BASELINE ASSESSMENT – WETLAND ATTRIBUTES

ATTACHMENT N FRANKLIN COUNTY, VIRGINIA WETLAND SWVM FORMS/WETLAND DELINEATION FORM/PHOTOS

| Wetland ID | Wetland SWVM Form | Delineation Data/Photos |
|------------|----------------------------|----------------------------|
| | Provided | |
| W-ST2-PEM | ✓ | ✓ |
| W-RR4 | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-RR3 | ✓ | ✓ |
| W-KL41 | ✓ | ✓ |
| W-D7-PEM | ✓ | ✓ |
| W-EF3 | ✓ | ✓ |
| W-IJ1 | √ | ✓ |
| W-IJ12-PEM | ✓ | ✓ |
| W-GH2 | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-II8 | ✓ | ✓ |
| W-IJ6 | ✓ | ✓ |
| W-E7 | ✓ | ✓ |
| W-E8 | ✓ | ✓ |
| W-EF51 | ✓ | ✓ |
| W-KL-43b | ✓ | ✓ |
| W-CD6 | ✓ | ✓ |
| W-CD5 | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-EF48 | ✓ | ✓ |
| W-CD1 | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-DD1 | √ | ✓ |
| W-A12-PFO | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-A12-PEM | √ | ✓ |
| W-GH16 | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-H17 | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-H11 | ✓ | ✓ |
| W-H16 | ✓ | ✓ |
| W-H14 | ✓ | √ |
| W-A8 | ✓ | √ |
| W-H15 | N/A – Permanent Conversion | N/A – Permanent Conversion |
| W-H9 | ✓ | ✓ |
| W-H6 | ✓ | √ |
| W-MM17 | ✓ | ✓ |

| USACE FILE NO./Project Name: | | Mountain ' | /alley Pipeline | COORDINATES: | Lat. | 37.125329 | Lon. | -80.12146 |
|---|-------------------------------------|----------------------|---|--------------|------|--|------------------|-----------|
| STREAM/SITE ID AND SITE DESCF (% stream slope, watershed size {a | | d or impairments) | | | | W-ST2-PEM, Pipeline ROW | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| V-ST2-PEM | Emergent | 0.1142 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced I | Mitigatio | n |
| | | | | | | Sustainable Determination Made on Advanced Mitigation (Y or N) | | Υ |
| | | | | | | (1 0111) | | |
| | | | | | | | | |
| Fotal Impact | | 0.1142 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | lassification | | Replacement Unit(s) | | | ILF Costs | | |
| otal Emergent | | | 0.11/17 | | | | | |
| <u> </u> | | | 0.1142 | | | ¢6 050 00 | | |
| Total Emergent Total Scrub-Shrub Total Forested | | | 0.1142 | | | \$6,852.00 | | |

| Project/Site: MVP | City/County: Roa | ınoke | Sampling Date: 06/13/2016 |
|--|--|-------------------------------|---------------------------------|
| Applicant/Owner: MVP | | State: VA | Sampling Point: W-ST2 PEM |
| Investigator(s): J.McGuirk J. Bittner C. W | /ieman Section Township | | |
| Landform (hillslope, terrace, etc.): Slope | | · • — | Slope (%): 2-5 |
| Subregion (LRR or MLRA): LRR S | | Long: -80.121303 | |
| Soil Map Unit Name: 16E - Edneytown-Saura | | <u> </u> | |
| Are climatic / hydrologic conditions on the site t | | | · |
| | | | |
| Are Vegetation, Soil, or Hydrold | | | |
| Are Vegetation, Soil, or Hydrold | gy naturally problematic? | (If needed, explain any answe | rs in Remarks.) |
| SUMMARY OF FINDINGS – Attach | site map showing sampling po | nt locations, transects | , important features, etc. |
| Hydrophytic Vegetation Present? Yes | No Is the Sam | | |
| , , , , | Is the Sam | • | No |
| Wetland Hydrology Present? Yes | within a vi | etiano? res | NO |
| Remarks: Cowardin Code: PEM | HGM: Riverine Wa | ter Type: RPWWD | |
| | | 71 | |
| | | | |
| | | | |
| HYDROLOGY | | | |
| Wetland Hydrology Indicators: | | Secondary Indica | ators (minimum of two required) |
| Primary Indicators (minimum of one is require | d; check all that apply) | Surface Soil | · |
| ✓ Surface Water (A1) | True Aquatic Plants (B14) | | getated Concave Surface (B8) |
| High Water Table (A2) | Hydrogen Sulfide Odor (C1) | Drainage Pa | |
| Saturation (A3) | Oxidized Rhizospheres on Living | | |
| Water Marks (B1) | Presence of Reduced Iron (C4) | Dry-Season | Water Table (C2) |
| Sediment Deposits (B2) | Recent Iron Reduction in Tilled S | oils (C6) Crayfish Buri | rows (C8) |
| Drift Deposits (B3) | Thin Muck Surface (C7) | | isible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) | Other (Explain in Remarks) | · · | tressed Plants (D1) |
| Iron Deposits (B5) | | <u>✓</u> Geomorphic | |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aqui | |
| Water-Stained Leaves (B9) | | Microtopogra ✓ FAC-Neutral | aphic Relief (D4) |
| Aquatic Fauna (B13) Field Observations: | | FAC-Neutral | Test (D5) |
| 4 | o Depth (inches): 0.25 | | |
| | o Depth (inches):0 | | |
| | Depth (inches): 0 | Wetland Hydrology Presen | nt? Yes 🗸 No |
| (includes capillary fringe) | | , ,, | res no |
| Describe Recorded Data (stream gauge, mon | itoring well, aerial photos, previous inspec | tions), if available: | |
| Remarks: | | | |
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Sampling Point: W-ST2 PEM

| | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|---|----------|--------------|-----------|---|
| Tree Stratum (Plot size: 30') | | Species? | | Number of Dominant Species |
| 1. | | | | That Are OBL, FACW, or FAC: (A) |
| 2 | | | | |
| 3 | | | | Total Number of Dominant Species Across All Strata: 3 (B) |
| | | | | Species Across All Strata:3 (B) |
| | | | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC:66 (A/B) |
| 6 | | - | | Prevalence Index worksheet: |
| 7 | | | | Total % Cover of: Multiply by: |
| | | = Total Cov | | |
| 50% of total cover: 0 | 20% of | total cover: | | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = |
| 1. Rosa multiflora | 5 | | FACU_ | FAC species x 3 = |
| 2 | - | | | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 4 | | - | | Column Totals: (A) (B) |
| | | | | |
| 5 | | - | | Prevalence Index = B/A = |
| 6 | | - | | Hydrophytic Vegetation Indicators: |
| 7 | | - | | 1 - Rapid Test for Hydrophytic Vegetation |
| 8 | | - | | ✓ 2 - Dominance Test is >50% |
| 9 | | | | 3 - Prevalence Index is ≤3.0 ¹ |
| | | = Total Cov | er | 4 - Morphological Adaptations¹ (Provide supporting |
| 50% of total cover: <u>2.5</u> | 20% of | total cover: | 1 | |
| Herb Stratum (Plot size: 5' | | | | data in Remarks or on a separate sheet) |
| 1. Juncus effusus | 25 | ~ | FACW | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 2. Carex rosea | 20 | ~ | FACW | |
| 3. Symplocarpus foetidus | 15 | | OBL | ¹ Indicators of hydric soil and wetland hydrology must |
| 4. Carex vulpinoidea | 15 | - | OBL | be present, unless disturbed or problematic. |
| | 10 | - | | Definitions of Four Vegetation Strata: |
| 5. Carex lurida | | | OBL | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 6. Eutrochium maculatum | 5 | | FACW_ | more in diameter at breast height (DBH), regardless of |
| 7. Verbesina alternifolia | 5 | | FAC | height. |
| 8. Glyceria striata | 5 | | OBL | Sapling/Shrub – Woody plants, excluding vines, less |
| 9. Impatiens capensis | 5 | | FACW | than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| _{10.} Holcus lanatus | 5 | | FAC | m) tall. |
| 11. | | | | Harle All bark account (non-viscolis) plants recording |
| | 110 | = Total Cov | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: 55 | | total cover: | | |
| Woody Vine Stratum (Plot size: 15') | | | | Woody vine – All woody vines greater than 3.28 ft in |
| | | | | height. |
| 1 | - | - | | |
| 2 | | - | | |
| 3 | | | | |
| 4 | | | | Hydrophytic |
| 5 | | | | Vegetation |
| _ | | = Total Cov | | Present? Yes No |
| 50% of total cover:0 | 20% of | total cover: | 0 | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | - |
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| Profile Desc | ription: (Describe to | o the depth | needed to docum | ent the i | ndicator | or confirm | the absence | of indicators.) |
|----------------------------|--|-------------------|--------------------|-------------|--------------------|------------------|-------------------|--|
| Depth | Matrix | | | Features | | . 2 | | _ |
| (inches) | Color (moist) | <u> %</u> _ | Color (moist) | | Type' | Loc ² | Texture | Remarks |
| 0-12 | 10YR 3/1 | 90 | 7.5YR 4/6 | 10 | С | M/PL | CL | |
| | | | | | | | | |
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| 1 _{Tympo} , C. C. | annountration D. Donle | | laduaad Matrix MC | Modrod | Cand Cr | | 2l continu DI | Doro Lining M. Motrice |
| Hydric Soil | oncentration, D=Deple | etion, Kivi=K | teduced Matrix, MS | =IVIaskea | Sand Gr | ains. | | L=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | (\$7) | | | | cm Muck (A10) (MLRA 147) |
| | pipedon (A2) | | Polyvalue Bel | | ce (S8) (N | ILRA 147. | | oast Prairie Redox (A16) |
| | stic (A3) | | Thin Dark Sui | | | | = | (MLRA 147, 148) |
| | en Sulfide (A4) | | Loamy Gleye | , , | • | , | P | iedmont Floodplain Soils (F19) |
| | d Layers (A5) | | Depleted Mat | | | | | (MLRA 136, 147) |
| | ick (A10) (LRR N) | | Redox Dark S | | | | | ery Shallow Dark Surface (TF12) |
| | d Below Dark Surface | (A11) | Depleted Dar | | | | 0 | ther (Explain in Remarks) |
| | ark Surface (A12) Mucky Mineral (S1) (Ll | RR N | Redox Depre | | | IRRN | | |
| | 147, 148) | ixix i v , | MLRA 136 | | 55 (1 12) (| LIXIX IV, | | |
| | Gleyed Matrix (S4) | | Umbric Surfac | • | MLRA 13 | 6, 122) | ³ Indi | icators of hydrophytic vegetation and |
| | Redox (S5) | | Piedmont Flo | | | | | tland hydrology must be present, |
| | Matrix (S6) | | Red Parent M | laterial (F | 21) (MLR | A 127, 147 | ') unl | ess disturbed or problematic. |
| Restrictive | Layer (if observed): | | | | | | | |
| Type: | | | <u>—</u> | | | | | |
| | ches): | | <u> </u> | | | | Hydric Soil | Present? Yes No |
| Remarks: | | | | | | | | |
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Wetland Photograph Page

Wetland ID $\underline{\text{W-ST2 PEM Date}} = \underline{06/13/2016}$



Photograph Direction West

| Comments: | | |
|-----------|--|--|
| | | |
| | | |

| USACE FILE NO./Project Name: | | Mountain \ | Valley Pipeline | COORDINATES: | Lat. | 37.124214 | Lon. | -80.114746 |
|------------------------------------|-------------------------------------|----------------------|---|--------------|------|-----------------------------------|------|------------|
| STREAM/SITE ID AND SITE DESCR | | 1 | | | V | V-RR3, Permanent Access Road | | |
| (% stream slope, watershed size {a | creage}, unaitered | d or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-RR3 | Emergent | 0.0019 | Emergent | | | | | |
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| | | | | | | PART III - Advanced | | n |
| | | | | | | Sustainable Determination Made or | 1 | |
| | | | | | | Advanced Mitigation | | Υ |
| | | | | | | (Y or N) | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | • | 0.0019 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0019 | | | | | |
| Total Scrub-Shrub | | | 0 | | | \$114.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

| Project/Site: MVP | | City/C | _{ounty:} Franklin | | Sampling Date: 09/17/2015 |
|---|---------------------------|-------------------------|----------------------------|------------------|---|
| Applicant/Owner: MVP | | | | | Sampling Point: W-RR03 |
| Investigator(s): JC, DM, RK | | Section | on, Township, Range: N/ | 'A | |
| Landform (hillslope, terrace, etc | | | · | | Slope (%): 0 |
| Subregion (LRR or MLRA): LR | | | | | Datum: NAD83 |
| Soil Map Unit Name: Cullasaja | | | | | · · · · · · · · · · · · · · · · · · · |
| Are climatic / hydrologic condition | | | | | |
| | | | | | present? Yes No |
| Are Vegetation, Soil | | | | | |
| _ | | | | | is in Remarks.) i, important features, etc. |
| | .,, | | | | , , |
| Hydrophytic Vegetation Preser | nt? Yes | | Is the Sampled Area | | |
| Hydric Soil Present? Wetland Hydrology Present? | | No No | within a Wetland? | Yes | No |
| Remarks: | 103 | 110 | | | |
| Cowardin Code: PEM; H | GM: Riverine; WT: I | RPWWD | | | |
| The wetland was revisited | d on 11/21/2019. Pr | resence of wetlar | nd hydrology, hydroi | phytic vegetati | on, and hydric soils was |
| confirmed using the USA | | | | | • |
| | · · | | 0, | | |
| HYDROLOGY | | | | | |
| Wetland Hydrology Indicator | rs: | | | Secondary Indica | ators (minimum of two required) |
| Primary Indicators (minimum c | of one is required; check | all that apply) | | Surface Soil | Cracks (B6) |
| Surface Water (A1) | 7 | Γrue Aquatic Plants (I | B14) | Sparsely Ve | getated Concave Surface (B8) |
| High Water Table (A2) | | Hydrogen Sulfide Odd | | Drainage Pa | |
| Saturation (A3) | (| Oxidized Rhizosphere | es on Living Roots (C3) | Moss Trim L | ines (B16) |
| Water Marks (B1) | F | Presence of Reduced | I Iron (C4) | Dry-Season | Water Table (C2) |
| Sediment Deposits (B2) | F | Recent Iron Reduction | n in Tilled Soils (C6) | Crayfish Bur | rows (C8) |
| Drift Deposits (B3) | 1 | Thin Muck Surface (C | 57) | Saturation V | isible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) | (| Other (Explain in Ren | narks) | Stunted or S | tressed Plants (D1) |
| Iron Deposits (B5) | | | | Geomorphic | Position (D2) |
| Inundation Visible on Aeria | al Imagery (B7) | | | Shallow Aqu | itard (D3) |
| Water-Stained Leaves (BS | 9) | | | | aphic Relief (D4) |
| Aquatic Fauna (B13) | | | | FAC-Neutral | Test (D5) |
| Field Observations: | | | | | |
| Surface Water Present? | Yes No | | | | |
| Water Table Present? | Yes No | Depth (inches): | 1 | | |
| Saturation Present? | Yes No | Depth (inches): | 0 Wetland H | lydrology Preser | nt? Yes <u>/</u> No |
| (includes capillary fringe) Describe Recorded Data (streat | am gauge, monitoring we | ell. aerial photos, pre | vious inspections), if ava | ilable: | |
| (**** | 33., | , , , , , , | .,, | | |
| Remarks: | | | | | |
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VEGETATION (Four Strata) - Use scientific names of plants.

30'

Sapling/Shrub Stratum (Plot size: 15')

Tree Stratum (Plot size: __

Herb Stratum (Plot size: _ 1. Eupatorium perfoliatum

3. Coreopsis lanceolata

6. Vernonia gigantea

7. Solidago rugosa

9. Leersia oryzoides

10. Juncus effusus

11. Galium sp

4. Symphyotrichum laeve

8. Polygonum sagittatum

5. Osamunda cinnamomea

Woody Vine Stratum (Plot size: 15'

1. Toxicodendron radicans

2. Carex lacustris

|) – Use scientific n | ames of | plants. | | Sampling F | Point: W-RR03 | |
|-----------------------------------|---------------|-------------|--------------|---|--------------------------------|---------|
| ` | Absolute | | | Dominance Test worksheet: | | |
|) | % Cover | Species? | Status | Number of Dominant Species That Are OBL, FACW, or FAC | | (A) |
| | | | <u> </u> | Total Number of Dominant Species Across All Strata: | 4 | (B) |
| | | | | Percent of Dominant Species That Are OBL, FACW, or FAC | _: 75 | (A/B) |
| | | | | Prevalence Index worksheet | <u>:</u> | |
| | | | | Total % Cover of: | Multiply by: | |
| 20/ -4 +-4-1 | | = Total Cov | _ | | x 1 = | |
| 0% of total cover: 0 15' | 20% of | total cover | : | FACW species | | _ |
|) | | | | • | x 3 = | _ |
| | | - | | FACU species | | _ |
| | | | | | x 5 = | _ |
| | | | · | Column Totals: | | (B) |
| | | | | Prevalence Index = B/A | = | _ |
| | | - | | Hydrophytic Vegetation Indi | cators: | |
| | | | | 1 - Rapid Test for Hydrop | hytic Vegetation | |
| | | | | 2 - Dominance Test is >50 | 0% | |
| | | | | 3 - Prevalence Index is ≤3 | 3.0 ¹ | |
| 0% of total cover: 0 | | = Total Cov | _ | 4 - Morphological Adaptat | tions¹ (Provide sup | portin |
| 0% of total cover:0 | 20% 01 | total cover | | data in Remarks or on | a separate sheet) | |
|) | 15 | | | Problematic Hydrophytic | Vegetation ¹ (Expla | in) |
| | 30 | | FACW_ | | | |
| | 10 | | OBL | ¹ Indicators of hydric soil and w | vetland hydrology i | must |
| | 15 | | FACU_ | be present, unless disturbed of | | |
| | | - | ND | Definitions of Four Vegetation | on Strata: | |
| | 5 | - | OBL | Tree – Woody plants, excludir | navines 3 in (7.6 | cm) o |
| | 15 | | F <u>AC</u> | more in diameter at breast hei | | |
| | 20 | | F <u>AC</u> | height. | | |
| | | | OBL | Sapling/Shrub – Woody plan | ts, excluding vines | , less |
| | 5 | - | OBL | than 3 in. DBH and greater tha | an or equal to 3.28 | 3 ft (1 |
| | 5 | | F <u>ACW</u> | m) tall. | | |
| | 1 | | ND | Herb - All herbaceous (non-w | | ırdless |
| 70.1 | | = Total Cov | | of size, and woody plants less | than 3.28 ft tall. | |
| 0% of total cover: <u>70.</u> | <u>20%</u> of | total cover | : | Woody vine – All woody vines height. | s greater than 3.28 | 3 ft in |
| | 5 | | FACU | 7.3 | | |
| | | | | | | |
| | | | | | | |
| | | | | Healmanh 31 - | | |
| | | | | Hydrophytic Vegetation | | |
| | 5 | = Total Cov | /er | Present? Yes | No | |
| 0% of total cover: 2.5 | | . 5141 001 | J. | | · | |

| Remarks: | (Include | photo | numbers | here | or or | a se | eparate | sheet.) | |
|----------|----------|-------|---------|------|-------|------|---------|---------|--|
|----------|----------|-------|---------|------|-------|------|---------|---------|--|

SOIL Sampling Point: W-RR03

| Profile Desc | cription: (Describe | to the dep | th needed to docur | nent the i | indicator | or confirn | n the abs | sence of indicators.) | |
|---------------|--|-------------|--------------------|-------------|-------------------|------------------|-------------|---------------------------------------|-----------------------------------|
| Depth | Matrix | | Redo | x Feature | S | | | | |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | <u>Text</u> | | emarks |
| 0-6 | 10 YR 3/1 | 100 | | | | | Mu | ck | |
| 6-18 | 2.5 Y 3/1 | 100 | | | | | SiL | .0 | |
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| | oncentration, D=Dep | letion, RM= | Reduced Matrix, M | S=Masked | d Sand Gra | ains. | | on: PL=Pore Lining, M | |
| Hydric Soil | Indicators: | | | | | | | Indicators for Probler | natic Hydric Soils ³ : |
| Histosol | | | Dark Surface | | | | | 2 cm Muck (A10) (| |
| | oipedon (A2) | | Polyvalue Be | | | | 148) | Coast Prairie Redo | • • |
| | stic (A3) | | Thin Dark Su | | | 47, 148) | | (MLRA 147, 148 | |
| | en Sulfide (A4) | | Loamy Gleye | | (F2) | | | Piedmont Floodpla | |
| | d Layers (A5) | | Depleted Ma | | -c) | | | (MLRA 136, 147 | |
| | ick (A10) (LRR N) d Below Dark Surface | o (A11) | Redox Dark | | | | | Very Shallow Dark Other (Explain in F | , , |
| | ark Surface (A12) | e (ATT) | Redox Depre | | | | | Other (Explain in R | demarks) |
| | Mucky Mineral (S1) (L | RR N. | Iron-Mangan | | | _RR N. | | | |
| | A 147, 148) | , | MLRA 13 | | 00 () (. | | | | |
| | Gleyed Matrix (S4) | | Umbric Surfa | | (MLRA 13 | 6, 122) | | ³ Indicators of hydropl | nytic vegetation and |
| | Redox (S5) | | Piedmont Flo | | | | 1 8) | wetland hydrology n | - |
| Stripped | Matrix (S6) | | Red Parent N | Material (F | 21) (MLR | A 127, 147 | 7) | unless disturbed or | problematic. |
| Restrictive I | Layer (if observed): | | | | | | | | |
| Type: | | | | | | | | | |
| Depth (in | ches): | | | | | | Hydri | c Soil Present? Yes | No |
| Remarks: | , - | | | | | | 1 - | | |
| Very wet so | oils | | | | | | | | |
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Wetland Photograph Page

Wetland ID W-RR03



Photograph Direction East

Date: 09/17/2015

Comments: 2015 wetland delineation.



Photograph Direction SE

Date: 11/21/19

| USACE FILE NO./Project Name: | | Mountain ' | Valley Pipeline | COORDINATES: | Lat. | 37.123851 | Lon. | -80.115802 |
|---|-------------------------------------|-------------------------------|---|--------------|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | W | /-KL41, Permanent Access Road | | |
| FORM OF MITIGATION: | 3 3 · | | | | | | | |
| DATE: | 9/28 | 9/28/2021 WEATHER CONDITIONS: | | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-KL41 | Emergent | 0.0229 | Emergent | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatic | ın. |
| | | | | | | Sustainable Determination Made or | | 4 |
| | | | | | | Advanced Mitigation | | Υ |
| | | | | | | (Y or N) | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | | 0.0229 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0229 | | | ¢4 074 00 | | |
| Total Scrub-Shrub | | | 0 | | | \$1,374.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | U | | | | | |

| Project/Site: MVP | City/County: Franklir | า | Sampling Date: 10/17/2016 | | | |
|--|--|--------------------------|---|--|--|--|
| Applicant/Owner: MVP State: VA Samplir | | | | | | |
| Investigator(s): E. Foster, J. Cook, S. Pilch | er Section Township Ra | | _ | | | |
| Landform (hillslope, terrace, etc.): Floodplain | | - | Slone (%): 0-5 | | | |
| Subregion (LRR or MLRA): LRR N | | | Datum: NAD 83 | | | |
| Soil Map Unit Name: 13D-Cullasaja-Tuckasege | | - | | | | |
| • | | | - | | | |
| Are climatic / hydrologic conditions on the site typ | | | | | | |
| Are Vegetation, Soil, or Hydrology | | "Normal Circumstances" p | present? Yes No | | | |
| Are Vegetation, Soil, or Hydrology | naturally problematic? (If ne | eeded, explain any answe | rs in Remarks.) | | | |
| SUMMARY OF FINDINGS – Attach si | te map showing sampling point I | ocations, transects | , important features, etc. | | | |
| Hydrophytic Vegetation Present? Yes _ | No Is the Samples | | | | | |
| Hydric Soil Present? Yes _ | | 4 | No | | | |
| Wetland Hydrology Present? Yes _ | willill a wellal | na? res | NO | | | |
| Remarks: Cowardin Code: PEM | HGM: Riverine Water | Type: RPWWD | | | | |
| | field. Emergent fringe abutting S-F | | | | | |
| 1 officer logging area. Maintained | neid. Emergent imige abutting 5-1 | 11110. | | | | |
| | | | | | | |
| LIVERGLOOV | | | | | | |
| HYDROLOGY | | Casandani Indias | tore (minimum of two required) | | | |
| Wetland Hydrology Indicators: | abook all that apply) | · | crocks (RS) | | | |
| Primary Indicators (minimum of one is required; | | Surface Soil | ` ' | | | |
| Surface Water (A1) High Water Table (A2) | True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) | Sparsely veo | getated Concave Surface (B8) | | | |
| Saturation (A3) | Nydrogen Sunde Odor (CT) Oxidized Rhizospheres on Living Roof | | | | | |
| Water Marks (B1) | Presence of Reduced Iron (C4) | | | | | |
| Sediment Deposits (B2) | Recent Iron Reduction in Tilled Soils (| · · | Dry-Season Water Table (C2) Crayfish Burrows (C8) | | | |
| Drift Deposits (B3) | Thin Muck Surface (C7) | • | sible on Aerial Imagery (C9) | | | |
| Algal Mat or Crust (B4) | Other (Explain in Remarks) | | tressed Plants (D1) | | | |
| Iron Deposits (B5) | | ✓ Geomorphic | | | | |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aqui | | | | |
| Water-Stained Leaves (B9) | | | aphic Relief (D4) | | | |
| Aquatic Fauna (B13) | | FAC-Neutral | | | | |
| Field Observations: | | | | | | |
| Surface Water Present? Yes No _ | Depth (inches): | | | | | |
| Water Table Present? Yes No _ | Depth (inches): 0 | | | | | |
| | | etland Hydrology Preser | nt? Yes 🗸 No | | | |
| (includes capillary fringe) | | -) '('(-1-1-1- | | | | |
| Describe Recorded Data (stream gauge, monito | ring well, aerial photos, previous inspections | s), if available: | | | | |
| Remarks: | | | | | | |
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| Sambiina Point vv iv⊏±i | Sampling | Point. | W- | ΚL | _41 |
|-------------------------|----------|--------|----|----|-----|
|-------------------------|----------|--------|----|----|-----|

| Troo Stratum (Plot size: 30' | Absolute | Dominant | | Dominance Test worksheet: |
|--|--------------|--------------|---------------|---|
| Tiee Stratum (Flot Size) | % Cover | Species? | <u>Status</u> | Number of Dominant Species |
| 1 | | | | That Are OBL, FACW, or FAC:5 (A) |
| 2 | | | | Total Number of Dominant |
| 3 | | | | Species Across All Strata:5 (B) |
| 4 | | | | Description (Description) |
| 5 | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B) |
| 6 | | | | (VB) |
| 7 | | | | Prevalence Index worksheet: |
| | 0 . | = Total Cov | er | Total % Cover of: Multiply by: |
| 50% of total cover: 0 | 20% of | | | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = |
| 1 | | | | FAC species x 3 = |
| | | | | FACU species x 4 = |
| 2 | | - | | UPL species x 5 = |
| 3 | | | | Column Totals: (A) (B) |
| 4 | | | | (1) |
| 5 | | | | Prevalence Index = B/A = |
| 6 | | - | | Hydrophytic Vegetation Indicators: |
| 7 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 8 | | | | ✓ 2 - Dominance Test is >50% |
| 9 | | | | 3 - Prevalence Index is ≤3.0 ¹ |
| | 0 _ | = Total Cov | er | 4 - Morphological Adaptations¹ (Provide supporting |
| 50% of total cover:0 | 20% of | total cover: | 0 | |
| Herb Stratum (Plot size: 5') | | | | data in Remarks or on a separate sheet) |
| 1. Persicaria sagittata | 15 | ~ | OBL | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 2. Scirpus polyphyllus | 20 | ~ | OBL | |
| 3. Scirpus atrovirens | 15 | ~ | OBL | ¹ Indicators of hydric soil and wetland hydrology must |
| 4. Persicaria pensylvanica | 15 | V | FACW | be present, unless disturbed or problematic. |
| 5. Verbesina alternifolia | 10 | | FAC | Definitions of Four Vegetation Strata: |
| 6. Juncus effusus | 25 | | FACW | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 7. Agrimonia parviflora | 5 | | FACW | more in diameter at breast height (DBH), regardless of |
| • | | | 1/1011 | height. |
| 8 | | | | Sapling/Shrub – Woody plants, excluding vines, less |
| 9 | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10 | | | | m) tall. |
| 11 | | | | Herb – All herbaceous (non-woody) plants, regardless |
| | _ <u>105</u> | = Total Cov | er | of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: <u>52.</u> | 20% of | total cover: | 21 | Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | Hadron bod's |
| 5. | | | | Hydrophytic Vegetation |
| · · | 0 . | = Total Cov | er | Present? Yes V No |
| 50% of total cover: 0 | | total cover: | _ | |
| Remarks: (Include photo numbers here or on a separate s | | | | |
| Tromanie. (molado prioto hamboro noro or on a coparato o | 11001.1 | | | |
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Sampling Point: W-KL41

SOIL

| Depth | Matrix | | | x Features | _ 1 | | _ | | | |
|-----------------------------|---|---------------|---------------------|--------------|-------------------|------------------|--------------------------|--------------|--------------------------------|-------------------------|
| (inches) | Color (moist) | <u>%</u> | Color (moist) | | Type ¹ | Loc ² | <u>Texture</u> | Crossel | Remarks | ompress = -1 |
| 0-18 | 10YR 4/1 | | 10YR 5/8 | 30 | С | M/PL | SiL | Gravei | iy, neavily c | ompressed |
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| | naontration D-Donl | otion DM- | Poduood Motrix MS | | Cond Cr | oine | ² Location: D | L_Doro Lini | na M-Motriy | |
| Type: C=Ct Hydric Soil I | oncentration, D=Depl | ellon, Rivi=r | Reduced Matrix, Mis | s=iviaskeu s | Sand Gr | airis. | | | ng, M=Matrix. roblematic Hy | dric Soils ³ |
| Histosol | | | Dark Surface | (\$7) | | | | | 410) (MLRA 1 4 | |
| | oipedon (A2) | | Polyvalue Be | | e (S8) (N | /ILRA 147. | | • | Redox (A16) | ···, |
| Black Hi | | | Thin Dark Su | | | | ·, <u> </u> | (MLRA 14 | | |
| Hydroge | n Sulfide (A4) | | Loamy Gleye | ed Matrix (F | 2) | • | P | | odplain Soils (| (F19) |
| | l Layers (A5) | | Depleted Ma | trix (F3) | | | | (MLRA 13 | | |
| | ck (A10) (LRR N) | | Redox Dark | | | | | | Dark Surface | |
| | Below Dark Surface | (A11) | Depleted Dar | | | | <u> </u> | ther (Expla | in in Remarks) | |
| | ark Surface (A12) lucky Mineral (S1) (L | DD N | Redox Depre | | | I DD N | | | | |
| | 147, 148) | nn N, | MLRA 13 | | 5 (F1Z) (| LKK N, | | | | |
| | leyed Matrix (S4) | | Umbric Surfa | • | ILRA 13 | 86, 122) | ³ Ind | icators of h | ydrophytic veg | etation and |
| | edox (S5) | | Piedmont Flo | | | | | | logy must be p | |
| | Matrix (S6) | | Red Parent N | | | | | | ed or problema | |
| Restrictive L | ayer (if observed): | | | | | | | | | |
| Type: | | | <u>—</u> | | | | | | | |
| Depth (inc | ches): | | <u>—</u> | | | | Hydric Soil | Present? | Yes 🔽 | No |
| Remarks: | | | | | | | • | | | |
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Photograph Direction SE

| Comments: | | |
|-----------|--|--|
| | | |

| USACE FILE NO./Project Name: | | Mountain ' | Valley Pipeline | COORDINATES: | Lat. | 37.121559 | Lon. | -80.08575 |
|---|-------------------------------------|----------------------|---|--------------|------|--|-----------|-----------|
| STREAM/SITE ID AND SITE DESCE (% stream slope, watershed size {a | | d or impairments) | | | | W-D7-PEM, Pipeline ROW | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-D7-PEM | Emergent | 0.0159 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made on Advanced Mitigation | | Υ |
| | | | | | | (Y or N) | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | | 0.0159 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | | | | | | II E Cooto | | |
| | lassification | | Replacement Unit(s) | | | ILF Costs | | |
| Гotal Emergent | lassification | | 0.0159 | | | | | |
| Total Emergent Total Scrub-Shrub Total Forested | lassification | | | | | \$954.00 | | |

| Project/Site: MVP | City/Co | ounty: Franklin | | Sampling Date: 04/06/2015 |
|---|---------------------------|--------------------------------|------------------|---------------------------------------|
| Applicant/Owner: MVP | | | State: VA | Sampling Point: W-D7 |
| Investigator(s): A.Bensted, A. Larson, J. Kraus | | | | |
| Landform (hillslope, terrace, etc.): Toeslope | | | Convex | Slope (%): 2% |
| Subregion (LRR or MLRA): LRRN Lat | | , | | Datum: NAD83 |
| Soil Map Unit Name: Hayesville loam, 25 to 45 | - | | | · · · · · · · · · · · · · · · · · · · |
| Are climatic / hydrologic conditions on the site typical f | or this time of year? Ye | es <u> </u> | no, explain in R | emarks.) |
| Are Vegetation, Soil, or Hydrology | - | | | resent? Yes No |
| Are Vegetation, Soil, or Hydrology | | | | |
| SUMMARY OF FINDINGS – Attach site r | | | • | |
| Hadanaharia Vanataiia Basasia | N | | | |
| Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Ves | No No | Is the Sampled Area | ./ | |
| Wetland Hydrology Present? | No | within a Wetland? | Yes | No |
| Remarks: | | | | |
| Cowardin Code: PEM | | | | |
| HGM: Riverine | | | | |
| WT: RPWWD | | | | |
| Intermittent stream runs through wetland, s | surface water prese | ent beyond plot. | | |
| HYDROLOGY | | | | |
| Wetland Hydrology Indicators: | | <u>Se</u> | econdary Indica | tors (minimum of two required) |
| Primary Indicators (minimum of one is required; chec | ck all that apply) | | Surface Soil | Cracks (B6) |
| Surface Water (A1) | True Aquatic Plants (E | <u> </u> | _ Sparsely Veg | etated Concave Surface (B8) |
| High Water Table (A2) | Hydrogen Sulfide Odo | or (C1) | _ Drainage Pat | terns (B10) |
| Saturation (A3) | Oxidized Rhizosphere | es on Living Roots (C3) | _ Moss Trim Li | nes (B16) |
| Water Marks (B1) | Presence of Reduced | Iron (C4) | _ Dry-Season \ | Water Table (C2) |
| Sediment Deposits (B2) | Recent Iron Reduction | n in Tilled Soils (C6) | _ Crayfish Burr | ows (C8) |
| Drift Deposits (B3) | Thin Muck Surface (C | 7) | _ Saturation Vi | sible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) | Other (Explain in Rem | narks) | _ Stunted or St | ressed Plants (D1) |
| Iron Deposits (B5) | | <u> </u> | _ Geomorphic | Position (D2) |
| Inundation Visible on Aerial Imagery (B7) | | _ | _ Shallow Aqui | tard (D3) |
| Water-Stained Leaves (B9) | | _ | | phic Relief (D4) |
| Aquatic Fauna (B13) | | _ | _ FAC-Neutral | Test (D5) |
| Field Observations: | | | | |
| Surface Water Present? Yes No | | | | |
| Water Table Present? Yes No | | 8 | | _ |
| Saturation Present? Yes No (includes capillary fringe) | _ Depth (inches): | 0 Wetland Hyd | Irology Presen | t? Yes / No |
| Describe Recorded Data (stream gauge, monitoring | well, aerial photos, prev | vious inspections), if availat | ole: | |
| Remarks: | | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-D7

| Tree Stratum (Plot size: 30' | Absolute | | Indicator | Dominance Test worksheet: | | |
|---|----------|------------|---|---|------------------------------|---------|
| Tice stratum (1 lot size. | % Cover | Species's | | Number of Dominant Species | - | |
| 1. Platanus occidentalis | 15 | | FACW | That Are OBL, FACW, or FAC: | 5 | (A) |
| 2 | | | | Total Number of Dominant | | |
| 3 | | | | Species Across All Strata: | 6 | (B) |
| 4 | | | | | | (-) |
| | | | | Percent of Dominant Species | 000/ | |
| 5 | | | | That Are OBL, FACW, or FAC: | 83% | (A/B) |
| 6 | | | | Prevalence Index worksheet: | | |
| 7 | | | | | Maritim Ira hara | |
| | 15 | = Total Co | ver | Total % Cover of: | | |
| 50% of total cover: 7.5 | 20% of | total cove | r: <u> 3 </u> | OBL species x | 1 = | _ |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 | 2 = | _ |
| 1. Lindera benzoin | 15 | / | FAC | FAC species x : | 3 = | _ |
| 2. Rosa multiflora | 5 | | FACU | FACU species x 4 | 4 = | |
| · | | | | UPL species x : | | |
| 3 | | | | | | |
| 4 | | | | Column Totals: (A) | <i></i> | _ (D) |
| 5 | | | | Prevalence Index = B/A = | | |
| 6 | | | | | | _ |
| 7 | | | | Hydrophytic Vegetation Indicat | | |
| | | | | 1 - Rapid Test for Hydrophyt | | |
| 8 | | | | ✓ 2 - Dominance Test is >50% | 1 | |
| 9 | | | | 3 - Prevalence Index is ≤3.0 ¹ | 1 | |
| | | = Total Co | | 4 - Morphological Adaptation | ns ¹ (Provide sup | portina |
| 50% of total cover:10 | 20% of | total cove | r: <u> 4 </u> | data in Remarks or on a s | | |
| Herb Stratum (Plot size: 5' | | | | | . , | |
| 1. Carex lurida | 70 | | OBL | Problematic Hydrophytic Veg | getation (Explai | in) |
| 2 Microstegium vimineum | 20 | V | FAC | | | |
| 3 | | | | ¹ Indicators of hydric soil and wetl | | nust |
| | | | | be present, unless disturbed or p | | |
| 4 | | | | Definitions of Four Vegetation | Strata: | |
| 5 | | | | Tree – Woody plants, excluding v | vines 3 in (7.6 | cm) or |
| 6 | | | | more in diameter at breast height | | |
| 7 | | | | height. | | |
| 8 | | - | | One Promoto Management | and the Paris Same | 1 |
| 9 | | | | Sapling/Shrub – Woody plants, than 3 in. DBH and greater than | | |
| 10 | | | | m) tall. | or equal to 0.20 | 11 (1 |
| | | | | , | | |
| 11 | 00 | | | Herb – All herbaceous (non-woo | | rdless |
| 4 AF | | = Total Co | | of size, and woody plants less that | an 3.28 ft tall. | |
| 50% of total cover: 45 | 20% of | total cove | r: <u>10</u> | Woody vine – All woody vines g | reater than 3.28 | ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. | | |
| 1. Lonicera japonica | 10 | | FAC | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| | | | | | | |
| 4 | | - | | Hydrophytic | | |
| 5 | 40 | | | Vegetation Present? Yes | No | |
| _ | | = Total Co | _ | Present? Yes | NO | |
| 50% of total cover:5 | 20% of | total cove | r: <u> 2 </u> | | | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | | | |
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Sampling Point: W-D7

SOIL

| Remarks No redox. High organics. re Lining, M=Matrix. for Problematic Hydric Soils³: Muck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) shallow Dark Surface (TF12) (Explain in Remarks) rs of hydrophytic vegetation and hydrology must be present, |
|---|
| re Lining, M=Matrix. for Problematic Hydric Soils³: Muck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| for Problematic Hydric Soils ³ : fluck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| Muck (A10) (MLRA 147) Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) Shallow Dark Surface (TF12) (Explain in Remarks) |
| Prairie Redox (A16) RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) shallow Dark Surface (TF12) (Explain in Remarks) |
| RA 147, 148) ont Floodplain Soils (F19) RA 136, 147) shallow Dark Surface (TF12) (Explain in Remarks) |
| ont Floodplain Soils (F19) RA 136, 147) shallow Dark Surface (TF12) (Explain in Remarks) |
| RA 136, 147) shallow Dark Surface (TF12) (Explain in Remarks) rs of hydrophytic vegetation and |
| shallow Dark Surface (TF12) (Explain in Remarks) rs of hydrophytic vegetation and |
| (Explain in Remarks) |
| rs of hydrophytic vegetation and |
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| disturbed or problematic. |
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| sent? Yes 🗸 No |
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Photograph Direction West

| Comments: | |
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| USACE FILE NO./Project Name: | | Mountain \ | Valley Pipeline | COORDINATES: | Lat. | 37.117734 | Lon. | -80.095992 |
|------------------------------------|-------------------------------------|--------------------------------|---|--------------|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR | | d o v i vo v o i v vo o v to \ | | | ٧ | V-EF3, Permanent Access Road | | |
| (% stream slope, watershed size {a | creage}, unaitered | or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-EF3 | Emergent | 0.0265 | Emergent | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made or | | |
| | | | | | | Advanced Mitigation | | Υ |
| | | | | | | (Y or N) | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | • | 0.0265 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0265 | | | | | |
| Total Scrub-Shrub | | | 0 | | | \$1,590.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

| Project/Site: MVP | | City/C | _{county:} Franklin | | Sampling Date: 04/08/2016 | | | |
|---|-----------------------------------|--------------------------|---------------------------------|--|--------------------------------|--|--|--|
| Applicant/Owner: MVP | | | | State: VA | Sampling Point: W-EF3 | | | |
| Investigator(s): D Hadersbeck, J Swilik, J Potrikus Section, Township, Range: N/A | | | | | | | | |
| Landform (hillslope, terrace, etc | | | | | Slope (%): 4 | | | |
| Subregion (LRR or MLRA): L | | | | | | | | |
| Soil Map Unit Name: 20E-Hay | | | | | | | | |
| Are climatic / hydrologic conditi | ions on the site typical | for this time of year? Y | res No | (If no, explain in Re | emarks.) | | | |
| · · · · · | * * | * | | | resent? Yes No | | | |
| Are Vegetation, Soil | | - | | | | | | |
| | | | | | important features, etc. | | | |
| Lhydrophytic Vegetation Drees | ent? Yes | No | | | | | | |
| Hydrophytic Vegetation Prese Hydric Soil Present? | ent? Yes <u>✓</u> Yes <u>✓</u> | No No | Is the Sampled Area | · • | | | | |
| Wetland Hydrology Present? | | No | within a Wetland? | Yes <u> </u> | No | | | |
| Remarks: Cowardin Co | | HGM: Slope | Water Type: | RPWWD | | | | |
| | | · | · . | | 6 - 11 h | | | |
| • | • | | ed. Eastern portion of | | | | | |
| compaction and mechar of the wetland with wate | | | | vere covering u | ne southwestern portion | | | |
| | | ucono to the road. | side sileani. | | | | | |
| HYDROLOGY | | | | | | | | |
| Wetland Hydrology Indicato | | | | | tors (minimum of two required) | | | |
| Primary Indicators (minimum | • | | | Surface Soil (| | | | |
| Surface Water (A1) | | _ True Aquatic Plants (| | | etated Concave Surface (B8) | | | |
| High Water Table (A2) | | _ Hydrogen Sulfide Od | | Drainage Patterns (B10) | | | | |
| Saturation (A3) | | | es on Living Roots (C3) | | | | | |
| Water Marks (B1) | | Presence of Reduced | | Dry-Season Water Table (C2) | | | | |
| Sediment Deposits (B2) | | Recent Iron Reductio | | Crayfish Burrows (C8) | | | | |
| Drift Deposits (B3) | | _ Thin Muck Surface (C | | | sible on Aerial Imagery (C9) | | | |
| Algal Mat or Crust (B4) | _ | Other (Explain in Rer | narks) | | ressed Plants (D1) | | | |
| Iron Deposits (B5) | | | | Geomorphic I | | | | |
| Inundation Visible on Aer | • • • • | | | Shallow Aquitard (D3) | | | | |
| Water-Stained Leaves (B | 39) | | | Microtopographic Relief (D4) ✓ FAC-Neutral Test (D5) | | | | |
| Aquatic Fauna (B13) | | | <u></u> | FAC-Neutral | Test (D5) | | | |
| Field Observations: | 1 | | 2 | | | | | |
| Surface Water Present? | Yes No | | 2 | | | | | |
| Water Table Present? | Yes No No | | 10 | | _ | | | |
| Saturation Present? | Yes No | _ Depth (inches): | 4 Wetland H | lydrology Present | t? Yes / No | | | |
| (includes capillary fringe) Describe Recorded Data (stre | eam gauge, monitoring | well, aerial photos, pre | I vious inspections), if ava | ilable: | | | | |
| · | | | | | | | | |
| Remarks: | | | | | | | | |
| Wetland appears source | ed from groundwat | er. | | | | | | |
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| Sampling | Point. | ٧V | ′-⊏ | гз |

| Tree Stratum (Plot size: 30' | Absolute | Dominant | | Dominance Test worksheet: | | |
|---|----------|-------------|--------------|--|---|---------|
| Tiec otratum (Flot size. | % Cover | | | Number of Dominant Species | 2 (A) | , |
| 1 | | | | That Are OBL, FACW, or FAC: | (A) |) |
| 2 | | | | Total Number of Dominant | 2 (B) | , |
| 3 | | | | Species Across All Strata: | (B) |) |
| 4 | | | | Percent of Dominant Species | 100 (A/ | (5) |
| 6 | | | | That Are OBL, FACW, or FAC: | 100 (A/ | /B) |
| 7 | | - | | Prevalence Index worksheet: | | |
| | 0 : | = Total Co | /er | Total % Cover of: Mu | ultiply by: | |
| 50% of total cover:0 | | | | OBL species x 1 = _ | | |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = _ | | |
| 1. Acer negundo | 4 | | FAC | FAC species x 3 = _ | | |
| 2 | | | | FACU species x 4 = _ | | |
| 3 | | | | UPL species x 5 = _ | | |
| 4 | | | | Column Totals: (A) | (E | B) |
| 5 | | | | Branch and Index D/A | | |
| 6 | | | | Prevalence Index = B/A = | | |
| 7 | | | | Hydrophytic Vegetation Indicators: | | |
| 8 | | | | 1 - Rapid Test for Hydrophytic Ve | egetation | |
| 9 | | | | 2 - Dominance Test is >50% | | |
| | _ | = Total Co | ver | 3 - Prevalence Index is ≤3.0 ¹ | Daniel de la company | e |
| 50% of total cover: 2 | | | | 4 - Morphological Adaptations ¹ (F | | ing |
| Herb Stratum (Plot size: 5' | | | | data in Remarks or on a sepa | , | |
| 1. Packera aurea | 20 | | F <u>ACW</u> | Problematic Hydrophytic Vegetat | ion' (Explain) | |
| 2. Carex Iurida | 10 | | OBL | 1 | | |
| 3. Scirpus atrovirens | 20 | | OBL | ¹ Indicators of hydric soil and wetland be present, unless disturbed or proble | | t |
| 4. Impatiens capensis | 5 | | FACW | Definitions of Four Vegetation Stra | | |
| _{5.} Solidago gigantea | 7 | | FACW | Definitions of Four Vegetation of a | ta. | |
| 6. Dichanthelium clandestinum | 4 | | FAC | Tree – Woody plants, excluding vines | | |
| 7 | | | | more in diameter at breast height (DE height. | אר), regardless | OI |
| 8 | | | | Continue (Observed) | | |
| 9 | | | | Sapling/Shrub – Woody plants, exclution 3 in. DBH and greater than or ed | uaing vines, less aual to 3.28 ft (1 | ;s 1 |
| 10 | | | | m) tall. | 1 | |
| 11 | | | | Herb – All herbaceous (non-woody) p | nlante renardles | ee |
| | 66 _ | = Total Co | ver . | of size, and woody plants less than 3 | | 33 |
| 50% of total cover: 33 | 20% of | total cover | : 13.2 | Woody vine – All woody vines greate | or than 2 29 ft in | n |
| Woody Vine Stratum (Plot size: 15') | | | | height. | 31 than 3.20 it in | ' |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | Hydrophytic | | |
| 5 | | | | Vegetation | | |
| | 0 | = Total Co | /er | Present? Yes V | o | |
| 50% of total cover:0 | 20% of | total cover | :0 | | | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | | | |
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| Profile Desc | ription: (Describe t | o the deptl | n needed to docum | nent the in | ndicator | or confirm | the absence | of indicate | ors.) | |
|--------------|------------------------------|----------------|--------------------|--------------|-------------------|------------------|---------------------------|--------------|----------------|--------|
| Depth | Matrix | | Redox | c Features | <u> </u> | | | | | |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | % | Type ¹ | Loc ² | <u>Texture</u> | | Remarks | |
| 0-4 | 10YR 4/2 | 100 | | | | | SiL | | | _ |
| 4-10 | 2.5Y 3/2 | 93 | 7.5YR 4/6 | 7 | С | M | SiL | | | |
| 10-14 | 2.5Y 4/1 | 90 | 7.5YR 4/6 | 10 | С | М | SiL | | | |
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| 1Type: C-C | oncentration, D=Depl | etion RM-I | Reduced Matrix MS | | Sand Gr | aine | ² Location: PL | -Pore Lini | na M–Matriy | |
| Hydric Soil | | Ction, rtivi–i | Toddoca Matrix, Mc | - Masked | Oaria Oi | airio. | | | oblematic Hy | |
| Histosol | | | Dark Surface | (S7) | | | | | ر 1 (MLRA) | |
| | oipedon (A2) | | Polyvalue Be | , , | ce (S8) (N | ILRA 147, | | | Redox (A16) | , |
| Black Hi | | | Thin Dark Su | | . , . | | | (MLRA 14 | | |
| | en Sulfide (A4) | | Loamy Gleye | | | . , | | | odplain Soils | (F19) |
| Stratified | d Layers (A5) | | Depleted Mat | | ŕ | | | (MLRA 13 | | , , |
| 2 cm Mu | ick (A10) (LRR N) | | ✓ Redox Dark S | Surface (F | 6) | | Ve | ery Shallow | Dark Surface | (TF12) |
| Depleted | d Below Dark Surface | (A11) | Depleted Dar | k Surface | (F7) | | O | ther (Explai | in in Remarks) |) |
| Thick Da | ark Surface (A12) | | Redox Depre | ssions (F8 | 3) | | | | | |
| | lucky Mineral (S1) (L | RR N, | Iron-Mangane | | es (F12) (| LRR N, | | | | |
| | A 147, 148) | | MLRA 136 | | | | 2 | | | |
| - | Sleyed Matrix (S4) | | Umbric Surfa | | | | | | ydrophytic veg | |
| - | Redox (S5) | | Piedmont Flo | | | | | - | logy must be p | |
| | Matrix (S6) | | Red Parent M | laterial (F2 | 21) (MLR | A 127, 147 | 7) unl | ess disturb | ed or problem | atic. |
| | Layer (if observed): | | | | | | | | | |
| | edrock Layer | | | | | | | | | |
| | ches): 14 | | | | | | Hydric Soil | Present? | Yes | No |
| Remarks: | | | | | | | | | | |
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Photograph Direction NNE

| Comments: | | | |
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| | Mountain Valley Pipeline | | COORDINATES: | Lat. | 37.092927 | Lon. | -80.027568 |
|-------------------------------------|--|---|--|--|--|--|--|
| IPTION: creage}, unaltered | d or impairments) | | | | W-IJ1, Pipeline ROW | | |
| ,, | , , , , , , , , , , , , , , , , , , , | | | | | | |
| 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| PART I - Wetl | land Indicators | | | | | | |
| Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| Emergent | 0.0416 | Emergent | | | | | |
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| | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | | |
| | | | | | Advanced Mitigation (Y or N) | | Y |
| | | | | | · | - | |
| | | | | | | | |
| | 0.0416 | | | | | | |
| | Unit Scores | | | | | | |
| ssification | | | | | ILF Costs | | |
| | | | | | \$2.400.00 | | |
| | | | | | \$2,496.00 | | |
| | | U | | | | | |
| | 9/28 PART I - Wet Impact Wetland Classification Emergent | PART II - Unit Scores | IPTION: creage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Wetland (acreage) Wetland Classification Emergent 0.0416 Emergent 0.0416 PART II - Unit Scores | PTION: creage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Impacts Wetland Classification Emergent 0.0416 Emergent 0.0416 PART II - Unit Scores assification Replacement Unit(s) 0.0416 0 | PTION: creage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Impacts (acreage) Wetland Classification Emergent 0.0416 Emergent 0.0416 PART II - Unit Scores sssification Replacement Unit(s) 0.0416 0 | PTION: creage), unaltered or impairments) PART I - Wetland Indicators Impact Impacts (acreage) Wetland Classification Emergent 0.0416 Emergent PART II - Advanced Mitigation (Y or N) PART II - Unit Scores sistification Replacement Unit(s) 0.0416 | PTION: creage), unaltered or impairments) PART I - Wetland Indicators Impact Impacts Wetland (acreage) Wetland Classification Emergent 0.0416 Emergent Description of the impact of t |

| Project/Site: MVP | | City/C | _{county:} Franklin | | Sampling Date: 04/05/2016 | | | |
|--|------------------------------|-------------------------------|-----------------------------|---|--------------------------------|--|--|--|
| Applicant/Owner: MVP | | | , | State: VA | Sampling Point: W-IJ1 | | | |
| Investigator(s): E. Foster, S. Zabowski Lieb, J. Niergarth Section, Township, Range: N/A | | | | | | | | |
| Landform (hillslope, terrace, et | | | | | Slope (%): 2 | | | |
| Subregion (LRR or MLRA): L | | | | | Datum: NAD 83 | | | |
| Soil Map Unit Name: 39C-Wir | | | | | | | | |
| Are climatic / hydrologic condit | | | | | | | | |
| Are Vegetation , Soil | , or Hydrology | significantly distur | bed? Are "Normal | Circumstances" p | oresent? Yes No | | | |
| Are Vegetation, Soil | | | | | | | | |
| _ | | | | | , important features, etc. | | | |
| Hydrophytic Vegetation Present? Yes No Is the Sampled Area | | | | | | | | |
| Hydric Soil Present? | | No | Is the Sampled Area | Vac V | No | | | |
| Wetland Hydrology Present? | | V No | within a Wetland? | res | NO | | | |
| Remarks: Cowardin Co | ode: PEM | HGM: Slope | Water Type: | RPWWD | | | | |
| Evidence of past | logging disturba | ance | | | | | | |
| HYDROLOGY | | | | | | | | |
| Wetland Hydrology Indicate | ors: | | | Secondary Indica | tors (minimum of two required) | | | |
| Primary Indicators (minimum | of one is required; of | check all that apply) | | Surface Soil | Cracks (B6) | | | |
| Surface Water (A1) | getated Concave Surface (B8) | | | | | | | |
| High Water Table (A2) | | Hydrogen Sulfide Ode | | Drainage Pa | | | | |
| Saturation (A3) | | Oxidized Rhizosphere | - | Moss Trim Li | | | | |
| Water Marks (B1) | | Presence of Reduced | ` ' | | Water Table (C2) | | | |
| Sediment Deposits (B2) | | Recent Iron Reductio | | Crayfish Bur | | | | |
| Drift Deposits (B3) | | Thin Muck Surface (C | | | sible on Aerial Imagery (C9) | | | |
| Algal Mat or Crust (B4) | | Other (Explain in Ren | narks) | | tressed Plants (D1) | | | |
| Iron Deposits (B5) Inundation Visible on Ae | rial Imagery (R7) | | | Geomorphic Position (D2) | | | | |
| Water-Stained Leaves (E | • • • • | | | ✓ Shallow Aquitard (D3) Microtopographic Relief (D4) | | | | |
| Aquatic Fauna (B13) | 13) | | | Microtopographic Relief (D4) FAC-Neutral Test (D5) | | | | |
| Field Observations: | | | | | 1001 (20) | | | |
| Surface Water Present? | Yes No | Depth (inches): | | | | | | |
| Water Table Present? | | Depth (inches): | 0 | | | | | |
| Saturation Present? | | | 0 Wetland H | lydrology Preser | nt? Yes ✔ No | | | |
| (includes capillary fringe) | | , , , | | | 103 <u></u> 110 <u></u> | | | |
| Describe Recorded Data (stre | eam gauge, monitor | ring well, aerial photos, pre | vious inspections), if ava | ilable: | | | | |
| Remarks: | | | | | | | | |
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| Sampling | Point: | W-l | IJ | 1 |
|----------|--------|-----|-----|---|
| Samplinu | r onn. | • • | . • | • |

| Troo Stratum (Plot cizo: 30' | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|--|----------|--------------|-----------|---|
| Tiee Stratum (Flot Size) | | Species? | | Number of Dominant Species |
| 1. Acer rubrum | 10 | | FAC | That Are OBL, FACW, or FAC:3 (A) |
| 2 | | | | Total Niverban of Dansin and |
| 3 | | | | Total Number of Dominant Species Across All Strata: 4 (B) |
| 4 | | | | Species / toross / tir otrata. |
| | | - | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC:75 (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | |
| | 10 | = Total Cov | er | Total % Cover of: Multiply by: |
| 50% of total cover:5 | 20% of | total cover: | 2 | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = |
| 1. Lindera benzoin | 15 | ✓ | FAC | FAC species x 3 = |
| 2. Rosa multiflora | 5 | | FACU | FACU species x 4 = |
| | | | 1 // // / | UPL species x 5 = |
| 3 | | | | Column Totals: (A) (B) |
| 4 | | | | Coldifilit Totals (A) (B) |
| 5 | | | | Prevalence Index = B/A = |
| 6 | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | |
| 8 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| | | - | | ✓ 2 - Dominance Test is >50% |
| 9 | | | | 3 - Prevalence Index is ≤3.0 ¹ |
| 500/ () 10 | | = Total Cov | | 4 - Morphological Adaptations ¹ (Provide supporting |
| 50% of total cover: 10 | 20% of | total cover: | 4 | data in Remarks or on a separate sheet) |
| Terb Stratum (Flot Size) | | | | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 1. Glyceria striata | 50 | | OBL | Froblematic Hydrophytic Vegetation (Explain) |
| 2. Dichanthelium clandestinum | 5 | | FAC | 4 |
| 3. Ranunculus repens | 5 | | FAC | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| Juncus effusus | 5 | | FACW | |
| <u> </u> | | | | Definitions of Four Vegetation Strata: |
| 5 | | | | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 6 | | | | more in diameter at breast height (DBH), regardless of |
| 7 | | | | height. |
| 8 | | | | Sapling/Shrub – Woody plants, excluding vines, less |
| 9 | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10 | | | | m) tall. |
| 11. | | | | |
| ''· | | | | Herb – All herbaceous (non-woody) plants, regardless |
| | 65 | Total Cav | | |
| EON of total cover: 32 h | | = Total Cov | | of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: 32.5 | | | | |
| 50% of total cover: 32.9 Woody Vine Stratum (Plot size: 15') | | | | of size, and woody plants less than 3.28 ft tall. |
| 4.51 | 20% of | total cover | | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size: 15') | 20% of | total covers | | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size: 15') | 20% of | total covers | | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size:15') 1 2 3 | 20% of | total covers | | 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:15') 1 2 3 4 | 20% of | total covers | | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic |
| Woody Vine Stratum (Plot size:15') 1 2 3 | 20% of | total cover: | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size: | 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic |
| Woody Vine Stratum (Plot size:15') 1 | 0 20% of | total cover: | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size: | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size:15') 1 | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size:15') 1 | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size:15') 1 | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size:15') 1 | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size:15') 1 | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size:15') 1 | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size:15') 1 2 3 4 5 50% of total cover:0 | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |
| Woody Vine Stratum (Plot size: | 0 20% of | = Total Cov | 13 | of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation |

Sampling Point: W-IJ1

SOIL

| Profile Desc | ription: (Describe to | the depth | needed to docum | ent the in | ndicator | or confirm | the absence | of indicators.) |
|------------------|---|-------------|--|------------|-------------------|------------------|-------------------|---|
| Depth | Matrix | | | Features | | | | |
| (inches) | Color (moist) | <u>%</u> _ | Color (moist) | <u>%</u> | Type ¹ | Loc ² | <u>Texture</u> | Remarks |
| 0-6 | 10YR 3/1 | 100 | 7.5YR 4/6 | 15_ | С | M/PL | SiL | |
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| | | | | | - | | 2 | |
| | oncentration, D=Deple | etion, RM=R | educed Matrix, MS | =Masked | Sand Gra | ains. | | L=Pore Lining, M=Matrix. |
| Hydric Soil | | | D = 11 0 - 16 | (07) | | | | ators for Problematic Hydric Soils ³ : |
| Histosol | (A1) Dipedon (A2) | | Dark SurfacePolyvalue Bel | | o (CO) /N | II D A 147 | | cm Muck (A10) (MLRA 147) oast Prairie Redox (A16) |
| Black Hi | | | Thin Dark Sur | | | | 146) C | (MLRA 147, 148) |
| | en Sulfide (A4) | | Loamy Gleye | | | 41, 140) | Pi | iedmont Floodplain Soils (F19) |
| | d Layers (A5) | | Depleted Mat | • | , | | | (MLRA 136, 147) |
| | ıck (A10) (LRR N) | | Redox Dark S | | | | | ery Shallow Dark Surface (TF12) |
| | d Below Dark Surface | (A11) | Depleted Darl | | | | 0 | ther (Explain in Remarks) |
| | ark Surface (A12) | DD 14 | Redox Depres | | | | | |
| | lucky Mineral (S1) (Li \ 147, 148) | KK N, | Iron-Mangane | | es (F12) (| LKK N, | | |
| | Gleyed Matrix (S4) | | Umbric Surfac | • | MIRA 13 | 6. 122) | ³ Indi | icators of hydrophytic vegetation and |
| | Redox (S5) | | Piedmont Flor | | | | | tland hydrology must be present, |
| | Matrix (S6) | | Red Parent M | | | | | ess disturbed or problematic. |
| Restrictive I | Layer (if observed): | | | | | | | |
| туре: <u>В</u> € | edrock | | _ | | | | | |
| Depth (in | ches): <u>6</u> | | _ | | | | Hydric Soil | Present? Yes No |
| Remarks: | | | | | | | • | |
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Photograph Direction WSW

| Comments: | | |
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| USACE FILE NO./Project Name: | | Mountain \ | Valley Pipeline | COORDINATES: | Lat. | 37.092555 | Lon. | -80.027314 |
|-------------------------------------|-------------------------------------|----------------------|---|--------------------------------|------|--|-----------|------------|
| STREAM/SITE ID AND SITE DESCR | | | V | /-IJ2-PEM, Timber Mat Crossing | | | | |
| (% stream slope, watershed size {ad | creage}, unaltered | d or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-IJ2-PEM | Emergent | 0.0036 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | on |
| | | | | | | Sustainable Determination Made on Advanced Mitigation (Y or N) | | Y |
| | | | | | | | | |
| Total Impact | | 0.0036 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| Wetland Cla | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0036 | | | ** ********************************** | | |
| Total Scrub-Shrub | | | 0 | | | \$216.00 | | |
| Total Forested | | | 0 | | | | | |

Total Open Water

| Proper/Site (MVP State: MVP | Sampling Date: 04/06/2016 |
|--|---|
| Are vegetation (a): E. Foster, S. Zabowski-Lieb, J. Niergarth Section, Township, Range: N/A subregion (LRR or MLRA): LRR P Lat: 37.092802 Long: -80.026914 Datum; NAD 83 bit per (%): 2 Lat: 37.092802 Long: -80.026914 | Sampling Point: W-IJ2-PEM |
| Subregion (LRR or MLRA): LERR P | |
| Subregion (LRR or MLRA): LRR P Lat: 37.092802 Long: -80.026914 Datum: NAD 83 Soil Map Unit Name: 396-Wintergreen loam, 8 to 15 percent slopes | ve Slope (%): 2 |
| Ave climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) Ave Vegetation Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (If no, explain in Remarks.) Ave Vegetation Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No (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 No Is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No Water Type: RPWWD HGM: Slope Water Type: RPWWD Hydrogen Sulfide Odor (C1) Sparsely Vegetated Concave Surface (B8) Y High Water Table (A2) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Y Sudrace Water (B1) Presence of Reduced Iron (C4) Drainage Patterns (B10) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation (A2) | |
| Very Common Com | |
| Very | |
| SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes V No Is the Sampled Area within a Wetland? Yes No Is the Sampled Area within a Wetland? Yes V No Is the Sample Area within a Wetland? Yes V No Is the Sample Area within a Wetland? Yes V No Is the Sample Area Sample Area within a Wetland? Yes V No Is the Sample Area within a Wetland? Yes V No Is the Sample Area within a Wetland? Yes V No Is the Sample Area within a Wetland? Yes V No Is the Sampl | · |
| SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes | es" present? Yes No |
| Hydrophytic Vegetation Present? Yes V No within a Wetland? Wetland Hydrology Present? Wetland Hydrology Indicators: Cowardin Code: PEM HGM: Slope Water Type: RPWWD Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Wetland Hydrology Indicators: True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Feld Observations: Surface Vater Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Depth (inches): 0 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | nswers in Remarks.) |
| Hydric Soil Present? Yes V No Within a Wetland? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Indicators: Primary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Hydrogen Sulfide Odor (C1) Saturation (A3) Water Marks (B1) Presence of Reduced Iron (C4) Drift Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: | ects, important features, etc. |
| Hydric Soil Present? Yes V No Within a Wetland? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Present? Wetland Hydrology Indicators: Primary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) Hydrogen Sulfide Odor (C1) Saturation (A3) Water Marks (B1) Presence of Reduced Iron (C4) Diril Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes V No Depth (inches): 0 Water Marks (B4) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| Wetland Hydrology Present? Yes V No Water Type: RPWWD High Slope Water Type: RPWWD | ✓ No. |
| ### Approach | No |
| ### Augustic Primary Indicators (minimum of one is required; check all that apply) ### Surface Water (A1) ### Surface Water (A2) ### High Water Table (A2) ### Water Table (A2) ### Water Marks (B1) ### Secondary Indicators (minimum of two required) ### Surface Soil Cracks (B6) ### Sparsely Vegetated Concave Surface (B8) ### Drainage Patterns (B10) # | |
| Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) — Surface Soil Cracks (B6) ✓ Surface Water (A1) — True Aquatic Plants (B14) — Sparsely Vegetated Concave Surface (B8) ✓ High Water Table (A2) — Hydrogen Sulfide Odor (C1) ✓ Drainage Patterns (B10) ✓ Saturation (A3) — Oxidized Rhizospheres on Living Roots (C3) — Moss Trim Lines (B16) — Water Marks (B1) — Presence of Reduced Iron (C4) — Dry-Season Water Table (C2) — Sediment Deposits (B2) — Recent Iron Reduction in Tilled Soils (C6) — Crayfish Burrows (C8) — Drift Deposits (B3) — Thin Muck Surface (C7) — Saturation Visible on Aerial Imagery (C9) — Algal Mat or Crust (B4) — Other (Explain in Remarks) — Stunted or Stressed Plants (D1) — Iron Deposits (B5) — Geomorphic Position (D2) — Inundation Visible on Aerial Imagery (B7) — Shallow Aquitard (D3) — Water-Stained Leaves (B9) — Microtopographic Relief (D4) — Aquatic Fauna (B13) — FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes | |
| Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) | |
| Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6) ✓ Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) ✓ High Water Table (A2) Hydrogen Sulfide Odor (C1) ✓ Drainage Patterns (B10) ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Inundation Visible on Aerial Imagery (B7) ✓ Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) Yes ✓ No Depth (inches): 1 Water Table Present? Yes ✓ No Depth (inches): 0 Wetland Hydrology Present? Yes ✓ No Saturation Present? Yes ✓ No Depth (inches): 0 Wetland Hydrology Present? Yes ✓ N | |
| Wetland Hydrology Indicators: Secondary Indicators (minimum of two required) Primary Indicators (minimum of one is required; check all that apply) | |
| Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (B14) High Water Table (A2) Hydrogen Sulfide Odor (C1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water (A1) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Dry-Season Water Table (C2) Crayfish Burrows (C8) Dry-Season Water Table (C2) Crayfish Burrows (C8) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes V No Depth (inches): 0 Saturation Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| ✓ Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (B8) ✓ High Water Table (A2) Hydrogen Sulfide Odor (C1) ✓ Drainage Patterns (B10) ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) | |
| ✓ High Water Table (A2) Hydrogen Sulfide Odor (C1) ✓ Drainage Patterns (B10) ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) ✓ Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) ✓ Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) Pack No. Depth (inches): 1 Water Table Present? Yes ✓ No. Depth (inches): 0 Wetland Hydrology Present? Yes ✓ No. No. Saturation Present? ringely Yes ✓ No. Depth (inches): 0 Wetland Hydrology Present? Yes ✓ No. No. Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | , , |
| ✓ Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16) Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2) Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) ✓ Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) ✓ Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) ✓ FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes ✓ No Depth (inches): 1 Water Table Present? Yes ✓ No Depth (inches): 0 Wetland Hydrology Present? Yes ✓ No One Depth (inches): 1 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | - |
| Water Marks (B1) | |
| Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9) Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Microtopographic Relief (D4) Aquatic Fauna (B13) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): 1 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Observations, if available: | |
| Drift Deposits (B3) | |
| Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) V Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) V Shallow Aquitard (D3) Water-Stained Leaves (B9) Aquatic Fauna (B13) V FAC-Neutral Test (D5) Wicrotopographic Relief (D4) FAC-Neutral Test (D5) V FAC-Neutral Test (D5) Water Table Present? Yes No Depth (inches): U No Depth (inches): V No Depth (inches): U Wetland Hydrology Present? Yes No No No | |
| Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes ✓ No Depth (inches): 1 Water Table Present? Yes ✓ No Depth (inches): 0 Saturation Present? Yes ✓ No Depth (inches): 0 Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | - · · · · · · · · · · · · · · · · · · · |
| Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes No Depth (inches): 1 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | ` ' |
| Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes V No Depth (inches): 1 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | Aquitard (D3) |
| Field Observations: Surface Water Present? Yes V No Depth (inches): 1 Water Table Present? Yes V No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No No Depth (inches): 1 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | oographic Relief (D4) |
| Surface Water Present? Yes V No Depth (inches): 1 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No No Depth (inches): 0 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | utral Test (D5) |
| Water Table Present? Yes V No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| Saturation Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | esent? Yes V No No |
| Remarks: | |
| Remarks: | |
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Sampling Point: W-IJ2-PEM

| | Absolute | Dominant | Indicator | Dominance Test worksheet: | | |
|---|----------|--------------|--------------|--|--|--|
| Tree Stratum (Plot size: 30') | | Species? | | Number of Dominant Species | | |
| 1 | | | | That Are OBL, FACW, or FAC: 4 (A) | | |
| 2 | | | | (// | | |
| | | | | Total Number of Dominant Species Across All Strata: 4 (B) | | |
| 3 | | | | Species Across All Strata: 4 (B) | | |
| 4 | | | | Percent of Dominant Species | | |
| 5 | | | | That Are OBL, FACW, or FAC:100 (A/B) | | |
| 6 | | | | | | |
| 7 | | | | Prevalence Index worksheet: | | |
| | 0 | = Total Cov | | Total % Cover of: Multiply by: | | |
| 50% of total cover: 0 | | total cover: | • | OBL species x 1 = | | |
| Sapling/Shrub Stratum (Plot size: 15') | 2070 01 | 10101 00101 | | FACW species x 2 = | | |
| 1 Alnus serrulata | 5 | ~ | OBL | FAC species x 3 = | | |
| · · · | - | - | OBL | | | |
| 2 | | | | FACU species x 4 = | | |
| 3 | | | | UPL species x 5 = | | |
| 4 | | | | Column Totals: (A) (B) | | |
| 5 | | | | | | |
| | | | | Prevalence Index = B/A = | | |
| 6 | | | | Hydrophytic Vegetation Indicators: | | |
| 7 | | | | ✓ 1 - Rapid Test for Hydrophytic Vegetation | | |
| 8 | | | | ✓ 2 - Dominance Test is >50% | | |
| 9 | | | | | | |
| | 5 | = Total Cov | er | 3 - Prevalence Index is ≤3.0 ¹ | | |
| 50% of total cover: <u>2.5</u> | | total cover: | | 4 - Morphological Adaptations ¹ (Provide supporting | | |
| Herb Stratum (Plot size: 5') | | 1010. | | data in Remarks or on a separate sheet) | | |
| 1. Leersia oryzoides | 40 | ~ | ODI | Problematic Hydrophytic Vegetation ¹ (Explain) | | |
| | | | OBL | | | |
| 2. Juncus effusus | 20 | | F <u>ACW</u> | ¹ Indicators of hydric soil and wetland hydrology must | | |
| 3. Carex vulpinoidea | 20 | | OBL | be present, unless disturbed or problematic. | | |
| 4. Impatiens capensis | 15 | | FACW | Definitions of Four Vegetation Strata: | | |
| 5. Ludwigia alternifolia | 10 | | FACW | Definitions of Four Vegetation Strata. | | |
| 6. Mimulus ringens | 5 | - | OBL | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or | | |
| | | | OBL | more in diameter at breast height (DBH), regardless of | | |
| 7 | | | | height. | | |
| 8 | | | | Sapling/Shrub – Woody plants, excluding vines, less | | |
| 9 | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 | | |
| 10 | | | | m) tall. | | |
| 11. | · | | | Harle All back and a constant of the state o | | |
| | 110 | = Total Cov | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. | | |
| 50% of total cover: 55 | | total cover: | | or size, and woody plants loss than 6.25 it tall. | | |
| 4.51 | 20 /6 01 | total cover. | | Woody vine - All woody vines greater than 3.28 ft in | | |
| Woody Vine Stratum (Plot size: 15) | | | | height. | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | Hydrophytic Vegetation | | |
| <u> </u> | 0 | = Total Cov | | Present? Yes V No No | | |
| 50% of total cover: 0 | | total cover: | | | | |
| | | total cover. | | | | |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | | | | |
| Acorus calamus dominant toward open ended a | rea | | | | | |
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Sampling Point: W-IJ2-PEM

| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | Remarks Trace sand PL=Pore Lining, M=Matrix. Cators for Problematic Hydric Soils³: 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
|--|---|
| 0-11 10YR 3/2 100 Muck | Trace sand PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils³: 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histose Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 147, 148) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Jene Matrix (B4) Jene Matrix | PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils³: 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Peleted Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 136) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Below Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Below Depleted Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Below Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Below Depleted Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Pelyvalue Below Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) Below Depleted Matrix (F3) ✓ 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Peleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) | cators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Histosol (A1) Dark Surface (S7) 2 Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) 2 Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Loamy Gleyed Matrix (F2) 5 Stratified Layers (A5) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Diedmont Floodplain Soils (F19) (MLRA 148) W | 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Z cm Muck (A10) (LRR N) Depleted Below Surface (S9) (MLRA 147, 148) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) W | Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Black Histic (A3) | (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| Hydrogen Sulfide (A4) Stratified Layers (A5) ✓ 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Loamy Gleyed Matrix (F2) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) | Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) dicators of hydrophytic vegetation and |
| Stratified Layers (A5) ✓ 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Depleted Matrix (F3) Redox Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) | (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) dicators of hydrophytic vegetation and |
| ✓ 2 cm Muck (A10) (LRR N) — Redox Dark Surface (F6) — Depleted Below Dark Surface (A11) — Thick Dark Surface (A12) — Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) — Sandy Gleyed Matrix (S4) — Sandy Redox (S5) — Piedmont Floodplain Soils (F19) (MLRA 148) | Very Shallow Dark Surface (TF12) Other (Explain in Remarks) dicators of hydrophytic vegetation and |
| Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) | Other (Explain in Remarks) dicators of hydrophytic vegetation and |
| Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) | dicators of hydrophytic vegetation and |
| Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) W | |
| MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) 3Ind Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) w | |
| Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) w | |
| | |
| 0.1 114.1. (00) | etland hydrology must be present, |
| | nless disturbed or problematic. |
| Restrictive Layer (if observed): | |
| Type: Rock | |
| Depth (inches): 11 Hydric Soi | il Present? Yes No |
| Remarks: Soil indicator A10 is for use in LRR N. W-IJ2 is within the LRR P but very close to LRR | N. |



Photograph Direction ENE

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| Comments: | | |
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| Mountain Valley Pipeline | | | COORDINATES: | Lat. | 37.091357 | Lon. | -79.992006 |
|-------------------------------------|--|---|---|---|---|---|--|
| | d or impairments) | | | | W-II8, Timber Mat Crossing | | |
| | | | | | | | |
| 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| PART I - Wetl | and Indicators | | | | | | |
| Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| Emergent | 0.0088 | Emergent | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | | |
| | | | | | Advanced Mitigation (Y or N) | | Y |
| | | | | | · | | |
| | | | | | | | |
| | 0.0088 | | | | | | |
| | Unit Scores | | | | | | |
| assification | | | | | ILF Costs | | |
| | | | | | #500.00 | | |
| | | 0 | | | \$528.00 | | |
| | | | | | | | |
| | PART I - Wetl Impact Wetland Classification Emergent | PART II - Unit Scores | ### PART II - Unit Scores assification PART II - Unit Scores Replacement Unit(s) 0.0088 PART II - Unit Scores Replacement Unit(s) 0.0088 Replacement Unit(s) 0.0088 Replacement Unit(s) 0.0088 | INPTION: creage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Wetland (acreage) Wetland Classification Emergent 0.0088 Emergent 0.0088 PART II - Unit Scores assification Replacement Unit(s) 0.0088 0 | PART I - Unit Scores assification PART II - Unit Scores Replacement Unit(s) 0.0088 PART II - Unit Scores Replacement Unit(s) 0.0088 Replacement Unit(s) 0.0088 Replacement Unit(s) | IPTION: creage), unaltered or impairments) PART I - Wetland Indicators Impact Impacts Wetland (acreage) Wetland Classification Emergent 0.0088 Emergent PART II - Advanced Sustainable Determination Made or Advanced Mitigation (Y or N) PART II - Unit Scores assification Replacement Unit(s) 0.0088 PART II - Unit Scores 1 | PART II - Unit Scores assification PART II - Unit Scores assification Replacement Unit(s) 0.0088 PART II - Unit Scores assification Replacement Unit(s) 0.0088 Replacement Unit(s) 0.0088 Replacement Unit(s) 0.0088 Replacement Unit(s) 0.0088 Respective Part II - Unit Scores assification Replacement Unit(s) 0.0088 Sustainable Determination Made on Advanced Mitigation (Y or N) Estimated ILF Costs Sustainable Determination Made on Advanced Mitigation (Y or N) Sustainable Determination Made on Advanced Mitigation (Y or N) Estimated ILF Costs Sustainable Determination Made on Advanced Mitigation (Y or N) Sustainable Determination Made on Advanced Mitigation (Y or N) Sustainable Determination Made on Advanced Mitigation (Y or N) Sustainable Determination Made on Advanced Mitigation (Y or N) Sustainable Determination Made on Advanced Mitigation (Y or N) Sustainable Determination Made on Advanced Mitigation (Y or N) Sustainable Determination Made on Advanced Mitigation (Y or N) |

| Project/Site: MVP | | City/County: Franklin | | Sampling Date: 08/13/2015 |
|---|---------------------------------|------------------------------------|-------------------|--------------------------------|
| Applicant/Owner: MVP | | | | Sampling Point: W-II8 |
| Investigator(s): A. Lands, K. Larsen, | L. Sexton | Section, Township, Range: N/ | <u> </u> | |
| Landform (hillslope, terrace, etc.): Val | | | | Slone (%): 3% |
| Subregion (LRR or MLRA): LRRN | | | | |
| Soil Map Unit Name: Clifford-Hickor | | | | |
| | | 4 | | <u></u> |
| Are climatic / hydrologic conditions on t | | | | |
| Are Vegetation, Soil, or | Hydrology significant | ly disturbed? Are "Normal | Circumstances" p | resent? Yes No |
| Are Vegetation, Soil, or | Hydrologynaturally p | roblematic? (If needed, e | explain any answe | rs in Remarks.) |
| SUMMARY OF FINDINGS – A | ttach site map showin | g sampling point location | ons, transects | , important features, etc. |
| Hydrophytic Vegetation Present? | Yes _ V No_ | | | |
| Hydric Soil Present? | Yes No | Is the Sampled Area | Yes 🗸 | N- |
| Wetland Hydrology Present? | Yes / No | within a Wetland? | Yes | No |
| Remarks: | | | | |
| Cowardin: PEM; HGM: Depres | sional; WT: RPWWD | | | |
| The wetland was revisited on 1 | 1/5/2019. Presence of v | vetland hydrology, hydrop | hytic vegetation | n, and hydric soils was |
| confirmed using the USACE Ef | MP Regional Supplemen | nt delineation methodology | y. A portion of t | the wetland was |
| obstructed by elevated timbern | nat. | | | |
| HYDROLOGY | | | | |
| Wetland Hydrology Indicators: | | | Secondary Indica | tors (minimum of two required) |
| Primary Indicators (minimum of one is | required; check all that apply |) | Surface Soil | Cracks (B6) |
| Surface Water (A1) | True Aquatic | Plants (B14) | | getated Concave Surface (B8) |
| ✓ High Water Table (A2) | <u>✓</u> Hydrogen Sul | | Drainage Pat | |
| Saturation (A3) | Oxidized Rhiz | cospheres on Living Roots (C3) | Moss Trim Li | nes (B16) |
| Water Marks (B1) | Presence of F | Reduced Iron (C4) | Dry-Season \ | Water Table (C2) |
| Sediment Deposits (B2) | Recent Iron F | Reduction in Tilled Soils (C6) | Crayfish Burr | rows (C8) |
| Drift Deposits (B3) | Thin Muck Su | ırface (C7) | Saturation Vi | sible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) | Other (Explain | n in Remarks) | Stunted or St | ressed Plants (D1) |
| Iron Deposits (B5) | | | Geomorphic | Position (D2) |
| Inundation Visible on Aerial Imag | ery (B7) | | Shallow Aqui | tard (D3) |
| Water-Stained Leaves (B9) | | | | phic Relief (D4) |
| Aquatic Fauna (B13) | | | FAC-Neutral | Test (D5) |
| Field Observations: | | 4 | | |
| | No Depth (inche | | | |
| | No Depth (inche | | | |
| | No Depth (inche | s): 0 Wetland H | lydrology Presen | t? Yes <u> </u> |
| (includes capillary fringe) Describe Recorded Data (stream gau | ge, monitoring well, aerial pho | tos, previous inspections), if ava | ilable: | |
| | | ., , | | |
| Remarks: | | | | |
| Hydrogen sulphide odor. No de | | | | |
| because no defined channel; c | | is Riverine as there is flow | and channel to | oward end (see stream |
| S-ii7). Wetland extends entire v | wath of corridor. | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-II8

| Tree Stratum (Plot size: 30' | Absolute | | Indicator | Dominance Test worksheet: | | |
|---|----------|-------------|-------------|--|----------------------------|--------------------|
| Tiec otratum (Flot size. | % Cover | | | Number of Dominant Species | 3 | (4) |
| 1 | | | | That Are OBL, FACW, or FAC: _ | | (A) |
| 2 | | | | Total Number of Dominant | 3 | (D) |
| 3 | | | | Species Across All Strata: | | (B) |
| 5 | | | | Percent of Dominant Species | 100 | (A /D) |
| 6 | | | | That Are OBL, FACW, or FAC: | 100 | (A/B) |
| 7 | | | | Prevalence Index worksheet: | | |
| | 0 : | = Total Co | ver | | Multiply by: | |
| 50% of total cover:0 | 20% of | total cover | r: <u> </u> | OBL species x 1 : | = | _ |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = | | |
| 1 | | | | FAC species x 3 = | | |
| 2 | | | | FACU species x 4 = | | |
| 3 | | | | UPL species x 5 : | | |
| 4 | | | | Column Totals: (A) | | (B) |
| 5 | | | | Prevalence Index = B/A = | | |
| 6 | | | | Hydrophytic Vegetation Indicato | rs: | |
| 7 | | | | 1 - Rapid Test for Hydrophytic | | |
| 8 | | | | ✓ 2 - Dominance Test is >50% | | |
| 9 | ^ | | | 3 - Prevalence Index is ≤3.0 ¹ | | |
| 50% of total cover:0 | | = Total Co | | 4 - Morphological Adaptations | (Provide sup | porting |
| Herb Stratum (Plot size: 5') | 20 /6 01 | total cover | | data in Remarks or on a se | parate sheet) | |
| 1. Eupatorium perfoliatum | 10 | | FACW | Problematic Hydrophytic Vege | tation ¹ (Expla | in) |
| 2. Juncus effusus | 40 | | FACW | | | |
| 3. Scirpus polyphyllus | 30 | ~ | OBL | ¹ Indicators of hydric soil and wetlar | | must |
| 4. Polygonum ssp. | 5 | | ND | be present, unless disturbed or pro Definitions of Four Vegetation St | | |
| 5. Leersia orzoides | 40 | ~ | OBL | | | |
| 6 | | | | Tree – Woody plants, excluding vir | | |
| 7 | | | | more in diameter at breast height (height. | DBH), regard | iess oi |
| 8 | | | | Sanling/Shrub Waady plants as | دماریطانم مرینم م | loop |
| 9 | | | | Sapling/Shrub – Woody plants, exthan 3 in. DBH and greater than or | equal to 3.28 | s, less 3 ft (1 |
| 10 | | | | m) tall. | | |
| 11 | | | | Herb – All herbaceous (non-woody | v) plants, rega | ırdless |
| | | = Total Co | | of size, and woody plants less than | | |
| 50% of total cover: 62.5 | 20% of | total cover | r: 25 | Woody vine – All woody vines gre | ater than 3.28 | 3 ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | Hydrophytic Vegetation | | |
| <u> </u> | _ | = Total Co | ver | | No | |
| 50% of total cover: 0 | | total cover | _ | | | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | 1 | | |
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SOIL Sampling Point: W-II8

| Profile Desc | ription: (Describe t | o the dep | th needed to docur | nent the i | ndicator | or confirm | the absence | of indicators.) |
|---------------------|--|------------|-----------------------------|------------|-------------------|------------------|------------------|--|
| Depth | Matrix | - | Redo | x Feature | S | | | • |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| 0-3" | 10YR 4/2 | 100 | | | | | SaLo | |
| 3-6" | 10YR 4/2 | 98 | 10YR 4/6 | 2 | С | M | SaLo | |
| 6-12" | 10YR 4/2 | 90 | 10YR 4/6 | 10 | С | M | LoSa | |
| 12-16" | 10YR 4/2 | 60 | 10YR 4/6 | 40 | С | М | LoSa | |
| | | | | | | | | |
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| | oncentration, D=Depl | etion, RM= | Reduced Matrix, M | S=Masked | d Sand Gra | ains. | | L=Pore Lining, M=Matrix. |
| Hydric Soil I | ndicators: | | | | | | Indica | ators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | | | | | cm Muck (A10) (MLRA 147) |
| | pipedon (A2) | | Polyvalue Be | | | | 148) <u> </u> | Coast Prairie Redox (A16) |
| Black Hi ✓ Hydroge | stic (A3) n Sulfide (A4) | | Thin Dark Su Loamy Gleye | | | 47, 148) | | (MLRA 147, 148) Piedmont Floodplain Soils (F19) |
| | l Layers (A5) | | Depleted Ma | | 12) | | <u> </u> | (MLRA 136, 147) |
| | ick (A10) (LRR N) | | Redox Dark | | - 6) | | V | /ery Shallow Dark Surface (TF12) |
| Depleted | d Below Dark Surface | (A11) | Depleted Da | rk Surface | (F7) | | | Other (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | |
| | lucky Mineral (S1) (L | RR N, | Iron-Mangan | | es (F12) (| LRR N, | | |
| | 147, 148) sleyed Matrix (S4) | | MLRA 13 Umbric Surfa | | (MI DA 13 | 6 122) | ³ Ind | licators of hydrophytic vegetation and |
| | edox (S5) | | Piedmont Flo | | | | | etland hydrology must be present, |
| - | Matrix (S6) | | Red Parent N | | | | | less disturbed or problematic. |
| | _ayer (if observed): | | | | , , | | Í | · |
| Type: | | | | | | | | |
| Depth (inc | ches): | | | | | | Hydric Soil | Present? Yes V No No |
| Remarks: | | | | | | | | |
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Photograph Direction South

Date: 08/13/2015

Comments: 2015 wetland delineation.



Photograph Direction NW

Date: 11/05/19

Comments: 2019 wetland delineation confirmation.

| USACE FILE NO./Project Name: | | Mountain Valley Pipeline | | | Lat. | 37.089156 | Lon. | -80.005036 |
|---|-------------------------------------|--------------------------|---|--|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | | W-IJ6, Timber Mat Crossing | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-IJ6 | Emergent | 0.0046 | Emergent | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made on | | |
| | | | | | | Advanced Mitigation (Y or N) | | Y |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | | 0.0046 | | | | | | |
| | | 0.0046 Unit Scores | | | | Estimated | | |
| Wetland C | PART II - | | Replacement Unit(s) | | | Estimated ILF Costs | | |
| Wetland C Total Emergent | | | 0.0046 | | | ILF Costs | | |
| | | | | | | | | |

| Project/Site: MVP | City/County: Franklin | Sampling Date: 04/06/2016 |
|---|--|--|
| Applicant/Owner: MVP | State: VA Sampling Point: W-IJ6 | |
| • • | b, J. Niergarth Section, Township, Range: N/ | · - |
| - · · · · - · · · · · · · · · · · · · · | Local relief (concave, convex, nor | |
| Subregion (LRR or MLRA): LRR P | | .00502NAD 83 |
| | | |
| | escreek complex, 0 to 4 percent slopes | |
| | oical for this time of year? Yes No | · |
| Are Vegetation, Soil, or Hydrology | / significantly disturbed? Are "Normal | Circumstances" present? Yes No |
| Are Vegetation, Soil, or Hydrology | /naturally problematic? (If needed, e | explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach si | te map showing sampling point location | ns, transects, important features, etc. |
| Lhadronhatic Venetation Process | V No | |
| Hydrophytic Vegetation Present? Yes _ Hydric Soil Present? Yes _ | Is the Sampled Area | |
| Wetland Hydrology Present? Yes _ | within a wetland? | Yes No |
| Remarks: Cowardin Code: PEM | HGM: Riverine Water Type: | DDWWD |
| Cowardin Code. PEIVI | now. Riverine water Type. | RPWWD |
| | | |
| | | |
| | | |
| HYDROLOGY | | |
| Wetland Hydrology Indicators: | | Secondary Indicators (minimum of two required) |
| Primary Indicators (minimum of one is required; | check all that apply) | Surface Soil Cracks (B6) |
| Surface Water (A1) | True Aquatic Plants (B14) | Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) | Hydrogen Sulfide Odor (C1) | Drainage Patterns (B10) |
| Saturation (A3) | ✓ Oxidized Rhizospheres on Living Roots (C3) | Moss Trim Lines (B16) |
| Water Marks (B1) | Presence of Reduced Iron (C4) | Dry-Season Water Table (C2) |
| Sediment Deposits (B2) | Recent Iron Reduction in Tilled Soils (C6) | Crayfish Burrows (C8) |
| Drift Deposits (B3) | Thin Muck Surface (C7) | Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) | Other (Explain in Remarks) | Stunted or Stressed Plants (D1) |
| Iron Deposits (B5) | | Geomorphic Position (D2) |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aquitard (D3)Microtopographic Relief (D4) |
| Water-Stained Leaves (B9)Aquatic Fauna (B13) | | FAC-Neutral Test (D5) |
| Field Observations: | | i Ao Neutral Test (55) |
| | Depth (inches): | |
| Water Table Present? Yes No | | |
| | | lydrology Present? Yes No |
| (includes capillary fringe) | | |
| Describe Recorded Data (stream gauge, monito | oring well, aerial photos, previous inspections), if ava | ilable: |
| Remarks: | | |
| Disturbed by cows | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

| /EGETATION (Four Strata) – Use scientific na | ames of | plants. | | Sampling Point: W-IJ6 |
|---|----------|-------------|---------------|--|
| 30' | Absolute | Dominant | | Dominance Test worksheet: |
| <u>Tree Stratum</u> (Plot size: 30') | % Cover | Species? | <u>Status</u> | Number of Dominant Species That Are ORL FACW or FAC: 3 |
| 1 | | - | . —— | That Are OBL, FACW, or FAC:3 (A) |
| 2 | | · | | Total Number of Dominant Species Across All Strata: 3 (B) |
| 3 | | | | Species Across All Strata:3 (B) |
| 4 | | | | Percent of Dominant Species That Are ORL FACW or FAC: 100 (A/R) |
| 5 6. | | | | That Are OBL, FACW, or FAC: 100 (A/B) |
| 6 7. | | | | Prevalence Index worksheet: |
| ·· <u> </u> | 0 | = Total Cov | /er | Total % Cover of: Multiply by: |
| 50% of total cover:0 | | | _ | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = |
| 1 | | | | FAC species x 3 = |
| 2 | | | | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 4 | | | | Column Totals: (A) (B) |
| 5 | | | | Prevalence Index = B/A = |
| 6 | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 8 | | - | . —— | ✓ 2 - Dominance Test is >50% |
| 9 | | | | 3 - Prevalence Index is ≤3.0 ¹ |
| 50% of total cover:0 | | = Total Cov | | 4 - Morphological Adaptations ¹ (Provide supporting |
| Herb Stratum (Plot size: 5') | 20% 01 | total cover | | data in Remarks or on a separate sheet) |
| 1. Carex vulpinoidea | 10 | ~ | OBL | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 2. Poa trivialis | 10 | | FACW | |
| 3 Juncus effusus | 10 | | FACW | ¹ Indicators of hydric soil and wetland hydrology must |
| 4 | | | · | be present, unless disturbed or problematic. |
| 5 | | | | Definitions of Four Vegetation Strata: |
| 6 | | | | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 7 | | | | more in diameter at breast height (DBH), regardless of height. |
| 8 | | | <u> </u> | Continue (Charache Manda and and and and and and |
| 9 | | | | Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10 | | | | m) tall. |
| 11 | | | | Herb – All herbaceous (non-woody) plants, regardless |
| 45 | | = Total Cov | _ | of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: 15 | 20% of | total cover | :6 | Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. |
| 1 | | · | | |
| 2 3. | | · · · | | |
| 3 4 | | | - | |
| г | | | | Hydrophytic |
| 5 | 0 | = Total Cov | /or | Vegetation Present? Yes ✓ No ✓ No ✓ No ✓ No ✓ No No No |
| 50% of total cover: 0 | | total cover | _ | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | I |
| 70% bare ground | | | | |
| | | | | |
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Sampling Point: W-IJ6

SOIL

| Depth | Matrix | | | x Features | 1 0 | | | | |
|--------------------------------------|---------------------------------|--------------|-------------------------|--------------------------|----------------------------------|----------------|--------------|----------------|--------|
| (inches) | Color (moist) | <u>%</u> | Color (moist) | | pe ¹ Loc ² | <u>Texture</u> | | Remarks | |
| 0-6 | 10YR 3/2 | 95 | 7.5YR 4/6 | 5 <u>C</u> | M/PL | SL | | | |
| 6-16 | 2.5Y 4/2 | 100 | | | | S | | | |
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| | oncentration, D=Dep | letion, RM=l | Reduced Matrix, MS | S=Masked Sar | nd Grains. | | | ng, M=Matrix. | 2 |
| lydric Soil I | | | | | | | | oblematic Hy | |
| Histosol (| | | Dark Surface | | | | , | A10) (MLRA 1 | 47) |
| | ipedon (A2) | | | • | 88) (MLRA 147 , | 148) (| | Redox (A16) | |
| Black His | | | | , , , | .RA 147, 148) | - | MLRA 14 | | (F10) |
| | n Sulfide (A4) I Layers (A5) | | Loamy Gleye Depleted Ma | | | <u> </u> | MLRA 13) | odplain Soils | (୮19) |
| | ck (A10) (LRR N) | | Redox Dark | ` ' | | \ | | Dark Surface | (TF12) |
| | Below Dark Surface | e (A11) | | k Surface (F7) |) | | | in in Remarks) | |
| Thick Da | rk Surface (A12) | | Redox Depre | | | | | | |
| | lucky Mineral (S1) (L | .RR N, | Iron-Mangan | ese Masses (F | 12) (LRR N, | | | | |
| | 147, 148) | | MLRA 13 | • | | | | | |
| | leyed Matrix (S4) | | | ce (F13) (MLF | | | | drophytic veg | |
| | edox (S5) | | | | F19) (MLRA 1 4 | | - | logy must be p | |
| | | | Red Parent N | /laterial (F21) (| MLRA 127, 147 | 7) un | less disturb | ed or problema | atic. |
| Stripped | | | | | | i | | | |
| Restrictive L | ayer (if observed): | | | | | | | | |
| Restrictive L Type: | ayer (if observed): | | _ | | | | | 4 | |
| Restrictive L Type: Depth (inc | | | _ | | | Hydric Soil | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes <u>V</u> | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes | No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🔽 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes <u>V</u> | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes | No |
| Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes | . No |
| Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes | . No |
| Restrictive L | ayer (if observed): | | | | | | Present? | Yes_V | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes | No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes 🗸 | . No |
| Restrictive L Type: Depth (inc | ayer (if observed): | | | | | | Present? | Yes V | . No |



Photograph Direction SSE

| Comments: | | | |
|-----------|--|--|--|
| | | | |
| | | | |

| USACE FILE NO./Project Name: | | Mountain Valley Pipeline | | | Lat. | 37.084557 | Lon. | -79.947595 |
|---|-------------------------------------|--------------------------|---|--|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | | W-E7, Pipeline ROW | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| N-E7 | Emergent | 0.2123 | Emergent | | | | | |
| | | | | | | | | |
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| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made or | | |
| | | | | | | Advanced Mitigation (Y or N) | | Υ |
| | | | | | | | • | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | | 0.2123 | | | | | | |
| | | 0.2123 Unit Scores | | | | Estimated | | |
| Wetland C | PART II - | | Replacement Unit(s) | | | Estimated ILF Costs | | |
| Wetland C Total Emergent | | | 0.2123 | | | ILF Costs | | |
| | | | | | | | | |

| Project/Site: MVP | City/County: Frai | nklin | Sampling Date: 04/07/2015 |
|--|--|--|--|
| | | | |
| Investigator(s): S Ryan, A Mengel, L Sexton | | | |
| Landform (hillslope, terrace, etc.): Depression | | | Slope (%): 2% |
| Subregion (LRR or MLRA): LRRP La | 37.084565 | Long: -79.947192 | Datum: NAD 83 |
| Soil Map Unit Name: Comus-Maggodee-Elsinb | | | |
| Are climatic / hydrologic conditions on the site typical | for this time of year? Yes | No (If no, explain in F | Remarks.) |
| Are Vegetation, Soil, or Hydrology | • | | |
| Are Vegetation, Soil, or Hydrology | | | |
| SUMMARY OF FINDINGS – Attach site r | | | |
| Hydrophytic Vegetation Present? Yes | No | | |
| | No. | pled Area | No |
| Wetland Hydrology Present? Yes | No | etland? Yes | NO |
| Remarks: Cowardin Code: PEM; HGM: Depressional; WT: Finformation listed on this form represents data coll hydrophytic vegetation, and hydric soils was confined wetland was covered by timbermat. W-E7 was preidentified during the 2019 revisit. It can be anticipated construction completion. | PWWD ected in 2015. The wetland was remed using the USACE EMP Regarously confirmed by the USACE ted that wetland criteria will persi | evisited on 11/7/2019. Presional Supplement delineatio during 2016 field reviews. Ast in the additionally mapped | ence of wetland hydrology, in methodology. A portion of the Additional areas of wetland were d wetland area after |
| HYDROLOGY | | | |
| Wetland Hydrology Indicators: | | Secondary Indica | ators (minimum of two required) |
| Primary Indicators (minimum of one is required; che | ck all that apply) | Surface Soil | Cracks (B6) |
| Surface Water (A1) | True Aquatic Plants (B14) | Sparsely Ve | getated Concave Surface (B8) |
| High Water Table (A2) | Hydrogen Sulfide Odor (C1) | <u>✓</u> Drainage Pa | atterns (B10) |
| Saturation (A3) | Oxidized Rhizospheres on Living | Roots (C3) Moss Trim L | ines (B16) |
| | Presence of Reduced Iron (C4) | | Water Table (C2) |
| | Recent Iron Reduction in Tilled So | | |
| | Thin Muck Surface (C7) | | isible on Aerial Imagery (C9) |
| | Other (Explain in Remarks) | | Stressed Plants (D1) |
| Iron Deposits (B5) | | Geomorphic | |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aqu | |
| Water-Stained Leaves (B9) | | | aphic Relief (D4) |
| Aquatic Fauna (B13) | | <u>✓</u> FAC-Neutral | Test (D5) |
| Field Observations: Surface Water Present? Yes No | Depth (inches): | | |
| Surface Water Present? Yes No V | Depth (inches): | | |
| | | | |
| Saturation Present? Yes No | Depth (inches): | Wetland Hydrology Presei | nt? Yes V No |
| Describe Recorded Data (stream gauge, monitoring | well, aerial photos, previous inspec | tions), if available: | |
| Remarks: | | | |
| Remarks. | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-E7

| Tree Stratum (Plot size: 30') | Absolute | Dominant | | Dominance Test worksheet: | |
|---|----------|-------------|---------------|---|------------------|
| / lot olzo. | % Cover | | | Number of Dominant Species | 1 |
| 1 | | | | That Are OBL, FACW, or FAC: | 1 (A) |
| 2 | | - | | Total Number of Dominant | |
| 3 | | | <u> </u> | Species Across All Strata: | 1 (B) |
| 4 | | | | Percent of Dominant Species | |
| 5 | | | | That Are OBL, FACW, or FAC: 10 | 00% (A/B) |
| 6 | | | | | |
| 7 | | | | Prevalence Index worksheet: | |
| | 0 . | = Total Cov | /er | | oly by: |
| 50% of total cover:0 | 20% of | total cover | : 0 | OBL species x 1 = | |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = | |
| 1 | | | | FAC species x 3 = | |
| 2 | | | · | FACU species x 4 = | |
| 3 | | | · | UPL species x 5 = | |
| | | | | Column Totals: (A) | |
| 4 | | | | () | |
| 5 | | | | Prevalence Index = B/A = | |
| 6 | | | | Hydrophytic Vegetation Indicators: | |
| 7 | | | | 1 - Rapid Test for Hydrophytic Vege | etation |
| 8 | | | · | 2 - Dominance Test is >50% | |
| 9 | | | | 3 - Prevalence Index is ≤3.0 ¹ | |
| | | = Total Cov | | 4 - Morphological Adaptations ¹ (Pro | vide supporting |
| 50% of total cover: 0 | 20% of | total cover | :0 | data in Remarks or on a separat | |
| Herb Stratum (Plot size: 5') | | | | · · | , |
| 1. Juncus effusus | 65 | | FACW_ | Problematic Hydrophytic Vegetation | i (Explain) |
| 2. Trifolium pratense | 15 | | F <u>ACU</u> | 4 | |
| 3. Phleum pratense | 15 | | FACU | ¹ Indicators of hydric soil and wetland hydbe present, unless disturbed or problem | |
| 4. Carex sp. | 10 | | | | |
| 5 | | | | Definitions of Four Vegetation Strata: | i |
| 6 | | | | Tree - Woody plants, excluding vines, 3 | |
| | | | | more in diameter at breast height (DBH) | , regardless of |
| 7 | | | · | height. | |
| 8 | | | | Sapling/Shrub - Woody plants, excludi | |
| 9 | | | | than 3 in. DBH and greater than or equa | il to 3.28 ft (1 |
| 10 | | - | | m) tall. | |
| 11 | 405 | | · | Herb – All herbaceous (non-woody) plan | |
| 50.5 | | = Total Cov | | of size, and woody plants less than 3.28 | ft tall. |
| 50% of total cover: <u>52.5</u> | 20% of | total cover | : <u> </u> | Woody vine – All woody vines greater t | han 3.28 ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. | |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | Hydronbytic | |
| 5 | | | | Hydrophytic Vegetation | |
| | | = Total Cov | /er | Present? Yes <u>✓</u> No _ | |
| 50% of total cover:0 | | total cover | _ | | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | <u> </u> | |
| , | , | | | | |
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Sampling Point: W-E7

| Profile Desc | ription: (Describe t | to the dept | h needed to docun | nent the i | ndicator | or confirm | the absence | of indicators.) |
|----------------|-------------------------------------|--------------|--------------------|-------------|-------------------|------------------|--------------|--|
| Depth | Matrix | | | x Feature | | - | | |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | % | Type ¹ | Loc ² | Texture | Remarks |
| 0-6" | 10YR 4/1 | 90 | 5YR 3/4 | 10 | С | M/PL | CL | With sand |
| 6-14" | 10YR 4/1 | 100 | | | | | CL | With sand |
| | | | | | - | | | |
| | | | | | | · —— | | |
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| 1 _T | | DM | Dadwaad Matrix MC | | | | 21 | Dave Lining M Metric |
| Hydric Soil | oncentration, D=Depl Indicators: | etion, RIVI= | Reduced Matrix, MS | s=IVIasked | Sand Gr | ains. | | L=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | (S7) | | | | cm Muck (A10) (MLRA 147) |
| | pipedon (A2) | | Polyvalue Be | | ce (S8) (N | /ILRA 147, | | oast Prairie Redox (A16) |
| Black Hi | stic (A3) | | Thin Dark Su | | | | . — | (MLRA 147, 148) |
| Hydroge | n Sulfide (A4) | | Loamy Gleye | d Matrix (| F2) | | P | iedmont Floodplain Soils (F19) |
| Stratified | l Layers (A5) | | Depleted Mat | rix (F3) | | | | (MLRA 136, 147) |
| 2 cm Mu | ick (A10) (LRR N) | | Redox Dark S | Surface (F | - 6) | | V | ery Shallow Dark Surface (TF12) |
| Depleted | d Below Dark Surface | e (A11) | Depleted Dar | k Surface | (F7) | | 0 | ther (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | |
| | lucky Mineral (S1) (L | .RR N, | Iron-Mangan | | es (F12) (| LRR N, | | |
| | A 147, 148) | | MLRA 130 | - | | | 3 | |
| | lleyed Matrix (S4) | | Umbric Surfa | | | | | icators of hydrophytic vegetation and |
| - | edox (S5) | | Piedmont Flo | | | | | tland hydrology must be present, |
| | Matrix (S6) | | Red Parent M | 1aterial (F | 21) (MLR | A 127, 147 | 7) un | less disturbed or problematic. |
| | _ayer (if observed): | | | | | | | |
| Type: Ro | | | | | | | | _ |
| | ches): 14 | | | | | | Hydric Soil | Present? Yes No |
| Remarks: | | | | | | | | |
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SOIL

Wetland Photograph Page

Wetland ID W-E7



Photograph Direction West

Date: 04/07/2015

Comments: 2015 wetland delineation.



Photograph Direction NNW

Date: 11/07/19

Comments: 2019 wetland delineation confirmation.

| | Mountain Valley Pipeline | | | Lat. | 37.082843 | Lon. | -79.9461 |
|-------------------------------------|--|---|---|---|---|--|---|
| RIPTION: acreage}, unaltered | d or impairments) | | | | W-E8, Pipeline ROW | | |
| | | | | | | | |
| 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| PART I - Wetland Indicators | | | | | | | |
| Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| Emergent | 0.0691 | Emergent | | | | | |
| | | | | | | | |
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| | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | | |
| | | | | | Advanced Mitigation (Y or N) | | Y |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | 0.0691 | | | _ | | | |
| | 0.0691 Unit Scores | | | | Estimated | _ | |
| PART II - I | | Replacement Unit(s) | | | Estimated ILF Costs | | |
| | | 0.0691 | | | ILF Costs | | |
| | | | | | | | |
| | 9/28 PART I - Wetl Impact Wetland Classification | 9/28/2021 PART I - Wetland Indicators Impact Impacts Wetland (acreage) Classification | RIPTION: acreage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Impacts Mitigation Wetland (acreage) Classification Classification | RIPTION: Increage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Impacts Mitigation Wetland (acreage) Wetland Classification Classification | RIPTION: acreage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Impacts (acreage) Wetland Classification Classification Emergent 0.0691 Emergent | RIPTION: Icreage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Wetland (acreage) Wetland Classification Emergent 0.0691 Emergent PART III - Advanced Sustainable Determination Made on Advanced Mitigation | RIPTION: Increage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact |

| Project/Site: MVP | City/County: Franklin | _ Sampling Date: 04/07/2015 | | |
|--|---|----------------------------------|--|--|
| Applicant/Owner: MVP | | Sampling Point: W-E8 | | |
| Investigator(s): S Ryan, A Mengel, L Sexton | Section, Township, Range: N/A | | | |
| • , , | Local relief (concave, convex, none): Concave | Slope (%): 4% | | |
| Subregion (LRR or MLRA): LRRP | | | | |
| | nboro complex, 0 to 4 percent slopes NWI classif | | | |
| Are climatic / hydrologic conditions on the site typic | cal for this time of year? Yes No (If no, explain in | Remarks.) | | |
| Are Vegetation, Soil, or Hydrology | | | | |
| Are Vegetation, Soil, or Hydrology | naturally problematic? (If needed, explain any answ | ers in Remarks.) | | |
| | e map showing sampling point locations, transect | s, important features, etc. | | |
| Lhadranhatia Vanatatian Brasant2 | V Na | | | |
| Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes | No Is the Sampled Area | , | | |
| Wetland Hydrology Present? Yes | No No Within a Wetland? Yes V | No | | |
| Remarks: | <u> </u> | | | |
| Cowardin Code: PEM; HGM: Depression | nal; WT: RPWWD | | | |
| The wetland was revisited on 11/7/2019 | . Presence of wetland hydrology, hydrophytic vegetati | on, and hydric soils was | | |
| confirmed using the USACE EMP Region | nal Supplement delineation methodology. A portion of | f the wetland was covered | | |
| by timbermat. | | | | |
| HYDROLOGY | | | | |
| Wetland Hydrology Indicators: | Secondary India | cators (minimum of two required) | | |
| Primary Indicators (minimum of one is required; of | | il Cracks (B6) | | |
| Surface Water (A1) | | egetated Concave Surface (B8) | | |
| High Water Table (A2) | | atterns (B10) | | |
| Saturation (A3) | ✓ Oxidized Rhizospheres on Living Roots (C3) Moss Trim | | | |
| Water Marks (B1) | | n Water Table (C2) | | |
| Sediment Deposits (B2) | Recent Iron Reduction in Tilled Soils (C6) Crayfish Bu | | | |
| Drift Deposits (B3) | | Visible on Aerial Imagery (C9) | | |
| Algal Mat or Crust (B4) | | Stressed Plants (D1) | | |
| Iron Deposits (B5) | | c Position (D2) | | |
| Inundation Visible on Aerial Imagery (B7) | Shallow Aq | | | |
| Water-Stained Leaves (B9) | | graphic Relief (D4) | | |
| Aquatic Fauna (B13) | FAC-Neutra | al Test (D5) | | |
| Field Observations: | | | | |
| Surface Water Present? Yes No | Depth (inches): | | | |
| Water Table Present? Yes No | Depth (inches):11 | | | |
| Saturation Present? Yes No | Depth (inches): 0 Wetland Hydrology Prese | ent? Yes 🗸 No | | |
| (includes capillary fringe) Describe Recorded Data (stream gauge monitori | ing well, aerial photos, previous inspections), if available: | | | |
| | | | | |
| Remarks: | | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-E8

| | Absolute | Dominant | | Dominance Test worksheet: | | |
|--|----------|-------------|---------------|---|------------------------------|---------|
| <u>Tree Stratum</u> (Plot size: 30°) | % Cover | Species? | <u>Status</u> | Number of Dominant Species | • | |
| 1 | | | | That Are OBL, FACW, or FAC: | 2 | (A) |
| 2 | | | | Total Number of Dominant | | |
| 3 | | | | Species Across All Strata: | 2 | (B) |
| 4 | | | | openies rioress / iii Sulatai | | (-) |
| | | | | Percent of Dominant Species | 4000/ | |
| 5 | | | | That Are OBL, FACW, or FAC: | 100% | (A/B) |
| 6 | | | | Prevalence Index worksheet: | | |
| 7 | | | | | Multiply by | |
| | | = Total Co | | Total % Cover of: | | |
| 50% of total cover:0 | 20% of | total cover | :0 | OBL species x | | |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x | 2 = | _ |
| 1 | | | | FAC species x | 3 = | _ |
| 2 | | | | FACU species x | 4 = | _ |
| | | | | UPL species x | | |
| 3 | | | | Column Totals: (A | | |
| 4 | | | | Coldinii Totais (A | <i></i> | _ (D) |
| 5 | | | | Prevalence Index = B/A = | | |
| 6 | | | | Hydrophytic Vegetation Indica | | |
| 7 | | | | 1 - Rapid Test for Hydrophyt | | |
| 8 | | | | 2 - Dominance Test is >50% | | |
| 9 | | | | | | |
| | _ | = Total Co | | 3 - Prevalence Index is ≤3.0 | | |
| 50% of total cover: 0 | | | | 4 - Morphological Adaptation | ns¹ (Provide sup | porting |
| - | 2070 01 | total oovel | | data in Remarks or on a | separate sheet) | |
| Herb Stratum (Plot size: 5) 1. Juncus effusus | 40 | ~ | FACW | Problematic Hydrophytic Ve | getation ¹ (Expla | in) |
| | | | | | | |
| 2. Phalaris arundinacea | 10 | | F <u>ACW</u> | ¹ Indicators of hydric soil and wetl | and hydrology r | must |
| 3. Microstegium vimineum | 20 | | FAC | be present, unless disturbed or p | | iidot |
| 4 | | | | Definitions of Four Vegetation | Strata: | |
| 5 | | | | _ | | |
| 6 | | | | Tree – Woody plants, excluding | | |
| 7 | | | | more in diameter at breast heigh height. | i (DBH), regardi | iess oi |
| 8 | | | | | | |
| ٥ | | | | Sapling/Shrub – Woody plants, | | |
| | | | | than 3 in. DBH and greater than m) tall. | or equal to 3.28 | sπ (1 |
| 10 | | | | m) tan. | | |
| 11 | 70 | - | | Herb - All herbaceous (non-woo | | rdless |
| 0.5 | | = Total Co | | of size, and woody plants less th | an 3.28 ft tall. | |
| 50% of total cover: 35 | 20% of | total cove | :14 | Woody vine – All woody vines g | reater than 3 28 | R ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. | | |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | Hydrophytic | | |
| J | ^ | = Total Co | | Vegetation Present? Yes ✓ | No | |
| 50% of total cover: 0 | | total cove | _ | | | |
| Remarks: (Include photo numbers here or on a separate sh | | total cover | <u> </u> | | | |
| · · · | ieet.) | | | | | |
| Approx 30% of plot exposed soil, un-vegetated. | | | | | | |
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SOIL Sampling Point: W-E8

| Profile Desc | ription: (Describe t | to the dep | th needed to docur | nent the i | indicator | or confirr | n the ab | sence of | indicators.) |
|-----------------------|--------------------------|-------------|---------------------|--------------|-------------------|------------------|--------------------|-------------|--|
| Depth | Matrix | | | x Feature | | | | | |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Text | | Remarks |
| 0-5" | 10YR 4/1 | 95 | 2.5YR 4/8 | 5 | С | M/PL | С | L | |
| 5-12" | 10YR 4/2 | 85 | 7.5YR 4/6 | 15 | С | M/PL | C | | |
| | | | | | | | | | |
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| | | | | | - | | | | |
| | oncentration, D=Depl | letion, RM: | =Reduced Matrix, MS | S=Masked | d Sand Gr | ains. | ² Locat | | Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: | | | | | | | Indicator | rs for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | Dark Surface | e (S7) | | | | 2 cm | Muck (A10) (MLRA 147) |
| Histic E _l | oipedon (A2) | | Polyvalue Be | low Surfa | ice (S8) (N | ILRA 147 | , 148) | Coas | st Prairie Redox (A16) |
| Black H | stic (A3) | | Thin Dark Su | | | 47, 148) | | (M | ILRA 147, 148) |
| | en Sulfide (A4) | | Loamy Gleye | | (F2) | | | Pied | mont Floodplain Soils (F19) |
| | d Layers (A5) | | Depleted Ma | | | | | | ILRA 136, 147) |
| | ıck (A10) (LRR N) | | Redox Dark | | | | | | Shallow Dark Surface (TF12) |
| | d Below Dark Surface | e (A11) | Depleted Da | | , , | | | Othe | r (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | | |
| | Mucky Mineral (S1) (L | .RR N, | Iron-Mangan | | es (F12) (| LRR N, | | | |
| | A 147, 148) | | MLRA 13 | | | 0 400\ | | 3, ,, | |
| | Gleyed Matrix (S4) | | Umbric Surfa | | | | 40) | | ors of hydrophytic vegetation and |
| - | Redox (S5) | | Piedmont Flo | | | | | | nd hydrology must be present, |
| | Matrix (S6) | | Red Parent N | viateriai (F | -21) (WLR | A 127, 14 | <i>'</i>) | uniess | s disturbed or problematic. |
| | Layer (if observed): | | | | | | | | |
| Туре: <u>N</u> | | | | | | | | | |
| Depth (in | ches): | | | | | | Hydri | ic Soil Pre | esent? Yes V No No |
| Remarks: | | | | | | | | | |
| upper 12 ir | nches. | | | | | | | | |
| | | | | | | | | | |



Photograph Direction SW

Date: 04/07/2015

Comments: 2015 wetland delineation.



Photograph Direction SW

Date: 11/07/19

Comments: 2019 wetland delineation confirmation.

| USACE FILE NO./Project Name: | | Mountain Valley Pipeline | | | Lat. | 37.064781 | Lon. | -79.87446 |
|------------------------------------|-------------------------------------|--------------------------|---|--|------|-----------------------------------|-----------|-----------|
| STREAM/SITE ID AND SITE DESCR | | | | | | W-EF51, Pipeline ROW | | |
| (% stream slope, watershed size {a | creage}, unaltered | d or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-EF51 | Emergent | 0.0133 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made or | | |
| | | | | | | Advanced Mitigation | | Υ |
| | | | | | | (Y or N) | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | • | 0.0133 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0133 | | | #700 00 | | |
| Total Scrub-Shrub | | | 0 | | | \$798.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

| Project/Site: MVP | City/County: Franklin | Sampling Date: 08/31/2016 | | | | | | |
|--|--|--|--|--|--|--|--|--|
| Applicant/Owner: MVP | | State: VA Sampling Point: W-EF51 | | | | | | |
| Investigator(s): D Hadersbeck, S Therkildson, K Pulver Section, Township, Range: N/A | | | | | | | | |
| Landform (hillslope, terrace, etc.): Floodplain | | | | | | | | |
| Subregion (LRR or MLRA): LRR P L | | .874476NAD 83 | | | | | | |
| Soil Map Unit Name: 8E-Clifford-Hickoryknob cor | | | | | | | | |
| Are climatic / hydrologic conditions on the site typica | _ | | | | | | | |
| | - | | | | | | | |
| Are Vegetation, Soil, or Hydrology _ | | | | | | | | |
| Are Vegetation, Soil, or Hydrology _ | | explain any answers in Remarks.) | | | | | | |
| SUMMARY OF FINDINGS – Attach site | map showing sampling point location | ons, transects, important features, etc. | | | | | | |
| Hydrophytic Vegetation Present? Yes | No Is the Sampled Area | | | | | | | |
| Hydric Soil Present? Yes | No within a Wetland? | Yes No | | | | | | |
| Wetland Hydrology Present? Yes | No | | | | | | | |
| Remarks: Cowardin Code: PEM | HGM: Riverine Water Type: | RPWWD | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| HYDROLOGY | | | | | | | | |
| Wetland Hydrology Indicators: | | Secondary Indicators (minimum of two required) | | | | | | |
| Primary Indicators (minimum of one is required; ch | eck all that apply) | Surface Soil Cracks (B6) | | | | | | |
| Surface Water (A1) | _ True Aquatic Plants (B14) | Sparsely Vegetated Concave Surface (B8) | | | | | | |
| | Hydrogen Sulfide Odor (C1) | Drainage Patterns (B10) | | | | | | |
| Saturation (A3) | Oxidized Rhizospheres on Living Roots (C3) | Moss Trim Lines (B16) | | | | | | |
| | Presence of Reduced Iron (C4) | Dry-Season Water Table (C2) | | | | | | |
| Sediment Deposits (B2) | Recent Iron Reduction in Tilled Soils (C6) | Crayfish Burrows (C8) | | | | | | |
| Drift Deposits (B3) | _ Thin Muck Surface (C7) | Saturation Visible on Aerial Imagery (C9) | | | | | | |
| Algal Mat or Crust (B4) | Other (Explain in Remarks) | Stunted or Stressed Plants (D1) | | | | | | |
| Iron Deposits (B5) | | Geomorphic Position (D2) | | | | | | |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aquitard (D3) | | | | | | |
| Water-Stained Leaves (B9) | | Microtopographic Relief (D4) | | | | | | |
| Aquatic Fauna (B13) | | FAC-Neutral Test (D5) | | | | | | |
| Field Observations: | | · · · | | | | | | |
| Surface Water Present? Yes No | Depth (inches): | | | | | | | |
| | Depth (inches): | | | | | | | |
| Saturation Present? Yes No | Depth (inches):10 Wetland I | Hydrology Present? Yes No | | | | | | |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring) | g well period photos provious inspections) if ave | silahla | | | | | | |
| Describe Recorded Data (Stream gauge, monitoring | y well, aerial priolos, previous irispections), il ava | mable. | | | | | | |
| Remarks: | | | | | | | | |
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| That Are OBL, FACW, or FAC: 2 Total Number of Dominant Species Species Across All Strata: 2 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 Provide Across All Strata: 2 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 That Are OBL, FACW, or FAC: 100 Provide Index worksheet: Total % Cover of: Multiply by: OBL species x1 = FACW species x2 = FACW species x3 = FACW species x3 = FACW species x3 = FACW species x4 = UPL species x5 = Column Totals: (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 + Rapid Test for Hydrophytic Vegetation Facility of the Area of t | te Dominant Indicator Dominance Test worksheet: | Dominant | Absolute | - |
|--|---|--------------|----------|---|
| Total Number of Dominant Species Across All Stratuz 2 Percent of Dominant Species Across All Stratuz 2 Percent of Dominant Species Across All Stratuz 100 Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 1 = FACW species x 2 = FAC species x 3 = FACW species x 3 = FACW species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 2 = FACW species x 2 = FACW species x 3 = FACW species x 3 = FACW species x 5 = Column Totals: (A) Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 2 = FACW species x 2 = FACW species x 3 = FACW species x 5 = Column Totals: (A) Prevalence Index is x 3 = FACW species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index is x 3 = FACW species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index is x 3 = FACW species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 5 = FACW species x 2 = FACW species x 3 = FACW species x 5 = Column Totals: (A) Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 1 = FACW species x 2 = FACW species x 2 = FACW species x 2 = FACW species x 3 = FACW species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 1 = FACW species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index worksheet: Total % Cover of: Multiply by OBL species x 1 = FACW species x 4 = UPL species x 4 = UPL species x 4 = UPL species x 5 = Column Totals: (A) Prevalence Index vorksheet: Total % Cover of total cover | <u>ver Species? Status</u> Number of Dominant Species | | | ee Stratum (Plot size: 30') |
| Percent of Dominant Species That Are OBL, FACW, or FAC: Dominant Species That Are OBL, FACW, or FAC: 100 | Total Number of Dominant | | | |
| That Are OBL, FACW, or FAC: 100 Total Cover | | | | |
| That Are OBL, FACW, or FAC: 100 Total Cover | Percent of Dominant Species | | | |
| Prevalence Index worksheet: Total Scover of Prevalence Index worksheet: Total Scover of Multiply by one Prevalence Index worksheet: Total Scover of Multiply by one Prevalence Index worksheet: Total Scover of Multiply by one Prevalence Index Scover of Prevalence Index Scover Prevalence Index Scover of Prevalence Index Scover Prevalenc | | | | |
| Total % Cover of: Multiply by: Sapting/Shrub Stratum (Plot size: 15' | Dravalance Index washed act. | | | |
| Solution Stratum Cody Vine Stratum Cod | | | | |
| FACW species X 2 = FAC species X 3 = FACU species X 4 = FAC species X 4 = FACU species X 5 = FACU species X 4 = UPL species X 5 = FACU species X 4 = UPL species X 5 = FACU species X 5 = FACU species X 4 = UPL species X 5 = FACU species X 4 = UPL species X 4 = UPL species X 5 = FACU species X 4 = UPL species X 4 = UPL species X 5 = FACU species X 4 = UPL species X 4 = UPL species X 5 = FACU species X 4 = UPL species X 4 = UPL species X 5 = FACU species X 4 = UPL species X 4 = UPL species X 5 = FACU species X 4 = UPL species X 4 = UPL species X 5 = Column Totals: (A) Prevalence Index S = Column Totals: (A) Prevalence Index S = FACU species X 5 = Tabl species X 5 = Tabl species X 4 = UPL species X 5 = Tabl species | = Total Cover | = Total Cove | 0: | |
| FAC species | 5 61 total 66 for | total cover: | 20% of | |
| FAC species | | | | pling/Shrub Stratum (Plot size: 15') |
| FACU species x 4 = | X 3 = | | | |
| UPL species | EAOIL | | | |
| Column Totals: | UPL species x 5 = | | | |
| Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation V 2 - Dominance Test is >50% 3 - Prevalence Index is \$3.0^1 4 - Morphological Adaptations' (Provide s data in Remarks or on a separate sheen problematic and provided some separate sheen problematic cylindrica | Column Totals: (A) (B) | | | |
| Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 50% of total cover: 50% of total cover: 50% of total cover: 0 20 = Total Cover 20% of total cover: 0 3 - Prevalence Index is ≤3.0* 4 - Morphological Adaptations* (Provide s data in Remarks or on a separate she problematic Hydrophytic Vegetation* (Expression of the problematic shear) (Expression of the problematic shear of the problemat | | | | |
| 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 2 - Dominance Test is >50% 3 - Prevalence Index is ≤ 3.0¹ 4 - Morphological Adaptations¹ (Provide s data in Remarks or on a separate sheep of total cover: 5 - OBL Boehmeria cylindrica 5 - OBL Scirpus atrovirens 5 - OBL Scirpus atrovirens 5 - OBL Scirpus atrovirens 5 - OBL Definitions of Four Vegetation¹ (Expense) Compared to the stream of the stream of the size in | Prevalence index = b/A = | | | |
| Description Company | riyarophytic vegetation malcators. | | | |
| O | 1 - Napid 103t for Hydrophytic vogetation | | | |
| O | | | | |
| Solitation Control Cover | | | | |
| data in Remarks or on a separate shewherb Stratum (Plot size: 50% of total cover: 0 20% of total cover: 1 20% of total cover: 2.5 20% of total cover: 1 20 | - Total Cover | = Total Cove | | |
| Microstegium vimineum | of total cover: U | total cover: | 20% of | |
| Cicuta maculata Boehmeria cylindrica Scirpus atrovirens 5 OBL Scirpus atrovirens 5 OBL Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regarding than 3 in. DBH and greater than or equal to 3 m) tall. Sapling/Shrub – Woody plants, excluding vines and in the properties of size, and woody plants less than 3.28 ft tall woody vine Stratum (Plot size: 15') Smilax rotundifolia 5 FACW Indicators of hydric soil and wetland hydrolog be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regarding in the plant of size, and woody plants less than 3 in. DBH and greater than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, red of size, and woody plants less than 3.28 ft tall woody vine – All woody vines greater than 3 height. Hydrophytic Vegetation Present? Yes ✓ No — | · | | | rb Stratum (Plot size: 5') |
| 3 Boehmeria cylindrica 5 FACW Corpus atrovirens 5 OBL 5 OBL 5 OBL 6 Definitions of hydric soil and wetland hydrolog be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree − Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regarding height. Sapling/Shrub − Woody plants, excluding vines in diameter at breast height (DBH), regarding height. Sapling/Shrub − Woody plants, excluding vines in diameter at breast height (DBH), regarding height. Sapling/Shrub − Woody plants, excluding vines in diameter at breast height (DBH), regarding height. Herb − All herbaceous (non-woody) plants, reof size, and woody plants less than 3.28 ft tall woody vine − All woody vine − All woody vines greater than 3 height. Hydrophytic Vegetation Present? Yes V No Hydrophytic Vegetation Present? Yes V No Hydrophytic Vegetation Present? | FAC Problematic hydrophytic vegetation (Explain) | | 75 | Microstegium vimineum |
| Scirpus atrovirens 5 OBL Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regate height. Sapling/Shrub – Woody plants, excluding vines and in the properties of size, and woody plants less than 3.28 ft tall woody vine Stratum (Plot size: 15') Smilax rotundifolia 5 V FAC The – Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regate height. Sapling/Shrub – Woody plants, excluding vines and in DBH and greater than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, red size, and woody plants less than 3.28 ft tall woody vine – All woody vines greater than 3 height. Woody Vine – All woody vines greater than 3 height. Hydrophytic Vegetation Present? Yes V No — | OBL | | 5 | Cicuta maculata |
| Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regard height. Sapling/Shrub – Woody plants, excluding vines and present than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, red fisize, and woody plants less than 3.28 ft tall woody vine – All woody vines greater than 3 height. Woody Vine Stratum (Plot size: 15') Smilax rotundifolia 5 FAC Signify Shrub – Woody plants, excluding vines and present than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, red fisize, and woody plants less than 3.28 ft tall woody vine – All woody vines greater than 3 height. Hydrophytic Vegetation Present? Yes No Present? Yes No | | | 5 | Boehmeria cylindrica |
| Tree – Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (8 more in diameter at breast height (DBH), regarding vines, 10 more in diameter at breast height (DBH), regarding vines, 10 more in diameter at breast height (DBH), regarding vines, 10 more in diameter at breast height (DBH), regarding vines, 10 more in diameter at breast height (DBH), regarding vines, 11 more in diameter at breast height (DBH), regarding vines, 11 more in diameter at breast height (DBH), regarding vines, 11 more in diameter at breast height (DBH), regarding vines, 11 more in diameter at breast height (DBH), regarding vines, 11 more in diameter at breast height (DBH), regarding vines, 12 more in diameter at breast height (DBH), regarding vines, 12 more in diameter at breast height (DBH), regarding vines, 12 more in diameter at breast height (DBH), regarding vines, 12 more in diameter at breast height (DBH), regarding vines, 12 more in diameter at breast height (DBH), regarding vines, 12 more in diameter at breast height (DBH), regarding vines in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), regarding vines, 13 more in diameter at breast height (DBH), reg | OBI | | 5 | Scirpus atrovirens |
| Tree — Woody plants, excluding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (8 more in diameter at breast height (DBH), regarding vines, 3 in. (9 more in diameter at breast height (DBH), regarding vines, 3 in. (9 more in diameter at breast height (DBH), regarding vines, 3 in. (9 more in diameter at breast height (DBH), regarding vines, 3 in. (9 more in diameter at breast height (DBH), regarding vines, 3 in. (9 more in diameter at breast height (DBH), regarding vines, 3 in. (9 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), regarding vines, 3 in. (7 more in diameter at breast height (DBH), vines, 4 in. (8 | _ | | | |
| more in diameter at breast height (DBH), regarble height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, regarble field in the properties of size, and woody plants less than 3.28 ft tall woody vine – All woody vine – All woody vines greater than 3 height. Smilax rotundifolia 5 FAC Hydrophytic Vegetation Present? Yes V No — | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) of | | | |
| Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3 m) tall. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall woody vine – All woody vine – All woody vines greater than 3 height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall woody vine – All woody vine – All woody vine s greater than 3 height. Hydrophytic Vegetation Present? Yes _ ✓ No | more in diameter at breast height (DBH), regardless of | | | |
| Sapling/Shrub – Woody plants, excluding virthan 3 in. DBH and greater than or equal to 3 m) tall. Sapling/Shrub – Woody plants, excluding virthan 3 in. DBH and greater than or equal to 3 m) tall. Herb – All herbaceous (non-woody) plants, red of size, and woody plants less than 3.28 ft tall Woody Vine Stratum (Plot size: 15') | neight. | | | |
| 10 | Sapling/Shrub – Woody plants, excluding vines, less | | | |
| 1. | than 3 in. DBH and greater than or equal to 3.28 ft (1 | | | |
| 90 = Total Cover 50% of total cover: 45 20% of total cover: 18 Noody Vine Stratum (Plot size: 15') Smilax rotundifolia 5 FAC 2. | m) tall. | | | • |
| 50% of total cover: 45 20% of total cover: 18 Noody Vine Stratum (Plot size: 15') Smilax rotundifolia 5 ✓ FAC 2. | | | | · |
| Woody Vine Stratum (Plot size:15') | | | | |
| Moody Vine Stratum (Plot size:15) height. | of total cover: 18 Woody vine – All woody vines greater than 3.28 ft in | total cover: | 20% of | |
| 2 | , , , | | _ | obuy vine Stratum (Flot Size) |
| 3 | FAC | | 5 | Smilax rotundifolia |
| Hydrophytic Vegetation Solution Solut | | | | |
| Hydrophytic Vegetation Solver 50% of total cover: 2.5 20% of total cover: 1 | | | | |
| 5 | | | · | |
| 5 = Total Cover 50% of total cover: 2.5 20% of total cover: 1 Present? Yes ✓ No | | | | - |
| 50% of total cover: 2.5 20% of total cover: 1 | Brocont2 Voc V No | - Total Cov | 5 . | |
| | = 10tal Cover | | | 50% of total cover: 2.5 |
| Remarks: (Include photo numbers here or on a separate sheet.) | of total cover | lotal cover. | | |
| | | | neet.) | marks: (Include photo numbers here or on a separate s |
| | | | | |
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| | | | | |

Sampling Point: W-EF51

SOIL

| | ription: (Describe t | to the depti | | | tor or confirm | the absence | of indicato | rs.) | |
|---------------------------|---|---------------|------------------------|-------------------|---------------------------------|---------------------------|---------------|--------------------------------|---------------------------|
| Depth (inches) | Matrix Color (moist) | % | Redox Color (moist) | x Features | e ¹ Loc ² | Texture | | Remarks | |
| 0-2 | 7.5yr 3/1 | 100 | Color (mololy | | | CL | _ | romano | _ |
| 2-12 | 7.5yr 4/1 | 90 | 7.5yr 5/6 | 10 C | M/PL | SCL | | Restrictive la | ayer |
| | | | | | | | | | |
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| 1- 0.0 | | | | | | 2 | | | |
| Type: C=Cc Hydric Soil I | ncentration, D=Depl | etion, RM=l | Reduced Matrix, MS | =Masked Sand | Grains. | ² Location: Pl | | ng, M=Matrix. oblematic Hyc | Iric Soils ³ : |
| Histosol | | | Dark Surface | (S7) | | | | \10) (MLRA 14 | |
| | ipedon (A2) | | | low Surface (S8 | B) (MLRA 147, | | • | Redox (A16) | ., |
| Black His | | | | rface (S9) (MLR | RA 147, 148) | | (MLRA 147 | | |
| | n Sulfide (A4) | | Loamy Gleye | | | P | | odplain Soils (I | F19) |
| | Layers (A5) | | Depleted Mat | . , | | | (MLRA 130 | | (TE40) |
| | ck (A10) (LRR N) I Below Dark Surface | Δ (Δ11) | Redox Dark S | k Surface (F6) | | | | Dark Surface (n in Remarks) | (1112) |
| | rk Surface (A12) | <i>(</i> A11) | Redox Depre | | | | Tiloi (Explai | ii iii Keiliaiks) | |
| | lucky Mineral (S1) (L | .RR N, | | ese Masses (F1 | 2) (LRR N, | | | | |
| | 147, 148) | | MLRA 136 | • | | | | | |
| | leyed Matrix (S4) | | | ce (F13) (MLRA | | | | drophytic vege | |
| | edox (S5) | | | odplain Soils (F | | | | logy must be pr | |
| | Matrix (S6) ayer (if observed): | | Red Parent iv | Material (F21) (N | ILRA 121, 141 |) uni | iess disturbe | ed or problema | uc. |
| | ourse fragments | | | | | | | | |
| Depth (inc | | | | | | Hydric Soil | Present? | Yes 🗸 | No |
| Remarks: | | | | | | | | | |
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Photograph Direction NNW

| Comments: | | |
|-----------|--|--|
| | | |
| | | |

| USACE FILE NO./Project Name: | | Mountain Valley Pipeline | | | Lat. | 37.059608 | Lon. | -79.840707 |
|------------------------------------|-------------------------------------|--------------------------|---|--|------|---|--------------|------------|
| STREAM/SITE ID AND SITE DESCR | | | | | | W-KL43b, Pipeline ROW | | |
| (% stream slope, watershed size {a | creage}, unaltered | d or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | /2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-KL43b | Emergent | 0.0004 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | DADT III. Advanced | N # 141 41 - | |
| | | | | | | PART III - Advanced Sustainable Determination Made on | | <u>on</u> |
| | | | | | | Advanced Mitigation | | Y |
| | | | | | | (Y or N) | | |
| | | | | | | | - | |
| | | | | | | | | |
| Total Impact | | 0.0004 | | | | | | |
| | PART II - | Unit Scores | | | | Estimated | | |
| Wetland Cl | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0004 | | | | | |
| Total Scrub-Shrub | | | 0 | | | \$24.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

| Project/Site: MVP | | City/Count | _{y:} Franklin | | Sampling Date: 10/20/2016 | | |
|---|----------------------|--|--------------------------------|-------------------|--------------------------------|--|--|
| Applicant/Owner: MVP | | | | State: VA | Sampling Point: W-KL43a,b | | |
| Investigator(s): E. Foster, J. | Cook, S. Pilcher | Section, To | ownship, Range: N | | | | |
| Landform (hillslope, terrace, etc | | | | | Slope (%); 0-2 | | |
| Subregion (LRR or MLRA): LF | | | Long: <u>-79</u> | | Datum: NAD 83 | | |
| Soil Map Unit Name: 7D - Cliff | | | | | | | |
| | | | | | | | |
| Are climatic / hydrologic condition | | · | | | | | |
| | | | | | resent? Yes No | | |
| Are Vegetation, Soil | , or Hydrology | naturally problematic? | (If needed, e | explain any answe | rs in Remarks.) | | |
| SUMMARY OF FINDING | 3S – Attach site | map showing samplir | ng point location | ons, transects | , important features, etc. | | |
| Hydrophytic Vegetation Prese | ent? Yes | No la d | | | | | |
| Hydric Soil Present? | Yes 🗸 | Is t | he Sampled Area hin a Wetland? | Vos V | No | | |
| Wetland Hydrology Present? | Yes 🔽 | No | iiii a wellanu: | 165 | | | |
| Remarks: Cowardin Co | de: PEM | HGM: Riverine | Water Type: | RPWWD | | | |
| | | sediment deposition. H | | | ed by cattle. This data | | |
| form describes conditions | | · | | • | • | | |
| | | | | | | | |
| HYDROLOGY | | | | | | | |
| Wetland Hydrology Indicato | ire: | | | Secondary Indica | tors (minimum of two required) | | |
| Primary Indicators (minimum o | | ck all that apply) | | Surface Soil | | | |
| Surface Water (A1) | one is required, ene | _ True Aquatic Plants (B14) | | · | egetated Concave Surface (B8) | | |
| High Water Table (A2) | | _ Hydrogen Sulfide Odor (C | | Drainage Pat | | | |
| Saturation (A3) | | Oxidized Rhizospheres on | | Moss Trim Li | | | |
| Water Marks (B1) | _ | Presence of Reduced Iron | | | Water Table (C2) | | |
| Sediment Deposits (B2) | _ | Recent Iron Reduction in | | Crayfish Burr | | | |
| Drift Deposits (B3) | _ | Thin Muck Surface (C7) | | - | sible on Aerial Imagery (C9) | | |
| Algal Mat or Crust (B4) | _ | Other (Explain in Remarks | s) | Stunted or St | ressed Plants (D1) | | |
| Iron Deposits (B5) | | | | ✓ Geomorphic | Position (D2) | | |
| Inundation Visible on Aeri | al Imagery (B7) | | | Shallow Aqui | tard (D3) | | |
| Water-Stained Leaves (B | 9) | | | | Microtopographic Relief (D4) | | |
| Aquatic Fauna (B13) | | | | FAC-Neutral | Test (D5) | | |
| Field Observations: | | | | | | | |
| Surface Water Present? | Yes No | | - | | | | |
| Water Table Present? | Yes No | _ | - | | | | |
| Saturation Present? (includes capillary fringe) | Yes No | Depth (inches):0 | _ Wetland F | Hydrology Presen | t? Yes No | | |
| Describe Recorded Data (stre | am gauge, monitoring | well, aerial photos, previous | s inspections), if ava | ailable: | | | |
| Remarks: | | | | | | | |
| Remarks. | | | | | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

| | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|---|----------|--------------|-----------|---|
| Tree Stratum (Plot size: 30') | | Species? | Status | Number of Dominant Species |
| 1 | | | | That Are OBL, FACW, or FAC:3 (A) |
| 2 | | | | T. III. 1 (5) |
| 3 | | | | Total Number of Dominant Species Across All Strata:3 (B) |
| 4 | | | | Openies / toross / tir etrata. |
| _ | | | | Percent of Dominant Species |
| | | | | That Are OBL, FACW, or FAC:100 (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | Total % Cover of: Multiply by: |
| | | = Total Cov | | |
| 50% of total cover: 0 | 20% of | total cover: | | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15' | | | | FACW species x 2 = |
| 1. Salix nigra | 5 | | OBL | FAC species x 3 = |
| 2 | | | | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 4 | | | | Column Totals: (A) (B) |
| | | | | |
| 5 | | - | | Prevalence Index = B/A = |
| 6 | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 8 | | | | ✓ 2 - Dominance Test is >50% |
| 9 | | | | 3 - Prevalence Index is ≤3.0 ¹ |
| | 5 | = Total Cov | er | 4 - Morphological Adaptations ¹ (Provide supporting |
| 50% of total cover: 2.5 | 20% of | total cover: | 1 | |
| Herb Stratum (Plot size: 5' | | | | data in Remarks or on a separate sheet) |
| 1. Scirpus polyphyllus | 10 | | OBL | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 2. Carex crinita | 10 | | OBL | |
| 3. Leersia oryzoides | 20 | | OBL | ¹ Indicators of hydric soil and wetland hydrology must |
| 4. Persicaria pensylvanica | 15 | | FACW | be present, unless disturbed or problematic. |
| | 10 | | | Definitions of Four Vegetation Strata: |
| 5. Juncus effusus | | - | FACW_ | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 6 | | | | more in diameter at breast height (DBH), regardless of |
| 7 | | | | height. |
| 8 | | | | Continu/Church Wasdy plants avaluating vines less |
| 9 | | | | Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10. | | | | m) tall. |
| 11 | | | | |
| | 65 | = Total Cov | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: <u>32.5</u> | | | | or size, and woody plants less than 3.20 it tall. |
| 151 | 2070 01 | total cover. | | Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size: 15) | | | | height. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | Hydrophytic |
| 5 | | | | Vegetation |
| | 0 | = Total Cov | er | Present? Yes V No No |
| 50% of total cover: 0 | | total cover: | _ | |
| Remarks: (Include photo numbers here or on a separate si | | | | |
| Tromainer (morade priore manuscrements of on a departure of | , | | | |
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Sampling Point: W-KL43a,b

SOIL

| | ription: (Describe t | to the depth | | | ator or confirm | n the absence | e of indicators.) |
|-------------------|---------------------------------|----------------|--------------------------|----------------------------|----------------------------------|--------------------------|---|
| Depth (inches) | Matrix Color (moist) | % | Color (moist) | K Features My | pe ¹ Loc ² | Texture | Remarks |
| 0-2 | 5YR 4/6 | 100 | | | | Sa | |
| 2-6 | 5YR 4/1 | 75 | 5YR 3/4 | 25 C | M/PL | Sa | |
| | <u> </u> | | 31110/4 | | | <u> </u> | |
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| | | | | | | | |
| ¹Type: C=Cc | oncentration, D=Depl | etion RM-F | Peduced Matrix MS | | d Grains | ² Location: P | L=Pore Lining, M=Matrix. |
| Hydric Soil I | | etion, ixivi–i | veduced Matrix, Mc | -iviaskeu Sari | u Giailis. | | ators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | (S7) | | | 2 cm Muck (A10) (MLRA 147) |
| | ipedon (A2) | | | | 8) (MLRA 147 | , 148) C | Coast Prairie Redox (A16) |
| Black His | | | | rface (S9) (ML | RA 147, 148) | | (MLRA 147, 148) |
| | n Sulfide (A4) I Layers (A5) | | Loamy Gleye Depleted Mat | | | <u>v</u> F | Piedmont Floodplain Soils (F19) (MLRA 136, 147) |
| | ck (A10) (LRR N) | | Redox Dark S | | | V | /ery Shallow Dark Surface (TF12) |
| | Below Dark Surface | e (A11) | | k Surface (F7) | | | Other (Explain in Remarks) |
| | rk Surface (A12) | | Redox Depre | | | | |
| | lucky Mineral (S1) (L | .RR N, | | ese Masses (F | 12) (LRR N, | | |
| | 147, 148) leyed Matrix (S4) | | MLRA 136 | 5) ce (F13) (MLR | A 136 122\ | ³ Inc | dicators of hydrophytic vegetation and |
| | edox (S5) | | | | F19) (MLRA 1 4 | | etland hydrology must be present, |
| | Matrix (S6) | | | | MLRA 127, 14 | | lless disturbed or problematic. |
| | ayer (if observed): | | | | | | |
| Type: CF | | | <u></u> | | | | |
| Depth (inc | ches): <u>6</u> | | | | | Hydric Soil | Present? Yes No |
| Remarks: | delete e e e e e e e e e e | | | | | | |
| Active 11000 | dplain, coarse fra | igments a | na copple | | | | |
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Photograph Direction West

| Comments: | | | |
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| | Mountain ' | Valley Pipeline | COORDINATES: | Lat. | 37.057586 | Lon. | -79.915232 |
|-------------------------------------|---|---|---|---|---|--|--|
| | d or impairments) | | | | W-CD6, Timber Mat Crossing | | |
| | | | | | | | |
| 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| PART I - Wetl | land Indicators | | | | | | |
| Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| Emergent | 0.0934 | Emergent | | | | | |
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| | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | | |
| | | | | | Advanced Mitigation (Y or N) | | Υ |
| | | | | | | | |
| | | | | | | | |
| | 0.0934 | | | | | | |
| | Linit Coorse | | | | Estimated | | |
| | Unit Scores | | | | | | |
| PART II - I assification | Unit Scores | Replacement Unit(s) | | | ILF Costs | | |
| | Unit Scores | 0.0934 | | | ILF Costs | | |
| | Unit Scores | | | | | | |
| | PART I - Wet Impact Wetland Classification Emergent | PART I - Wetland Indicators Impact Wetland Classification Emergent 0.0934 | 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Wetland (acreage) Wetland Classification Emergent 0.0934 Emergent 0.0934 0.0934 | RIPTION: creage}, unaltered or impairments) 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact Wetland (acreage) Wetland Classification Emergent 0.0934 Emergent 0.0934 Emergent | RIPTION: Ocreage , unaltered or impairments | RIPTION: Interest of impairments 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact (acreage) Wetland Classification Emergent 0.0934 Emergent PART III - Advanced Sustainable Determination Made on Advanced Mitigation (Y or N) | RPTION: creage), unaltered or impairments 9/28/2021 WEATHER CONDITIONS: PART I - Wetland Indicators Impact (acreage) Wetland Classification Emergent 0.0934 Emergent PART III - Advanced Mitigation Sustainable Determination Made on Advanced Mitigation (Y or N) 0.0934 |

| Project/Site: MVP | | City/C | Sounty: Franklin | | Sampling Date: 04/06/2016 | | | |
|---|----------------------------|---|---------------------------------------|---|----------------------------------|--|--|--|
| Applicant/Owner: MVP | | City/C | | | Sampling Point: W-CD6 | | | |
| | | | | | _ Sampling Point | | | |
| Investigator(s): HS,CW,AC | | | on, Township, Range: N | | 0.0 | | | |
| Landform (hillslope, terrace, e | tc.): Floouplaili | Local rel | | | | | | |
| Subregion (LRR or MLRA): L | | | | | Datum: NAD 83 | | | |
| Soil Map Unit Name: 11A-Co | mus-Maggodee-Elsin | boro complex, 0 to 4 | percent slopes | NWI classific | ation: PFO1A | | | |
| Are climatic / hydrologic condi | itions on the site typical | for this time of year? Y | ′es No | (If no, explain in Re | emarks.) | | | |
| Are Vegetation V Soil | or Hydrology | significantly distur | bed? Are "Norma | l Circumstances" p | resent? Yes No _ 🗸 | | | |
| Are Vegetation, Soil _ | | | | explain any answe | | | | |
| - | | | | , , | , important features, etc. | | | |
| Hydrophytic Vegetation Pres Hydric Soil Present? | Yes | No | Is the Sampled Area within a Wetland? | Yes_ | No | | | |
| Wetland Hydrology Present? | | No | | | | | | |
| Remarks: Cowardin C | ode: PEM | HGM: Slope | Water Type: | RPWWN | | | | |
| HYDROLOGY | | andrai area disturb | ed by pigs and lives | llook. | | | | |
| | | | | Casasalami la disa | tone (minimum of two near in al) | | | |
| Wetland Hydrology Indicat | | alcall that apply | | | tors (minimum of two required) | | | |
| Primary Indicators (minimum | • | | (D4.4) | Surface Soil (| | | | |
| Surface Water (A1) High Water Table (A2) | | True Aquatic Plants (Hydrogen Sulfide Od | | Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10) | | | | |
| Saturation (A3) | | | es on Living Roots (C3) | Moss Trim Li | | | | |
| Water Marks (B1) | | Presence of Reduced | | | Water Table (C2) | | | |
| Sediment Deposits (B2) | · | Recent Iron Reduction | ` ' | Crayfish Burr | | | | |
| Drift Deposits (B3) | | Thin Muck Surface (0 | | · · | sible on Aerial Imagery (C9) | | | |
| Algal Mat or Crust (B4) | _ | Other (Explain in Rer | narks) | Stunted or St | ressed Plants (D1) | | | |
| Iron Deposits (B5) | | | | ✓ Geomorphic | Position (D2) | | | |
| Inundation Visible on Ae | erial Imagery (B7) | | | Shallow Aqui | tard (D3) | | | |
| Water-Stained Leaves (| B9) | | | | phic Relief (D4) | | | |
| Aquatic Fauna (B13) | | | | FAC-Neutral | Test (D5) | | | |
| Field Observations: | | | _ | | | | | |
| Surface Water Present? | | _ Depth (inches): | | | | | | |
| Water Table Present? | | Depth (inches): | | | , | | | |
| Saturation Present? (includes capillary fringe) | Yes No | Depth (inches): | Wetland H | lydrology Presen | t? Yes V No | | | |
| Describe Recorded Data (str | ream gauge, monitoring | well, aerial photos, pre | vious inspections), if ava | nilable: | | | | |
| | | | | | | | | |
| Remarks: | No all a state to a | | Nichard and district | 0.1 9.1 | | | | |
| Top 6" saturated on SiC | L soil surface from | stream sneet flow | . Not saturated belo | w this soil laye | r, wnere soil appears | | | |
| more free draining. | | | | | | | | |
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| A book in the | | | , , | Point: W-CD6 | |
|---------------|-----------------------------------|--|--|---|---|
| | Dominant | | Dominance Test workshee | t: | |
| | Species? | | Number of Dominant Specie | | |
| | | | That Are OBL, FACW, or FA | C: 1 | _ (A) |
| | | | Total Number of Dominant | 4 | |
| | | | Species Across All Strata: | | _ (B) |
| | | | Percent of Dominant Specie | s 400 | |
| | | | That Are OBL, FACW, or FA | .c: 100 | _ (A/B |
| | | | Prevalence Index workshe | et· | |
| | | | | | |
| | | | | | |
| _ 20% of | total cover | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | · | | |
| | | | Column Totals: | _ (A) | (B) |
| _ | | | Prevalence Index = B | 'A = | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 0 _ | = Total Cov | er er | | | unnortin/ |
| _ 20% of | total cover | <u> </u> | | | |
| | | | | • | , |
| 50 | | FACW_ | Problematic Hydrophytic | ; vegetation (Expi | ain) |
| 5 | | FACW_ | 1 | | |
| 5 | | FACU_ | | | must |
| | | | <u>'</u> | <u> </u> | |
| | | | Deminions of Four Vegeta | non otrata. | |
| | | | | | |
| | | | | eignt (DBH), regar | aless of |
| | | | | | |
| | | | | | |
| | | | m) tall. | nan or equal to 3.2 | .0 11 (1 |
| | | · | | | |
| 60 . | - Total Cov | | | | ardiess |
| | | | | | |
| _ | | | | es greater than 3.2 | 28 ft in |
| | | | neight. | | |
| | | · | | | |
| | | · | | | |
| | | | | | |
| | • | | Hydrophytic | | |
| 0 - | = Total Cov | | Vegetation Present? Yes | / No | |
| | total cover | _ | | | |
| 7U% Of | | | | | |
| | 0 = 20% of 50 5 5 5 = 60 = 20% of | O = Total Cover O = Total Cover O = Total Cover So 5 5 Total Cover Total Cover Total Cover Total Cover Total Cover Total Cover Total Cover | 0 = Total Cover 20% of total cover: 0 0 = Total Cover 20% of total cover: 0 50 | Definitions of Four Vegetation In Carbon Service (Column Totals) Definitions of Four Vegetation (Column Total Secret (Column Total | Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: 100 |

Sampling Point: W-CD6

SOIL

| Profile Desc | ription: (Describe t | to the dept | h needed to docun | nent the i | ndicator | or confirm | the abse | nce of indicators.) |
|--------------|-----------------------|-------------|--------------------|-------------|--------------------|------------------|-----------------------|---|
| Depth | Matrix | | Redo | x Feature: | S | | | |
| (inches) | Color (moist) | <u>%</u> | Color (moist) | % | Type ¹ | Loc ² | <u>Textur</u> | e Remarks |
| 0-6 | 10YR 4/2 | 100 | | | | | SiCL | Saturated |
| 6-16 | 5YR 5/4 | 100 | | | | | SiL | |
| | | | | | | | | |
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| | | | | | | | | |
| ¹Type: C=Ce | oncentration, D=Depl | etion, RM= | Reduced Matrix, MS | S=Masked | Sand Gra | ins. | ² Location | n: PL=Pore Lining, M=Matrix. |
| Hydric Soil | | • | | | | | Ir | ndicators for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | Dark Surface | (S7) | | | | _ 2 cm Muck (A10) (MLRA 147) |
| Histic Ep | pipedon (A2) | | Polyvalue Be | low Surfa | ce (S8) (M | LRA 147, | 148) _ | _ Coast Prairie Redox (A16) |
| Black Hi | stic (A3) | | Thin Dark Su | rface (S9) | (MLRA 1 | 47, 148) | | (MLRA 147, 148) |
| Hydroge | en Sulfide (A4) | | Loamy Gleye | d Matrix (| F2) | | _ | _ Piedmont Floodplain Soils (F19) |
| | d Layers (A5) | | Depleted Mat | rix (F3) | | | | (MLRA 136, 147) |
| | ıck (A10) (LRR N) | | Redox Dark S | • | , | | _ | Very Shallow Dark Surface (TF12) |
| | d Below Dark Surface | e (A11) | Depleted Dar | | | | <u> </u> | Cother (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | |
| | Mucky Mineral (S1) (L | .RR N, | Iron-Mangan | | es (F12) (I | _RR N, | | |
| | A 147, 148) | | MLRA 13 | - | | | | 3 |
| | Gleyed Matrix (S4) | | Umbric Surfa | | | | | ³ Indicators of hydrophytic vegetation and |
| - | Redox (S5) | | Piedmont Flo | | | | | wetland hydrology must be present, |
| | Matrix (S6) | | Red Parent N | faterial (F | 21) (MLR | 4 127, 147 | <u>()</u> | unless disturbed or problematic. |
| | Layer (if observed): | | | | | | | |
| Type: | | | | | | | | |
| Depth (in | ches): | | | | | | Hydric | Soil Present? Yes No |
| Remarks: | | | | | | | | |
| | | | | | | | | delineated as wetland has clayey |
| | | | | | | | | es bed and bank definition and goes |
| to sheet flo | ow in delineated v | wetland a | rea. Upper 6" of | soil has | s low ch | roma, in | dicative | of saturated soil. |
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Photograph Direction South

| Comments: | | |
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| | | |

| USACE FILE NO./Project Name: | | Mountain \ | Valley Pipeline | COORDINATES: | Lat. | 37.052142 | Lon. | -79.886197 |
|---|-------------------------------------|----------------------|---|--------------|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | | W-EF48, Timber Mat Crossing | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-EF48 | Emergent | 0.008 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made on | | |
| | | | | | | Advanced Mitigation (Y or N) | | Y |
| | | | | | ! | • | | |
| | | | | | | | | |
| Total Impact | | 0.008 | | | | | | |
| Total Impaot | | | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| Wetland C | PART II - | | Replacement Unit(s) | | | Estimated ILF Costs | | |
| Wetland C Total Emergent | | | 0.008 | | | ILF Costs | | |
| | | | | | | | | |

| Project/Site: MVP | City/County: Franklin | Sampling Date: 08/29/2016 |
|---|--|--|
| Applicant/Owner: MVP | | State: VA Sampling Point: W-EF48 |
| Investigator(s): D Hadersbeck, S Therkildso | on, K Pulver Section, Township, Range: N | · - |
| Landform (hillslope, terrace, etc.): Swell | | |
| Subregion (LRR or MLRA): LRR P | | .886263 Datum: NAD 83 |
| Soil Map Unit Name: 7D-Clifford fine sandy loar | | |
| | | |
| Are climatic / hydrologic conditions on the site typic | - | · |
| Are Vegetation, Soil, or Hydrology | | I Circumstances" present? Yes No |
| Are Vegetation, Soil, or Hydrology | naturally problematic? (If needed, | explain any answers in Remarks.) |
| SUMMARY OF FINDINGS – Attach sit | e map showing sampling point location | ons, transects, important features, etc. |
| Hydrophytic Vegetation Present? Yes | No Is the Sampled Area | |
| Hydric Soil Present? Yes | No. | Yes ✔ No |
| Wetland Hydrology Present? Yes | No within a Wetland? | Yes No |
| Remarks: Cowardin Code: PEM | HGM: Riverine Water Type: | RPW/MD |
| | • • | NEWWD |
| Wetland sourced from up | gradient pond. | |
| | | |
| | | |
| HYDROLOGY | | |
| Wetland Hydrology Indicators: | | Secondary Indicators (minimum of two required) |
| Primary Indicators (minimum of one is required; of | heck all that apply) | Surface Soil Cracks (B6) |
| Surface Water (A1) | True Aquatic Plants (B14) | Sparsely Vegetated Concave Surface (B8) |
| High Water Table (A2) | Hydrogen Sulfide Odor (C1) | Drainage Patterns (B10) |
| Saturation (A3) | Oxidized Rhizospheres on Living Roots (C3) | Moss Trim Lines (B16) |
| Water Marks (B1) | Presence of Reduced Iron (C4) | Dry-Season Water Table (C2) |
| Sediment Deposits (B2) | Recent Iron Reduction in Tilled Soils (C6) | Crayfish Burrows (C8) |
| Drift Deposits (B3) | Thin Muck Surface (C7) | Saturation Visible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) | Other (Explain in Remarks) | Stunted or Stressed Plants (D1) |
| Iron Deposits (B5) | | Geomorphic Position (D2) |
| Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) | | Shallow Aquitard (D3) Microtopographic Relief (D4) |
| Aquatic Fauna (B13) | | FAC-Neutral Test (D5) |
| Field Observations: | | |
| | Depth (inches): | |
| Water Table Present? Yes No _ | Depth (inches): | |
| | _ | Hydrology Present? Yes _ ✓ No |
| (includes capillary fringe) | | |
| Describe Recorded Data (stream gauge, monitor | ing well, aerial photos, previous inspections), if ava | ailable: |
| Remarks: | | |
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| /EGETATION (Four Strata) – Use scientific n | ames of | plants. | | Sampling Point: W-EF48 |
|---|----------|----------------|----------------|---|
| 20' | Absolute | | nt Indicator | Dominance Test worksheet: |
| <u>Tree Stratum</u> (Plot size: 30') | % Cover | <u>Species</u> | ? Status | Number of Dominant Species |
| 1 | | | | That Are OBL, FACW, or FAC: (A) |
| 2 | | | | Total Number of Dominant |
| 3 | | | | Species Across All Strata: 2 (B) |
| 4 | | | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC: 100 (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | |
| _ | | = Total Co | | |
| 50% of total cover: 0 | 20% of | total cove | er:0 | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = |
| 1 | | | | FAC species x 3 = |
| 2 | | | | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 4 | | | | Column Totals: (A) (B) |
| 5 | | | | Prevalence Index = B/A = |
| 6 | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | ✓ 1 - Rapid Test for Hydrophytic Vegetation |
| 8 | | | | ✓ 2 - Dominance Test is >50% |
| 9 | | | | |
| | 0 | = Total Co | over | 3 - Prevalence Index is ≤3.0¹ |
| 50% of total cover:0 | | | | 4 - Morphological Adaptations ¹ (Provide supporting |
| Herb Stratum (Plot size: 5') | | | | data in Remarks or on a separate sheet) |
| 1. Leersia oryzoides | 50 | | OBL | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 2. Impatiens capensis | 25 | V | FACW | 4 |
| 3. Cyperus esculentus | 20 | ~ | FACW | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 4. Cicuta maculata | 5 | | OBL | Definitions of Four Vegetation Strata: |
| 5. Vernonia noveboracensis | 5 | | FACW | Definitions of Four Vegetation Strata: |
| 6 | | | | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 7 | | | | more in diameter at breast height (DBH), regardless of height. |
| 8 | | | | noight. |
| 9. | | | | Sapling/Shrub – Woody plants, excluding vines, less |
| 10 | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. |
| | | | | |
| 11 | 105 | = Total Co | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: <u>52.5</u> | 20% of | total cove | ovei ∆r. 21 | or size, and woody plants less than 5.20 it tall. |
| Woody Vine Stratum (Plot size: 15') | 2070 01 | total oove | ,ı. <u> </u> | Woody vine – All woody vines greater than 3.28 ft in |
| | | | | height. |
| · · | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | Hydrophytic |
| 5 | | | | Vegetation Present? Yes ✓ No |
| 50% () | | = Total Co | _ | rieseitt: Tes_v NO |
| 50% of total cover: 0 | | total cove | er: | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | |
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Sampling Point: W-EF48

SOIL

| Profile Desc | ription: (Describe to | o the depth | needed to docun | nent the i | ndicator | or confirm | the absence | of indicators.) | |
|-------------------------|--|-------------|------------------------------|-------------|-------------------|------------------|------------------|--|----------------|
| Depth | Matrix | | Redox | x Features | <u> </u> | . 2 | _ | | |
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | Loc ² | <u>Texture</u> | Remarks | |
| 0-2 | 7.5yr 3/1 | 100 | | | | | SL | - | |
| 2-12 | 7.5yr 4/2 | 85 | 7.5yr 5/6 | 15 | С | M/PL | SL | | |
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| ¹ Type: C=Ce | oncentration, D=Deple | etion, RM=F | Reduced Matrix, MS | S=Masked | Sand Gr | ains. | | L=Pore Lining, M=Matrix. | |
| Hydric Soil | Indicators: | | | | | | Indica | ators for Problematic Hydric Soils | ³ : |
| Histosol | (A1) | | Dark Surface | (S7) | | | 2 | cm Muck (A10) (MLRA 147) | |
| Histic Ep | oipedon (A2) | | Polyvalue Be | low Surfac | ce (S8) (N | ILRA 147, | 148) C | coast Prairie Redox (A16) | |
| Black Hi | | | Thin Dark Su | | | 47, 148) | | (MLRA 147, 148) | |
| | n Sulfide (A4) | | Loamy Gleye | | - 2) | | P | riedmont Floodplain Soils (F19) | |
| | d Layers (A5) | | Depleted Mat | | 0) | | | (MLRA 136, 147) | |
| | ick (A10) (LRR N) d Below Dark Surface | (/11) | Redox Dark S Depleted Dar | , | , | | | ery Shallow Dark Surface (TF12) Other (Explain in Remarks) | |
| | ark Surface (A12) | (Д11) | Redox Depre | | | | 0 | otter (Explain in Remarks) | |
| | lucky Mineral (S1) (L l | RR N. | Iron-Mangane | | | LRR N, | | | |
| | A 147, 148) | , | MLRA 130 | | , , | , | | | |
| | Bleyed Matrix (S4) | | Umbric Surfa | | MLRA 13 | 6, 122) | ³ Ind | icators of hydrophytic vegetation an | d |
| Sandy R | Redox (S5) | | Piedmont Flo | odplain So | oils (F19) | (MLRA 14 | 8) we | etland hydrology must be present, | |
| | Matrix (S6) | | Red Parent M | faterial (F | 21) (MLR | A 127, 147 | ') un | less disturbed or problematic. | |
| | Layer (if observed): | | | | | | | | |
| | ourse Fragments | | | | | | | _ | |
| Depth (in | ches): <u>12</u> | | | | | | Hydric Soil | Present? Yes V No | |
| Remarks: | | | | | | | | | |
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Photograph Direction WNW

| Comments: | | |
|-----------|--|--|
| | | |

| USACE FILE NO./Project Name: | | Mountain \ | /alley Pipeline | COORDINATES: | Lat. | 37.031961 | Lon. | -79.788589 |
|-------------------------------------|-------------------------------------|-------------------------------|---|--------------|------|--|------|------------|
| STREAM/SITE ID AND SITE DESCR | IPTION: | | | | | W-DD1, Pipeline ROW | | |
| (% stream slope, watershed size {ad | creage}, unaltered | l or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 9/28/2021 WEATHER CONDITIONS: | | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-DD1 | Emergent | 0.0813 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | Ī | | | |
| | | | | | | PART III - Advanced | | n |
| | | | | | | Sustainable Determination Made or Advanced Mitigation (Y or N) | | Y |
| | | | | | · | | | |
| | | | | 2 | | | | |
| Total Impact | | 0.0813 | and the second second | | | | | |
| | PART II - | Unit Scores | | | | Estimated | | |
| Wetland Cla | assification | | Replacement Unit(s) |] | | ILF Costs | | |
| Total Emergent | | | 0.0813 | | | | | |
| Total Scrub-Shrub | | | 0 | | | \$4,878.00 | | |
| Total Forested | | | 0 | | • | | | |

Total Open Water

| Project/Site: MVP | | City/Co | ounty: Franklin | | Sampling Date: 07/24/2015 | | | |
|--|---------------------------------------|--|--|---------------------------------|---|--|--|--|
| Applicant/Owner: MVP | | | | | Sampling Point: W-DD1 | | | |
| Investigator(s): A Lands, S Kite, L Sext | | | | | | | | |
| Landform (hillslope, terrace, etc.): flood | | | | | Slope (%): 3-5% | | | |
| Subregion (LRR or MLRA): LRRP | | | | | Datum: NAD83 | | | |
| Soil Map Unit Name: Comus-Maggoo | | | | | | | | |
| Are climatic / hydrologic conditions on the | | | | <u></u> | <u></u> | | | |
| Are Vegetation, Soil, or H | * * | - | | | present? Yes No | | | |
| Are Vegetation, Soil, or H | | _ • | | explain any answe | | | | |
| SUMMARY OF FINDINGS – Att | | | | • | , | | | |
| | | <u> </u> | | <u> </u> | , , | | | |
| Hydrophytic Vegetation Present? | Yes | Is the Sampled Area | | | | | | |
| Hydric Soil Present? Wetland Hydrology Present? | Yes V | No No | within a Wetland? | Yes | No | | | |
| Remarks: | | | | | | | | |
| Cowardin Code: PEM; HGM: Ri | verine; WT: | RPWWN | | | | | | |
| Information listed on this form report wetland hydrology, hydrophytic Supplement delineation methodo | oresents the c vegetation logy. | e data collected ir i, and hydric soils | 2015. The wetland was confirmed usi | d was revisited ng the USACE | d on 11/10/2019. Presence E EMP Regional | | | |
| HYDROLOGY | | | | | | | | |
| Wetland Hydrology Indicators: | | | | Secondary Indic | ators (minimum of two required) | | | |
| Primary Indicators (minimum of one is re | equired; check | all that apply) | | Surface Soil | Cracks (B6) | | | |
| Surface Water (A1) | Т | rue Aquatic Plants (E | 314) | | getated Concave Surface (B8) | | | |
| High Water Table (A2) | | Hydrogen Sulfide Odd | | ✓ Drainage Pa | atterns (B10) | | | |
| Saturation (A3) | | | s on Living Roots (C3) | Moss Trim L | ines (B16) | | | |
| Water Marks (B1) | | Presence of Reduced | | | Water Table (C2) | | | |
| Sediment Deposits (B2) | | Recent Iron Reduction | | Crayfish Burrows (C8) | | | | |
| Drift Deposits (B3) | | Thin Muck Surface (C | | | isible on Aerial Imagery (C9) | | | |
| Algal Mat or Crust (B4) | c | Other (Explain in Rem | arks) | | Stressed Plants (D1) | | | |
| Iron Deposits (B5) | | | | Geomorphic Position (D2) | | | | |
| Inundation Visible on Aerial Imagery | ι (B7) | | | Shallow Aqu | | | | |
| Water-Stained Leaves (B9) | | | | | aphic Relief (D4) | | | |
| Aquatic Fauna (B13) | | | T | FAC-Neutra | T Test (D5) | | | |
| Field Observations: | N . 🗸 | Dentile (Seekees) | | | | | | |
| | | Depth (inches): | | | | | | |
| | | Depth (inches): | | | | | | |
| Saturation Present? Yes (includes capillary fringe) | No | Depth (inches): | Wetland H | lydrology Prese | nt? Yes <u>/</u> No | | | |
| Describe Recorded Data (stream gauge | , monitoring we | ell, aerial photos, prev | vious inspections), if ava | ilable: | | | | |
| | | | | | | | | |
| Remarks: | | | | | | | | |
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VEGETATION (Four Strata) - Use

| 0.01 | Absolute | Dominant | Indicator | Dominance Test worksheet: | |
|--|-------------|-----------------------------|--------------|---|-------------------------|
| ree Stratum (Plot size: 30') | | Species? | | Number of Dominant Species | _ |
| Salix nigra | | | OBL | That Are OBL, FACW, or FAC: | 5 (A) |
| Platanus occidentalis | 5 | | FACW_ | Total Number of Dominant | |
| | | | | Species Across All Strata: | 5 (B) |
| | | | | Percent of Dominant Species | |
| | | | | That Are OBL, FACW, or FAC: | 100 (A/E |
| | | | · | Prevalence Index worksheet: | |
| | 10 | | | Total % Cover of: | Multiply by: |
| 50% of total cover:5 | | = Total Cov total cover: | _ | OBL species | |
| spling/Shrub Stratum (Plot size: 15') | 20% 01 | total cover | | FACW species | |
| Salix nigra | 5 | V | OBL | FAC species | |
| Platanus occidentalis | 5 | <u> </u> | | FACU species | |
| | | | <u>FACW</u> | · - | (5 = |
| | | | | Column Totals: (| |
| | | | · · | Column rotals (| (D |
| | | | | Prevalence Index = B/A = | = |
| | | | | Hydrophytic Vegetation Indic | ators: |
| | | | | ✓ 1 - Rapid Test for Hydrophy | ytic Vegetation |
| | - —— | | | ✓ 2 - Dominance Test is >50° | % |
| | | | | 3 - Prevalence Index is ≤3. | 01 |
| _ | | = Total Cov | _ | 4 - Morphological Adaptation | |
| 50% of total cover:5 | 20% of | total cover: | :2 | data in Remarks or on a | |
| erb Stratum (Plot size: 5') | 70 | , | | Problematic Hydrophytic V | • |
| Leersia oryzoides | 70 | | OBL | | ogotation (Explain) |
| Juncus articulatus | 15 | | OBL | ¹ Indicators of hydric soil and we | etland hydrology must |
| Scirpus atrovirens Willd | 10 | | OBL | be present, unless disturbed or | |
| Juncus effusus | 5 | | F <u>ACW</u> | Definitions of Four Vegetation | n Strata: |
| Carex lurida | 5 | | OBL | Tools Westernlands and such Est | |
| Carex vulpinoidea | 5 | | OBL | Tree – Woody plants, excluding more in diameter at breast heig | |
| Verbesina alternifolia | 5 | | F <u>AC</u> | height. | (22), . oga. a.ooo c |
| Agrostis gigantea | 5 | | F <u>ACW</u> | Sanling/Shrub Waadu planta | . ovoludina vinas losa |
| | _ (| | | Sapling/Shrub – Woody plants than 3 in. DBH and greater than | |
|) | | | | m) tall. | (|
| | | | | Herb – All herbaceous (non-wo | ody) plants regardles |
| | 120 | = Total Cov | er | of size, and woody plants less t | |
| 50% of total cover:60 | 20% of | total cover | 24 | | |
| oody Vine Stratum (Plot size: 15') | | | | Woody vine – All woody vines height. | greater than 3.28 ft in |
| | | | | noight. | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | - | | Hydrophytic Vegetation | |
| | _ | = Total Cov | | Present? Yes | No |
| 50% of total cover: 0 | | total cover: | _ | | |

US Army Corps of Engineers

SOIL Sampling Point: W-DD1

| Profile Desc | cription: (Describe t | o the dept | h needed to docun | nent the i | indicator | or confirn | n the absenc | e of indica | ators.) |
|--------------|-----------------------------------|--------------|------------------------------|-------------|-------------------|--------------------|------------------------|-------------|---|
| Depth | Matrix | | Redo | x Feature | | | | | |
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | | Remarks |
| 0-6" | 10YR 3/4 | 100 | | | | | sandy lo | am | organic |
| 6-16" | 10YR 4/2 | 95 | 7.5YR 4/6 | 5 | С | М | SaCL | | |
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| | | | _ | | | | | | |
| 1Typo: C-C | oncentration, D=Depl | otion DM- | Poducod Matrix MS | S-Mackad | 4 Sand Gr | oine | ² Location: | DIPoro I | Lining, M=Matrix. |
| Hydric Soil | | etion, Rivi= | Reduced Matrix, MS | s=iviasked | sand Gr | ains. | | | Problematic Hydric Soils ³ : |
| Histosol | | | Dork Surface | (87) | | | | | k (A10) (MLRA 147) |
| | pipedon (A2) | | Dark Surface Polyvalue Be | | co (S8) (I | AI DA 1 <i>1</i> 7 | | | irie Redox (A16) |
| | istic (A3) | | Tolyvalde Be | | | | , 140) | | 147, 148) |
| | en Sulfide (A4) | | Loamy Gleye | | | , , | | | Floodplain Soils (F19) |
| | d Layers (A5) | | Depleted Mat | | –/ | | _ | | 136, 147) |
| | uck (A10) (LRR N) | | Redox Dark | | - 6) | | | | low Dark Surface (TF12) |
| Deplete | d Below Dark Surface | (A11) | Depleted Dar | k Surface | e (F7) | | | Other (Exp | plain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | | |
| | Mucky Mineral (S1) (L | RR N, | Iron-Mangan | | es (F12) (| LRR N, | | | |
| | A 147, 148) | | MLRA 13 | - | | | ٦. | | |
| | Gleyed Matrix (S4) | | Umbric Surfa | | | | | | f hydrophytic vegetation and |
| | Redox (S5) | | Piedmont Flo | | | | | | drology must be present, |
| | Matrix (S6) Layer (if observed): | | Red Parent N | nateriai (F | (IVILR | A 127, 14 | <i>1</i>) u | mess dist | urbed or problematic. |
| | Layer (ii observed). | | | | | | | | |
| Type: | | | | | | | | | . v V v |
| | ches): | | | | | | Hydric So | Present | ? Yes / No |
| Remarks: | | | | | | | | | |
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Wetland Photograph Page

Wetland ID W-DD1



Photograph Direction NE

Date: 07/24/2015

Comments: 2015 wetland delineation.



Photograph Direction NE

Date: 11/10/19

Comments: 2019 wetland delineation confirmation.

| USACE FILE NO./Project Name: | | Mountain \ | /alley Pipeline | COORDINATES: | Lat. | 37.031643 | Lon. | -79.788111 |
|---|---|----------------------|---|--------------|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | | W-A12-PEM, Pipeline ROW | | |
| FORM OF MITIGATION: | land of the state | , cpa | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetland Indicators | | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-A12-PEM | Emergent | 0.0651 | Emergent | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made or | | |
| | | | | | | Advanced Mitigation (Y or N) | | Υ |
| | | | | • | | | | |
| | | | | | | | | |
| Total Impact | | 0.0651 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0651 | | | #2.000.00 | | |
| Total Scrub-Shrub | | | 0 | | | \$3,906.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

| Project/Site: MVP | | | | City/C | ounty: Fran | ıklin | | 9 | Sampling Dat | te: 11/18/2019 |
|---|--------------------------------|---------------------|--------------------------------|---------|------------------------------|---------------------------|-------------------------------|------------------|------------------------------|---------------------|
| Applicant/Owner: MVP | | | | | , | | State: VA | | Sampling F | Point: W-A12 -PE |
| Investigator(s): DH, RS | | | | Section | on, Township | , Range: N | /A | | - , , | |
| Landform (hillslope, terrace, et | | | | | | | | ve | 5 | Slope (%): 0% |
| Subregion (LRR or MLRA): L | | | | | | | | | | |
| Soil Map Unit Name: Comus | | | | | | _ | | | | |
| Are climatic / hydrologic condit | | | | | | | | | · | |
| · · · · · · | _ | | | | | | | | | 4 |
| Are Vegetation, Soil | | | - | | | | | | | |
| Are Vegetation, Soil | , or Hydr | ology | naturally pr | oblema | atic? (| If needed, e | explain any ai | nswers | in Remarks. |) |
| SUMMARY OF FINDIN | GS – Attac | h site | map showing | g san | pling poi | nt location | ons, transe | ects, | important | features, etc. |
| Hydrophytic Vegetation Pres | ent? \ | es 🗸 | No | | | | | | | |
| Hydric Soil Present? | | es V | No | - | Is the Sam | • | V | ~ | No | |
| Wetland Hydrology Present? | | es 🗸 | No | | within a Wo | etiano? | res_ | | NO | |
| Remarks: Cowardin Code: PEM H | | NE V | //T: DD\\/\\/\D | | | | | | | |
| | | | | _ | | | | | | |
| Additional areas of PEM w W-A12-PFO wetland was p delineated as W-A12-PEM | etland abutti previously co | ng wetl Infirmed | and W-A12-PF0 I by USACE No | O were | e observed District durin | during 201 ia 2015 fie | 19 Delineation Id reviews. | on Coi at whi | ntirmation si ch time the | urveys. area now |
| delineated as W-A12-PEM clearing and other habitat | did not mee | t all 3 v | etland criteria. | The o | bservation of | of wetland | criteria in 20 | 019 is | likely due to | o tree/shrub |
| | | trie vic | iriity. | | | | | | | |
| HYDROLOGY | | | | | | | | | | |
| Wetland Hydrology Indicate | | | | | | | | | | of two required) |
| Primary Indicators (minimum | of one is requ | ired; che | | | | | Surface | | ` , | |
| Surface Water (A1) | | _ | _ True Aquatic F | • | , | | | | | ve Surface (B8) |
| High Water Table (A2) | | _ | _ Hydrogen Sulf | | , , | | Drainag | | , , | |
| Saturation (A3) | | | Oxidized Rhize | • | • | Roots (C3) | Moss Ti | | ` , | 20) |
| Water Marks (B1) | | _ | Presence of R | | ` , | : - (00) | | | ater Table (C | 72) |
| Sediment Deposits (B2) | | | _ Recent Iron Re | | | ilis (C6) | Crayfish | | | In a man (CO) |
| Drift Deposits (B3) | | | _ Thin Muck Sur | , | , | | | | essed Plants | Imagery (C9) |
| Algal Mat or Crust (B4) Iron Deposits (B5) | | _ | _ Other (Explain | III Kei | ilaiks) | | Geomoi | | | (D1) |
| Inundation Visible on Ae | rial Imagery (F | R7) | | | | | Shallow | | | |
| Water-Stained Leaves (E | | ,, | | | | | | | hic Relief (D4 | 4) |
| Aquatic Fauna (B13) | 30) | | | | | | FAC-Ne | | • | *) |
| Field Observations: | | | | | | | | , atiai i | | |
| Surface Water Present? | Yes | No V | Depth (inches | s): | | | | | | |
| Water Table Present? | Yes | No V | Depth (inches | 3): | _ | | | | | |
| Saturation Present? | | | Depth (inches | | | Wetland H | Hydrology Pr | esent' | ? Yes ✔ | No |
| (includes capillary fringe) | | | | | | | - | | | |
| Describe Recorded Data (str | eam gauge, m | onitoring | j well, aerial phot | os, pre | vious inspect | ions), if ava | illable: | | | |
| Remarks: | | | | | | | | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

| , | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|---|----------|-------------|--------------|---|
| Tree Stratum (Plot size: 30') | | Species? | | Number of Dominant Species |
| 1 | | | | That Are OBL, FACW, or FAC:3 (A) |
| 2 | | | | |
| | | | | Total Number of Dominant Species Across All Strata: 3 (B) |
| 3 | | | | Species Across All Strata:3 (B) |
| 4 | | | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC: 100% (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | |
| | 0 | = Total Cov | /er | Total % Cover of: Multiply by: |
| 50% of total cover: 0 | 20% of | total cover | :0 | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = |
| 1. Alnus serrulata | 5 | ~ | OBL | FAC species x 3 = |
| 2 | - | | | FACU species x 4 = |
| | | | | UPL species x 5 = |
| 3 | | | | Column Totals: (A) (B) |
| 4 | | | | Goldmin Totals (A) (B) |
| 5 | | | | Prevalence Index = B/A = |
| 6 | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 8 | | | | |
| 9 | | | · | ✓ 2 - Dominance Test is >50% |
| <u> </u> | 5 | = Total Cov | | 3 - Prevalence Index is ≤3.0 ¹ |
| 50% of total cover: 2.5 | | total cover | | 4 - Morphological Adaptations ¹ (Provide supporting |
| Herb Stratum (Plot size: 5') | 20 /0 01 | total cover | · | data in Remarks or on a separate sheet) |
| 1. Eupatorium perfoliatum | 30 | ~ | EA C\\\ | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | | | FACW_ | |
| 2. Schizachyrium scoparium | 10 | · - | F <u>ACU</u> | ¹ Indicators of hydric soil and wetland hydrology must |
| 3. Cyperus esculentus | 15 | | FACW | be present, unless disturbed or problematic. |
| 4. Carex Iurida | 40 | | OBL | Definitions of Four Vegetation Strata: |
| 5 | | | | |
| 6 | | | | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| | | | | more in diameter at breast height (DBH), regardless of height. |
| 7 | | | | neight. |
| 8 | | | | Sapling/Shrub – Woody plants, excluding vines, less |
| 9 | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10 | | | | m) tall. |
| 11 | | | | Herb – All herbaceous (non-woody) plants, regardless |
| | | = Total Cov | | of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: <u>47.5</u> | 20% of | total cover | : <u>19</u> | Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. |
| 1 | | | | |
| 2. | | • | | |
| ^ | | | | |
| 3 | | | | |
| 4 | | | | Hydrophytic |
| 5 | 0 | | | Vegetation Present? Yes ✔ No |
| | | = Total Cov | _ | 11030Ht: 103 |
| 50% of total cover: 0 | 20% of | total cover | :0 | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | |
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Sampling Point: W-A12 -PEM

SOIL

| Profile Desc | ription: (Describe t | o the dept | h needed to docur | ment the i | indicator | or confirm | the absence | of indicators.) |
|--------------|-----------------------|------------|-------------------|-------------|--------------------|------------------|------------------|---|
| Depth | Matrix | | Redo | x Feature | s_ | | | |
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | Remarks |
| 0-10 | 7.5 YR 5/4 | 85 | 2.5YR 4/6 | 15 | С | M/PL | SL | With sand |
| | 7.5YR 5/4 | | | | · | | SL | With sand |
| 10-20 | 7.518 5/4 | 70 | 2.5YR 4/6 | 30 | <u>C</u> | M/PL | | vviin sand |
| | | | | | | | | |
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| | oncentration, D=Depl | etion, RM= | Reduced Matrix, M | S=Masked | d Sand Gr | ains. | | L=Pore Lining, M=Matrix. |
| Hydric Soil | Indicators: | | | | | | Indica | ators for Problematic Hydric Soils ³ : |
| Histosol | (A1) | | Dark Surface | | | | | cm Muck (A10) (MLRA 147) |
| Histic Ep | oipedon (A2) | | Polyvalue Be | elow Surfa | ice (S8) (I | VILRA 147, | 148) C | oast Prairie Redox (A16) |
| Black Hi | stic (A3) | | Thin Dark Su | urface (S9 |) (MLRA | 147, 148) | | (MLRA 147, 148) |
| Hydroge | en Sulfide (A4) | | Loamy Gleye | ed Matrix (| (F2) | | P | iedmont Floodplain Soils (F19) |
| Stratified | d Layers (A5) | | Depleted Ma | trix (F3) | | | | (MLRA 136, 147) |
| 2 cm Mu | ıck (A10) (LRR N) | | Redox Dark | Surface (F | - 6) | | V | ery Shallow Dark Surface (TF12) |
| | d Below Dark Surface | (A11) | Depleted Da | | | | | other (Explain in Remarks) |
| Thick Da | ark Surface (A12) | | Redox Depre | | | | | , , |
| | Mucky Mineral (S1) (L | RR N, | Iron-Mangan | | | LRR N, | | |
| | A 147, 148) | , | MLRA 13 | | . , , | ` | | |
| | Gleyed Matrix (S4) | | Umbric Surfa | - | (MLRA 13 | 36, 122) | ³ Ind | icators of hydrophytic vegetation and |
| | Redox (S5) | | Piedmont Flo | | | | | tland hydrology must be present, |
| | Matrix (S6) | | Red Parent N | | | | | less disturbed or problematic. |
| | Layer (if observed): | | | (| , (| , | , <u>.</u> | P. 200 |
| | | | | | | | | |
| Type: | | | | | | | | 5 10 Y V |
| Depth (in | cnes): | | | | | | Hydric Soil | Present? Yes No |
| Remarks: | _ | | | | | | | |
| Soil disturb | ance from recent | t constru | ction, concentra | itions ar | e very tl | hick in pla | aces. Sand | has been incorporated |
| throughout | | | | | | | | |
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Wetland Photograph Page

Wetland ID W-A12 -PENCowardin Code PEM Date 11/18/2019



Photograph Number 1

Photograph Direction NE

Comments:



Photograph Number 2

Photograph Direction ESE

Comments:

| USACE FILE NO./Project Name: | | Mountain Valley Pipeline | | | Lat. | 36.988077 | Lon. | -79.702803 |
|--|-------------------------------------|--------------------------|---|--|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | | W-H11, Pipeline ROW | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-H11 | Emergent | 0.0468 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made on | | |
| | | | | | | Advanced Mitigation (Y or N) | | Y |
| | | | | | • | | - | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | | 0.0468 | | | _ | | | |
| | | 0.0468 Unit Scores | | | | Estimated | | |
| Wetland C | PART II - | | Replacement Unit(s) | | | Estimated ILF Costs | | |
| Wetland C | | | 0.0468 | | | ILF Costs | | |
| Total Impact Wetland C Total Emergent Total Scrub-Shrub Total Forested | | | | | | | | |

| Project/Site: MVP | City/County: Franklin | <u> </u> | Sampling Date: 04/04/2015 |
|---|---|-------------------------|--------------------------------|
| Applicant/Owner: MVP | | | Sampling Point: W-H11 |
| | Section, Township, Rar | | _ |
| Landform (hillslope, terrace, etc.): Side-slope | | | Slope (%): 1-4% |
| Subregion (LRR or MLRA): LRRN Lat: | | | Datum: NAD83 |
| Soil Map Unit Name: Clifford fine sandy loam, 1 | | - | |
| Are climatic / hydrologic conditions on the site typical for | or this time of year? Yes V | (If no, explain in Re | emarks.) |
| Are Vegetation, Soil, or Hydrology | | | |
| Are Vegetation, Soil, or Hydrology | | | |
| SUMMARY OF FINDINGS – Attach site m | | | |
| | No | | · · |
| Hydrophytic Vegetation Present? Hydric Soil Present? Yes Yes | - Is the Sampled | | |
| Wetland Hydrology Present? | No within a Wetlan | id? Yes <u> </u> | No |
| Remarks: | | | |
| Cowardin Code: PEM; HGM: slope; WT: rpv | wwd | | |
| The wetland was revisited on 11/12/2019. F | | hydrophytic vegetation | on, and hydric soils was |
| confirmed using the USACE EMP Regional | | | • |
| obstructed by a timbermat. | • • | 0, 1 | |
| HYDROLOGY | | | |
| Wetland Hydrology Indicators: | | Secondary Indicat | tors (minimum of two required) |
| Primary Indicators (minimum of one is required; check | call that apply) | Surface Soil (| |
| | True Aquatic Plants (B14) | | etated Concave Surface (B8) |
| | Hydrogen Sulfide Odor (C1) | <u>✓</u> Drainage Pat | |
| | Oxidized Rhizospheres on Living Roots | | |
| | Presence of Reduced Iron (C4) | | Vater Table (C2) |
| | Recent Iron Reduction in Tilled Soils (C | | |
| | Thin Muck Surface (C7) | | sible on Aerial Imagery (C9) |
| | Other (Explain in Remarks) | | ressed Plants (D1) |
| Iron Deposits (B5) | , | Geomorphic I | |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aquit | |
| Water-Stained Leaves (B9) | | | phic Relief (D4) |
| Aquatic Fauna (B13) | | FAC-Neutral | |
| Field Observations: | | | |
| Surface Water Present? Yes No | Depth (inches): | | |
| Water Table Present? Yes No | Depth (inches): | | |
| Saturation Present? Yes No | | tland Hydrology Present | t? Yes 🗸 No |
| (includes capillary fringe) | | | |
| Describe Recorded Data (stream gauge, monitoring v | vell, aerial photos, previous inspections |), if available: | |
| Remarks: | | | |
| In power line corridor | | | |
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VEGETATION (Four Strata) - Use scientific names of plants.

| EGETATION (Four Strata) – Use scientific n | ames of | plants. | | Sampling Point: <u>W-H11</u> | |
|--|------------------------------|----------------|------------------------------------|---|---|
| 30' | | Dominant | | Dominance Test worksheet: | |
| ree Stratum (Plot size: 30') | | Species? | | Number of Dominant Species | |
| | | | | That Are OBL, FACW, or FAC: 2 (| A) |
| | | | | Total Number of Dominant | |
| · <u> </u> | | | | Species Across All Strata:3(| B) |
| · | | | | Percent of Dominant Species | |
| | | · | | That Are OBL, FACW, or FAC: 67% (| A/B |
| | | · | | Prevalence Index worksheet: | |
| | 0 | = Total Cov | | Total % Cover of: Multiply by: | |
| 50% of total cover: 0 | | | _ | OBL species x 1 = | |
| apling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = | |
| Rosa multiflora | 5 | ~ | FACU | FAC species x 3 = | |
| | | | | FACU species x 4 = | |
| | | | | UPL species x 5 = | |
| | | | | Column Totals: (A) | (B) |
| | | | | Dravalance Index D/A | |
| | - | | | Prevalence Index = B/A = Hydrophytic Vegetation Indicators: | |
| <u> </u> | | | | 1 - Rapid Test for Hydrophytic Vegetation | |
| | | | | 2 - Dominance Test is >50% | |
| | | | | 3 - Prevalence Index is ≤3.0 ¹ | |
| | | = Total Cov | er | 4 - Morphological Adaptations¹ (Provide suppo | rtin |
| 50% of total cover: 2.5 | 20% of | f total cover: | 1 | data in Remarks or on a separate sheet) | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| lerb Stratum (Plot size: 5') | 50 | | | Problematic Hydrophytic Vegetation¹ (Explain) | |
| | 50 | | | | |
| | | | F <u>AC</u> | | |
| Juncus effusus | 20 | | F <u>ACW</u> | | |
| Juncus effusus Scirpus cyperinus | 20 10 | | F <u>ACW</u> | ¹ Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic. | |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia | 20 | <u> </u> | FACW FACW FAC | ¹ Indicators of hydric soil and wetland hydrology mu | |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia | 20 10 5 5 | <u> </u> | FACW FACW FAC FACW | ¹ Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: | ıst |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 | | FACW FACW FAC | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles | n) o |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 5 5 5 | | FACW FACW FAC FACW | ¹ Indicators of hydric soil and wetland hydrology mu be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm | n) o |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 5 5 5 | | FACW FACW FAC FACW | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, le | n) or |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 5 5 5 | | FACW FACW FAC FACW | ¹Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft | n) of |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 5 5 5 | | FACW FACW FAC FACW | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, le | n) of |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 5 5 5 | | FACW FACW FAC FACW OBL | ¹ Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardles. | n) or ss of |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens 0 | 20 10 5 5 5 5 | = Total Cover | FACW FACW FACW OBL | ¹ Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. | n) or ss of |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens 0. 1. 50% of total cover: 47.5 | 20 10 5 5 5 5 | | FACW FACW FACW OBL | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft | n) or soft |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens 0. 1. 50% of total cover: 47.5 | 20 10 5 5 5 5 | | FACW FACW FACW OBL | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. | n) or soft |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens 0 | 20 10 5 5 5 5 | | FACW FACW FACW OBL | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft | n) or soft |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 5 5 5 5 | | FACW FACW FACW OBL | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft | n) or soft |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens | 20 10 5 5 5 5 | | FACW FACW FACW OBL | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. | n) or soft |
| Juncus effusus Scirpus cyperinus Verbesina alternifolia Ludwigia alternifolia Scirpus atrovirens 0 | 20 10 5 5 5 5 | | FACW FACW FACW OBL | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. | n) or soft |
| 0 | 20 10 5 5 5 5 | | FACW FAC FACW OBL | Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm more in diameter at breast height (DBH), regardles height. Sapling/Shrub – Woody plants, excluding vines, lethan 3 in. DBH and greater than or equal to 3.28 ft m) tall. Herb – All herbaceous (non-woody) plants, regardl of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft height. | n) or soft |

SOIL Sampling Point: W-H11

| Profile Desc | ription: (Describe t | o the depth | needed to docur | nent the i | indicator | or confirm | n the absence | e of indicators.) |
|------------------------|-----------------------------|-------------|-------------------------------|-------------|--------------------|------------------------|--------------------------|--|
| Depth | Matrix | | Redo | x Feature | S | | | |
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | <u>Loc²</u> | <u>Texture</u> | Remarks |
| 0-6" | 5YR 4/2 | 80 | 5YR 4/6 | 20 | С | M | SiL | |
| 6-20" | 7.5YR 4/2 | 80 | 5YR 4/6 | 20 | С | M | SL | |
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| | | | | | | | | |
| ¹ Type: C=C | oncentration, D=Depl | etion RM-F | Reduced Matrix MS | S-Masker | d Sand Gr | ains | ² Location: F | PL=Pore Lining, M=Matrix. |
| Hydric Soil | | ouon, min-i | Codeca Matrix, Mc | J-Masket | J Garia Gi | airio. | | eators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | (S7) | | | | 2 cm Muck (A10) (MLRA 147) |
| | oipedon (A2) | | Polyvalue Be | | ice (S8) (I | MLRA 147. | | Coast Prairie Redox (A16) |
| | stic (A3) | | Thin Dark Su | | | | , , | (MLRA 147, 148) |
| | en Sulfide (A4) | | Loamy Gleye | | | , -, | F | Piedmont Floodplain Soils (F19) |
| Stratified | d Layers (A5) | | Depleted Ma | trix (F3) | , | | | (MLRA 136, 147) |
| 2 cm Mu | uck (A10) (LRR N) | | Redox Dark | | | | \ | /ery Shallow Dark Surface (TF12) |
| | d Below Dark Surface | (A11) | Depleted Dar | | | | (| Other (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | |
| | Mucky Mineral (S1) (L | RR N, | Iron-Mangan | | es (F12) (| LRR N, | | |
| | A 147, 148) | | MLRA 13 | - | /MI DA 4/ | 20. 400) | 31 | disease of business bud's account of a second |
| | Gleyed Matrix (S4) | | Umbric Surfa | | | | | dicators of hydrophytic vegetation and etland hydrology must be present, |
| | Redox (S5) I Matrix (S6) | | Piedmont Florage Red Parent N | | | | | nless disturbed or problematic. |
| | Layer (if observed): | | Red r arent n | nateriai (i | Z1) (IVILIV | A 121, 14 | 1) ui | liess disturbed of problematic. |
| Type: | Layer (ii observea). | | | | | | | |
| | ches): | | _ | | | | Hydric Soi | I Present? Yes ✔ No |
| | Ciles) | | | | | | Hydric 30i | Triesent: Tes No |
| Remarks: | | | | | | | | |
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Wetland Photograph Page

Wetland ID W-H11



Photograph Direction North

Date: 04/04/2015

Comments: 2015 wetland delineation.



Photograph Direction NW

Date: 11/12/19

Comments: 2019 wetland delineation confirmation.

| USACE FILE NO./Project Name: | | Mountain Valley Pipeline | | | Lat. | 36.988073 | Lon. | -79.714967 |
|---|-------------------------------------|--------------------------|---|--|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | | W-H16, Timber Mat Crossing | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-H16 | Emergent | 0.0232 | Emergent | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made or | | |
| | | | | | | Advanced Mitigation (Y or N) | | Υ |
| | | | | | | ` | • | |
| | | | | | | | | |
| Total Impact | | 0.0232 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0232 | | | #4 000 00 | | |
| Fotal Scrub-Shrub | | | 0 | | | \$1,392.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

| Project/Site: MVP | City/County: Franklin | s | sampling Date: 04/04/2015 | | | | |
|---|--|-------------------------|------------------------------|--|--|--|--|
| Applicant/Owner: MVP | State: VA Sampling Point: W-H16 | | | | | | |
| Investigator(s): A.Stott, A. Grech, H. Heist | | | | | | | |
| Landform (hillslope, terrace, etc.): Side-slope | Local relief (concave, convex, nor | _{ne):} Concave | Slope (%): 0-2% | | | | |
| Subregion (LRR or MLRA): LRRN La | | | | | | | |
| Soil Map Unit Name: Clifford-Hickoryknob com | | | | | | | |
| Are climatic / hydrologic conditions on the site typical | _ | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | | | |
| SUMMARY OF FINDINGS – Attach site | | | | | | | |
| Hydrophytic Vegetation Present? Yes | No. In the Sempled Area | | | | | | |
| | No. | Yes 🗸 | NI- | | | | |
| Wetland Hydrology Present? Yes | No within a Wetland? | Yes | NO | | | | |
| Remarks: | | | | | | | |
| Cowardin Code: PEM; HGM: riverine; WT | • | | | | | | |
| The wetland was revisited on 11/12/2019. | Presence of wetland hydrology, hydro | phytic vegetatior | n, and hydric soils was | | | | |
| confirmed using the USACE EMP Regiona | al Supplement delineation methodology | /. | | | | | |
| LIVEROL OCY | | | | | | | |
| HYDROLOGY Wetland Hydrology Indicators: | | Socondary Indicator | rs (minimum of two required) | | | | |
| Primary Indicators (minimum of one is required; che | ock all that apply) | Surface Soil Cr | | | | | |
| | | | tated Concave Surface (B8) | | | | |
| 1 4 | True Aquatic Plants (B14)Hydrogen Sulfide Odor (C1) | Sparsery veget | | | | | |
| | 0.111 1.511 1 | Moss Trim Line | | | | | |
| | Presence of Reduced Iron (C4) | Dry-Season Wa | | | | | |
| | Recent Iron Reduction in Tilled Soils (C6) | Crayfish Burrov | | | | | |
| Drift Deposits (B3) | Thin Muck Surface (C7) | | ole on Aerial Imagery (C9) | | | | |
| Algal Mat or Crust (B4) | Other (Explain in Remarks) | | ssed Plants (D1) | | | | |
| Iron Deposits (B5) | | Geomorphic Po | | | | | |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aquitai | | | | | |
| Water-Stained Leaves (B9) | | Microtopograph | | | | | |
| ✓ Aquatic Fauna (B13) | | FAC-Neutral Te | | | | | |
| Field Observations: | | | | | | | |
| Surface Water Present? Yes No | Depth (inches): | | | | | | |
| Water Table Present? Yes V | | | | | | | |
| | 0" | lydrology Present? | Yes | | | | |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring | | | | | | | |
| Describe Necorded Data (Stream gauge, monitoring | , well, aerial priotos, previous inspections), il ava | liable. | | | | | |
| Remarks: | | | | | | | |
| In power line corridor | | | | | | | |
| Connects to s-h36 | | | | | | | |
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| Tree Stratum (Plot size: 30') | | - | | Sampling Point: W-H16 |
|---|-------------|-------------|---------------|---|
| Tree Stratum (Plot size: 30) | Absolute | Dominant | | Dominance Test worksheet: |
| (1 lot 6/26 | % Cover | Species? | Status | Number of Dominant Species |
| 1 | | | | That Are OBL, FACW, or FAC: 2 (A) |
| 2 | | | | Total Number of Dominant |
| 3 | | | | Species Across All Strata: 2 (B) |
| 4 | | | | |
| 5 | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) |
| 5 | | | · | That Ale OBE, I AOW, OIT AO. |
| 7. | | - | · —— | Prevalence Index worksheet: |
| · | 0 | = Total Cov | vor | Total % Cover of: Multiply by: |
| 50% of total cover:0 | | | | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | 2070 01 | total oover | | FACW species x 2 = |
| sapinig/ornab otratum (1 lot size) | | | | FAC species x 3 = |
| | | | | FACU species x 4 = |
| 2 | | | | UPL species x 5 = |
| 3 | | | · | |
| 4 | | | . | Column Totals: (A) (B) |
| 5 | | | | Prevalence Index = B/A = |
| 5 | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 3 | | - | | 2 - Dominance Test is >50% |
| 9 | | | | |
| | 0 | = Total Cov | ver | 3 - Prevalence Index is ≤3.0¹ |
| 50% of total cover: 0 | 20% of | total cover | 0 | 4 - Morphological Adaptations ¹ (Provide supporting |
| Herb Stratum (Plot size: 5') | | | | data in Remarks or on a separate sheet) |
| Microstegium vimineum | 40 | ~ | FAC | Problematic Hydrophytic Vegetation ¹ (Explain) |
| Juncus effusus | 30 | | FACW | |
| Cyperus esculentus | 15 | | FACW | ¹ Indicators of hydric soil and wetland hydrology must |
| Ludwigia alternifolia | 5 | - | | be present, unless disturbed or problematic. |
| 5. Impatiens capensis | 5 | - | FACW | Definitions of Four Vegetation Strata: |
| · | | | FACW_ | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 5 | | | | more in diameter at breast height (DBH), regardless of |
| 7 | | | | height. |
| 3 | | | | Sapling/Shrub – Woody plants, excluding vines, less |
| 9 | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10 | | | | m) tall. |
| l1 | | | | Herb – All herbaceous (non-woody) plants, regardless |
| | 95 | = Total Cov | er er | of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: <u>47.5</u> | 20% of | total cover | 19 | Manda da da Allaca da dina arrestanthan 2 00 ft in |
| Noody Vine Stratum (Plot size: 15') | | | | Woody vine – All woody vines greater than 3.28 ft in height. |
| | | | | noight |
| | | | | |
| 1 | | | | |
| 1 2 | | - | | |
| 1 | | | | |
| 1 | | | | Hydrophytic |
| 1 | | | | Vegetation |
| 1 | | = Total Cov | _ | |
| 1 | 0 20% of | | _ | Vegetation |

SOIL Sampling Point: W-H16

| Profile Desc | ription: (Describe to | o the depth | n needed to docum | nent the i | ndicator | or confirm | the absence | of indicators.) | |
|---------------|--------------------------------|--------------|-------------------|-------------|-------------------|------------------|----------------------------|------------------|------------------------------------|
| Depth | Matrix | | Redox | c Feature | s | | | | |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | Texture | F | Remarks |
| 0-4" | 10YR 3/1 | 90 | 7.5YR 3/4 | 10 | С | M | S | | _ |
| 4-16" | Gley 1 3/10y | 100 | | | С | M | S | | |
| 16+" | | | | | | | | F | Refusal cf |
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| ¹Type: C=Co | oncentration, D=Deple | etion RM=F | Reduced Matrix MS | =Masker | Sand Gr | ains | ² l ocation: Pl | | M=Matrix |
| Hydric Soil | | ouon, rawi–i | Codoca Matrix, Mc | - Masket | d Carlo Ci | airio. | | | ematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | (97) | | | | cm Muck (A10) | - |
| | pipedon (A2) | | Polyvalue Bel | . , | ce (S8) (I | /II RΔ 147 | | oast Prairie Red | • |
| Black Hi | | | Thin Dark Su | | . , . | | 0 | (MLRA 147, 14 | |
| | n Sulfide (A4) | | Loamy Gleye | | | 141, 140) | Pi | | lain Soils (F19) |
| | Layers (A5) | | Depleted Mat | | 1 2) | | <u> </u> | (MLRA 136, 1 | |
| | ick (A10) (LRR N) | | Redox Dark S | | -6) | | Ve | • | rk Surface (TF12) |
| | Below Dark Surface | (A11) | Depleted Dar | • | , | | | ther (Explain in | , , |
| | ark Surface (A12) | , | Redox Depre | | | | · <u></u> | ` . | , |
| | lucky Mineral (S1) (L l | RR N, | Iron-Mangane | | | LRR N, | | | |
| | A 147, 148) | | MLRA 136 | | | | | | |
| ✓ Sandy G | leyed Matrix (S4) | | Umbric Surfa | ce (F13) (| (MLRA 13 | 36, 122) | ³ Indi | cators of hydro | phytic vegetation and |
| ✓ Sandy R | edox (S5) | | Piedmont Flo | odplain S | oils (F19) | (MLRA 14 | l8) we | tland hydrology | must be present, |
| Stripped | Matrix (S6) | | Red Parent M | laterial (F | 21) (MLR | A 127, 147 | 7) unl | ess disturbed o | r problematic. |
| Restrictive I | ayer (if observed): | | | | | | | | |
| Type: Re | efusal: coarse fra | gments | | | | | | | |
| Depth (inc | ches): 16" | | <u></u> | | | | Hydric Soil | Present? Ye | es V No |
| Remarks: | | | | | | | <u> </u> | | |
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Wetland Photograph Page

Wetland ID W-H16



Photograph Direction SW

Date: 04/04/2015

Comments: 2015 wetland delineation.



Photograph Direction West

Date: 11/12/19

Comments: 2019 wetland delineation confirmation.

| USACE FILE NO./Project Name: | | Mountain \ | /alley Pipeline | COORDINATES: | Lat. | 36.988069 | Lon. | -79.711841 |
|-------------------------------------|-------------------------------------|----------------------|---|--------------|------|--|------|------------|
| STREAM/SITE ID AND SITE DESCRI | IPTION: | | | | | W-H14, Timber Mat Crossing | | |
| (% stream slope, watershed size {ad | creage}, unaltered | d or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 3/2021 | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| V-H14 | Emergent | 0.0061 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced | | on |
| | | | | | | Sustainable Determination Made or Advanced Mitigation (Y or N) | | Y |
| | | | | | | | | |
| Total Impact | | 0.0061 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| Wetland Cla | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0061 | | | #200.00 | | |
| Total Scrub-Shrub | | | 0 | | | \$366.00 | | |
| otal Forested | | | 0 | | | | | |

Total Open Water

| Project/Site: MVP | | City/C | _{ounty:} Franklin | | Sampling Date: 04/04/2015 |
|---|----------------------|------------------------|----------------------------|--------------------|---------------------------------|
| Applicant/Owner: MVP | | | | | Sampling Point: W-H14 |
| Investigator(s): A.Stott, A. Grech, F | | | | | _ , |
| Landform (hillslope, terrace, etc.): S | | | | | Slope (%): 0-2% |
| Subregion (LRR or MLRA): LRRN | | | | | Datum: NAD83 |
| Soil Map Unit Name: Clifford-Hick | | | - | | |
| Are climatic / hydrologic conditions o | | | | | |
| Are Vegetation, Soil, | 7.7 | • | | | |
| Are Vegetation, Soil, | | | | | |
| SUMMARY OF FINDINGS – | | | | | |
| | | | 3 | | , , |
| Hydrophytic Vegetation Present? | Yes | | Is the Sampled Area | 4 | |
| Hydric Soil Present? Wetland Hydrology Present? | Yes | No No | within a Wetland? | Yes | No |
| Remarks: | res | NO | | | |
| Cowardin Code: PEM; HGM: | riverine ; WT: rr | owwd | | | |
| The wetland was revisited on | | | nd hydrology, hydrol | phytic vegetati | on, and hydric soils was |
| confirmed using the USACE | | | | | , , |
| | | | | , - | |
| HYDROLOGY | | | | | |
| Wetland Hydrology Indicators: | | | | Secondary Indica | ators (minimum of two required) |
| Primary Indicators (minimum of one | is required; check a | all that apply) | | Surface Soil | Cracks (B6) |
| Surface Water (A1) | Т | rue Aquatic Plants (I | B14) | | getated Concave Surface (B8) |
| ✓ High Water Table (A2) | н | lydrogen Sulfide Odd | or (C1) | Drainage Pa | tterns (B10) |
| Saturation (A3) | 0 | xidized Rhizosphere | es on Living Roots (C3) | Moss Trim L | ines (B16) |
| Water Marks (B1) | P | resence of Reduced | Iron (C4) | Dry-Season | Water Table (C2) |
| Sediment Deposits (B2) | R | ecent Iron Reduction | n in Tilled Soils (C6) | Crayfish Bur | rows (C8) |
| Drift Deposits (B3) | | hin Muck Surface (C | | | isible on Aerial Imagery (C9) |
| Algal Mat or Crust (B4) | 0 | ther (Explain in Ren | narks) | | tressed Plants (D1) |
| Iron Deposits (B5) | | | | <u> Geomorphic</u> | ` ' |
| Inundation Visible on Aerial Ima | agery (B7) | | | Shallow Aqu | |
| Water-Stained Leaves (B9) | | | | | aphic Relief (D4) |
| Aquatic Fauna (B13) | | | | FAC-Neutral | Test (D5) |
| Field Observations: | . / Na 1 | Donath (in all and) | 1" | | |
| | No [| | 1 6" | | |
| | No [| Septif (inorics) | | | |
| Saturation Present? Yes (includes capillary fringe) | No [| Depth (inches): | Wetland H | lydrology Preser | nt? Yes V No |
| Describe Recorded Data (stream ga | auge, monitoring we | ll, aerial photos, pre | vious inspections), if ava | ilable: | |
| | | | | | |
| Remarks: | | | | | |
| In power line corridor | | | | | |
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| Sampling Point: W-H14 | Sampl | lina | Point: | W-H14 |
|-----------------------|-------|------|--------|-------|
|-----------------------|-------|------|--------|-------|

| 201 | Absolute | Dominant | Indicator | Dominance Test worksheet: |
|---|-------------|-----------------------------|--------------|--|
| <u>Tree Stratum</u> (Plot size:) | | Species? | | Number of Dominant Species |
| 1 | | | | That Are OBL, FACW, or FAC:3 (A) |
| 2 | | | | Total Number of Dominant |
| 3 | | | | Species Across All Strata:3 (B) |
| 4 | | | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC: 100% (A/B) |
| 6 | | | | Prevalence Index worksheet: |
| 7 | | | | |
| _ | | = Total Cov | | |
| 50% of total cover: 0 | 20% of | total cover | 0 | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | 4.0 | <u>.</u> | | FACW species x 2 = |
| 1. Smilax rotundifolia | 10 | | F <u>AC</u> | FAC species x 3 = |
| 2 | | | | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 4 | | | | Column Totals: (A) (B) |
| 5 | | | | Dravalance Index D/A |
| 6 | | | | Prevalence Index = B/A = |
| 7 | | | | Hydrophytic Vegetation Indicators: |
| 8 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| | | | | 2 - Dominance Test is >50% |
| 9 | | = Total Cov | | 3 - Prevalence Index is ≤3.0 ¹ |
| 50% of total cover: 5 | | total cover: | _ | 4 - Morphological Adaptations ¹ (Provide supporting |
| Herb Stratum (Plot size: 5') | 20 /6 01 | total cover. | | data in Remarks or on a separate sheet) |
| 1. Microstegium vimineum | 25 | ~ | FACW | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | 20 | <u> </u> | | |
| 2. Juncus effusus | | | F <u>ACW</u> | ¹ Indicators of hydric soil and wetland hydrology must |
| 3. Carex sp. | | | ND | be present, unless disturbed or problematic. |
| 4. Eupatorium perfoliatum | 5 | | F <u>ACW</u> | Definitions of Four Vegetation Strata: |
| 5 | | | | Trans. Was dead and a supplication of the Company o |
| 6 | | | | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of |
| 7 | | | | height. |
| 8 | | | | Octobration Western Land |
| 9 | | | | Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10. | | | | m) tall. |
| 11. | | | | Harb All harbassaus (non woods) planta regardless |
| | 70 | = Total Cov | | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: 35 | | total cover: | | |
| Woody Vine Stratum (Plot size: 15') | | | | Woody vine – All woody vines greater than 3.28 ft in |
| 1 | | | | height. |
| 2 | | | | |
| 3 | | | | |
| | | | | |
| 4 | | | | Hydrophytic |
| 5 | ^ | | | Vegetation Present? Yes ✓ No |
| 500% of total across 0 | | = Total Cov total cover: | | 100 <u>100</u> |
| 50% of total cover:0 | | total cover | | |
| Remarks: (Include photo numbers here or on a separate s | neet.) | | | |
| ND- Not Determined | | | | |
| *Venetation not IDI-laborate accessors | التاليمانية | ا تائمال | | 2 4224 |
| *Vegetation not ID'd down to species level is no | t include | u in the d | ominanc | e test. |
| | | | | |
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SOIL Sampling Point: W-H14

| Profile Desc | ription: (Describe t | o the depth | needed to docur | nent the i | ndicator | or confirm | the absen | ce of indicators.) |
|--------------|------------------------------|--------------|-------------------|---------------|-------------------|------------------|------------------------|---|
| Depth | Matrix | | Redo | x Features | 3 | | | |
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | Loc ² | Texture | Remarks |
| 0-4" | 10YR 3/1 | 90 | 7.5YR3/4 | 10 | С | M | S | |
| 4-20" | Gley1 3/10y | 100 | | | | | S | |
| | | | _ | | | | | |
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| 1Type: C-C | oncentration, D=Deple | etion RM-R | educed Matrix M | S-Maskad | Sand Gr | aine | ² Location: | PL=Pore Lining, M=Matrix. |
| Hydric Soil | | euon, Kivi=K | educed Matrix, Mi | 3=ivia5keu | Sand Gi | allis. | | licators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | (\$7) | | | | 2 cm Muck (A10) (MLRA 147) |
| | pipedon (A2) | | Polyvalue Be | | ce (S8) (N | /II RΔ 147 | 148) | Coast Prairie Redox (A16) |
| Black Hi | | | Thin Dark Su | | | | 0, | (MLRA 147, 148) |
| | n Sulfide (A4) | | Loamy Gleye | | | · · · · , | | Piedmont Floodplain Soils (F19) |
| | d Layers (A5) | | Depleted Ma | | , | | | (MLRA 136, 147) |
| 2 cm Mu | ick (A10) (LRR N) | | Redox Dark | Surface (F | 6) | | | Very Shallow Dark Surface (TF12) |
| | d Below Dark Surface | (A11) | Depleted Da | | | | | Other (Explain in Remarks) |
| | ark Surface (A12) | | Redox Depre | | | | | |
| | lucky Mineral (S1) (L | RR N, | Iron-Mangan | | es (F12) (| LRR N, | | |
| | A 147, 148) | | MLRA 13 | • | | | 3. | |
| | Gleyed Matrix (S4) | | Umbric Surfa | | | | | Indicators of hydrophytic vegetation and |
| | ledox (S5) Matrix (S6) | | Piedmont Flo | | | | | wetland hydrology must be present, unless disturbed or problematic. |
| | _ayer (if observed): | | Red Parent i | viateriai (F. | 21) (IVILK | A 127, 147 | 1 | unless disturbed of problematic. |
| | Layer (ii observeu). | | | | | | | |
| Type: | -L \ | | <u> </u> | | | | 11 | all Bassanio - Van - V |
| | ches): | | _ | | | | Hyaric S | oil Present? Yes No |
| Remarks: | | | | | | | | |
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Wetland Photograph Page

Wetland ID W-H14



Photograph Direction SE

Date: 04/04/2015

Comments: 2015 wetland delineation.



Photograph Direction East

Date: 11/12/19

| USACE FILE NO./Project Name: | | Mountain \ | /alley Pipeline | COORDINATES: | Lat. | 36.987947 | Lon. | -79.700844 |
|---|-------------------------------------|-----------------------|---|--------------|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR (% stream slope, watershed size {a | | d or impairments) | | | | W-A8, Pipeline ROW | | |
| FORM OF MITIGATION: | | | | | | | | |
| | | | WEATHER CONDITIONS: | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wet | land Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-A8 | Emergent | 0.0154 | Emergent | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | PART III - Advanced | Mitigatio | n |
| | | | | | | Sustainable Determination Made on | | |
| | | | | | | Advanced Mitigation (Y or N) | | Y |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | | 0.0154 | | | | | | |
| | | 0.0154 Unit Scores | | | | Estimated | | |
| Wetland C | PART II - | | Replacement Unit(s) | | | Estimated ILF Costs | | |
| Wetland C Total Emergent | | | 0.0154 | | | ILF Costs | | |
| | | | | | | | | |

| Project/Site: MVP | City/C | _{ounty:} Franklin | | Sampling Date: 04/03/2015 | | |
|---|-------------------------------------|---|---|--------------------------------|--|--|
| Applicant/Owner: MVP | | | | Sampling Point: W-A8 | | |
| Investigator(s): A.Stott, A. Grech, H. Heis | | | | | | |
| Landform (hillslope, terrace, etc.): Side-s | | | | Slope (%): 2-4% | | |
| Subregion (LRR or MLRA): LRRP | | | | Datum: NAD 83 | | |
| Soil Map Unit Name: Clifford fine sand | | | | | | |
| Are climatic / hydrologic conditions on the s | | | | <u></u> | | |
| | | | | resent? Yes No | | |
| Are Vegetation, Soil, or Hyd | | | | | | |
| Are Vegetation, Soil, or Hyd SUMMARY OF FINDINGS – Atta | | | explain any answe ons. transects | | | |
| | | pung pomi recume | | ,portum routures, etc. | | |
| , , , , | Yes No | Is the Sampled Area | | | | |
| | Yes | within a Wetland? | Yes | No | | |
| Remarks: | res vino | | | | | |
| Cowardin Code: PEM; HGM: Slop | e; WT: RPWWD | | | | | |
| The wetland was revisited on 11/1 | | nd hydrology, hydro | phytic vegetati | on, and hydric soils was | | |
| confirmed using the USACE EMP | | | | , , | | |
| are some some some some some some some som | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | , - | | | |
| HYDROLOGY | | | | | | |
| Wetland Hydrology Indicators: | | | Secondary Indica | tors (minimum of two required) | | |
| Primary Indicators (minimum of one is req | juired; check all that apply) | | Surface Soil | Cracks (B6) | | |
| Surface Water (A1) | True Aquatic Plants (I | B14) | Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10) | | | |
| ✓ High Water Table (A2) | Hydrogen Sulfide Odd | | | | | |
| Saturation (A3) | Oxidized Rhizosphere | | Moss Trim Li | nes (B16) | | |
| Water Marks (B1) | Presence of Reduced | Iron (C4) | Dry-Season \ | Water Table (C2) | | |
| Sediment Deposits (B2) | Recent Iron Reduction | n in Tilled Soils (C6) | Crayfish Burr | rows (C8) | | |
| Drift Deposits (B3) | Thin Muck Surface (C | 37) | Saturation Visible on Aerial Imagery (C9) | | | |
| Algal Mat or Crust (B4) | Other (Explain in Rem | narks) | | ressed Plants (D1) | | |
| Iron Deposits (B5) | | | Geomorphic | Position (D2) | | |
| Inundation Visible on Aerial Imagery | (B7) | | Shallow Aquitard (D3) | | | |
| Water-Stained Leaves (B9) | | | | phic Relief (D4) | | |
| Aquatic Fauna (B13) | | | FAC-Neutral | Test (D5) | | |
| Field Observations: | | | | | | |
| | No Depth (inches): | | | | | |
| Water Table Present? Yes | _ 140 Doptii (incincs) | <u>6"</u> | | | | |
| | No Depth (inches): | O" Wetland H | lydrology Presen | t? Yes / No | | |
| (includes capillary fringe) Describe Recorded Data (stream gauge, in | monitoring well, aerial photos, pre | vious inspections), if ava | ilable: | | | |
| , , , | | • | | | | |
| Remarks: | | | | | | |
| In power line corridor. Culvert to d | am/pool area. Wetland con | tinued to wetland se | еер. | | | |
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| Tree Stratum (Plot size: 30' | Absolute | Dominant | | Dominance Test worksheet: | | |
|---|----------|-----------------------------|--------------|--|-----------------------------|----------------|
| Tiec otratum (Flot size. | % Cover | | | Number of Dominant Species | 2 | (4) |
| 1 | | | | That Are OBL, FACW, or FAC: | | (A) |
| 2 | | | · | Total Number of Dominant | 4 | |
| 3 | | | | Species Across All Strata: _ | 4 | (B) |
| 4 | | | | Percent of Dominant Species | 50 | |
| 5 | | | | That Are OBL, FACW, or FAC: _ | 50 | (A/B) |
| 6 | | | · | Prevalence Index worksheet: | | |
| 7 | 0 - | Total Car | | Total % Cover of: | Multiply by: | |
| 50% of total cover: 0 | | = Total Cov total cover: | _ | OBL species15 x 1 | = 15 | |
| Sapling/Shrub Stratum (Plot size: 15') | 20 /0 01 | total cover. | | FACW species 30 x 2 | | |
| 1. Rosa multiflora | 15 | ~ | FACU | FAC species x 3 | | |
| 2. Rubus allegheniensis | 10 | | FACU | FACU species 25 x 4 | = 100 | |
| | | - | 1 <u>ACU</u> | UPL species x 5 | | |
| 3 4 | | | | Column Totals: 70 (A) | 175 | (B) |
| | | | | , | 0.5 | _ |
| 5 | | | | Prevalence Index = B/A = _ | | _ |
| 7 | | | | Hydrophytic Vegetation Indicato | | |
| | | | | 1 - Rapid Test for Hydrophytic | Vegetation | |
| 8 | | | | 2 - Dominance Test is >50% | | |
| <u> </u> | 0.5 | = Total Cov | or. | 3 - Prevalence Index is ≤3.0 ¹ | | |
| 50% of total cover: 12.5 | | | | 4 - Morphological Adaptations | • | porting |
| Herb Stratum (Plot size: 5') | | | | data in Remarks or on a se | . , | |
| 1. Juncus effusus | 30 | ~ | FACW | Problematic Hydrophytic Vege | etation ¹ (Expla | in) |
| 2. Carex lurida | 15 | ~ | OBL | | | |
| 3. Microstegium vimineum | 5 | | FAC | ¹ Indicators of hydric soil and wetlar be present, unless disturbed or pro | | nust |
| 4 | | | · <u></u> | Definitions of Four Vegetation S | | |
| 5 | | | | Definitions of Four Vegetation S | trata: | |
| 6 | | | | Tree - Woody plants, excluding vir | | |
| 7 | | | | more in diameter at breast height (height. | DBH), regardi | ess of |
| 8 | | | | | | |
| 9 | | | | Sapling/Shrub – Woody plants, exthan 3 in. DBH and greater than or | xcluding vines | , less |
| 10 | | • | | m) tall. | cquai to 0.20 | , 10 (1 |
| 11. | | | | Horb All borbossous (non wood) | u) planta roga | rdlooo |
| | 50 | = Total Cov | er | Herb – All herbaceous (non-woody of size, and woody plants less than | | luiess |
| 50% of total cover: <u>25</u> | | total cover | | Manda di Allanda di Al | t - u th - u 0 00 |) f t ! |
| Woody Vine Stratum (Plot size:15') | | | | Woody vine – All woody vines gre height. | ater than 3.28 | sπin |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | Hydrophytic | | |
| 5 | | | | Vegetation | | |
| | 0 | = Total Cov | er | Present? Yes | No | |
| 50% of total cover:0 | 20% of | total cover: | . 0 | | | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | | | |
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SOIL Sampling Point: W-A8

| Profile Desc | ription: (Describe t | o the dept | h needed to docun | nent the | indicator | or confirn | n the absence | of indicators.) | |
|---------------|--|-------------------|--|-----------|-------------------|------------------|------------------|--|--|
| Depth | Matrix | | Redox | x Feature | S | | | | |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | <u>Texture</u> | Remarks | |
| 0-12" | 10YR 4/2 | 95 | 10YR 5/6 | 5 | С | M | SC | | |
| | | | | | | | | | |
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| | oncentration, D=Depl | etion, RM= | Reduced Matrix, MS | S=Masked | d Sand G | ains. | | L=Pore Lining, M=Matrix. | |
| Hydric Soil I | | | | | | | | ators for Problematic Hydric Soils ³ : | |
| Histosol | | | Dark Surface | | /e=: | | | 2 cm Muck (A10) (MLRA 147) | |
| | pipedon (A2) | | Polyvalue Be | | | | 148) (| Coast Prairie Redox (A16) | |
| Black Hi | | | Thin Dark Su | | | 147, 148) | _ | (MLRA 147, 148) | |
| | n Sulfide (A4) | | Loamy Gleye | | (F2) | | ٢ | Piedmont Floodplain Soils (F19) | |
| | Layers (A5) | | Depleted Mat | | - 0\ | | , | (MLRA 136, 147) | |
| | ick (A10) (LRR N) d Below Dark Surface | (//11) | Redox Dark S Depleted Dar | • | | | | /ery Shallow Dark Surface (TF12) Other (Explain in Remarks) | |
| | ark Surface (A12) | ; (A11) | Redox Depre | | | | | oner (Explain in Kemarks) | |
| | lucky Mineral (S1) (L | RR N | Iron-Mangane | | | (I RR N | | | |
| | 147, 148) | ixix i x , | MLRA 130 | | C3 (1 12) | LIXIX IV, | | | |
| | sleyed Matrix (S4) | | | • | (MLRA 1 | 36, 122) | ³ Inc | licators of hydrophytic vegetation and | |
| | edox (S5) | | Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be presented by the presented surface of the presented surface (F13) (MLRA 148) | | | | | | |
| | Matrix (S6) | | Red Parent M | | | | | lless disturbed or problematic. | |
| | _ayer (if observed): | | | | / (| , | 1 | | |
| Type: | , | | | | | | | | |
| | ches): | | | | | | Hydric Soil | Present? Yes No | |
| | | | <u> </u> | | | | Tiyane oon | 1110301111 1103 110 | |
| Remarks: | | | | | | | | | |
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Photograph Direction NE

Date: 04/03/2015

Comments: 2015 wetland delineation.



Photograph Direction West

Date: 11/12/19

Comments: 2019 wetland delineation confirmation.

| | er Mat Crossing ATION PAST 48 HRS: | | |
|-------------|-------------------------------------|---|----|
| PRECIPITA | TATION PAST 48 HRS: | | |
| PRECIPITA | ATION PAST 48 HRS: | | |
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| | PART III - Advanced | d Mitigati | on |
| Sustainable | | | |
| Adva | anced Mitigation (Y or N) | | Y |
| | | | |
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| | | | |
| | | | |
| | ILF Costs | S | |
| | 6540.00 | | |
| | \$510.00 |) | |
| | | | |
| | | Sustainable Determination Made of Advanced Mitigation (Y or N) Estimate ILF Cost | |

| Project/Site: MVP | | | City/C | ounty: Franklin | | Sampling Date: 04/03/2015 | |
|--|------------------------|-----------------|--|--|---------------------------------|---|--|
| Applicant/Owner: MVP | | | | | | Sampling Point: W-H9 | |
| Investigator(s): A.Stott, A. Gre | ech, H. Heis | it | Section | n Township Range N | | <u> </u> | |
| - ' ' | | | | · | | Slope (%): 0-2% | |
| Subregion (LRR or MLRA): LF | | | | | | | |
| | | | | = | | | |
| Soil Map Unit Name: Minnie | | | | | | | |
| Are climatic / hydrologic conditi | ons on the s | ite typical for | this time of year? Y | | | | |
| Are Vegetation, Soil | , or Hyd | rology | significantly disturb | oed? Are "Normal | Circumstances" p | resent? Yes No | |
| Are Vegetation, Soil | , or Hyd | rology | naturally problema | itic? (If needed, e | explain any answe | rs in Remarks.) | |
| SUMMARY OF FINDING | GS – Atta | ch site ma | ap showing sam | pling point location | ons, transects | , important features, etc. | |
| Hydrophytic Vegetation Prese | n+2 | Yes 🗸 | No | | | | |
| Hydric Soil Present? | | Yes 🗸 | No | Is the Sampled Area | / | | |
| Wetland Hydrology Present? | | Yes 🗸 | No | within a Wetland? | Yes | No | |
| Remarks: | | | <u> </u> | | | | |
| Cowardin Code: PEM F | iGivi: depre | essionai v | /v i : rpwwn | | | | |
| Information listed on this of wetland hydrology, hy Supplement delineation | drophytic [,] | vegetation | e data collected in n, and hydric soils | n 2015. The wetland s was confirmed usi | d was revisited ng the USACE | on 11/13/2019. Presence EMP Regional | |
| HYDROLOGY | | | | | | | |
| Wetland Hydrology Indicato | ors: | | | | Secondary Indica | tors (minimum of two required) | |
| Primary Indicators (minimum | of one is req | uired; check | all that apply) | | Surface Soil | Cracks (B6) | |
| ✓ Surface Water (A1) | | 1 | Γrue Aquatic Plants (I | B14) | ✓ Sparsely Veg | getated Concave Surface (B8) | |
| High Water Table (A2) | | H | Hydrogen Sulfide Odd | or (C1) | Drainage Patterns (B10) | | |
| Saturation (A3) | | (| Oxidized Rhizosphere | es on Living Roots (C3) | Moss Trim Li | nes (B16) | |
| Water Marks (B1) | | F | Presence of Reduced | Iron (C4) | Dry-Season | Water Table (C2) | |
| Sediment Deposits (B2) | | F | Recent Iron Reduction | n in Tilled Soils (C6) | Crayfish Bur | rows (C8) | |
| Drift Deposits (B3) | | 1 | Thin Muck Surface (C | 37) | Saturation V | sible on Aerial Imagery (C9) | |
| Algal Mat or Crust (B4) | | (| Other (Explain in Ren | narks) | Stunted or S | tressed Plants (D1) | |
| Iron Deposits (B5) | | | | | Geomorphic | Position (D2) | |
| Inundation Visible on Aer | ial Imagery (| B7) | | | Shallow Aqu | tard (D3) | |
| Water-Stained Leaves (B | 9) | | | | Microtopogra | phic Relief (D4) | |
| Aquatic Fauna (B13) | | | | | FAC-Neutral | Test (D5) | |
| Field Observations: | | | | 0.11 | | | |
| Surface Water Present? | | | Deptir (mones) | 6" | | | |
| Water Table Present? | | | Deptil (iliches) | <u>"</u> | | | |
| Saturation Present? | Yes | No | Depth (inches): | O" Wetland H | lydrology Preser | t? Yes <u>/</u> No | |
| (includes capillary fringe) Describe Recorded Data (stre | am gauge, r | nonitoring we | ell, aerial photos, pre | vious inspections), if ava | ilable: | | |
| · | | | | | | | |
| Remarks: | | | | | | | |
| Vernal pool- frogs and ta | adpoles | | | | | | |
| | | | | | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-H9

| Tree Stratum (Plot size: 30' | Absolute | Dominant | | Dominance Test worksheet: | | |
|---|----------|-------------|---------------|--|------------------|---------|
| <u>Tree Stratum</u> (Plot size: 30°) | % Cover | Species? | <u>Status</u> | Number of Dominant Species | | |
| 1 | | | | That Are OBL, FACW, or FAC: | 3 | (A) |
| 2 | | | | Total Number of Dominant | | |
| 3 | | | | Species Across All Strata: | 3 | (B) |
| 4 | | | | Species / toroco / tir Ctrata. | | (5) |
| | | | | Percent of Dominant Species | 4000/ | |
| 5 | | | | That Are OBL, FACW, or FAC: | 100% | (A/B) |
| 6 | | | | Prevalence Index worksheet: | | |
| 7 | | | | Total % Cover of: | Multiply by | |
| | | = Total Co | | | | |
| 50% of total cover: 0 | 20% of | total cover | :0 | OBL species x | | |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x | 2 = | _ |
| 1 | | | | FAC species x | 3 = | _ |
| 2 | | | | FACU species x | 4 = | _ |
| | | | | UPL species x | | |
| 3 | | | | Column Totals: (A | | |
| 4 | | | | Coldifii Totals (A | , | _ (D) |
| 5 | | | | Prevalence Index = B/A = | | |
| 6 | | | | Hydrophytic Vegetation Indica | | _ |
| 7 | | | | | | |
| 8 | | | | 1 - Rapid Test for Hydrophyt | | |
| 9 | | | | ✓ 2 - Dominance Test is >50% | | |
| <u> </u> | ^ | = Total Co | | 3 - Prevalence Index is ≤3.0 | 1 | |
| 50% of total cover: 0 | | | | 4 - Morphological Adaptation | ıs¹ (Provide sup | porting |
| | 20% 01 | lotal cover | | data in Remarks or on a s | separate sheet) | |
| ricib otratum (i lot size) | _ | ., | - 10 | Problematic Hydrophytic Veg | getation1 (Expla | in) |
| 1. Microstegium vimineum | 5 | | F <u>AC</u> | | , , , | , |
| 2. Ludwigia alternifolia | 5 | | F <u>ACW</u> | ¹ Indicators of hydric soil and wetl | and hydrology i | nuct |
| 3. Juncus effusus | 5 | | FACW_ | be present, unless disturbed or p | | iiusi |
| 4 | | | | Definitions of Four Vegetation | | |
| 5 | | | | Zommiono or roda rogotation | J. a.a. | |
| 6 | | | | Tree – Woody plants, excluding | | |
| 7 | | | | more in diameter at breast height height. | t (DBH), regardl | ess of |
| | | | | neight. | | |
| 8 | | | | Sapling/Shrub – Woody plants, | | |
| | | | | than 3 in. DBH and greater than | or equal to 3.28 | ft (1 |
| 10 | | | | m) tall. | | |
| 11 | | | | Herb - All herbaceous (non-woo | dy) plants, rega | rdless |
| | | = Total Co | | of size, and woody plants less the | | |
| 50% of total cover: <u>7.5</u> | 20% of | total cover | :3 | Manda di Allamanda | tth 2 Of | £4 : |
| Woody Vine Stratum (Plot size: 15') | | | | Woody vine – All woody vines g height. | reater than 3.26 | it in |
| 1 | | | | noigh | | |
| 2 | | | | | | |
| | | | | | | |
| 3 | | | | | | |
| 4 | | | | Hydrophytic | | |
| 5 | _ | | | Vegetation Present? Yes ✓ | No | |
| | | = Total Co | _ | riesent? | No | |
| 50% of total cover: 0 | | total cover | :0 | | | |
| Remarks: (Include photo numbers here or on a separate s | heet.) | | | | | |
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SOIL Sampling Point: W-H9

| Profile Desc | ription: (Describe t | o the dep | th needed to docur | nent the i | ndicator | or confirm | the absence | e of indicators.) |
|---------------|---|------------|------------------------------|-------------|-------------------|------------------|---|---|
| Depth | Matrix | | | x Feature | S | | | |
| (inches) | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | <u>Texture</u> | Remarks |
| 0-5" | Gley1 4/10y | 100 | | | | | SC | |
| 5-20" | Grey 1 4/10y | 90 | 10YR 4/6 | 10 | С | PL | S | Refusal CF |
| | | | | | | | | |
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| 1- 0.0 | | | | | | | 2 | |
| | oncentration, D=Deple | etion, RM= | Reduced Matrix, MS | S=Masked | Sand Gra | ains. | | PL=Pore Lining, M=Matrix. |
| Hydric Soil I | | | | · | | | | cators for Problematic Hydric Soils ³ : |
| Histosol | | | Dark Surface | | (00) (1) | | | 2 cm Muck (A10) (MLRA 147) |
| | ipedon (A2) | | Polyvalue Be | | | | 148) | Coast Prairie Redox (A16) |
| Black His | | | Thin Dark Su | | • | 47, 148) | | (MLRA 147, 148) |
| | n Sulfide (A4) | | Loamy Gleye | | F2) | | | Piedmont Floodplain Soils (F19) |
| | Layers (A5) | | Depleted Mar | . , | -c\ | | , | (MLRA 136, 147) |
| | ck (A10) (LRR N) I Below Dark Surface | (//11) | Redox Dark S Depleted Dar | | | | | Very Shallow Dark Surface (TF12) Other (Explain in Remarks) |
| | rk Surface (A12) | (Δ11) | Redox Depre | | | | <u> </u> | Other (Explain in Nemarks) |
| | lucky Mineral (S1) (L l | RR N | Iron-Mangan | | | RR N. | | |
| | 147, 148) | , | MLRA 13 | | 00 (1 12) (1 | | | |
| | leyed Matrix (S4) | | Umbric Surfa | | MLRA 13 | 6. 122) | 3In | dicators of hydrophytic vegetation and |
| | edox (S5) | | Piedmont Flo | | | | | retland hydrology must be present, |
| | Matrix (S6) | | Red Parent N | | | | | nless disturbed or problematic. |
| | ayer (if observed): | | | | / (| , | <u>, </u> | , |
| Type: | , | | | | | | | |
| Depth (inc | shoc): | | | | | | Hydric So | il Present? Yes No |
| | | | | | | | Hyuric 30 | ii Fleseiit: Tes No |
| Remarks: | | | | | | | | |
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Photograph Direction West

Date: 04/03/2015

Comments: 2015 wetland delineation.



Photograph Direction South

Date: 11/13/19

Comments: 2019 wetland delineation confirmation.

| USACE FILE NO./Project Name: | | Mountain ' | Valley Pipeline | COORDINATES: | Lat. | 36.972189 | Lon. | -79.663042 |
|------------------------------------|-------------------------------------|-------------------------------|---|--------------|------|---|------|------------|
| STREAM/SITE ID AND SITE DESCR | | | | | | W-H6, Pipeline ROW | | |
| (% stream slope, watershed size {a | creage}, unaltered | d or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 9/28/2021 WEATHER CONDITIONS: | | | | PRECIPITATION PAST 48 HRS: | | |
| | PART I - Wetl | and Indicators | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-H6 | Emergent | 0.0057 | Emergent | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | PART III - Advanced Sustainable Determination Made or | | on |
| | | | | | | Advanced Mitigation (Y or N) | 1 | Υ |
| | | | | | | (1.01.10) | | |
| | | | | | | | | |
| Total Impact | | 0.0057 | | | | | | |
| | PART II - | Unit Scores | | | | Estimated | | |
| Wetland Cl | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0057 | | | | | |
| Total Scrub-Shrub | | | 0 | | | \$342.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: MVP | | City/C | ounty: Franklin | | Sampling Date: 04/02/2015 | | |
|---|---|--|--|---------------------------------|---|--|--|
| Applicant/Owner: MVP | | | , | State: VA | Sampling Point: W-H6 | | |
| Investigator(s): A.Stott, A. Grech, I | - Н. Heist | Sectio | n. Township, Range: N/ | A | | | |
| Landform (hillslope, terrace, etc.): V | | | | | Slope (%): 0-3% | | |
| Subregion (LRR or MLRA): LRRN | | | | | | | |
| Soil Map Unit Name: Clifford fine | | | _ | | | | |
| Are climatic / hydrologic conditions o | | | | | <u></u> | | |
| | | - | | | resent? Yes V | | |
| Are Vegetation, Soil, | | | | • | · | | |
| Are Vegetation, Soil, SUMMARY OF FINDINGS - | | | | xplain any answe | | | |
| | | | pinig point locatio | 113, transcots | , important reatures, etc. | | |
| Hydrophytic Vegetation Present? | Yes | | Is the Sampled Area | | | | |
| Hydric Soil Present? | Yes | | within a Wetland? | Yes | No | | |
| Wetland Hydrology Present? | Yes | No | | | | | |
| Remarks: Cowardin Code: PEM HGM: | : riverine WT: R | PWWD | | | | | |
| Information listed on this form of wetland hydrology, hydrop Supplement delineation method. | n represents the ohytic vegetation, nodology. | data collected ir , and hydric soils | n 2015. The wetland s was confirmed usi | l was revisited ng the USACE | on 11/13/2019. Presence E EMP Regional | | |
| HYDROLOGY | | | | | | | |
| Wetland Hydrology Indicators: | | | | | tors (minimum of two required) | | |
| Primary Indicators (minimum of one | - | | | Surface Soil Cracks (B6) | | | |
| Surface Water (A1) | | rue Aquatic Plants (E | | | getated Concave Surface (B8) | | |
| High Water Table (A2) | | lydrogen Sulfide Odd | | Drainage Pat | , , | | |
| Saturation (A3) | | | es on Living Roots (C3) | Moss Trim Li | | | |
| Water Marks (B1) | | resence of Reduced | | | Water Table (C2) | | |
| Sediment Deposits (B2) | | ecent Iron Reduction | | Crayfish Burr | ` , | | |
| Drift Deposits (B3) | | hin Muck Surface (C other (Explain in Rem | | | sible on Aerial Imagery (C9) | | |
| Algal Mat or Crust (B4) | 0 | uner (⊏xpiain in Ken | iaiks) | | ressed Plants (D1) | | |
| Iron Deposits (B5) Inundation Visible on Aerial Im | eagany (R7) | | | Geomorphic Shallow Aqui | | | |
| ✓ Water-Stained Leaves (B9) | agery (br) | | | | phic Relief (D4) | | |
| Aquatic Fauna (B13) | | | | FAC-Neutral | | | |
| Field Observations: | | | | TAO Neutrai | 1631 (153) | | |
| | s_ / _No[| Conth (inches): | " | | | | |
| | No | | <u>.</u>)" | | | | |
| Saturation Present? Yes | , | Septif (inches). | | ydrology Presen | t? Yes ✔ No | | |
| (includes capillary fringe) | | Septif (illenes) | - Wetland II | | tr res No | | |
| Describe Recorded Data (stream g | auge, monitoring we | ll, aerial photos, prev | vious inspections), if avai | lable: | | | |
| Remarks: | | | | | | | |
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| Sampling | . Daint. | W-H6 |
|----------|----------|-----------|
| Sambling | i Point: | V V -1 10 |

| | Alizabeta | D't | Leaferster | Danis and Test western |
|--|---------------|----------------------|--------------|---|
| <u>Tree Stratum</u> (Plot size: 30') | | Dominant Species? | | Dominance Test worksheet: |
| | | | | Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A) |
| 1 | | | | That Are OBL, FACW, or FAC (A) |
| 2 | | | | Total Number of Dominant |
| 3 | | · - | · | Species Across All Strata:3 (B) |
| 4 | | | · —— | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC: 67% (A/B) |
| 6 | | | | |
| 7 | | | | Prevalence Index worksheet: |
| | 0 | = Total Cov | er er | Total % Cover of: Multiply by: |
| 50% of total cover: 0 | | | | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | <u></u> | | | FACW species x 2 = |
| 1. Rosa multiflora | 10 | / | FACU | FAC species x 3 = |
| · · · · · · · · · · · · · · · · · · · | • | | 17100 | FACU species x 4 = |
| 2 | | - | | UPL species x 5 = |
| 3 | | · | · —— | Column Totals: (A) (B) |
| 4 | | - | . —— | Column rotals (A) (B) |
| 5 | | | | Prevalence Index = B/A = |
| 6 | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | |
| 8 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 9 | | | | ✓ 2 - Dominance Test is >50% |
| <u> </u> | 10 | = Total Cov | | 3 - Prevalence Index is ≤3.0 ¹ |
| 50% of total cover:5 | | | | 4 - Morphological Adaptations ¹ (Provide supporting |
| Herb Stratum (Plot size: 5') | 2070 0. | 10101 00101 | | data in Remarks or on a separate sheet) |
| 1. Carex lurida | 30 | ~ | OBL | Problematic Hydrophytic Vegetation ¹ (Explain) |
| | 25 | . — | OBL | |
| 2. Juncus effusus | | | F <u>ACW</u> | ¹ Indicators of hydric soil and wetland hydrology must |
| 3. Impatiens capensis | 15 | | FACW_ | be present, unless disturbed or problematic. |
| 4. Persicaria saggittata | 15 | | OBL | Definitions of Four Vegetation Strata: |
| 5. Eupatorium perfoliatum | 10 | | FACW_ | |
| 6. Lycopus americanus | 5 | | OBL | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or |
| 7. Poa trivialis | 5 | | FACW | more in diameter at breast height (DBH), regardless of height. |
| 8 | | | | g |
| | | | | Sapling/Shrub – Woody plants, excluding vines, less |
| • | | | | than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. |
| 10 | | | | m) tan. |
| 11 | 405 | | | Herb – All herbaceous (non-woody) plants, regardless |
| | | = Total Cov | | of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: <u>52.5</u> | 20% of | total cover | : 21 | Woody vine – All woody vines greater than 3.28 ft in |
| Woody Vine Stratum (Plot size: 15') | | | | height. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | · | Hydrophytic |
| 5 | ^ | T-1-1-0 | | Vegetation Present? Yes ✓ No |
| 50% of total cover: 0 | $\overline{}$ | = Total Cov | _ | |
| | | total cover | | |
| Remarks: (Include photo numbers here or on a separate sl | heet.) | | | |
| ND- Not Determined | | | | |
| | | | | |
| *Vegetation not ID'd down to species level is not | t include | d in the d | ominanc | e test. |
| | | | | |
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Sampling Point: W-H6

SOIL

| Profile Desc | ription: (Describe to | the depth | n needed to docum | ent the i | ndicator | or confirm | the absence | of indicators.) | | |
|--------------|-------------------------------|---------------|--------------------|-------------|-------------------|------------------|-------------------|------------------|---|-------|
| Depth | Matrix | | Redox | Feature | s | | | | | |
| (inches) | Color (moist) | % | Color (moist) | <u>%</u> | Type ¹ | Loc ² | <u>Texture</u> | | Remarks | |
| 0-10" | Gley1 4/10y | 98 | 7.5YR 4/4 | 2 | RM | M | L | | | |
| 10"+ | | | . | | - | | | - | Refusal cf | |
| 10 + | | | | | - | | | | Verusar Cr | |
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| | oncentration, D=Deple | etion, RM=F | Reduced Matrix, MS | =Masked | Sand Gr | ains. | | _=Pore Lining, I | | _ |
| Hydric Soil | Indicators: | | | | | | Indica | tors for Proble | ematic Hydric So | ils³: |
| Histosol | (A1) | | Dark Surface | (S7) | | | 2 | cm Muck (A10) | (MLRA 147) | |
| | pipedon (A2) | | Polyvalue Bel | ow Surfa | ce (S8) (I | /ILRA 147, | 148) Co | oast Prairie Red | dox (A16) | |
| Black Hi | | | Thin Dark Su | | . , . | | | (MLRA 147, 1 | | |
| | n Sulfide (A4) | | Loamy Gleye | | | , -, | | | lain Soils (F19) | |
| | d Layers (A5) | | Depleted Mat | | / | | | (MLRA 136, 1 | | |
| | ick (A10) (LRR N) | | Redox Dark S | | 6) | | Ve | | rk Surface (TF12) | |
| | d Below Dark Surface | (A11) | Depleted Dar | • | , | | | ther (Explain in | | |
| | ark Surface (A12) | (, | Redox Depre | | | | | | , | |
| | lucky Mineral (S1) (Li | RR N. | Iron-Mangane | | | I RR N | | | | |
| | \ 147, 148) | , | MLRA 136 | | 00 () (| | | | | |
| | Gleyed Matrix (S4) | | Umbric Surfac | | MIRA 13 | 86 122) | ³ Indi | cators of hydro | phytic vegetation a | and |
| | ledox (S5) | | Piedmont Flo | | | | | | must be present, | ana |
| | Matrix (S6) | | Red Parent M | | | | | ess disturbed o | | |
| | _ayer (if observed): | | Red r arent iv | iatoriai (i | 21) (IVILI | 121, 171 | 1 | coo distarbed o | i probicinatio. | |
| | efusal: coarse fraç | amonte | | | | | | | | |
| ,, | | ginenia | | | | | | | | |
| Depth (inc | ches): <u>10"</u> | | | | | | Hydric Soil | Present? Ye | es 🖊 No _ | |
| Remarks: | | | | | | | | | | |
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Photograph Direction East

Date: 04/02/2015

Comments: 2015 wetland delineation.



Photograph Direction East

Date: 11/13/19

Comments: 2019 wetland delineation confirmation.

| USACE FILE NO./Project Name: | | Mountain \ | /alley Pipeline | COORDINATES: | Lat. | 36.964731 | Lon. | -79.617067 |
|------------------------------------|-------------------------------------|-------------------------------|---|--------------|------|-----------------------------------|-----------|------------|
| STREAM/SITE ID AND SITE DESCR | RIPTION: | | | | | W-MM17, Pipeline ROW | | |
| (% stream slope, watershed size {a | creage}, unaltered | d or impairments) | | | | | | |
| FORM OF MITIGATION: | | | | | | | | |
| DATE: | 9/28 | 9/28/2021 WEATHER CONDITIONS: | | | | PRECIPITATION PAST 48 HRS: | | |
| | | | | | | | | |
| Impact Wetland ID: | Impact Wetland Classification | Impacts (acreage) | Mitigation Wetland Classification | | | | | |
| W-MM17 | Emergent | 0.0068 | Emergent | | | | | |
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| | | | | | | PART III - Advanced | Mitigatio | |
| | | | | | | Sustainable Determination Made of | | <u> </u> |
| | | | | | | Advanced Mitigation | ' | Υ |
| | | | | | | (Y or N) | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Impact | | 0.0068 | | | | | | |
| | | Unit Scores | | | | Estimated | | |
| | assification | | Replacement Unit(s) | | | ILF Costs | | |
| Total Emergent | | | 0.0068 | | | | | |
| Total Scrub-Shrub | | | 0 | | | \$408.00 | | |
| Total Forested | | | 0 | | | | | |
| Total Open Water | | | 0 | | | | | |

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

| Project/Site: MVP | City/County: Franklin | l | Sampling Date: 11/22/15 | | | | |
|---|---|--|---|--|--|--|--|
| Anadia at (Outros MVP | State: VA | Sampling Point: W-MM17 | | | | | |
| | Section, Township, Ra | | | | | | |
| • · · · · <u></u> | | Local relief (concave, convex, none): Concave Slope (%): 2 | | | | | |
| Subregion (LRR or MLRA): LRRN | | | | | | | |
| Soil Map Unit Name: Minnieville-Orenda-Redb | | | | | | | |
| Are climatic / hydrologic conditions on the site typ | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | | | |
| Are Vegetation, Soil, or Hydrology | | | | | | | |
| SUMMARY OF FINDINGS – Attach si | | | | | | | |
| | , | | , <u>, , , , , , , , , , , , , , , , , , </u> | | | | |
| | No Is the Sampled | | | | | | |
| Hydric Soil Present? Yes _ Wetland Hydrology Present? Yes _ | √ No within a Wetlar | ıd? Yes <u>√</u> | No | | | | |
| 5 1 | | Turner DDIAMA/D | | | | | |
| Remarks: Cowardin Code: PEM | HGM: Slope Water | Type: RPWWD | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| HYDROLOGY | | | | | | | |
| Wetland Hydrology Indicators: | | Secondary Indica | tors (minimum of two required) | | | | |
| Primary Indicators (minimum of one is required; | check all that apply) | Surface Soil | Surface Soil Cracks (B6) | | | | |
| Surface Water (A1) | True Aquatic Plants (B14) | Sparsely Veç | getated Concave Surface (B8) | | | | |
| ✓ High Water Table (A2) | Hydrogen Sulfide Odor (C1) | Drainage Pat | | | | | |
| ✓ Saturation (A3) | ✓ Oxidized Rhizospheres on Living Root | | | | | | |
| Water Marks (B1) | Dry-Season | Water Table (C2) | | | | | |
| Sediment Deposits (B2) | Recent Iron Reduction in Tilled Soils (| Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) | | | | | |
| Drift Deposits (B3) | Thin Muck Surface (C7) | Saturation Vi | sible on Aerial Imagery (C9) | | | | |
| Algal Mat or Crust (B4) | Other (Explain in Remarks) | Stunted or St | or Stressed Plants (D1) | | | | |
| Iron Deposits (B5) | | Geomorphic | Position (D2) | | | | |
| Inundation Visible on Aerial Imagery (B7) | | Shallow Aqui | itard (D3) | | | | |
| Water-Stained Leaves (B9) | | Microtopogra | phic Relief (D4) | | | | |
| Aquatic Fauna (B13) | | FAC-Neutral | Test (D5) | | | | |
| Field Observations: | | | | | | | |
| | ✓ Depth (inches): | | | | | | |
| Water Table Present? Yes <u>✓</u> No _ | Depth (inches):6" | | | | | | |
| Saturation Present? Yes <u>✓</u> No _ | Depth (inches): 0 We | tland Hydrology Presen | t? Yes <u>√</u> No | | | | |
| (includes capillary fringe) Describe Recorded Data (stream gauge, monito | ring well, porial photos, provinus inspections |) if available: | | | | | |
| Describe Recorded Data (stream gauge, monito | ning well, aeriai priotos, previous inspections |), ii avaliable. | | | | | |
| Remarks: | | | | | | | |
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VEGETATION (Four Strata) – Use scientific names of plants.

| EGETATION (Four Strata) – Use scientific n | ames of | plants. | | Sampling Point: W-MM17 |
|---|-----------------|--------------|-----------|--|
| 30' | Absolute | Dominant | | Dominance Test worksheet: |
| Free Stratum (Plot size: 30') | | Species? | | Number of Dominant Species |
| | | | | That Are OBL, FACW, or FAC:4 (A) |
| | | | | Total Number of Dominant |
| <u>. </u> | | | | Species Across All Strata: 7 (B) |
| k | | | | Percent of Dominant Species |
| 5 | | | | That Are OBL, FACW, or FAC: 80% (A/B) |
| 5 | | - | . <u></u> | |
| 7 | | | | Prevalence Index worksheet: |
| | 0 | = Total Cov | er | Total % Cover of: Multiply by: |
| 50% of total cover:0 | 20% of | total cover | 0 | OBL species x 1 = |
| Sapling/Shrub Stratum (Plot size: 15') | | | | FACW species x 2 = |
| Lindera benzoin | 15 | ✓ | FAC | FAC species x 3 = |
| 2. Rosa Multiflora | 10 | \checkmark | FACU | FACU species x 4 = |
| 3 | | | | UPL species x 5 = |
| 1 | | | | Column Totals: (A) (B) |
| i. | | - | | |
| | | | | Prevalence Index = B/A = |
| j | | | | Hydrophytic Vegetation Indicators: |
| 7 | | | | 1 - Rapid Test for Hydrophytic Vegetation |
| 3 | | - | · —— | ✓ 2 - Dominance Test is >50% |
| 9 | 25 | | | 3 - Prevalence Index is ≤3.0 ¹ |
| 50% of total cover: 12. | | = Total Cov | | 4 - Morphological Adaptations ¹ (Provide supporting |
| - 1 | <u>J</u> 20% of | total cover | | data in Remarks or on a separate sheet) |
| (lot size) | 10 | ./ | FACW | Problematic Hydrophytic Vegetation ¹ (Explain) |
| 1. Cyperus esculentus | 10 | | | |
| Persicaria pensylvanica | | | FACW | ¹ Indicators of hydric soil and wetland hydrology must |
| 3. Poa sp.* | 10 | | ND | be present, unless disturbed or problematic. |
| Rumex sp.* | 10 | | ND | Definitions of Four Vegetation Strata: |
| _{5.} Juncus effucus | 5 | | FACW_ | The Mandage of the Ma |
| 6 | | | | Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of |
| 7 | | | | height. |
| 3 | | | | Conline/Church Moody plants avaluating visco loss |
| 9 | | | <u> </u> | Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 |
| 10 | | | | m) tall. |
| 11. | | | | Harb All barbassaus (non woody) planta ragardiasa |
| | 45 | = Total Cov | er | Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. |
| 50% of total cover: 22. | | | | |
| Noody Vine Stratum (Plot size: 15') | | | | Woody vine – All woody vines greater than 3.28 ft in height. |
| Lonicera japonica | 25 | ✓ | FAC | noight. |
| 2. | | | | |
| 3. | | | | |
| | | | | |
| 4 | | - | | Hydrophytic |
| 5 | 25 | T | | Vegetation Present? Yes ✓ No |
| 50% of total cover: 12. | | = Total Cov | | · · · · · · · · · · · · · · · · · · · |
| | | total cover. | | |
| Remarks: (Include photo numbers here or on a separate s | | | | |
| n cow pasture some vegetation identifiable due | to grazir | ıg | | |
| | | | | |
| ID - Not determined | | | | |
| | | | | |
| Not identified to species, not included in domir | ance test | | | |
| • | | | | |
| | | | | |

| 0-10" 10YR 3/1 95 7.5YR 3/4 5 C M/PL SIL Refusal CF | Depth (inches) | Matrix Color (moist) | % | Redo Color (moist) | x Features | Type ¹ | Loc ² | Texture | | Remarks | |
|---|-------------------|----------------------|-------------|-----------------------|--------------|-------------------|------------------|------------------|--------------|---------------|--------------|
| Ton-Hamber Surface (A10) This Depleted Below Dark Surface (A11) This Dark Surface (B1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Macky Macky (A10) Sandy Redox | | | | | <u>%</u> 5 | | | | | Remarks | |
| rpe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 2 Location: PL=Pore Lining, M=Matrix. dric Soil Indicators: Histosol (A1) Dark Surface (S7) Polyvalue Below Surface (S8) (MLRA 147, 148) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Peletded Matrix (F2) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N) MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) MLRA 147, 148) MLRA 147, 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Hydric Soil Present? Yes ✓ No | | 10113/1 | | 7.511 3/4 | | | IVI/FL | — JIL | | | |
| Histosol (A1) | 10"+ | | | | | | | | | Refusal | CF |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) | - | | | | | - | | | | | |
| Histosol (A1) | | | | | - | - | | | - | | |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) | | | | | | | | | | | |
| Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Piedmont Floodplain Soils (F19) Depleted Below Dark Surface (A11) Polyted Dark Surface (F6) | | | etion, RM=I | Reduced Matrix, MS | S=Masked | Sand G | rains. | | | | |
| Histic Epipedon (A2) | | | | | | | | | | | |
| Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Matrix (F3) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Depth (inches): 10" Thin Dark Surface (S9) (MLRA 147, 148) Depleted Surface (S9) (MLRA 147, 148) Piedmont Floodplain Soils (F19) MLRA 147, 148) Piedmont Floodplain Soils (F19) Which A 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Type: Refusal due to Coarse Fragments Piedmont Floodplain Soils (F19) (MLRA 136, 122) Red Parent Material (F21) (MLRA 127, 147) Hydric Soil Present? Yes ✓ No | | | | | | | | | | | |
| Hydrogen Sulfide (A4) | | | | | | . , . | | 148) C | | | |
| Stratified Layers (A5) | | | | | | | 147, 148) | 5 | | | ([40) |
| 2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Depleted Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Redox Dark Surface (F6) Depleted Dark Surface (F7) MtRA 136, Untercompany Masses (F12) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes ✓ No | | | | | • | -2) | | _ P | | | (F19) |
| Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Stripped Matrix (S6) Strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Depleted Dark Surface (F7) Depleted Dark Surface (F12) (LRR N, | _ | • ' ' | | | , , | 3) | | V | | | (TF12) |
| Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Hydric Soil Present? Yes No | | | (A11) | | • | • | | | • | | . , |
| Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes ✓ No | | | , | | | | | | () | | , |
| Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Stripped Matrix (S6) St | | | RR N, | | | | (LRR N, | | | | |
| Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Hydric Soil Present? Yes✓ No | MLRA | 147, 148) | | MLRA 13 | 6) | | | | | | |
| Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Hydric Soil Present? Yes✓ No | _ Sandy Gl | eyed Matrix (S4) | | Umbric Surfa | ce (F13) (N | MLRA 1 | 36, 122) | ³ Ind | icators of h | ydrophytic ve | getation and |
| strictive Layer (if observed): Type: Refusal due to Coarse Fragments Depth (inches): 10" Hydric Soil Present? Yes ✓ No | | | | | | | | | tland hydro | ology must be | present, |
| Type: Refusal due to Coarse Fragments Depth (inches): 10" Hydric Soil Present? Yes ✓ No | | | | Red Parent N | Material (F2 | 21) (MLF | RA 127, 147 |) unl | ess disturb | ed or problem | atic. |
| Depth (inches): 10" Hydric Soil Present? Yes ✓ No | | | | | | | | | | | |
| | , <u> </u> | | -ragments | | | | | | | , | |
| marks: | Depth (incl | nes): <u>10"</u> | | <u></u> | | | | Hydric Soil | Present? | Yes <u>√</u> | No |
| | marks: | | | | | | | | | | |
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Photograph Direction West

| Comments: | | |
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