capensis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
11. _____	_____	_____	_____	
115 = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present?
 Yes ☒ No _____

SOIL

Sampling Point: W-ST12 PSS

[illegible]

USACE FILE NO./Project Name:	Mountain Valley Pipeline Project		COORDINATES:	Lat.	39.337471	Lon.	-80.522128
STREAM/SITE ID AND SITE DESCRIPTION: (% stream slope, watershed size {acreage}, unaltered or impairments)			Wetland ST12-PSS (W-ST12-PSS), 47.449 ac watershed, HUC 12 watershed Headwaters Tenmile Creek, Riverine, RPWWD, scrub shrub wetland				
FORM OF MITIGATION:	Mitigation Bank						
DATE:	7/14/2016		WEATHER CONDITIONS:	PRECIPITATION PAST 48 HRS:			
PART I - Wetland Indicators							
Impact Wetland ID:	Impact Wetland Classification	Impacts (acreage)	Mitigation Wetland Classification				
W-ST12-PSS	Scrub-Shrub	0.1444	Emergent				
Total Impact		0.1444					
PART II - Unit Scores							
Wetland Classification		Replacement Unit(s)					
Total Emergent		0.1444					
Total Scrub-Shrub		0					
Total Forested		0					
Total Open Water		0					

PART III - Advanced Mitigation	
Sustainable Determination Made on Advanced Mitigation (Y or N)	n

Estimated ILF Costs
\$8,664.00

PART IV- Factors (See instruction page for default values for MITIGATION BANKING and ILF.)

Temporal Loss-Construction	
<i>*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit).</i>	
Years	0
Sub-Total	0

Temporal Loss-Maturity	
<i>*Note: Period between completion of compensatory mitigation measures and the time required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).</i>	
% Add. Mitigation	Temporal Loss-Maturity (Years)
0%	0
Sub-Total	0

Long-term Protection	
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone		
<i>*Note¹: Reference Instructional handout for the definitions of the Buffer Zone Mitigation</i>		
Average Buffer Width	Mitigation Type	
0	0-50	None
	51-150	None

PART V - Final Unit Score					
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance
Emergent	0.1444	Restoration	0.1444		-0.1444
Scrub-Shrub	0		0		0
Forested	0		0		0
Open Water	0		0		0
Net-Total	0.1444		0.1444	#DIV/0!	#DIV/0!

W-K52

Wetland Photograph Page

Wetland ID W-K52



Photograph Direction West

Date: 06/02/2015

Comments: 2015 wetland delineation.



Photograph Direction East

Date: 09/18/19

Comments: 2019 wetland delineation confirmation.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: MVP City/County: Doddridge Sampling Date: 06/02/2015
 Applicant/Owner: MVP State: WV Sampling Point: W-K52
 Investigator(s): J. Hart, D. Santillo, J. Potrikus Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3
 Subregion (LRR or MLRA): LRRN Lat: 39.236752 Long: -80.558520 Datum: NAD 83
 Soil Map Unit Name: Gilpin-Peabody complex, 15 to 35 percent slopes, very stony (GsE) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM HGM: Slope WT: RPWWN

2015 comments: Wetland plot paired with W-K52UP. Slope wetland occurs on slope where groundwater is discharging. Water is pooling in tire ruts of roadbed. Small drainage feature also contributes flows.

Information listed on this form represents the data collected in 2015. The wetland was revisited on 09/18/2019. The presence of wetland hydrology, hydrophytic vegetation, and hydric soils was unable to be confirmed because the wetland was obstructed by timber matting.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-K52

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
0 = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex vulpinoidea</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Juncus effusus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Lysimachia nummularia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
4. <u>Microstigium vinimeum</u>	<u>10</u>	_____	<u>FAC</u>	
5. <u>Penstemon digitalis</u>	<u>10</u>	_____	<u>FAC</u>	
6. <u>Eupatorium perfoliatum</u>	<u>5</u>	_____	<u>FACW</u>	
7. <u>Carex lurida</u>	<u>5</u>	_____	<u>OBL</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
95 = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
50% of total cover: <u>47.5</u>		20% of total cover: <u>19</u>		
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		

Remarks: (Include photo numbers here or on a separate sheet.)
 Remaining cover in herb stratum is thatch

SOIL

Sampling Point: W-K52

[illegible]

USACE FILE NO./Project Name:	Mountain Valley Pipeline Project			COORDINATES:	Lat.	39.236727	Lon.	-80.55855
STREAM/SITE ID AND SITE DESCRIPTION: (% stream slope, watershed size {acreage}, unaltered or impairments)				Wetland K52 (W-K52), 1.51ac watershed, HUC 12 watershed Buckeye Creek, slope, RPWWN, emergent wetland along existing dirt access road				
FORM OF MITIGATION:		Mitigation Bank						
DATE:	02-Jun-16		WEATHER CONDITIONS:			PRECIPITATION PAST 48 HRS:		
PART I - Wetland Indicators								
Impact Wetland ID:	Impact Wetland Classification	Impacts (acreage)	Mitigation Wetland Classification					
W-K52	Emergent	0.0115	Emergent					
Total Impact		0.0115						
PART II - Unit Scores								
Wetland Classification			Replacement Unit(s)					
Total Emergent			0.0115					
Total Scrub-Shrub			0					
Total Forested			0					
Total Open Water			0					

PART III - Advanced Mitigation	
Sustainable Determination Made on Advanced Mitigation (Y or N)	n

Estimated ILF Costs
\$690.00

PART IV- Factors
(See instruction page for default values for MITIGATION BANKING and ILF.)

Temporal Loss-Construction	
*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit).	
Years	0
Sub-Total	0

Temporal Loss-Maturity	
*Note: Period between completion of compensatory mitigation measures and the time required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).	
% Add. Mitigation	Temporal Loss-Maturity (Years)
0%	0
Sub-Total	0

Long-term Protection	
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone		
*Note ¹ : Reference Instructional handout for the definitions of the Buffer Zone Mitigation		
Average Buffer Width	Mitigation Type	
0	0-50	None
	51-150	None

PART V - Final Unit Score					
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance
Emergent	0.0115	Restoration	0.0115		-0.0115
Scrub-Shrub	0		0		0
Forested	0		0		0
Open Water	0		0		0
Net-Total	0.0115		0.0115	#DIV/0!	#DIV/0!