APPENDIX CWetland Data Forms



Project/Site: Equitrans Expansion 2021 Project	City/County: Wetzel	County	Sampling Date: 9/16/2021
Applicant/Owner: Equitrans	City/County: Wetzel	State: PA	Sampling Point: WWV-CDK-001
Investigator(s): CDK/WHL			
Landform (hillslope, terrace, etc.): Floodplain			
Subregion (LRR or MLRA): LRR-N L	at: 39.557253	ong: -80.549268	Datum: NAD83
Soil Map Unit Name: Udorthents, smoothed (513718)	u	NWI classific	cation: None
Are climatic / hydrologic conditions on the site typica	for this time of year? Yes No	o (If no, explain in R	Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed? A	re "Normal Circumstances" ¡	oresent? Yes 🖊 No
Are Vegetation, Soil, or Hydrology		f needed, explain any answe	
SUMMARY OF FINDINGS – Attach site			
Hydrophytic Vegetation Present? Yes	No Is the Samp	lod Aron	
	No Is the Samp within a We		No
Wetland Hydrology Present? Yes	No		
Remarks:			
WWV-CDK-001, riparian fringe PE	M wetland.		
Located within the 100-yr floodplai	n.		ļ
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil	Cracks (B6)
<u>✓</u> Surface Water (A1)	_ True Aquatic Plants (B14)	Sparsely Ve	getated Concave Surface (B8)
	_ Hydrogen Sulfide Odor (C1)	<u>✓</u> Drainage Pa	
	Oxidized Rhizospheres on Living R	oots (C3) Moss Trim L	ines (B16)
Water Marks (B1)	Presence of Reduced Iron (C4)	Dry-Season	Water Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soil	s (C6) Crayfish Bur	rows (C8)
	_ Thin Muck Surface (C7)		isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	_ Other (Explain in Remarks)	Stunted or S	tressed Plants (D1)
Iron Deposits (B5)		Geomorphic	Position (D2)
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:	1		
	Depth (inches): 1		
	Depth (inches):		√
Saturation Present? Yes No (includes capillary fringe)	Depth (inches): 0	Wetland Hydrology Preser	nt? Yes No
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspection	ons), if available:	
N/A			
Remarks:			
Abuts stream SWV-CDK-001.			

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

Sampling Point: WWV-CDK-001

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)		Species?		Number of Dominant Species
1. Absent				That Are OBL, FACW, or FAC: $\frac{5}{}$ (A)
·				(i)
2				Total Number of Dominant
3	- ——			Species Across All Strata: 5 (B)
4				Dereant of Deminant Charles
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.				That Ale OBE, I AOW, OF I AO (A/B)
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				
	0	= Total Cov	er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =
1. Absent				FAC species x 3 =
2.				FACU species x 4 =
				UPL species x 5 =
3				
4				Column Totals: (A) (B)
5				
6				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				v 2 - Dominance Test is >50%
9				
10.				3 - Prevalence Index is ≤3.0 ¹
	0	= Total Cov	or	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		- Total Cov	CI	data in Remarks or on a separate sheet)
1. Leersia oryzoides	20	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
	20	Y	OBL	
2. Carex vulpinoidea	- ——			¹ Indicators of hydric soil and wetland hydrology must
3. Agrimonia parviflora	15	Υ	FACW	be present, unless disturbed or problematic.
4. Phalaris arundinacea	15	Υ	FACW	
5. Cyperus esculentus	15	Υ	FACW	Definitions of Four Vegetation Strata:
6. Epilobium coloratum	10		FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
	- —			more in diameter at breast height (DBH), regardless of
7. Scirpus cyperinus	5	N	FACW	height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
				than 3 in. DBH and greater than 3.20 it (1 in) tail.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	100	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)				height.
1. Absent				
2				
3	. ——			
4				Liverantic
5				Hydrophytic Vegetation
6.				Present? Yes No
0		T-4-1 O-1		
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			
None.				

Sampling Point: WWV-CDK-001

Profile Desc	ription: (Describe	to the de	pth needed to docur	ment the	indicator	or confirm	n the absend	ce of indicat	ors.)	
Depth	Matrix		Redo	x Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	_	Remarks	
0 - 16	7.5YR 4/2	80	10YR 4/1	10	D	M	SCL	-		
			7.5YR 4/6	10	C	M/PL				
		-	-	-	_					
			-							
										_
		-	-	-	_					
								_		
		-	-	-	_					
								_		
¹Type: C=Co	ncentration D=Dep	letion RM	1=Reduced Matrix, M	S=Maske	d Sand Gi	rains	² I ocation:	PI =Pore I ini	ng, M=Matrix.	_
Hydric Soil I		iction, rav	T Treadoca Matrix, IVI	O MIGGINO	a cana ci	unio.			roblematic Hy	dric Soils ³ :
Histosol			Dark Surface	(97)					(A10) (MLRA 1	
	ipedon (A2)		Polyvalue Be		aca (S8) (I	MI DA 1/17	1/8)		e Redox (A16)	7'')
			Thin Dark Su				, 140)			
Black His	n Sulfide (A4)		Loamy Gleye			147, 140)		(MLRA 14	oodplain Soils	(E10)
	, ,				(FZ)				•	(F19)
	Layers (A5)		Depleted Ma	. ,	Ε0\			(MLRA 1	•	(TE40)
	ck (A10) (LRR N)	- (044)	Redox Dark	,	,				w Dark Surface	
	Below Dark Surfac	e (A11)	Depleted Da					Other (Expi	ain in Remarks)
	rk Surface (A12)		Redox Depre			// DD 1/				
	ucky Mineral (S1) (L	_KK N,	Iron-Mangan		ses (F12)	(LKK N,				
	147, 148)		MLRA 13	•			3.			
	leyed Matrix (S4)		Umbric Surfa						nydrophytic veg	
	edox (S5)		Piedmont Flo					-	rology must be	-
	Matrix (S6)		Red Parent N	Material (F	=21) (MLF	RA 127, 14	7)	unless distu	rbed or problen	natic.
	.ayer (if observed):									
Type: Non	e									
Depth (inc	:hes):						Hydric So	oil Present?	Yes	No
Remarks:										
None.										
140110.										

Project/Site: Equitrans Expansion 2021	Project	City/C	county: Wetzel County		Sampling Date: 9/16/2021			
Applicant/Owner: Equitrans			,	_ State: PA	Sampling Date: 9/16/2021 Sampling Point: WWV-CDK-002			
Investigator(s): CDK/WHL			on, Township, Range: <u>W</u>					
Landform (hillslope, terrace, etc.): Flood								
Subregion (LRR or MLRA): LRR-N	Lat·	39.556079	Long80.	548379	Datum: NAD83			
Soil Map Unit Name: Skidmore gravelly	loam, occasiona	ally flooded (513717)		NWI classific	cation: None			
Are climatic / hydrologic conditions on the	ne site typical fo	or this time of year? Y	es No	(If no, explain in F	Remarks.)			
Are Vegetation, Soil, or	Hydrology	significantly distur	bed? Are "Norma	l Circumstances" ¡	present? Yes 🖊 No			
Are Vegetation, Soil, or	Hydrology	naturally problema	atic? (If needed,	explain any answe	ers in Remarks.)			
SUMMARY OF FINDINGS - A	ttach site m	ap showing sam	npling point location	ons, transects	s, important features, etc.			
Hydrophytic Vegetation Present?	Yes _ ′	_ No	In the Complet Area					
Hydric Soil Present?		No	Is the Sampled Area within a Wetland?	Yes 🗸	No			
Wetland Hydrology Present?	Yes	_ No						
WWV-CDK-002, PEM. Located within a 100-yr flo Boundary open ended.	oodplain.							
HYDROLOGY								
Wetland Hydrology Indicators:				-	ators (minimum of two required)			
Primary Indicators (minimum of one is				Surface Soil				
Surface Water (A1)		True Aquatic Plants (getated Concave Surface (B8)			
High Water Table (A2) Saturation (A3)		Hydrogen Sulfide Odd	or (C1) es on Living Roots (C3)	Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)				
Water Marks (B1)		Presence of Reduced						
Sediment Deposits (B2)		Recent Iron Reductio						
Drift Deposits (B3)		Thin Muck Surface (C						
Algal Mat or Crust (B4)		Other (Explain in Ren		·	tressed Plants (D1)			
Iron Deposits (B5)				Geomorphic	Position (D2)			
Inundation Visible on Aerial Image	ery (B7)			Shallow Aqu	itard (D3)			
Water-Stained Leaves (B9)				Microtopogra	aphic Relief (D4)			
Aquatic Fauna (B13)				FAC-Neutral	Test (D5)			
Field Observations:		0						
		Depth (inches): 0						
		Depth (inches): 8			✓			
Saturation Present? Yes (includes capillary fringe)	No	Depth (inches): 0	Wetland I	Hydrology Preser	nt? Yes No No			
Describe Recorded Data (stream gaug	e, monitoring w	vell, aerial photos, pre	vious inspections), if ava	ailable:				
Remarks:								
Abuts stream SWV-CDK-0	002.							

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

Sampling Point: WWV-CDK-002

Tree Stratum (Plot size: 30' r) 1. Absent	Absolute	Dominant	Indicator	Dominance Test worksheet:
		Species?		Number of Dominant Species
				That Are OBL, FACW, or FAC: $\frac{3}{}$ (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				(+2)
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
15'r	0	= Total Cov	er	
Sapling/Shrub Stratum (Plot size: 15'r)				FACW species x 2 =
1. Absent				FAC species x 3 =
2				FACU species x 4 =
3.				UPL species x 5 =
				Column Totals: (A) (B)
4				Column Totals (A) (B)
5				Prevalence Index = B/A =
6				
7				Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
C) -	0	= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Typha latifolia	40	Υ	OBL	1 Toblematic Trydrophytic Vegetation (Explain)
2. Phalaris arundinacea	15	Υ	FACW	
3. Agrimonia parviflora	15	Υ	FACW	¹Indicators of hydric soil and wetland hydrology must
4. Juncus effusus	10	N	FACW	be present, unless disturbed or problematic.
	· 			Definitions of Four Vegetation Strata:
5. Persicaria sagitatta	10	N	OBL	To a Manda de alordo confedir acciono O in (7.0 cm) on
6. Mimulus ringens	10	N	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8.				g
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10	· ——			Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	100	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)		Total Cov	OI .	height.
1. Absent				
· · ·				
	· ——			
2				
3				the described to
3				Hydrophytic
3				
3	.			Vegetation Present? Yes No
3				Present? Yes No
3		= Total Cov	er	

Sampling Point: ___

Profile Desc	cription: (Describe	to the dep	th needed to docu	ment the i	ndicator	or confirm	n the absence	of indicators.)		
Depth	Matrix	0/		x Feature		12	T t	_	D	
(inches) 0 - 16	Color (moist) 7.5YR 4/2	95	Color (moist) 7.5YR 4/6	<u>%</u> 5	Type ¹ C	Loc ² M/PL	<u>Texture</u> SiCL	<u> </u>	Remarks	
0-10	7.511 4/2	- 95	7.511 4/0			IVI/FL				
										_
·	_							-		
								-		
				-						
						·				
1	_									
	oncentration, D=Dep	oletion, RM=	Reduced Matrix, M	S=Masked	Sand G	ains.		_=Pore Lining, M		0 - 11 - 3
Hydric Soil								ators for Proble		
Histosol			Dark Surface		(00) (cm Muck (A10)		')
	pipedon (A2)		Polyvalue Be Thin Dark So				, 148) (Coast Prairie Rec		
	istic (A3) en Sulfide (A4)		Loamy Gley			147, 140)	E	MLRA 147, 14 Piedmont Floodp		19)
	d Layers (A5)		Depleted Ma	,	1 2)		<u> </u>	(MLRA 136, 14		13)
	uck (A10) (LRR N)		Redox Dark	. ,	- 6)		\	/ery Shallow Da		TF12)
Deplete	d Below Dark Surfac	ce (A11)	Depleted Da	rk Surface	(F7)		(Other (Explain in	Remarks)	
	ark Surface (A12)		Redox Depre							
	Mucky Mineral (S1) (LRR N,	Iron-Mangar		es (F12)	(LRR N,				
	A 147, 148)		MLRA 13		(BAL D.A. 4)	00 400\	31			_ ti
	Gleyed Matrix (S4) Redox (S5)		Umbric Surfa					licators of hydrop vetland hydrolog		
-	Matrix (S6)		Red Parent I					nless disturbed		
	Layer (if observed)	:			, (1	micoo diotarboa	or problema	
Type: No										
	ches):						Hydric Soil	Present? Ye	es 🗸	No
Remarks:							1			
None.										
140110.										

Project/Site: Equitrans Expansion 2021 Project City/C	County: Wetzel County Sampling Date: 9/16/2021
Applicant/Owner: Equitrans	State: PA Sampling Point: WWV-CDK-003
	on, Township, Range: WV is not divided under PLSS
Landform (hillslope terrace etc.). Floodplain Local rel	ief (concave convex none). Concave Sione (%): <2
Landform (hillslope, terrace, etc.): Floodplain Local rel Subregion (LRR or MLRA): LRR-N Lat: 39.556465	Long: -80.548736 Datum: NAD83
Soil Map Unit Name: Udorthents, smoothed (513718)	NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
•	
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation, Soil, or Hydrology naturally problems	
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	le the Compled Area
Hydric Soil Present? Yes <u>✓</u> No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No	
Remarks:	
WWV-CDK-003, PSS wetland situated along the e	dge of an existing gravel lot.
100-yr floodplain.	
LIVEROLOGY	
HYDROLOGY Western d. Hydrology and disperses	Cocondany Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) **Courfess Wester (A1) **True Aquatic Plants (A1)	Surface Soil Cracks (B6)
✓ Surface Water (A1) True Aquatic Plants (✓ High Water Table (A2) Hydrogen Sulfide Od	
✓ Saturation (A3) ✓ Oxidized Rhizospher	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (0	
Algal Mat or Crust (B4) Other (Explain in Rer	
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): 3	
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, pre	evious inspections), if available:
N/A	
Remarks:	
Adjacent to stream SWV-CDK-002.	

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

Sampling Point: WWV-CDK-003

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species
1. Absent				That Are OBL, FACW, or FAC: $\frac{2}{}$ (A)
2.				
				Total Number of Dominant Species Across All Strate: 2 (P)
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	^	= Total Cov		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)	- Total Cov	Ci	FACW species x 2 =
1. Salix nigra	40	Υ	OBL	FAC species x 3 =
_				FACU species x 4 =
2				
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Dravelance Inday - D/A -
6				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
51-	40	= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Leersia oryzoides	70	Υ	OBL	1 Toblematic Trydrophytic Vegetation (Explain)
2. Typha latifolia	10	N	OBL	
3. Persicaria sagitatta	10	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
4. Cyperus esculentus	10	N	FACW	be present, unless disturbed or problematic.
				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				Continue/Charles Weady plants evaluating visual land
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				and the BBH and groater than 6.25 K (1 m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
12	100			Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r	100	= Total Cov	er	height.
)			-
1. Absent				
2				
3				
4				
5				Hydrophytic
6.				Vegetation Present? Yes No
0.				
		= Total Cov	eı	
Remarks: (Include photo numbers here or on a sep	parate sheet.)			
None.				

Sampling Point: WWV-CDK-003

(inches)	Depth Matrix			dox Feature		. 2	- .	Damada		
0 - 16	Color (moist) 7.5YR 4/2	<u>%</u>	Color (moist) 7.5YR 4/6	<u>%</u> 5	Type ¹ C	Loc ² M/PL	Texture SiCL	· ———	Remarks	
- 16	7.5YR 4/2	95	7.5YR 4/6	_ 5		- M/PL	SICL			
			-		-					
								<u> </u>		
					·					
				_						
			-		-					
	-									
		epletion, RN	/I=Reduced Matrix, I	MS=Maske	d Sand G	rains.	² Location: P	L=Pore Lini	ng, M=Matrix.	
ydric Soil I	Indicators:						Indio	ators for P	roblematic Hyd	dric Soils ³ :
_ Histosol			Dark Surfa						A10) (MLRA 1 4	17)
	pipedon (A2)		Polyvalue B				148)		e Redox (A16)	
_ Black His			Thin Dark S			147, 148)		(MLRA 14		E40\
	n Sulfide (A4)		Loamy Gle Depleted M		(F2)		_		oodplain Soils (F19)
	d Layers (A5) ick (A10) (LRR N)		Redox Dar		E6)			(MLRA 1:	w Dark Surface	(TF12)
	d Below Dark Surfa	ace (A11)	Depleted D	,	,			-	ain in Remarks)	, ,
	ark Surface (A12)	,	Redox Dep				_	(,	
	lucky Mineral (S1)	(LRR N,	Iron-Manga			(LRR N,				
	A 147, 148)		MLRA 1							
	Bleyed Matrix (S4)		Umbric Sur						ydrophytic vege	
-	tedox (S5)		Piedmont F					-	rology must be	
	Matrix (S6)		Red Parent	: Material (F	21) (ML I	RA 127, 147	7)	unless distu	rbed or problem	atic.
	_ayer (if observed	d):								
Type: Non										
Depth (inc	ches): <u>-</u>						Hydric So	il Present?	Yes	No
temarks:										
lone.										

Project/Site: Equitrans Expa	ansion Project	City/Coun	tv: Wetzel		Sampling Date: 7/1	2/21
Applicant/Owner: Equitrans					Sampling Point:	
Investigator(s): JJP		Section, T	ownship, Range: N			
Landform (hillslope, terrace, et	c.): terrace	Local relief (d	concave, convex, nor	ne): concave	Slope ((%): 3
Subregion (LRR or MLRA): LF	RR N Lat:	39.558469	Long: -80.5	529874	Datum:	NAD83
Landform (hillslope, terrace, et Subregion (LRR or MLRA): LF Soil Map Unit Name: Giplin-Pe	eabody complex, 25-35% s	lopes, moderately eroded	(513709)	NWI classific	ation: none	
Are climatic / hydrologic condit						
Are Vegetation, Soil					present? Yes	No
Are Vegetation, Soil				explain any answe		
SUMMARY OF FINDING						ures, etc.
Hydrophytic Vegetation Prese Hydric Soil Present? Wetland Hydrology Present? Remarks: - Area wetland sam	Yes Yes	No wit	the Sampled Area thin a Wetland?		No ocated on a hil	Islope,
confined to roadbed	• •					телер 5,
HYDROLOGY						- 0 1
Wetland Hydrology Indicate		Other comba		•	tors (minimum of two	required)
Primary Indicators (minimum Surface Water (A1)		all that apply) Frue Aquatic Plants (B14	\	Surface Soil	Cracks (B6) getated Concave Sur	face (B8)
High Water Table (A2)		Hydrogen Sulfide Odor (C		Sparsely veg		lace (Do)
Saturation (A3)		Oxidized Rhizospheres of		Moss Trim Li		
Water Marks (B1)	F	Presence of Reduced Iron	n (C4)	Dry-Season	Water Table (C2)	
Sediment Deposits (B2)		Recent Iron Reduction in	Tilled Soils (C6)	Crayfish Buri		(20)
Drift Deposits (B3)		Thin Muck Surface (C7)	x		sible on Aerial Image	ery (C9)
Algal Mat or Crust (B4) Iron Deposits (B5)	_ '	Other (Explain in Remark	s)	Stunted or Si	tressed Plants (D1)	
Inundation Visible on Ae	rial Imagery (B7)			Shallow Aqui		
Water-Stained Leaves (E					phic Relief (D4)	
Aquatic Fauna (B13)	,			FAC-Neutral	. , ,	
Field Observations:						
Surface Water Present?		Depth (inches):				
Water Table Present?	Yes No				~	
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches): 6	Wetland H	lydrology Presen	t? Yes	lo
Describe Recorded Data (stre	eam gauge, monitoring we	ell, aerial photos, previou	s inspections), if ava	ilable:		
Remarks:						
Possible source is r	unoff.					
Saturation is due to	shallow aquitard	of clay layer star	rting at the 6ir	soil depth.		
	•			•		

•	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species?	<u>Status</u>	Number of Dominant Species	
1. Absent				That Are OBL, FACW, or FAC: 5 (A	4)
2				Total Number of Dominant	
3				Species Across All Strata: 5 (E	3)
4					,
5.				Percent of Dominant Species That Are OBL FACW or FAC: 100	^ / D \
				That Are OBL, FACW, or FAC: 100 (A	4/B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
8				OBL species 30 x 1 = 30	
O 15' r	0	= Total Cov	er er	FACW species $\frac{10}{10}$ \times 2 = $\frac{20}{10}$	
Sapling/Shrub Stratum (Plot size: 15'r) 1. Absent					
				rac species x s =	
2				FACU species $\frac{0}{a}$ x 4 = $\frac{0}{a}$	
3				UPL species 0 $x 5 = 0$	
4				Column Totals: _80 (A)	(B)
5				2125	
6				Prevalence Index = B/A = 2.125	
7.				Hydrophytic Vegetation Indicators:	
				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9				v 3 - Prevalence Index is ≤3.0 ¹	
10				4 - Morphological Adaptations ¹ (Provide suppor	rtina
Horb Stratum (Diet size: 5'[0	= Total Cov	er er	data in Remarks or on a separate sheet)	- 3
Herb Stratum (Plot size: 5'r) 1 Dichanthelium clandestinum	25	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)	
1		<u>'</u>			
2. Microstegium vimineum	15		FAC	¹ Indicators of hydric soil and wetland hydrology mus	et
3. Glyceria striata	15	<u>Y</u>	OBL	be present, unless disturbed or problematic.	31
4. Carex hystericina	10	Υ	OBL	Definitions of Four Vegetation Strata:	
5. Boehmeria cylindrica	10	Υ	FACW	Deminions of Four Vegetation Strata.	
6. Lycopus virginicus	5	N	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm	
7				more in diameter at breast height (DBH), regardless height.	s of
				neight.	
8				Sapling/Shrub – Woody plants, excluding vines, le	ss
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regardle	ess
11				of size, and woody plants less than 3.28 ft tall.	
12					
991	80	= Total Cov	er er	Woody vine – All woody vines greater than 3.28 ft height.	ın
Woody Vine Stratum (Plot size: 30' r)				noight.	
1. Absent					
2					
3					
4					
5.				Hydrophytic	
6.				Vegetation Present? Yes No	
0		= Total Cov		1000	
	-	= Total Cov	rei		
Remarks: (Include photo numbers here or on a separate	sheet.)				
- None					

Profile Des	cription: (Describe	to the de	oth needed to docum			or confirr	n the absence	e of indicators.)
Depth	Matrix	0/		x Feature		12	Tandona	Demonstra
(inches)	Color (moist)	% 	Color (moist)	<u>%</u>	Type ¹	Loc ² M-PL	<u>Texture</u> SiCL	Remarks
0-6	7.5Y 4/1	<u>75</u>	7.5YR 4/6	10	_ <u>C</u>		SICL	saturated
			7.5YR 4/2	15	_ <u>D</u>	M		
6-17	10YR 5/4	60	10YR 5/1	25	D	М	С	moist to dry
			7.5YR 4/6	15	С	M-PL		
				· 		· ——		. ———
							-	· -
		- ·						
					_			
¹ Type: C=C	Concentration, D=Dep	oletion, RM	=Reduced Matrix, MS	S=Maske	d Sand G	ains.		L=Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indic	cators for Problematic Hydric Soils ³ :
Histoso			Dark Surface					2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be				, 148) (Coast Prairie Redox (A16)
	listic (A3) en Sulfide (A4)		Thin Dark Su Loamy Gleye			147, 148)	г	(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	ed Layers (A5)		Loanly Gleye		(Г2)		'	(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark \$		F6)		,	Very Shallow Dark Surface (TF12)
	ed Below Dark Surfac	e (A11)	Depleted Dar					Other (Explain in Remarks)
Thick D	ark Surface (A12)		Redox Depre					
-	Mucky Mineral (S1) (LRR N,	Iron-Mangan		ses (F12)	(LRR N,		
	A 147, 148)		MLRA 13		(24) 5 4 4		3,	
-	Gleyed Matrix (S4) Redox (S5)		Umbric Surfa Piedmont Flo					dicators of hydrophytic vegetation and wetland hydrology must be present,
-	d Matrix (S6)		Red Parent N					unless disturbed or problematic.
	Layer (if observed)	:		(-	, (,	1	
Type: No								
Depth (in	nches): -						Hydric Soi	il Present? Yes No
Remarks:								
- None								
110110								

Project/Site: Equitrans Expansion Project City/C	County: Wetzel Sampling Date: 7/12/21
Applicant/Owner: Equitrans	State: WV Sampling Point: WWVJJP002
Investigator(s): JJP Section	
Landform (hillslope, terrace, etc.): terrace Local re	lief (concave, convex, none): Concave Slope (%): <2
Subregion (LRR or MLRA): LRR N Lat: 39.559422	Long: -80.531004 Datum: NAD83
Soil Map Unit Name: Gilpin-Peabody complex, 35-70% slopes (513710)	
Are climatic / hydrologic conditions on the site typical for this time of year?	•
Are Vegetation, Soil, or Hydrology significantly distu	· · · · · · · · · · · · · · · · · · ·
Are Vegetation, Soil, or Hydrology naturally problem	
	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes V No No No Remarks:	Is the Sampled Area within a Wetland? Yes No
- Area wetland sample point for wetland WWVJJP Adjacent to stream (SWVJJP005)	002 / PEM confined to roadbed on hillslope.
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 ✓ High Water Table (A2) Hydrogen Sulfide Oc	
	res on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (
Algal Mat or Crust (B4) Other (Explain in Re	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	✓ Geomorphic Position (D2)✓ 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): _5	
Water Table Present? Yes No Depth (inches): 6	
Saturation Present? Yes _ V No _ Depth (inches): _0_ (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
N/A	
Remarks:	
Possible sources are groundwater and runoff.	

<u>ree Stratum</u> (Plot size: 30' r)	Absolute	Dominant		Dominance Test worksheet:
Absent				Number of Dominant Species That Are OBL, FACW, or FAC: $\frac{3}{}$ (A)
				Total Number of Dominant Species Across All Strata: 3 (B)
·				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B
i				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
·				OBL species 60 x 1 = 60
sapling/Shrub Stratum (Plot size: 15' r	0	= Total Co	ver	FACW species $\frac{30}{2}$ x 2 = $\frac{60}{2}$
Platanus occidentalis	5	Υ	FACW	FAC species $\frac{30}{2}$ $\times 3 = \frac{90}{2}$
Rosa multiflora	2	N	FACU	FACU species 2 x 4 = 8
-				
				Column Totals: 122 (A) 218 (B)
				Prevalence Index = B/A = 1.79
·				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
k				v 2 - Dominance Test is >50%
l				2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹
0				
lerb Stratum (Plot size: 5' r)	7	= Total Co	ver	4 - Morphological Adaptations¹ (Provide supportin data in Remarks or on a separate sheet)
Carex prasina	40	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
Microstegium vimineum	30	Υ	FAC	
Juncus effusus	20	N	FACW	¹ Indicators of hydric soil and wetland hydrology must
Typha angustifolia	15	N	OBL	be present, unless disturbed or problematic.
Glyceria striata	5	N	OBL	Definitions of Four Vegetation Strata:
Epilobium coloratum	5	N	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) of more in diameter at breast height (DBH), regardless of
				height.
3				Sapling/Shrub – Woody plants, excluding vines, less
)				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
0				Herb – All herbaceous (non-woody) plants, regardless
1				of size, and woody plants less than 3.28 ft tall.
2	115	= Total Co	ver	Woody vine – All woody vines greater than 3.28 ft in height.
Voody Vine Stratum (Plot size: 30' r)				neight.
Absent				
s				
l				
				Hydrophytic Vegetation
				Present? Yes No
5				1103CH1: 103
5. 5.		= Total Co		105 <u></u> 105

Profile Desc	cription: (Describe	to the de	pth needed to docun	nent the	indicator	or confir	m the absence	e of indicators.)
Depth	Matrix			x Featur		. 2	_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹ _	Loc ²	Texture	Remarks
0-3	7.5YR 3/2	95	10YR 3/4	5	C	М	SiL	saturated
3-17	7.5YR 4/1	85	7.5YR 4/6	10	С	M-PL	SiCL	saturated
			10YR 5/2	5	D	М		
	-							· -
				-				-
					_			<u>-</u>
								<u>-</u>
		_	-		_			
	-						·	-
		pletion, RN	M=Reduced Matrix, MS	S=Maske	ed Sand G	rains.		PL=Pore Lining, M=Matrix.
Hydric Soil			Davida Occurria da	(07)				cators for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)		Dark Surface Polyvalue Be		inno (CO) (I	MI DA 147		2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16)
	istic (A3)		Polyvalue Be		. , .		, 146)	(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye			147, 140)		Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Mat		(1 2)			(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark S		(F6)			Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	ce (A11)	Depleted Dar					Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre					
	Mucky Mineral (S1)	(LRR N,	Iron-Mangan		ses (F12)	(LRR N,		
	A 147, 148)		MLRA 13				3.	
	Sleyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
-	Redox (S5)		Piedmont Flo					wetland hydrology must be present,
	l Matrix (S6) Layer (if observed)	١.	Red Parent N	nateriai (F21) (WILF	KA 127, 14	-7)	unless disturbed or problematic.
Type: Nor).						
								"
Depth (in	ches): -						Hydric So	il Present? Yes No
Remarks:								
- None								

Project/Site: Equitrans Expansion Project City/	County: Wetzel Sampling Date: 7/12/21
Applicant/Owner: Equitrans	State: WV Sampling Point: WWVJJP003
	tion, Township, Range: No PLSS
Landform (hillslope, terrace, etc.): hillslope Local re	elief (concave, convex, none); concave Slope (%); 25
Subregion (LRR or MLRA): LRR N Lat: 39.559949	Long: -80.530198 Datum: NAD83
Soil Map Unit Name: Gilpin-Peabody complex, 35-70% slopes (513710)	NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year?	•
Are Vegetation, Soil, or Hydrology significantly distu	_
Are Vegetation, Soil, or Hydrology naturally problem	
	mpling point locations, transects, important features, etc.
	<u> </u>
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes V No No	within a Wetland? Yes No
Remarks:	
- Area wetland sample point for wetland WWVJJP	² 003.
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	
High Water Table (A2) Hydrogen Sulfide Od Color (A)	
	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce Sediment Deposits (B2) Recent Iron Reducti	
Drift Deposits (B3) Thin Muck Surface (
Algal Mat or Crust (B4) Other (Explain in Re	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	<u>✓</u> 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): Water Table Present? Yes No Depth (inches): Depth (inches):	
Saturation Present? Yes No Depth (inches): 0-6	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	evious inspections), if available:
N/A	
Remarks:	
Possible source is runoff.	tarting at Gin acil donth
Saturation due to shallow aquitaed of clay layer st	arting at oin soil depth

,	Absoluto	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		
Absent	<u> </u>			Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
				That Are OBL, FACW, or FAC (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: 50 (A/B)
				That Are OBL, FACW, or FAC: $\underline{50}$ (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				
	0	= Total Cov	er	ODL species X 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species 20 x 2 = 40
1. Oxydendrum arboreum	5	Υ	UPL	FAC species $\frac{70}{100}$ x 3 = $\frac{210}{100}$
2.				FACU species $\frac{0}{x}$ $x = \frac{0}{x}$
				UPL species $\frac{5}{}$ $\times 5 = \frac{25}{}$
3				
4				Column Totals: 120 (A) 300 (B)
5				D 1 1 1 D(A 25
6				Prevalence Index = B/A = 2.5
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
10				
	5	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)				data in Remarks or on a separate sheet)
1. Microstegium vimineum	60	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Carex prasina	15	N	OBL	
3. Epilobium coloratum	15		FACW	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4. Thelypteris noveboracensis	10	N	FAC	Definitions of Four Vegetation Strata:
5. Glyceria striata	10	N	OBL	
6. Scirpus cyperinus	5	N	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
				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 3.28 ft (1 m) tall.
10				
11.				Herb – All herbaceous (non-woody) plants, regardless
12.				of size, and woody plants less than 3.28 ft tall.
12.	115			Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)	110	= Total Cov	er	height.
Absent				
1. Absent				
2				
3				
4.	- '			
				Hydrophytic
5				Vegetation
6				Present? Yes No
	0	= Total Cov	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			1
- None				
- NOTE				

Profile Desc	ription: (Describe	to the de	oth needed to docun	nent the	indicator	or confirm	n the absence	of indicators.)
Depth	Matrix		Redo	x Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	7.5YR 4/2	90	10YR 3/4	5	С	M	SiCL	saturated
			7.5YR 4/6	5	С	M-PL		
6-17	10YR 5/4	100	7.5YR 4/2	30	D	М	SiC to C	dry to moist
			7.5YR 4/6	10	С	M		
				·	-			
					_			
	-		-		- · · · · · · · · · · · · · · · · · · ·			·
						-		
	-							
1	-		-				2	-
'Type: C=Co		oletion, RM	=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.		L=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
•			D 10 ((07)				
Histosol			Dark Surface		(00) (N DA 447		2 cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be		. , .		, 148) (Coast Prairie Redox (A16)
Black Hi			Thin Dark Su	•	, .	147, 148)	_	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		(F2)		<u> </u>	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Mat		Ε0\		,	(MLRA 136, 147)
	ick (A10) (LRR N)	- (0.4.4)	Redox Dark S		,			Very Shallow Dark Surface (TF12)
	Below Dark Surfac	e (A11)	Depleted Dar				_ '	Other (Explain in Remarks)
	ark Surface (A12)	I DD N	Redox Depre			I DD N		
-	lucky Mineral (S1) (I	LKK N,	Iron-Mangan		ses (F12) (LKK N,		
	\ 147, 148)		MLRA 130	•	/MI DA 4/	0. 400\	31	Nantaur of hardene batter an exterior and
-	Gleyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
-	ledox (S5)		Piedmont Flo					vetland hydrology must be present,
	Matrix (S6)		Red Parent N	/laterial (l	-21) (MLR	A 127, 14	7) u	inless disturbed or problematic.
	_ayer (if observed)	:						
Type: Nor	ne							,
Depth (inc	ches):						Hydric Soil	I Present? Yes No
Remarks:								
- None								

Project/Site: Equitrans Expan	nsion Project	City/Co	unty: Wetzel		Sampling Date: 7/	12/21
Applicant/Owner: Equitrans					Sampling Point:	
Investigator(s): JJP		Section	ı, Township, Range: N			
					Slope	(%): <u>4</u>
Landform (hillslope, terrace, etc Subregion (LRR or MLRA): LR	R N Lat: 39.	559591	Long: -80.5	531356	Datum:	NAD83
Soil Map Unit Name: Gilpin-Pea	abody complex, 35-70% slope	es (513710)		NWI classific	ation: none	
Are climatic / hydrologic condition						
Are Vegetation, Soil					resent? Yes	No
Are Vegetation, Soil				explain any answe		
SUMMARY OF FINDING						tures, etc.
Hydrophytic Vegetation Prese Hydric Soil Present? Wetland Hydrology Present? Remarks: - Area wetland samp depression on terrace	Yes v Yes v	d WWVJJP00	is the Sampled Area within a Wetland? 04. PEM wetlan		No o stream. Loc	cated in
·						
HYDROLOGY						1
Wetland Hydrology Indicato		that apply)		-	tors (minimum of tw	o required)
Primary Indicators (minimum of Surface Water (A1)		tnat apply) e Aquatic Plants (B´	14)	Surface Soil	Cracks (B6) getated Concave Su	rface (B8)
High Water Table (A2)		lrogen Sulfide Odor		Drainage Pat		nace (Bo)
Saturation (A3)			on Living Roots (C3)	Moss Trim Li		
Water Marks (B1)	Pres	sence of Reduced I	ron (C4)	Dry-Season	Water Table (C2)	
Sediment Deposits (B2)		cent Iron Reduction		Crayfish Burn		(20)
Drift Deposits (B3)		n Muck Surface (C7			sible on Aerial Imag	ery (C9)
Algal Mat or Crust (B4) Iron Deposits (B5)	Our	er (Explain in Rema	arks)	Stunted or St	tressed Plants (D1)	
Inundation Visible on Aeri	ial Imagery (B7)			Shallow Aqui		
Water-Stained Leaves (B					phic Relief (D4)	
Aquatic Fauna (B13)	-,			FAC-Neutral		
Field Observations:						
Surface Water Present?	Yes No De					
Water Table Present?	Yes No De				~	
Saturation Present? (includes capillary fringe)	Yes No De	pth (inches): 0-6	Wetland H	lydrology Presen	t? Yes	No
Describe Recorded Data (stre	am gauge, monitoring well,	aerial photos, previ	ous inspections), if ava	ilable:		
Remarks:						
Possible sources are	aroundwater and	runoff				
Saturation due to sh	•		ting at the 6in s	oil denth		
	anow agaitara or or	ay layor otari	ang at the only	on doptin		

	A I I4 -	D!	A. Lorallia a Associ	T B t	4	
Tree Stratum (Plot size: 30' r			t Indicator ? Status	Dominance Test worksh		
Absent				Number of Dominant Spec That Are OBL, FACW, or I		(4)
I				That Are OBL, FACW, or i	FAC: 5	_ (A)
				Total Number of Dominan		
3				Species Across All Strata:	5	_ (B)
4				Percent of Dominant Spec	ioo	
5				That Are OBL, FACW, or I		(A/B)
						_ (/
				Prevalence Index works	neet:	
				Total % Cover of:	Multiply by:	
0		T-4-1 O-		OBL species	x 1 =	
Sanling/Shruh Stratum (Plot size: 15' r		= Total Co	over	FACW species		
4 Absent				FAC species		
				*		
				FACU species		
3				UPL species	x 5 =	
4				Column Totals:	(A)	(B)
				Prevalence Index =	B/A =	
				Hydrophytic Vegetation	Indicators:	
				1 - Rapid Test for Hyd	rophytic Vegetation	
				2 - Dominance Test is	>50%	
9	- ——			3 - Prevalence Index i		
10						
	0	= Total Co	ver	4 - Morphological Ada	ptations* (Provide su * on a separate sheet	
Herb Stratum (Plot size: 5' r)						•
	20	Υ	FAC	Problematic Hydrophy	tic vegetation (Expi	ain)
2 Carex prasina	15	Υ	OBL			
	10	Υ	FACW	¹ Indicators of hydric soil ar		must
	10	Y	FAC	be present, unless disturb	ed or problematic.	
	10	<u>Y</u>	FACW	Definitions of Four Vege	tation Strata:	
	- ——			Tree – Woody plants, excl	uding vinos 2 in 776	com) or
	5	N	OBL	more in diameter at breast	height (DBH), regard	dless of
	5	N	OBL	height.		
8. Carex hystericina	5	N	OBL			
g. Scirpus cyperinus	5	N	FACW	Sapling/Shrub – Woody p than 3 in. DBH and greate		
	5	N	FACU	than 5 m. DDH and greate	i tilali 3.20 it (1 iii) ta	
10 Tussilago farfara	U					
10. Tussilago farfara	- —			Herb – All herbaceous (no		ardless
11.	- 		-	Herb – All herbaceous (no of size, and woody plants		ardless
2. 2. 3. 4. 5. 6. 6. 7. 8. 8. 8. 8. 8. 8. 8. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9. 9.				of size, and woody plants	less than 3.28 ft tall.	
11 12	90	= Total Co	ver	of size, and woody plants Woody vine – All woody v	less than 3.28 ft tall.	
11		= Total Co	ver	of size, and woody plants	less than 3.28 ft tall.	
11 12	90			of size, and woody plants Woody vine – All woody v	less than 3.28 ft tall.	
11	90			of size, and woody plants Woody vine – All woody v	less than 3.28 ft tall.	
11	90			of size, and woody plants Woody vine – All woody v	less than 3.28 ft tall.	
11	90			of size, and woody plants Woody vine – All woody v	less than 3.28 ft tall.	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic	less than 3.28 ft tall.	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	
11	90			of size, and woody plants Woody vine – All woody wheight. Hydrophytic Vegetation	less than 3.28 ft tall. rines greater than 3.2	

rofile Desc	ription: (Describe	to the de	pth needed to doc	ument the	indicator	or confir	m the absenc	e of indicators.)
epth	Matrix Color (moist)	%		dox Featur %		Loc ²	Taytura	Domarka
nches) -3	7.5YR 3/2	95	Color (moist) 10YR 3/4		<u>Type¹</u> C	M LOC	<u>Texture</u> SiL	Remarks saturated
·17	7.5YR 4/1		7.5YR 4/6			 M-PL		
-17	7.51K 4/1	85			_ <u>C</u>	-	SiC to C	moist to dry
			10YR 5/2	5	_ <u>D</u>	M		
					_			
							-	-
					_			-
		_			_	-		-
			-					_
		_						
vne: C=Cc	ncentration D=De	nletion PM	- ∕/=Reduced Matrix, I	MS=Masks	nd Sand G	raine	² Location: F	
	ndicators:	pielion, Kr	vi-Reduced Matrix, i	vio-iviaske	u Sanu Gi	iaiiis.		cators for Problematic Hydric Soils ³
Histosol			Dark Surfa	ce (S7)				2 cm Muck (A10) (MLRA 147)
	ipedon (A2)		Polyvalue I		ace (S8) (I	MLRA 147		Coast Prairie Redox (A16)
Black His			Thin Dark S					(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gle		(F2)			Piedmont Floodplain Soils (F19)
	Layers (A5)		Pepleted M					(MLRA 136, 147)
	ck (A10) (LRR N)	(8.4.4)	Redox Dar		,			Very Shallow Dark Surface (TF12)
	Below Dark Surface (A12)	ce (A11)	Depleted D				_	Other (Explain in Remarks)
	irk Surface (A12) lucky Mineral (S1) ((I RR N	Redox Dep Iron-Manga			(I RR N		
	147, 148)	(=1111 14,	MLRA 1		000 (1 12)	(=:::::::::::::::::::::::::::::::::::::		
	leyed Matrix (S4)		Umbric Sui	•	(MLRA 1	36, 122)	³ In	ndicators of hydrophytic vegetation and
_ Sandy R	edox (S5)		Piedmont F	loodplain	Soils (F19) (MLRA 1	48)	wetland hydrology must be present,
	Matrix (S6)		Red Paren	t Material (F21) (MLF	RA 127, 14	17)	unless disturbed or problematic.
	ayer (if observed)):						
Type: Non	e							_
Depth (inc	ches):						Hydric So	il Present? Yes No
emarks:								
None								

Project/Site: Equitrans Expansion Project City/C	County: Wetzel Sampling Date: 7/14/21
Applicant/Owner: Equitrans	State: WV Sampling Point: WWVJJP005
	on, Township, Range: No PLSS
Landform (hillslope, terrace, etc.): hillslope Local rel	lief (concave, convex, none); concave Slope (%); 30
Subregion (LRR or MLRA): LRR N Lat: 39.553983	Long: -80.522480 Datum: NAD83
Soil Map Unit Name: Gilpin-Peabody complex, 35-70% slopes (513710)	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly distur	•
Are Vegetation, Soil, or Hydrology naturally problems	
SUMMARY OF FINDINGS – Attach site map showing san	
Hydrophytic Vegetation Present? Yes V No Hydric Soil Present? Yes No No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No	
- Area wetland sample point for wetland WWVJJP	000. I Livi wettand adjacent to stream.
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (Surface Soil Cracks (B6) (B14) Sparsely Vegetated Concave Surface (B8)
Surface Water (A1) High Water Table (A2) Hydrogen Sulfide Od	
Saturation (A3) Oxidized Rhizospher	
Water Marks (B1) Presence of Reduced	d Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (0	
Algal Mat or Crust (B4) Other (Explain in Rer	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	✓ Geomorphic Position (D2)✓ 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):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): _ 0-6 (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
N/A	
Remarks:	
Possible source is run off from groundwater seep(,
Saturation due to clay shallow aquitard starting at	6 inches.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)		Species?		Number of Dominant Species
1. Absent				That Are OBL, FACW, or FAC: $\frac{2}{}$ (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.				(VB)
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				
	0	= Total Cov	er	ODL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species 30 x 2 = 60
1. Absent				FAC species $\frac{35}{}$ x 3 = $\frac{105}{}$
2				FACU species 0 x 4 = 0
				UPL species $0 \times 5 = 0$
3				
4				Column Totals: <u>70</u> (A) <u>170</u> (B)
5				Dravalance Index: = D/A = 243
6				Prevalence Index = B/A = 2.43
				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
10.				
	0	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		- Total Gov	Ci	data in Remarks or on a separate sheet)
1 Microstegium vimineum	30	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Impatiens capensis	15	<u>Y</u>	FACW	
	- ——			¹ Indicators of hydric soil and wetland hydrology must
3. Ranunculus pensylvanicus	10	N	FACW	be present, unless disturbed or problematic.
4. Glyceria striata	5	N	OBL	Definitions of Four Vegetation Strata:
5. Persicaria virginiana	5	N	FAC	Definitions of Four Vegetation Strata.
6. Boehmeria cylindrica	5	N	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. <u>Bootimoria dyminarioa</u>	- —			more in diameter at breast height (DBH), regardless of
7				height.
8				O - I l'on (O) mate NA - de la landa de la colondia del colondia de la colondia de la colondia del colondia de la colondia de la colondia de la colondia de la colondia del colondia de
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10.				than 5 m. DDi rand greater than 5.20 it (1 m) tail.
	· 			Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	70	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)				height.
1. Absent				
2				
3				
4				Hydrophytic
5				Hydrophytic Vegetation
6.				Present? Yes No
0.		T-4-1 O-1		
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			
- None				
110110				

0-6 15Y 5/1 65 10YR 6/3 25 C M SiCL saturated, with gravel at 20% 7.5YR 5/6 5 C M-PL 7.5YR 4/6 5 C M-PL	Depth	Matrix			dox Feature		12	T 4		D	
T.5YR 5/6 5									eaturated		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix.	0-0	131 3/1						JIOL	Saturateu,	with graver a	1 20 /6
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix.				-					·		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Thire Dark Surface (S1) Thire Dark Surface (S2) Thire Dark Surface (S3) Thin Dark Surface (S8) (MLRA 147, 148) Thire Dark Surface (A10) Type: None Depleted Dark Surface (A11) Thire Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 146) MLRA 147, 148) MILRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Type: None Depth (inches):				7.5YR 4/6	5	<u>C</u>	M-PL				
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils³ Histosol (A1)	6-17	Color (moist) % 15Y 5/1 65 15Y 5/	75	10YR 5/6	10	С	M	SiC to C	moist		
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thick Dark Surface (A11) Thick Dark Surface (A11) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Redox Depresations (F3) Redox Depresations (F3) (MLRA 136, 122) Sestrictive Layer (if observed): Type: None Depth (inches): Depth (inches): Hydric Soil Present? Yes No Remarks:			7.5YR 5/8	15	С	M					
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S4) Sandy Redox (S5) Sandy Re											
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) MLRA 147, 148) MIRA 136, 122) Sandy Redox (S5) S				-				_			
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) MLRA 147, 148) MIRA 136, 122) Sandy Redox (S5) S									· -		
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) MLRA 147, 148) MIRA 136, 122) Sandy Redox (S5) S									· -		
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) MLRA 147, 148) MIRA 136, 122) Sandy Redox (S5) S											
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Thic Dark Surface (A11) Depleted Dark Surface (F6) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) MLRA 147, 148) MIRA 136, 122) Sandy Redox (S5) S											
Histosol (A1)			epletion, RN	M=Reduced Matrix, I	MS=Maske	d Sand (Grains.	² Location: P	L=Pore Linir	ng, M=Matrix.	
Histic Epipedon (A2)	-										
Black Histic (A3)						(00)	/MI DA 447				
Hydrogen Sulfide (A4) Stratified Layers (A5) 2 cm Muck (A10) (LRR N) Depleted Matrix (F3) 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) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Depleted Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) MLRA 136, 122) January Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Depth (inches): Hydric Soil Present? Yes No								, 148) ()
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) Stripped Matrix (S6) Stripped Matrix (S6) Redox Depressions (F12) (MLRA 136, 122) White Soil Present? Well A136, 147) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Tother (Explain in Remarks) Long-Mesarch (Explain in Remarks) Mesarch (F12) (LRR N, MLRA 136, Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Red Parent Material (F21) (MLRA 127, 147) Restrictive Layer (if observed): Type: None Depth (inches):		, ,					(147, 140)				(F10)
2 cm Muck (A10) (LRR N)		. ,				(1 2)					5 (1 13)
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) Red Parent Material (F21) (MLRA 127, 147) Depleted Dark Surface (F7) Semarks: Depleted Dark Surface (F7) Setrictive Layer (if observed): Type: No Depleted Dark Surface (F7) Setrictive Layer (A12) Setrictive Layer (Inches): Depth (Inch					, ,	F6)					ce (TF12)
Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)			ace (A11)			,			-		
MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Strictive Layer (if observed): Type: None Depth (inches): Bemarks: MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic. ### Hydric Soil Present? Yes No	Thick Da	ark Surface (A12)		Redox Dep	ressions (F	- 8)					
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: None Depth (inches): Beth Material (F21) (MLRA 127, 147) Type: None Depth (inches): Beth Material (F21) (MLRA 127, 147) Type: None Depth (inches): Beth Material (F21) (MLRA 127, 147) Type: None Depth (inches): Beth Material (F21) (MLRA 127, 147) Type: None Depth (inches): Beth Material (F21) (MLRA 127, 147) Type: None	-		(LRR N,			ses (F12	(LRR N,				
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: None Depth (inches): Bed Parent Material (F21) (MLRA 127, 147) Hydric Soil Present? Yes No Remarks:					-			2			
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Restrictive Layer (if observed): Type: None Depth (inches): Hydric Soil Present? Yes No Remarks:											-
Restrictive Layer (if observed): Type: None Depth (inches): Hydric Soil Present? Yes No Remarks:									-		
Type: None Depth (inches): Thydric Soil Present? Yes No Remarks:			۸.	Red Parent	: Material (I	-21) (ML	.KA 127, 14	/) (unless distur	bed or proble	ematic.
Depth (inches): Hydric Soil Present? Yes No Remarks:			1).								
Remarks:								Hydria Sai	l Brocont?	Voc V	No
		cries).						nyaric soi	i Present?	res	_ NO
None											
	None										

Project/Site: Equitrans Expa	ansion Proje	ct	City/C	County. Wetze	I		Sampling Date: 7/	14/21
Applicant/Owner: Equitrans					S	tate. WV	Sampling Point:	WWVJJP006
Investigator(s): JJP			Section	on Townshin				-
Landform (hillslone terrace et	floodplain]	L ocal reli	ief (concave o	convex none).	concave	Slone	(%). <2
Landform (hillslope, terrace, et Subregion (LRR or MLRA): LF	c.) RR N	1 -4.	39.554488	iei (concave, c	80.5229	991	Slope	NAD83
Soil Map Unit Name: Skidmore	e gravelly loan	Lat: _ n. occasional	llv flooded (513717)		Long:	NIVA/I -1:6:	Datum:	
Are climatic / hydrologic condit								
Are Vegetation, Soil								No
Are Vegetation, Soil	, or Hydr	rology	naturally problema	atic? (I	f needed, expl	ain any answer	s in Remarks.)	
SUMMARY OF FINDING	3S – Attac	h site ma	ap showing sam	npling poin	t locations	, transects,	important fea	tures, etc.
Hydrophytic Vegetation Prese Hydric Soil Present? Wetland Hydrology Present? Remarks:	Υ	∕es <u> </u>	No No No	Is the Samp within a We		Yes	No	
- Area wetland sam Possible backwater				006. PEM	l wetland a	abutting st	ream chann	əl.
HYDROLOGY								
Wetland Hydrology Indicate			-11 4b -4 b A				ors (minimum of tv	vo required)
Primary Indicators (minimum	of one is requ			D44)		Surface Soil (urfa a a (DO)
Surface Water (A1) High Water Table (A2)			Frue Aquatic Plants (I Hydrogen Sulfide Odd		<u> </u>		etated Concave Su terns (B10)	лтасе (ва)
Saturation (A3)			Oxidized Rhizosphere					
Water Marks (B1)			Presence of Reduced	_			Vater Table (C2)	
Sediment Deposits (B2)			Recent Iron Reductio	n in Tilled Soil	ls (C6)	Crayfish Burre	ows (C8)	
Drift Deposits (B3)			Thin Muck Surface (C			='	sible on Aerial Imag	
Algal Mat or Crust (B4)		(Other (Explain in Ren	narks)			ressed Plants (D1)	
Iron Deposits (B5)	rial Imagan, /[77)				Geomorphic I		
Inundation Visible on Ae Water-Stained Leaves (E	• • •	37)			_	Shallow Aquit	ard (D3) ohic Relief (D4)	
Aquatic Fauna (B13)))					FAC-Neutral		
Field Observations:							()	
Surface Water Present?			Depth (inches):					
Water Table Present?			Depth (inches): 6					
Saturation Present?	Yes	No	Depth (inches): 0		Wetland Hydi	rology Presen	? Yes	No
(includes capillary fringe) Describe Recorded Data (stre	eam gauge, m	nonitoring w	ell, aerial photos, pre	vious inspecti	ons), if availab	le:		
N/A								
Remarks:					/a\.a\.	\		
Possible sources ar	e ground	water, fl	ooding, runoff	, or seep	(GWVJJF	2003).		

,	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r		Species?		
1. Platanus occidentalis	5	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: $\frac{2}{}$ (A)
				That Ale OBE, I AOW, OI I AO.
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Descent of Descinant Conscion
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
				That Are OBL, I ACW, OF I AC (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				
451	5	= Total Cov	er er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =
1. Absent				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				
7				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
	0	= Total Cov	er er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				
1. Carex torta	65	Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Microstegium vimineum	20	N	FAC	
3. Impatiens capensis	10	N	FACW	¹ Indicators of hydric soil and wetland hydrology must
	10			be present, unless disturbed or problematic.
4. Elymus virginicus		<u>N</u>	FACW	Definitions of Four Vegetation Strata:
5. Stellaria pubera	10	N	UPL	
6. Verbesina alternifolia	5	N	FAC	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Carex hystericina	5	N	OBL	more in diameter at breast height (DBH), regardless of height.
·				noight.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Harb All berbasseus (non woods) plants regardless
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				or size, and woody plants less than 5.20 it tall.
	125	- Total Cay		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)		= Total Cov	'EI	height.
1. Absent				
2				
3				
4				
				Hydrophytic
5				Vegetation Present? Yes No
6				Present? Yes No
	0	= Total Cov	er er	
Remarks: (Include photo numbers here or on a separate	sheet.)			
- None				
- None				

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirm	the absence	e of indicators.)	
Depth	Matrix		Redo	x Feature	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	arks
0-4	7.5YR 4/2	95	10YR 3/4	5	С	М	SiCL	saturated	
4-17	7.5YR 4/1	90	7.5YR 4/6	10	С	M-PL	SiCL	saturated	
		-	-	-			-	-	
							-	· -	
	-	-					-		
		-							
			-						_
		-					-	-	
		-		-	_				
		letion, RM	1=Reduced Matrix, MS	S=Maske	d Sand Gi	ains.	² Location: P	L=Pore Lining, M=M	atrix.
Hydric Soil I	ndicators:						Indic	ators for Problema	tic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	2 cm Muck (A10) (M I	LRA 147)
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfa	ace (S8) (I	VILRA 147,	148) (Coast Prairie Redox	(A16)
Black His	stic (A3)		Thin Dark Su			147, 148)		(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleye		(F2)		[Piedmont Floodplain	Soils (F19)
	l Layers (A5)		Depleted Ma	. ,				(MLRA 136, 147)	
	ck (A10) (LRR N)		Redox Dark					Very Shallow Dark S	
	d Below Dark Surfac	e (A11)	Depleted Dar					Other (Explain in Re	marks)
	ark Surface (A12)	DD N	Redox Depre			(LDD N			
	lucky Mineral (S1) (I \ 147, 148)	_KK N,	Iron-Mangan MLRA 13		SES (F 12)	LKK N,			
	Gleyed Matrix (S4)		Umbric Surfa	•	/MI RΔ 1	36 122)	3In	dicators of hydrophy	tic vegetation and
	ledox (S5)		Piedmont Flo					wetland hydrology m	_
-	Matrix (S6)		Red Parent N					unless disturbed or p	-
	_ayer (if observed):	<u> </u>					,	amood diotalbod of p	robiomatio.
Type: Non									
							Uvdria Cai	il Present? Yes _	✓ No
Depth (inc							Hydric 30i	ii Fresentr Tes_	NO
Remarks:									
- None									

Project/Site: Equitrans Expansion Project	City/County: Wetzel	Sampling Date: 7/14/21
Applicant/Owner: Equitrans		State: WV Sampling Point: WWVJJP007
	Section, Township, Range: N	
	Local relief (concave, convex, nor	ne): <u>concave</u> Slope (%): <u><2</u>
Subregion (LRR or MLRA): LRR N Lat: 39.54	7447 Long: -80.5	512521 Datum: NAD83
Soil Map Unit Name: Skidmore gravelly loam, occasionally floo	d (513717)	NWI classification: none
Are climatic / hydrologic conditions on the site typical for this ti	me of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sign	nificantly disturbed? Are "Normal	Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology nat		explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sh	nowing sampling point location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Volume No Hydric Soil Present? Yes Volume No Wetland Hydrology Present? Yes Volume No Remarks: - Area wetland sample point for wetland	Yes No	
Located in right-of-way and within floodp		
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	ıt apply)	Surface Soil Cracks (B6)
Surface Water (A1) True A	quatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrog	gen Sulfide Odor (C1)	Drainage Patterns (B10)
	ed Rhizospheres on Living Roots (C3)	Moss Trim Lines (B16)
	nce of Reduced Iron (C4)	Dry-Season Water Table (C2)
	t Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
	luck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
	(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) Field Observations:		FAC-Neutral Test (D5)
Surface Water Present? Yes No Depth	(inches): -	
Water Table Present? Yes No Depth		
Saturation Present? Yes V No Depth		lydrology Present? Yes V No No No
(includes capillary fringe)	(inches) wetland F	nydrology Present? Tes No
Describe Recorded Data (stream gauge, monitoring well, aer N/A	ial photos, previous inspections), if ava	ilable:
Remarks:		
Possible source is runoff.		
Saturation due to shallow aquitaed of cla	v laver starting at 6in soil (denth
Cataration due to snahow aquitaed of old	y layer starting at our son t	аорит

001	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species?	<u>Status</u>	Number of Dominant Species	
1. Absent				That Are OBL, FACW, or FAC: $\frac{3}{}$ (A))
2				Total Number of Dominant	
3				Species Across All Strata: 3 (B))
4					
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/	/D\
6.				That Are OBE, I AGW, OF I AG (A	(D)
7.				Prevalence Index worksheet:	
				Total % Cover of: Multiply by:	
8	•			OBL species $\frac{35}{}$ x 1 = $\frac{35}{}$	
Sapling/Shrub Stratum (Plot size: 15' r)		= Total Cov	er	FACW species $\frac{40}{}$ x 2 = $\frac{80}{}$	
Absent				FAC species $\frac{15}{}$ x 3 = $\frac{45}{}$	
-				FACU species $\frac{10}{10}$ $x = 40$	
2					
3				UPL species $\frac{0}{100}$ $x = 5 = \frac{0}{200}$	
4				Column Totals: (A) (B	3)
5				Prevalence Index = B/A = 2	
6					
7				Hydrophytic Vegetation Indicators:	
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
10.		-		3 - Prevalence Index is ≤3.0 ¹	
10.	0	- Total Cov		4 - Morphological Adaptations ¹ (Provide support	ing
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)	
1. Carex hystericina	25	Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Agrostis stolonifera	20	<u> </u>	FACW		
3. Juncus dudleyi	20	<u>Y</u>	FACW	¹ Indicators of hydric soil and wetland hydrology must	t
				be present, unless disturbed or problematic.	
4. Holcus lanatus	15	N	FAC	Definitions of Four Vegetation Strata:	
5. Agrostis perennans	10	N	FACU	The Mandage last and dispersion of the (7.0 pm)	
6. Scirpus atrovirens	10	N	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) more in diameter at breast height (DBH), regardless	
7				height.	01
8					
9.				Sapling/Shrub – Woody plants, excluding vines, lesthan 3 in. DBH and greater than 3.28 ft (1 m) tall.	S
10				than 5 m. bbit and greater than 5.25 m (1 m) tail.	
11.				Herb – All herbaceous (non-woody) plants, regardles	ss
				of size, and woody plants less than 3.28 ft tall.	
12	100			Woody vine – All woody vines greater than 3.28 ft in	ı
Woody Vine Stratum (Plot size: 30' r)	100	= Total Cov	er	height.	-
1. Absent					
-					
2					
3					
4				Hydrophytic	
5				Vegetation	
6				Present? Yes No	
	0	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet.)			1	
- None	,				
- None					
i de la companya de					

		to the de	pth needed to docum			or confiri	m the absence	e of indicators.)
Depth (inches)	Matrix Color (moist)	%		x Feature		Loc²	Texture	Domarka
(inches) 0-6	Color (moist) 7.5YR 4/2	90	Color (moist) 10YR 3/6	<u>%</u> 10	<u>Type¹</u> C	M	SiCL	Remarks saturated
	· 					-	· 	
6-17	7.5YR 4/1	85	10YR 3/6	10	_ <u>C</u>	M	SiC to C	moist to dry, gravel at 30%
			7.5YR 4/6	5	_ C	M-PL		
		_						
			-		_			
	· -		· ·					
								<u>-</u> <u></u> -
			· <u></u>			_		
			-		_			
Type: C=C	Concentration D=De	nletion RM	1=Reduced Matrix, MS	S=Maske	ed Sand G	rains	² Location: E	PL=Pore Lining, M=Matrix.
	Indicators:	pietion, rxiv	1-reduced Matrix, Mc	J-IVIASKE	d Sand O	airis.		cators for Problematic Hydric Soils ³ :
Histoso			Dark Surface	(S7)				2 cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be		ace (S8) (I	MLRA 147		Coast Prairie Redox (A16)
	listic (A3)		Thin Dark Su				· · · —	(MLRA 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gleye		(F2)			Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Mar	. ,				(MLRA 136, 147)
	uck (A10) (LRR N)		Redox Dark		. ,			Very Shallow Dark Surface (TF12)
	ed Below Dark Surfa	ce (A11)	Depleted Dar		. ,			Other (Explain in Remarks)
	Park Surface (A12)	(I DD N	Redox Depre			/I DD N		
-	Mucky Mineral (S1) (A 147, 148)	(LKK N,	Iron-Mangan MLRA 13		ses (F12)	(LKK N,		
	Gleyed Matrix (S4)		Umbric Surfa		(MLRA 1	36. 122)	³ In	dicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Flo					wetland hydrology must be present,
-	d Matrix (S6)		Red Parent N					unless disturbed or problematic.
	Layer (if observed):		<u> </u>		-		· ·
Type: No	one							
Depth (in	nches): -						Hydric So	il Present? Yes No
Remarks:	,		<u> </u>					
	ssible disturb	ed due	to gravel in pro	ofile				
- C - C - C - C - C - C - C - C - C - C								

Project/Site: Equitrans Expansion	n Project	City/C	ounty. Wetzel		Sampling Date:	14/21
Applicant/Owner: Equitrans	-	~	ounty	State: WV	Sampling Point:	WWVJJP008
Investigator(s): JJP		Sectio	on Townshin Ran		capg : c	
Landform (hillslope terrace etc.): f	floodplain	L ocal reli	ef (concave conv	ex none). concave	Slone	(%). <2
Landform (hillslope, terrace, etc.): <u>f</u> Subregion (LRR or MLRA): <u>LRR N</u>	l at. 3	39.547366	Lone	80.512141	Olope	NAD83
Soil Map Unit Name: Skidmore grav	velly loam, occasionally	y flooded (513717)		J	vification: none	
Are climatic / hydrologic conditions						
Are Vegetation, Soil						No
Are Vegetation, Soil	, or Hydrology	_ naturally problema	itic? (If nee	eded, explain any ans	wers in Remarks.)	
SUMMARY OF FINDINGS -	- Attach site ma	p showing sam	pling point lo	ocations, transec	cts, important fea	tures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	YesYesYesY	No	Is the Sampled within a Wetlan	Area d? Yes	No	
Remarks:						
- Area wetland sample Located within floodpla		nd WWVJJP(008. PEM w	etland abutting	stream (SWV	JJP017).
HYDROLOGY				Soondan, Inc	licatora (minimum of tu	uo roquirod)
Wetland Hydrology Indicators: Primary Indicators (minimum of or	ne is required; check a	all that annly)		· ·	licators (minimum of two oil Cracks (B6)	<u>vo requirea)</u>
Surface Water (A1)		rue Aquatic Plants (E	R14)		Vegetated Concave Su	ırface (B8)
High Water Table (A2)		lydrogen Sulfide Odd			Patterns (B10)	aoo (Bo)
Saturation (A3)		xidized Rhizosphere			n Lines (B16)	
Water Marks (B1)	P	resence of Reduced	Iron (C4)	Dry-Seaso	on Water Table (C2)	
Sediment Deposits (B2)		ecent Iron Reduction		•	Burrows (C8)	
Drift Deposits (B3)		hin Muck Surface (C			Note that I Visible on Aerial Imag	
Algal Mat or Crust (B4)	0	ther (Explain in Rem	narks)		r Stressed Plants (D1) hic Position (D2)	
Iron Deposits (B5) Inundation Visible on Aerial Ir	magery (R7)			Shallow A		
Water-Stained Leaves (B9)	nagery (D1)				graphic Relief (D4)	
Aquatic Fauna (B13)					tral Test (D5)	
Field Observations:					· · · · · ·	
	es No [
	es No 🔽 [
Saturation Present? Ye (includes capillary fringe)	es _ 💆 No [Depth (inches): 0 to 6	Wet	tland Hydrology Pres	sent? Yes	No
Describe Recorded Data (stream	gauge, monitoring we	II, aerial photos, prev	vious inspections)), if available:		
N/A						
Remarks:						
Saturation due to shall	ow aquitaed of	clay layer sta	arting at 6in	soil depth		

	Absolute	Dominan	t Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species'	? Status	Number of Dominant Species
1. Absent				That Are OBL, FACW, or FAC: $\frac{3}{}$ (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/
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8	•			OBL species $\frac{35}{}$ x 1 = $\frac{35}{}$
Sapling/Shrub Stratum (Plot size: 15' r)	0	= Total Co	ver	FACW species $\frac{40}{x^2}$ $x^2 = \frac{80}{x^2}$
4 Absent				FAC species 15 x 3 = 45
-				FACU species 10 x 4 = 40
2				UPL species 0 x 5 = 0
3				Column Totals: 100 (A) 200 (E
4				Column Totals (A) (E
5				Prevalence Index = B/A = 2
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				∠ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is ≤3.0¹
10	0	T-4-1 O-		4 - Morphological Adaptations ¹ (Provide supporti
Herb Stratum (Plot size: 5'r)		= Total Co	ver	data in Remarks or on a separate sheet)
1 Microstegium vimineum	30	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Pilea pumila	25	Υ	FACW	
3. Leersia virginica	20	Υ	FACW	¹ Indicators of hydric soil and wetland hydrology must
Persicaria lapathifolium	15	N	FACW	be present, unless disturbed or problematic.
5. Carex prasina	10	N	OBL	Definitions of Four Vegetation Strata:
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm)
7				more in diameter at breast height (DBH), regardless height.
8.				neight.
9		-		Sapling/Shrub – Woody plants, excluding vines, less
10.	·	-		than 3 in. DBH and greater than 3.28 ft (1 m) tall.
11.			-	Herb – All herbaceous (non-woody) plants, regardles
12.				of size, and woody plants less than 3.28 ft tall.
12.	100	= Total Co		Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)		- Total Co	ivei	height.
1. Absent				
2.				
3.				
4.				
5				Hydrophytic
6.			-	Vegetation Present? Yes No
	0	= Total Co	ver	
Pemarke: (Include photo numbers here or on a separati	to shoot)	10101 00		
	le sileet.)			
Remarks: (Include photo numbers here or on a separat	<u> </u>	= Total Co	over	

Profile Desc	ription: (Describe	to the de	oth needed to docur	nent the	indicator	or confirm	n the absence	e of indicators.)
Depth	Matrix		Redo	x Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6	2.5Y 4/1	70	7.5YR 4/6	10	L	M	SiCL	saturated
			7.50YR 4/6	20	С	М		
6-17	2.5Y 4/1	60	7.5YR 4/6	25	С	M-PL	SiC to C	moist to dry
			7.5YR 3/4	15		M		· · · · · · · · · · · · · · · · · · ·
		_		-				· -
	-							·
								· <u></u>
	-							
				-				
1		-l-fi DN	Deduced Metric M		1010		21 4: D	L. Done Links M. Matrix
Hydric Soil		oletion, RIV	=Reduced Matrix, MS	S=Maske	ed Sand G	rains.		L=Pore Lining, M=Matrix. eators for Problematic Hydric Soils ³ :
-			David Ourface	(07)				
Histosol			Dark Surface	. ,	(00) (·	2 cm Muck (A10) (MLRA 147)
	oipedon (A2)		Polyvalue Be				, 148) (Coast Prairie Redox (A16)
Black Hi			Thin Dark Su			147, 148)	_	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		(F2)		'	Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma					(MLRA 136, 147)
	ick (A10) (LRR N)		Redox Dark		. ,			Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	e (A11)	Depleted Da				'	Other (Explain in Remarks)
	ark Surface (A12)		Redox Depre					
	lucky Mineral (S1) (LRR N,	Iron-Mangan		ses (F12)	(LRR N,		
	A 147, 148)		MLRA 13				•	
-	Bleyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
Sandy R	ledox (S5)		Piedmont Flo					wetland hydrology must be present,
Stripped	Matrix (S6)		Red Parent N	∕laterial (F21) (MLF	RA 127, 14	7) ι	unless disturbed or problematic.
	_ayer (if observed)	:						
Type: Nor	ne							
Depth (inc	ches):						Hydric Soi	l Present? Yes No
Remarks:								
-none								

Project/Site: Equitrans Expansion Project	City/County: Wetz	el	Sampling Date: 7/21/21
Applicant/Owner: Equitrans			Sampling Point: WWVJJP009
Investigator(s): JJP	Section Townshir		
Landform (hillslope terrace etc.): Ridge	Local relief (concave	convex none). concave	Slone (%): 2
Subregion (LRR or MLRA): LRR N La		Long: -80.505219	Olope (70)
Soil Map Unit Name: Gilpin-Peabody complex, 15-259	% slopes (513708)	NIMI classifi	cation: none
Are climatic / hydrologic conditions on the site typical			4
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.
	No Is the Sam No within a W	pled Area etland? Yes	No
- Area wetland sample point for we	tland WWVJJP009. Isola	ated PEM wetland.	
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil	· · · · · · · · · · · · · · · · · · ·
Surface Water (A1)	_ True Aquatic Plants (B14)		getated Concave Surface (B8)
	_ Hydrogen Sulfide Odor (C1)		atterns (B10)
	_ Oxidized Rhizospheres on Living		
	Presence of Reduced Iron (C4)		Water Table (C2)
	Recent Iron Reduction in Tilled SoThin Muck Surface (C7)		riows (Co) risible on Aerial Imagery (C9)
	_ Other (Explain in Remarks)		Stressed Plants (D1)
Iron Deposits (B5)	- , ,	Geomorphic	
Inundation Visible on Aerial Imagery (B7)		<u>✓</u> Shallow Aqu	uitard (D3)
<u>✓</u> Water-Stained Leaves (B9)		· -	aphic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutra	l Test (D5)
Field Observations: Surface Water Present? Yes No	Depth (inches):		
	Depth (inches):		
		Wetland Hydrology Prese	nt? Yes No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring N/A	, well, aeriai priotos, previous inspec	lions), ii avaliable.	
Remarks:			
Possible sources are precipitation	and runoff.		
Saturation due to shallow aquitaed		17in soil depth	
'	, , ,	•	

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species
Ahsent				That Are OBL, FACW, or FAC: $\frac{2}{}$ (A)
				That Ale OBE, I AOW, OI I AO.
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5				Percent of Dominant Species That Are ORL FACW or FAC: 100 (A/R)
				That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:
7				
8				
	•	= Total Cov	er	OBL species <u>55</u> x 1 = <u>55</u>
Sapling/Shrub Stratum (Plot size: 15'r)				FACW species $\frac{0}{x}$ $x = \frac{0}{x}$
1. Absent				FAC species 30 $\times 3 = 90$
				FACU species $\frac{0}{}$ $x 4 = \frac{0}{}$
2				
3				UPL species <u>0</u> x 5 = <u>0</u>
4				Column Totals: <u>85</u> (A) <u>145</u> (B)
5				
				Prevalence Index = $B/A = 1.71$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				1 — · · · · · · · ·
9				2 - Dominance Test is >50%
				3 - Prevalence Index is ≤3.0¹
10				4 - Morphological Adaptations ¹ (Provide supporting
	0	= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)		.,	=	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Microstegium vimineum	30	<u>Y</u>	FAC	Troblemation yarophytic vogotation (Explain)
2. Persicaria sagittata	20	Υ	OBL	
3. Leersia oryzoides	15	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
4. Iris pseudacorus	10	N	OBL	be present, unless disturbed or problematic.
· · ·				Definitions of Four Vegetation Strata:
5. Persicaria hydropiper	10	N	OBL	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height.
				noight.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				
11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				of size, and woody plants less than 3.26 it tall.
12	85			Woody vine – All woody vines greater than 3.28 ft in
Manada Mina Otratama (Diataina, 30' I	65	= Total Cov	er	height.
Woody Vine Stratum (Plot size: 30' r)				ŭ
1. Absent				
2				
Z				
2				
3	-			
3				Hydrophytic
3				Vegetation
3				
3			rer	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation
3	0		er	Vegetation

Sampling Point: WWVJJP009

Profile Desc	ription: (Describe	to the de	pth needed to docur	ment the	indicator	or confirm	m the absence	of indicators.)
Depth	Matrix		Redo	x Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-17	7.5YR 3/2	85	10YR 5/2	5	D	М	SiL	saturated
<u> </u>	-		10YR 3/6	10	C	M		-
			10110 3/0		- —	101		
17+	7.5YR 4/4	100	-	-	-	-	SiC to C	moist
		_, ,						
							·	
						-		
						-		-
			<u> </u>	_				
¹ Type: C=Co	oncentration D=Der	oletion RN	/I=Reduced Matrix, M	S=Maske	d Sand G	rains	² l ocation: Pl	_=Pore Lining, M=Matrix.
Hydric Soil I		7,000,011, 1111	T TOUGOOG MAIN, M	o maono	a cana c	unio.		ators for Problematic Hydric Soils ³ :
-			Dark Curfood	(07)				
Histosol	• •		Dark Surface		(00) (cm Muck (A10) (MLRA 147)
	pipedon (A2)		Polyvalue Be				, 148) (Coast Prairie Redox (A16)
Black His			Thin Dark Su			147, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye		(F2)		F	Piedmont Floodplain Soils (F19)
	l Layers (A5)		Depleted Ma	ıtrix (F3)				(MLRA 136, 147)
2 cm Mu	ck (A10) (LRR N)		Redox Dark				\	/ery Shallow Dark Surface (TF12)
Depleted	d Below Dark Surfac	e (A11)	Depleted Da	rk Surfac	e (F7)		(Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	essions (f	- 8)			
Sandy M	lucky Mineral (S1) (LRR N,	Iron-Mangan	ese Mas	ses (F12)	(LRR N,		
	147, 148)		MLRA 13	6)				
	leyed Matrix (S4)		Umbric Surfa		(MLRA 1	36, 122)	³ Inc	licators of hydrophytic vegetation and
	ledox (S5)		Piedmont Flo					vetland hydrology must be present,
	Matrix (S6)		Red Parent N					inless disturbed or problematic.
	_ayer (if observed)	•		riatoriai (<u> </u>	1	inicos distarbed di problematic.
		•						
Type: Nor								.4
Depth (inc	ches): <u>-</u>						Hydric Soil	Present? Yes No No
Remarks:							I	
-none								
110110								

Project/Site: Equitrans Expansion Project	City/County: Wetzel	Sampling Date: 8/20/21
Applicant/Owner: Equitrans		WV Sampling Point: WWVJJP013
Investigator(s): JJP		
Landform (hillslope, terrace, etc.): floodplain	Local relief (concave, convex, none): cond	cave Slope (%): <2
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	641 Long: -80.653371	Datum: NAD83
Soil Map Unit Name: Elk silt loam, 3-8% slopes (513707)	NW	
Are climatic / hydrologic conditions on the site typical for this tir	_	
Are Vegetation, Soil, or Hydrology sign		_
Are Vegetation, Soil, or Hydrology natu		ny answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	wing sampling point locations, tra	insects, important features, etc.
Hydrophytic Vegetation Present? Yes No _	i is the sampled Area	
Hydric Soil Present? Yes Vo. No.	WILIIII a WELIAIIU:	es No
Wetland Hydrology Present? Yes No Remarks:		
- Area wetland sample point for wetland \	MMM/TID013 DEM wotland adi:	acont to stroam Located
within floodplain. Possibly old drainage di	tch.	
HYDROLOGY		
Wetland Hydrology Indicators:	· · · · · · · · · · · · · · · · · · ·	dary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that Surface Water (A1) True Ac		face Soil Cracks (B6) arsely Vegetated Concave Surface (B8)
		ainage Patterns (B10)
		ss Trim Lines (B16)
		y-Season Water Table (C2)
Sediment Deposits (B2) Recent		ayfish Burrows (C8)
		turation Visible on Aerial Imagery (C9)
		inted or Stressed Plants (D1)
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)		omorphic Position (D2) allow Aquitard (D3)
Water-Stained Leaves (B9)		crotopographic Relief (D4)
Aquatic Fauna (B13)		C-Neutral Test (D5)
Field Observations:	10	
Surface Water Present? Yes No Depth		
Water Table Present? Yes No Depth		
Saturation Present? Yes No Depth (includes capillary fringe)	(inches): 0-6 Wetland Hydrolog	gy Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aeri	al photos, previous inspections), if available:	
Remarks:		
Possible hydrology source is runoff.		
Saturation due to shallow aquitaed of clay	/ laver starting at 6in soil depth	
True aquatic fauna: tadpoles.	rayor darang at our don dopar	
Trub aquatio radira: taapoios:		

001	A1 1 1	<u> </u>	1 12 1	15 · + · · ·
Trace Christians (Distriction 30)		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30' r)	% Cover	Species?	Status	Number of Dominant Species
1. Absent				That Are OBL, FACW, or FAC: 2 (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				
7				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
8				
	0	= Total Co	/er	ODL species x 1 =
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species $\frac{55}{}$ x 2 = $\frac{110}{}$
4 Absent				FAC species $\frac{30}{100}$ x 3 = $\frac{90}{100}$
-				
2				FACU species $0 \times 4 = 0$
3				UPL species 0 $x = 0$
				145
4				Column Totals: (A) 230 (B)
5				
				Prevalence Index = B/A = 2
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9				v 3 - Prevalence Index is ≤3.0 ¹
10.				
	0	= Total Co	or	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5' r)		- Total Co	/CI	data in Remarks or on a separate sheet)
		Υ	E4014/	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Cyperus Strigosis	55	<u> </u>	FACW	
2. Arthraxon hispidus	25	Υ	FAC	
3. Penthorum sedoides	10	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4. Eleocharis palustris	10	N	OBL	Definitions of Four Vegetation Strata:
5. Persicaria punctata	10	N	OBL	Definitions of Four vegetation strata.
			<u></u>	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Echinocloa crus-galli	5	N	FAC	more in diameter at breast height (DBH), regardless of
7				height.
				noight.
8				Sapling/Shrub – Woody plants, excluding vines, less
·				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
9				than o in. BBH and greater than o.20 it (1 iii) tail.
910				
9				Herb – All herbaceous (non-woody) plants, regardless
9				
910				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9		= Total Co		Herb – All herbaceous (non-woody) plants, regardless
9				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
9				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
9	115	= Total Co	/er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation

Sampling Point: WWVJJP013

SOIL

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirm	the absence	of indicato	rs.)	
Depth	Matrix		Redo	ox Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-6	10YR 4/3	90	10YR 3/4	10	С	М	SiCL	saturated		
6-17	10YR 4/2	85	2.5Y 5/1	5	D	М	SiC to C	moist to dr	y	
6-17		_	10YR 4/6	10	С	M		-		
					- —	· —		-		
	-				_					
					_					
			-							
¹ Type: C=Co	oncentration D=De	oletion RM	I=Reduced Matrix, M	S=Maske	d Sand Gi	rains	² Location: P	I =Pore I inin	g M=Matrix	
Hydric Soil I		oledon, rav	T TCGGGCG WIGHTA, WI	O Maske	a cana ci	unio.	Indic	ators for Pr	oblematic Hy	dric Soils ³ :
Histosol			Dark Surface	e (S7)					(10) (MLRA 1 4	
	oipedon (A2)		Polyvalue B		ace (S8) (I	MLRA 147.			Redox (A16)	,
Black His			Thin Dark S					(MLRA 14		
	n Sulfide (A4)		Loamy Gley			, ,	F		odplain Soils (F19)
	d Layers (A5)		Depleted Ma		` ,			(MLRA 13		,
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface (F6)			Very Shallow	Dark Surface	(TF12)
Depleted	d Below Dark Surfac	e (A11)	Depleted Da	ırk Surfac	e (F7)		(Other (Expla	in in Remarks)	
Thick Da	ark Surface (A12)		Redox Depr	essions (F	- 8)					
	lucky Mineral (S1) (LRR N,	Iron-Mangar		ses (F12)	(LRR N,				
	A 147, 148)		MLRA 13	-			3			
	Sleyed Matrix (S4)		Umbric Surfa					-	drophytic vege	
	ledox (S5)		Piedmont FI						ology must be	
	Matrix (S6)		Red Parent	iviateriai (i	-21) (WLF	KA 127, 147	′) ι	iniess disturi	oed or problem	atic.
	_ayer (if observed)	:								
Type: Nor							l		/	
Depth (inc	ches): -						Hydric Soi	I Present?	Yes	No
Remarks:										
-none										

APPENDIX D Upland Data Forms



Project/Site: Equitrans Expansion 2021 Pr	oject	City/C	County: Wetzel County		Sampling Date: 9/16/2021			
Applicant/Owner: Equitrans			,	State: PA	Sampling Point: UPL-CDK	-001		
Investigator(s): CDK/WHL		Section	on Township Range ^{. W}	V is not divided und	der PLSS			
Subregion (LRR or MLRA): LRR-N	Lat. 39.59	57215	Long80.	549404	Slope (%): <1 9404 Datum: NAD83 NWI classification: None no, explain in Remarks.) ircumstances" present? Yes No _ plain any answers in Remarks.) s, transects, important features, Yes No econdary Indicators (minimum of two require Surface Soil Cracks (B6)			
Soil Map Unit Name: Udorthents, smoothe	ed (513718)			NWI classifica	ation: None			
Are climatic / hydrologic conditions on the	site typical for this	time of year? Y	′es No	(If no, explain in Re	emarks.)			
Are Vegetation, Soil, or H	ydrologysig	gnificantly distur	bed? Are "Normal	Circumstances" p	resent? Yes 🖊 No			
Are Vegetation, Soil, or H	ydrology na	aturally problema	atic? (If needed, e	explain any answer	rs in Remarks.)			
SUMMARY OF FINDINGS - Att	ach site map s	howing san	npling point location	ons, transects,	important features, e	tc.		
Hydrophytic Vegetation Present?	Yes No	·	Is the Sampled Area					
Hydric Soil Present?	Yes No		Is the Sampled Area within a Wetland?	Yes	No 🗸			
Wetland Hydrology Present?								
Remarks:	_							
Upland data point for WWV	/-CDK-001.					}		
Edge of existing gravel lot;	soil disturbed	d.						
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary Indicat	tors (minimum of two required)		
Primary Indicators (minimum of one is re	equired; check all th	nat apply)		Surface Soil 0	Cracks (B6)			
Surface Water (A1)		Aquatic Plants (Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2)		ogen Sulfide Od		Drainage Pat	terns (B10)			
Saturation (A3)			es on Living Roots (C3)					
Water Marks (B1)		ence of Reduced						
Sediment Deposits (B2)			on in Tilled Soils (C6)	-				
Drift Deposits (B3)		Muck Surface (0		·				
Algal Mat or Crust (B4)	Other	r (Explain in Rer	marks)					
Iron Deposits (B5) Inundation Visible on Aerial Imagery	., (D7)			Geomorphic I	` '			
— Water-Stained Leaves (B9)	/ (D <i>l</i>)			Shallow Aquit Microtopogra				
Aquatic Fauna (B13)				FAC-Neutral				
Field Observations:								
	No Dept	th (inches): -						
	No Dept							
	No Dept			lydrology Present	t? Yes No			
(includes capillary fringe)								
Describe Recorded Data (stream gauge	, monitoring well, a	erial photos, pre	evious inspections), if ava	iilable:				
N/A								
Remarks:								
None.								

Sampling Point: UPL-CDK-001

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species
4 Absent				That Are OBL, FACW, or FAC: $\frac{3}{2}$ (A)
				(i)
2.				Total Number of Dominant
3				Species Across All Strata: 8 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: ³⁸ (A/B)
6.				(VB)
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species $\frac{0}{x}$ $x = \frac{0}{x}$
15'r	0	= Total Cov	er	
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species $\frac{0}{35}$ $x = \frac{0}{105}$
1. Absent				X 3
2				FACU species $\frac{65}{}$ $x 4 = \frac{260}{}$
3				UPL species $\frac{0}{x}$ $x = \frac{0}{x}$
4.				Column Totals: 100 (A) 365 (B)
				(1)
5				Prevalence Index = B/A = $\frac{3.65}{}$
6				Hydrophytic Vegetation Indicators:
7				
8				1 - Rapid Test for Hydrophytic Vegetation
9.				2 - Dominance Test is >50%
				3 - Prevalence Index is ≤3.0 ¹
10	0			4 - Morphological Adaptations ¹ (Provide supporting
Hamb Charture (Diet sine) 5' [= Total Cov	er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)	15	V	FACIL	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Glechoma hederacea	15	<u>Y</u>	FACU	
2. Setaria pumila	15	Υ	FAC	1
3. Trifolium repens	15	Υ	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4 Solidago canadensis	10	Υ	FACU	
	10		FAC	Definitions of Four Vegetation Strata:
Distance and in				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6. Plantago major	10	Υ	FACU	more in diameter at breast height (DBH), regardless of
7. Poa pratensis	10	Υ	FACU	height.
8. Verbesina alternifolia	10	Υ	FAC	
g Taraxacum officinale	5	N	FACU	Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				
	100	= Total Cov	er	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)				height.
1. Absent				
2.				
3				
4				Hydrophytic
				Vegetation
5				Present? Yes No
		= Total Cov		Present? Yes No

Sampling Point: UPL-CDK-001

SOIL

	ption. (Describe	to the depti	h needed to docu	ment the in	dicator or	confirm	the ab	sence of indi	cators.)		
Depth	Matrix			ox Features							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Text	ure	Rer	narks	
0 - 16 7	7.5YR 4/4	100	-	-			SiL	Grave	lly; possibly	disturbed.	
											_
											_
				 -			-				
		. <u></u>									,
¹Type: C=Cond	centration, D=Dep	letion RM=I	Reduced Matrix M	IS=Masked 9	Sand Grain	ns	² Locatio	on: PL=Pore	l ining M=N	/latrix	
Hydric Soil Inc		iouon, rum	rtoadood matrix, n	io machoa (Jana Grain					atic Hydric Soi	ls³:
Histosol (A			Dark Surfac	e (S7)					ck (A10) (M	-	
Histic Epip				elow Surface	- (S8) (MI)	RΔ 147	148)		airie Redox	•	
Black Histi				urface (S9) (1-10)		A 147, 148)		
· 	Sulfide (A4)			ed Matrix (F		, 140)				n Soils (F19)	
	_ayers (A5)		Depleted Ma		_,				A 136, 147)		
	(A10) (LRR N)			Surface (F6	i)					Surface (TF12)	
· 	Below Dark Surface	e (A11)		ark Surface (•				xplain in Re		
	Surface (A12)	,		essions (F8)					•	,	
Sandy Mud	cky Mineral (S1) (L	.RR N,	Iron-Manga	nese Masses	s (F12) (LR	RR N,					
MLRA 1	147, 148)		MLRA 1	36)							
Sandy Gle	yed Matrix (S4)		Umbric Surf	ace (F13) (N	ILRA 136,	122)		³ Indicators	of hydrophy	tic vegetation a	ınd
Candy De-	day (CE)										
Sandy Red	uox (55)		Piedmont F	loodplain Soi	ils (F19) (N	ILRA 14	8)	wetland	hydrology n	nust be present,	,
Stripped M	latrix (S6)			loodplain Soi Material (F2						nust be present, problematic.	1
Stripped M Restrictive La	Matrix (S6) yer (if observed):										'
Stripped M	Matrix (S6) yer (if observed):										,
Stripped M Restrictive La	Matrix (S6) yer (if observed):)		sturbed or p	problematic.	
Stripped M Restrictive Lav Type: None	Matrix (S6) yer (if observed):)	unless d	sturbed or p	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	
Stripped M Restrictive La Type: None Depth (inche	Matrix (S6) yer (if observed): es):		Red Parent	Material (F2	1) (MLRA	127, 147	Hydri	unless d	sturbed or part of the sturbed or part? Yes	problematic.	

Project/Site: Equitrans Expansion 2021 Project	City/County: Wetzel County	,	Sampling Date: 9/16/2021
Applicant/Owner: Equitrans	City/County: Wetzel County	State: PA	Sampling Point: UPL-CDK-002/003
Investigator(s): CDK/WHL			
Landform (hillslope, terrace, etc.): Floodplain			
Subregion (LRR or MLRA): LRR-N	at. 39.556297	30.548497	Datum: NAD83
Subregion (LRR or MLRA): LRR-N L Soil Map Unit Name: Skidmore gravelly loam, occasion	onally flooded (513717)	NWI classific	eation: None
Are climatic / hydrologic conditions on the site typica	for this time of year? Yes 🔽 No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Noru	mal Circumstances" p	present? Yes 🖊 No
Are Vegetation, Soil, or Hydrology		d, explain any answe	
SUMMARY OF FINDINGS – Attach site			
Hydrophytic Vegetation Present? Yes	No Is the Sampled Are		
Hydric Soil Present? Yes	— No within a Wetland?		No 🗸
Wetland Hydrology Present? Yes	No		
Remarks:			
Upland data point for WWV-CDK-0	002 and WWV-CDK-003.		
Located within 100-yr floodplain.			
Edge of existing gravel lot; soil dis	turbed.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil	
	_ True Aquatic Plants (B14)		getated Concave Surface (B8)
	Hydrogen Sulfide Odor (C1)	Drainage Pa	
	Oxidized Rhizospheres on Living Roots (C		
	Presence of Reduced Iron (C4)		Water Table (C2)
	Recent Iron Reduction in Tilled Soils (C6)	Crayfish Bur	
	_ Thin Muck Surface (C7)	Saturation V	isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	_ Other (Explain in Remarks)	Stunted or S	tressed Plants (D1)
Iron Deposits (B5)		Geomorphic	Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu	
Water-Stained Leaves (B9)			aphic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral	Test (D5)
Field Observations:			
	Depth (inches):		
	Depth (inches): -		
Saturation Present? Yes No	Depth (inches): Wetlan	d Hydrology Preser	nt? Yes No
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspections), if	available:	
N/A			
Remarks:			
None.			

Sampling Point: UPL-CDK-002/003

201	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)	% Cover	Species?	Status	Number of Dominant Species	
1. Absent				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant	
3	_				B)
4					,
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (۸ /D)
				That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
8	•			OBL species 0 $x 1 = 0$	
Sapling/Shrub Stratum (Plot size: 15'r)	0	= Total Cov	/er	FACW species 0 x 2 = 0	
Sapling/Shrub Stratum (Plot size: 15'r) Absent					
I				FACUL species $\frac{30}{70}$ $\times 3 = \frac{90}{280}$	
2				1 ACO species X 4	
3				UPL species $\frac{0}{x}$ $x = \frac{0}{x}$	
4				Column Totals: 100 (A) 370	(B)
5				3.7	
6				Prevalence Index = B/A = 3.7	
7				Hydrophytic Vegetation Indicators:	
8.				1 - Rapid Test for Hydrophytic Vegetation	
				2 - Dominance Test is >50%	
9				3 - Prevalence Index is ≤3.0 ¹	
10	^			4 - Morphological Adaptations ¹ (Provide suppo	rting
Herb Stratum (Plot size: 5' r)		= Total Cov	/er	data in Remarks or on a separate sheet)	
1 Solidago canadensis	60	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
	15	- N	FAC		
2. Echinochloa crus-galli				¹ Indicators of hydric soil and wetland hydrology mu	st
3. Setaria pumila	15	N	FAC	be present, unless disturbed or problematic.	
4. Dactylis glomerata	10	N	FACU	Definitions of Four Vegetation Strata:	
5				Johnson Co. Com Cogotamon Communi	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cn	
7.				more in diameter at breast height (DBH), regardles height.	is of
8				neight.	
				Sapling/Shrub – Woody plants, excluding vines, le	ess
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regard	ess
11				of size, and woody plants less than 3.28 ft tall.	
12				Woody vine – All woody vines greater than 3.28 ft	in
30'1	100	= Total Cov	/er	height.	111
Woody Vine Stratum (Plot size: 30' r)					
1. Absent					
2					
3					
4					
5				Hydrophytic Vegetation	
6.				Present? Yes No No	
	0	= Total Cov	/er		
Describer (Include whate much one have or an a consusta		- 10tal 00t			
Remarks: (Include photo numbers here or on a separate	sheet.)				

Sampling Point: UPL-CDK-002/003

Profile Desc	ription: (Describe	to the depth	needed to docu	ment the i	indicator	or confirm	the absence	of indicato	rs.)	
Depth	Matrix		Redo	x Feature	s					
(inches)	Color (moist)	<u> </u>	Color (moist)	%	Type'	Loc ²	<u>Texture</u>		Remarks	<u> </u>
0 - 12	10YR 4/3	100 -		-		-	SiCL	Gravelly		
12+								restricted		
	-			_						 -
	-			_						
				_						
				_						
		· — — —			. ——			-		
				_						
¹ Type: C=Co	oncentration, D=Dep	letion. RM=R	teduced Matrix. M	S=Masked	d Sand Gr	ains.	² Location: Pl	L=Pore Linin	ng. M=Matrix	
Hydric Soil			, , , , , , , , , , , , , , , , , , , ,							Hydric Soils ³ :
Histosol			Dark Surface	e (S7)					A10) (MLRA	-
	oipedon (A2)		Polyvalue B		ce (S8) (N	ILRA 147,			Redox (A16	
Black Hi	stic (A3)		Thin Dark S					(MLRA 14		,
Hydroge	n Sulfide (A4)		Loamy Gley	ed Matrix ((F2)		F	Piedmont Flo	odplain Soil	s (F19)
	d Layers (A5)		Depleted Ma	atrix (F3)				(MLRA 13		
	ick (A10) (LRR N)		Redox Dark		,			-	v Dark Surfa	
	Below Dark Surfac	e (A11)	Depleted Da				_ (Other (Expla	in in Remarl	ks)
	ark Surface (A12)	DD 11	Redox Depr							
	lucky Mineral (S1) (I	LRR N,	Iron-Mangar		es (F12) (LRR N,				
	A 147, 148) Gleyed Matrix (S4)		MLRA 13	•	(MI DA 12	6 122\	³ Ind	licators of h	(drophytic)	egetation and
	ledox (S5)		Piedmont FI					-	ology must b	-
-	Matrix (S6)		Red Parent					-	bed or proble	
	_ayer (if observed):	<u> </u>		(, (, , , , , , , , ,	, 			
Type: Roo										
Depth (inc							Hydric Soil	l Present?	Yes	No 🗸
Remarks:							,			
	sibly disturbed	l dua to r	resence of	aravall	v enoil	in profi	le at annr	ovimata	lv 10%	
Oui poss	sibly disturbed	i due to p	reserice of	graven	y Spon	iii pioii	ic at appi	Oximate	iy 4 0 /0	

Project/Site: Equitrans Expansion Project	City/County: Wetzel		Sampling Date:			
Applicant/Owner: Equitrans		State: WV	Sampling Point: UPLJJP001			
••	Section, Township, F					
Landform (hillslope, terrace, etc.): hillslope			Slope (%): ²⁰			
Subregion (LRR or MLRA): LRR N Lat: 3	9.558508	ong80.529953	Datum: NAD83			
Soil Map Unit Name: Gilpin-Peabody complex, 25 to 35 pe	ercent slopes, moderately eroded	NWI classific	cation: none			
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	_significantly disturbed? Ar	e "Normal Circumstances"	present? Yes 🖊 No			
Are Vegetation, Soil, or Hydrology		needed, explain any answe				
SUMMARY OF FINDINGS – Attach site ma		t locations, transects	s, important features, etc.			
Hydrophytic Vegetation Present? Hydric Soil Present? Wes Westend Hydrology Present?	No within a Wet		No_ -			
Wetland Hydrology Present? Yes Remarks:	NO					
- Area upland sample point for wetlan	a www.yjpoo1					
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				
1 -	rue Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)				
	ydrogen Sulfide Odor (C1)	Drainage Pa				
	exidized Rhizospheres on Living Ro					
	resence of Reduced Iron (C4) ecent Iron Reduction in Tilled Soils		Water Table (C2)			
	hin Muck Surface (C7)		risible on Aerial Imagery (C9)			
	other (Explain in Remarks)	· · · · · · · · · · · · · · · · · · ·	Stressed Plants (D1)			
Iron Deposits (B5)	(=		Position (D2)			
Inundation Visible on Aerial Imagery (B7)		Shallow Aqu				
Water-Stained Leaves (B9)		Microtopogra	aphic Relief (D4)			
Aquatic Fauna (B13)		FAC-Neutra	l Test (D5)			
Field Observations:						
Surface Water Present? Yes No [Depth (inches):					
	Depth (inches): -		√			
Saturation Present? Yes No [(includes capillary fringe)	Depth (inches): \	Wetland Hydrology Prese	nt? Yes No			
Describe Recorded Data (stream gauge, monitoring we N/A	II, aerial photos, previous inspectio	ns), if available:				
Remarks:						
No wetland hydrology indicators or fie	eld observations of hydr	rology observed				
, 3,		37				

001	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Acer rubrum	10	<u>Y</u>	FAC	That Are OBL, FACW, or FAC: 2	(A)
2. Acer Saccharum	10	<u>Y</u>	FACU	Total Number of Dominant	
3. Ailanthus altissima	10	Υ	FACU	Species Across All Strata:	(B)
4				Description of Description	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 22	(A/B)
6					(,,,,,
7.				Prevalence Index worksheet:	
8.				Total % Cover of: Multiply by:	
	30	= Total Cov	er	OBL species x 1 =	_
Sapling/Shrub Stratum (Plot size: 15' r)		rotal cov	OI .	FACW species x 2 =	_
1. Fagus grandifolia	5	Υ	FACU	FAC species x 3 =	_
2. Ostraya virginiana	5	Υ	FACU	FACU species x 4 =	
3 Fraxinus americana	5	Y	FACU	UPL species x 5 =	
4				Column Totals: (A)	
				()	_ (-/
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	
10				4 - Morphological Adaptations ¹ (Provide supp	oorting
Harl Objectives (Diet since 5')	15	= Total Cov	er	data in Remarks or on a separate sheet)	Jorang
Herb Stratum (Plot size: 5' r Dennstaedtia punctilobula	30	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain	n)
D	20	<u>Y</u>			, i
2. Persicaria virginiana	- —		FAC	¹ Indicators of hydric soil and wetland hydrology n	nust
3. Vernonia noveboracensis	10	<u>N</u>	FACW	be present, unless disturbed or problematic.	idot
4. Ageratina altissima	15	<u>Y</u>	FACU	Definitions of Four Vegetation Strata:	
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 of more in diameter at breast height (DBH), regardle	
7				height.	233 01
8					
9.				Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall.	less
10				than o in. Berrand greater than 0.20 ft (1 m) tail.	
11.				Herb – All herbaceous (non-woody) plants, regar	dless
12.	· · · · · · · · · · · · · · · · · ·			of size, and woody plants less than 3.28 ft tall.	
12.	75	= Total Cov		Woody vine – All woody vines greater than 3.28	ft in
Woody Vine Stratum (Plot size: 30' r)		- Total Cov	CI	height.	
1. Absent					
2.					
3					
4				Hydrophytic	
5				Vegetation Vac	
6	0			Present? Yes No	
	<u> </u>	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate - None		- Total Cov	GI		

Profile Desc	cription: (Describe	to the de	pth needed to docur	ment the	indicator	or confirm	n the absence	of indicat	tors.)	
Depth	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	S
0-3	10YR 3/1	100	-	-	-	-	L	dry		
3-17	10YR 4/3	90	10YR 5/4	10	С	М	SiCL	dry		
		· 								
								-		
	-		-				1			
							-			
	-									
	-		-			- ——	-			
¹ Type: C=Co	oncentration, D=Dep	letion, RM	I=Reduced Matrix, M	S=Maske	ed Sand G	rains.	² Location: P			
Hydric Soil	Indicators:						Indic	ators for F	Problematic	Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)			2	2 cm Muck	(A10) (MLR	A 147)
	pipedon (A2)		Polyvalue Be	elow Surf	ace (S8) (I	MLRA 147			ie Redox (A1	
Black Hi	stic (A3)		Thin Dark Su	urface (S	9) (MLRA	147, 148)		(MLRA 1	47, 148)	
	en Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		F		loodplain So	ils (F19)
	d Layers (A5)		Depleted Ma					(MLRA 1		
	ıck (A10) (LRR N)		Redox Dark					-	w Dark Surfa	, ,
	d Below Dark Surfac	e (A11)	Depleted Da					Other (Expl	lain in Rema	rks)
	ark Surface (A12)		Redox Depre							
	lucky Mineral (S1) (L	RR N,	Iron-Mangan		ses (F12)	(LRR N,				
	A 147, 148)		MLRA 13	•		00 400\	3,			
	Gleyed Matrix (S4)		Umbric Surfa							egetation and
-	Redox (S5)		Piedmont Flo					-	drology must	
	Matrix (S6)		Red Parent N	viateriai (F21) (MLF	KA 127, 14	/) L	inless distu	irbed or prob	lematic.
	Layer (if observed):									
Type: Nor										
Depth (inc	ches):						Hydric Soi	I Present?	Yes	No
Remarks:										
- None										

Project/Site: Equitrans Expansion Project	City/County: Wetz	el	Sampling Date: 7/12/21		
Applicant/Owner: Equitrans			Sampling Point: UPLJJP002/004		
Investigator(s): JJP	Section, Township	, _{Range:} No PLSS			
Landform (hillslope, terrace, etc.): terrace on hillslope	Local relief (concave,	convex, none): concave	Slope (%): ³		
Subregion (LRR or MLRA): LRR N Lat:	39.559506	Long80.530980	Datum: NAD83		
Soil Map Unit Name: Gilpin-Peabody complex, 35 to 70	percent slopes	NWI classif	fication: none		
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes!	No (If no, explain in	Remarks.)		
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances"	present? Yes V No		
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answ	ers in Remarks.)		
SUMMARY OF FINDINGS - Attach site m	ap showing sampling poi	nt locations, transect	s, important features, etc.		
Wetland Hydrology Present? Yes Remarks:	No v within a W	etland? Yes			
- Area upland sample point for wetla HYDROLOGY	nds www.yjpuu2 and	004			
		Cocondon Indi	estare (minimum of two required)		
Wetland Hydrology Indicators:	call that apply)		cators (minimum of two required)		
Primary Indicators (minimum of one is required; check		Surface So			
	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)Drainage Patterns (B10)			
	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living				
			Lines (B16)		
	Presence of Reduced Iron (C4)		n Water Table (C2)		
	Recent Iron Reduction in Tilled So		urrows (C8)		
	Thin Muck Surface (C7)		Visible on Aerial Imagery (C9) Stressed Plants (D1)		
Algal Mat or Crust (B4) Iron Deposits (B5)	Other (Explain in Remarks)	Stuffled of Geomorphi			
Inundation Visible on Aerial Imagery (B7)		Shallow Aq			
			raphic Relief (D4)		
Water-Stained Leaves (B9) Aquatic Fauna (B13)			al Test (D5)		
		TAC-Neuti	ai rest (D3)		
Field Observations: Surface Water Present? Yes No	Donth (inches):				
	Depth (inches):				
	Depth (inches):	w.a			
Saturation Present? Yes No	Depth (inches):	Wetland Hydrology Prese	ent? Yes No		
Describe Recorded Data (stream gauge, monitoring v N/A	/ell, aerial photos, previous inspec	tions), if available:			
Remarks:					
No field observations of hydrology o	hsarvad				
Two field observations of flydrology o	boci vea.				

001	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Quercus rubra	15	Y	FACU	That Are OBL, FACW, or FAC: 2	(A)
2. Platanus occidentalis	10	Y	FACW	Total Number of Dominant	
3. Fagus grandifolia	15	<u>Y</u>	FACU	Species Across All Strata: 7	(B)
4				Dersont of Deminant Charles	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 29	(A/B)
6					,
7				Prevalence Index worksheet:	
8.				Total % Cover of: Multiply by:	
	40	= Total Cov	er	OBL species x 1 =	_
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =	_
1. Oxydendrum arboreum	15	Y	UPL	FAC species x 3 =	_
2				FACU species x 4 =	_
3				UPL species x 5 =	_
4.				Column Totals: (A)	(B)
5.					
6.				Prevalence Index = B/A =	_
7				Hydrophytic Vegetation Indicators:	
8.				1 - Rapid Test for Hydrophytic Vegetation	
				2 - Dominance Test is >50%	
9	· ——			3 - Prevalence Index is ≤3.0 ¹	
10	15	T-4-1 O-1		4 - Morphological Adaptations ¹ (Provide supp	oorting
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)	
1. Microstegium vimineum	25	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain	n)
Lespedeza procumbens	40	Y	UPL		
2 Tussilago farfara	20	<u>Y</u>	FACU	¹ Indicators of hydric soil and wetland hydrology m	nust
4. Carex frankii	10		OBL	be present, unless disturbed or problematic.	
				Definitions of Four Vegetation Strata:	
5				Tree – Woody plants, excluding vines, 3 in. (7.6 c	cm) or
6				more in diameter at breast height (DBH), regardle	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines,	less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regar	dlece
11				of size, and woody plants less than 3.28 ft tall.	uiess
12					
	95	= Total Cov	er	Woody vine – All woody vines greater than 3.28 height.	ft in
Woody Vine Stratum (Plot size: 30' r)				neight.	
1. Absent					
2					
3					
4				Lhadrophydia	
5				Hydrophytic Vegetation	
6				Present? Yes No	
	0	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate s	sheet.)			I.	
- None	,				
- None					

Profile Desc	ription: (Describe	to the de	oth needed to docur	nent the	indicator	or confirn	n the absence	of indicate	tors.)	
Depth	Matrix		Redo	x Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>		Remarks	<u> </u>
0-5	7.5YR 3/3	100	-	<u>-</u>			SiC	dry		_
5-17	7.5YR 4/3	60	10YR 5/4	25	С	M	SiCL	dry		
			7.5YR 4/2	15	D	M				
										_
				-	-			-		
								-		
¹Type: C=C	oncentration D=De	nletion RM	=Reduced Matrix, M	S=Maske	d Sand G	raine	² Location: P	I =Pore I in	ing, M=Matrix	·
Hydric Soil		pietion, Kiv	i-Reduced Matrix, Mi	3-IVIASKE	u Sanu G	iaiiis.				Hydric Soils ³ :
Histosol			Dark Surface	(97)					(A10) (MLRA	-
	oipedon (A2)		Polyvalue Be	. ,	ace (S8) (MI RΔ 147			ie Redox (A16	•
Black Hi			Tolyvalde Be				\	MLRA 1		,
	n Sulfide (A4)		Loamy Gleye			147, 140)			loodplain Soil	s (F19)
	d Layers (A5)		Depleted Ma		(1 2)		<u> </u>	(MLRA 1		3 (1 13)
	ick (A10) (LRR N)		Redox Dark		F6)				w Dark Surfa	ce (TF12)
	d Below Dark Surfa	ce (A11)	Depleted Da		,				lain in Remarl	
	ark Surface (A12)	,	Redox Depre							-,
	lucky Mineral (S1)	(LRR N,	Iron-Mangan			(LRR N,				
	A 147, 148)		MLRA 13		, ,					
Sandy G	Bleyed Matrix (S4)		Umbric Surfa	ice (F13)	(MLRA 1	36, 122)	3In	dicators of I	hydrophytic ve	egetation and
	tedox (S5)		Piedmont Flo	odplain	Soils (F19) (MLRA 1 4	18)	wetland hyd	drology must b	oe present,
Stripped	Matrix (S6)		Red Parent N	Material (F21) (MLF	RA 127, 147	7) (unless distu	irbed or proble	ematic.
	_ayer (if observed)):								
Type: Nor	ne									
Depth (inc	ches):						Hydric Soi	I Present?	Yes	No 🗸
Remarks:										
- None										
- NONE										

Project/Site: Equitrans Expansion Project	City/County: Wetz	zel	Sampling Date: 7/12/21				
Applicant/Owner: Equitrans	, ,		/V Sampling Point: UPLJJP003				
• • • • • • • • • • • • • • • • • • • •	Section, Township						
Landform (hillslope, terrace, etc.): hillslope			Slope (%): 20				
Subregion (LRR or MLRA): LRR N Lat: 39	0.560107	-80.530337	Datum: NAD83				
Soil Map Unit Name: Gilpin-Peabody complex, 35 to 70 per	cent slopes	NWI c	classification: none				
Are climatic / hydrologic conditions on the site typical for the	nis time of year? Yes	No (If no, expla	ain in Remarks.)				
Are Vegetation, Soil, or Hydrology							
Are Vegetation, Soil, or Hydrology		(If needed, explain any					
SUMMARY OF FINDINGS – Attach site map							
Hadron bertie Venetation Present	N- 4/						
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No. V	npled Area	✓				
Wetland Hydrology Present? Yes		letland? Yes	No				
Remarks:							
- Area upland sample point for wetland	WWVJJP003						
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary	/ Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all	that apply)	Surfac	ce Soil Cracks (B6)				
Surface Water (A1) Tru	ue Aquatic Plants (B14)		Sparsely Vegetated Concave Surface (B8)				
	drogen Sulfide Odor (C1)		Drainage Patterns (B10)				
	idized Rhizospheres on Living	Roots (C3) Moss	Trim Lines (B16)				
Water Marks (B1) Pre	esence of Reduced Iron (C4)	Dry-Se	Dry-Season Water Table (C2)				
Sediment Deposits (B2) Re	cent Iron Reduction in Tilled S	oils (C6) Crayfi	sh Burrows (C8)				
	in Muck Surface (C7)		ation Visible on Aerial Imagery (C9)				
	ner (Explain in Remarks)	·	ed or Stressed Plants (D1)				
Iron Deposits (B5)			norphic Position (D2)				
Inundation Visible on Aerial Imagery (B7)			ow Aquitard (D3)				
Water-Stained Leaves (B9)			topographic Relief (D4)				
Aquatic Fauna (B13) Field Observations:		FAC-1	Neutral Test (D5)				
	epth (inches):						
Water Table Present? Yes No Do	epth (inches):						
	epth (inches):	Wetland Hydrology	Present? Yes No				
(includes capillary fringe)			1103cm: 103 NO				
Describe Recorded Data (stream gauge, monitoring well, N/A	aerial photos, previous inspec	ctions), if available:					
Remarks:							
No wetland hydrology indicators or fiel	d observations of hy	drology observe	ad				
Two wettaria flyarology indicators of field	a observations of my	arology observe	ou.				

•	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Fagus grandifolia	45	Υ	FACU		(A)
2. Acer saccharum	10	N	FACU	Total Neverbox of Dancin and	
3.				Total Number of Dominant Species Across All Strata: 5	(B)
				opedico / Gross / Gros	(5)
4				Percent of Dominant Species	
5				That Are OBL, FACW, or FAC: 40	(A/B)
6				Prevalence Index worksheet:	
7					
8				Total % Cover of: Multiply by:	-
	55	= Total Cov	er	OBL species $\frac{0}{x} \times 1 = \frac{0}{x}$	
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species $\frac{5}{}$ x 2 = $\frac{10}{}$	
1. Fagus grandifolia	5	Υ	FACU	FAC species $\frac{10}{}$ x 3 = $\frac{30}{}$	
2.				FACU species $\frac{65}{}$ x 4 = $\frac{260}{}$	
3				UPL species $\frac{0}{0}$ $x = 5$	•'
				Column Totals: 80 (A) 300	(D)
4				Column rotals (A)	(D)
5				Prevalence Index = B/A = 3.75	
6				Hydrophytic Vegetation Indicators:	-
7					
8				1 - Rapid Test for Hydrophytic Vegetation	
9.				2 - Dominance Test is >50%	
10.				3 - Prevalence Index is ≤3.0 ¹	
10	5			4 - Morphological Adaptations ¹ (Provide supp	orting
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)	
Brachyelytrum erectum	5	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
	10	Y	FAC		
Z				¹ Indicators of hydric soil and wetland hydrology m	ust
3. Fagus grandifolia	5	Υ	FACW	be present, unless disturbed or problematic.	aot
4				Definitions of Four Vegetation Strata:	
5					
6				Tree – Woody plants, excluding vines, 3 in. (7.6 c	
7.				more in diameter at breast height (DBH), regardle height.	SS OT
				neight.	
8				Sapling/Shrub – Woody plants, excluding vines,	less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regard	lless
11				of size, and woody plants less than 3.28 ft tall.	
12					
	20	= Total Cov	er	Woody vine – All woody vines greater than 3.28 f	t in
Woody Vine Stratum (Plot size: 30' r)				height.	
1. Absent					
2					
3.					
4				Hydrophytic	
5				Vegetation	
6				Present? Yes No	
	0	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet.)				
- None					
140116					

(inches)	Matrix		Redo	ox Feature	es					
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	- -	Remar	·ks
)-5	7.5YR 3/3	100	<u>-</u>		-	-	SiC	dry		
-17	7.5YR 4/3	60	10YR 5/4	25	С	M	SiCL	dry		
			7.5YR 4/2	15		M				
	-				_					
					<u> </u>			-		
								_		
	-	_		_	<u> </u>					
							-			
								_		
vne: C=C	oncentration D=De	nletion RI	M=Reduced Matrix, M	S=Maske	d Sand Gr	ains	² Location: F	PI =Pore Li	ning, M=Mati	rix
	Indicators:	piction, rei	W-reduced Matrix, W	io-iviasic	u oanu oi	airio.				: Hydric Soils ³ :
_ Histosol			Dark Surfac	e (S7)					(A10) (MLR	-
	pipedon (A2)		Polyvalue B		ace (S8) (I	/ILRA 147			rie Redox (A	
	istic (A3)		Thin Dark S				· · · —		147, 148)	-,
	en Sulfide (A4)		Loamy Gley						Floodplain So	oils (F19)
_ Stratifie	d Layers (A5)		Depleted Ma	atrix (F3)				(MLRA	136, 147)	
_ 2 cm Mı	uck (A10) (LRR N)		Redox Dark	,	•				low Dark Sur	
	d Below Dark Surfa	ce (A11)	Depleted Da				_	Other (Exp	plain in Rema	arks)
	ark Surface (A12)		Redox Depr							
	Mucky Mineral (S1)	(LRR N,	Iron-Mangar		ses (F12) (LRR N,				
	A 147, 148)		MLRA 13		/MIDA4	oc 400\	310	diantara at	i budronbutio	vegetation and
	Gleyed Matrix (S4) Redox (S5)		Umbric Surf							vegetation and to be present,
-	Matrix (S6)		Red Parent					-	turbed or pro	
	Layer (if observed):			/ (,	· ,	4111000 4101	and an pro	bioinatio.
Type: No		,-								
Depth (in							Hydric So	il Prosont	? Yes	No 🗸
	CI1C3).						Tiyunc oo	ii i ieseiit	. 103	
Remarks: None										

Project/Site: Equitrans Expansion Project City/C	County: Wetzel Sampling Date: 7/14/21
Applicant/Owner: Equitrans	State: WV Sampling Point: UPLJJP005
	on, Township, Range: No PLSS
Landform (hillslope, terrace, etc.): hillslope Local rel	ief (concave, convex, none). none Sione (%): 30
Subregion (LRR or MLRA): LRR N Lat: 39.554143	Long: -80.522435 Patum: NAD83
Soil Map Unit Name: Gilpin-Peabody complex, 35 to 70 percent slopes	NWI classification: none
	•
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No _ ✓	
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No	within a Wetianu: 165NO
Remarks:	
- Area upland sample point for wetland WWVJJP0	05
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 (
High Water Table (A2) Hydrogen Sulfide Od Saturation (A3) Oxidized Rhizospher	
Valuation (A3) Oxidized Rhizospherical Control of Reduced Rhizospherical Control of Rhizospherical Con	
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (0	
Algal Mat or Crust (B4) Other (Explain in Rer	
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):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
N/A	
Remarks:	
No wetland hydrology indicators or field observation	ons of hydrology observed.

•	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Fagus grandifolia	25	Y	FACU	That Are OBL, FACW, or FAC: 1	(A)
2. Acer saccharum	25	Υ	FACU	Total Number of Dominant	
3. Liriodendron tulipifera	10	N	FACU	Species Across All Strata: 5	(B)
4					
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 20	(A/B)
6					(, 0.5)
7				Prevalence Index worksheet:	
8.				Total % Cover of: Multiply by:	
	60	= Total Cov	er	OBL species x 1 =	_
Sapling/Shrub Stratum (Plot size: 15' r)		10101 001	0.	FACW species x 2 =	_
1. Fagus grandifolia	10	Υ	FACU	FAC species x 3 =	_
2.				FACU species x 4 =	_
3.				UPL species x 5 =	
4				Column Totals: (A)	
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	
10				4 - Morphological Adaptations ¹ (Provide supp	orting
Harl Otration (Districts 5')	10	= Total Cov	er	data in Remarks or on a separate sheet)	,orung
Herb Stratum (Plot size: 5'r) Adiantum pedatum	10	Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain	۱)
1	10	<u>Y</u>			,
Polystichum acrostichoides	- —		FACU	¹ Indicators of hydric soil and wetland hydrology m	ust
3. Sedum ternatum	_ 5	N	FACU	be present, unless disturbed or problematic.	last
4. Symphyotrichum cordifolium	5	N	UPL	Definitions of Four Vegetation Strata:	
5				_	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 of more in diameter at breast height (DBH), regardle	
7				height.	33 01
8					
9.				Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than 3.28 ft (1 m) tall.	less
10				than one por and greater than 6.20 ft (1 m) tail.	
11.				Herb – All herbaceous (non-woody) plants, regar	dless
12.	- (of size, and woody plants less than 3.28 ft tall.	
12.	30	= Total Cov		Woody vine – All woody vines greater than 3.28	ft in
Woody Vine Stratum (Plot size: 30' r)		- Total Cov	CI	height.	
1. Absent					
2.					
3					
4				Hydrophytic	
5				Vegetation Vac	
6	0			Present? Yes No	
	<u> </u>	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet.)				
- None					

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirn	n the absence	of indicat	ors.)	
Depth	Matrix		Redo	x Feature	es					
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	3
0-3	10YR 3/2	100	-	_	-	-	SiCL	dry		
3-17	10YR 5/4	60	10YR 5/8	35	С	М	SiCL	dry		
	-		10YR 4/2	5		M		· <u> </u>		
	-		1011(4/2		- —					
				_						
	-	-	-					-		
-					<u> </u>			· 		
			<u></u>							
-		-	· -	-	-	. ———	-			
					_		-	· 		
		letion, RN	1=Reduced Matrix, M	S=Maske	d Sand G	ains.	² Location: P	L=Pore Lini	ng, M=Matrix	<u>. </u>
Hydric Soil I	ndicators:						Indic	ators for P	roblematic l	Hydric Soils³:
Histosol	(A1)		Dark Surface	e (S7)			2	2 cm Muck ((A10) (MLRA	. 147)
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfa	ace (S8) (I	MLRA 147 ,	, 148) (Coast Prairi	e Redox (A16	3)
Black His	stic (A3)		Thin Dark Su	ırface (S9) (MLRA	147, 148)		(MLRA 1	47, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)			Piedmont FI	oodplain Soil	s (F19)
	l Layers (A5)		Depleted Ma					(MLRA 1		
	ck (A10) (LRR N)		Redox Dark	•	,				w Dark Surfa	
	Below Dark Surfac	e (A11)	Depleted Da					Other (Expl	ain in Remarl	ks)
	ark Surface (A12)		Redox Depre							
	lucky Mineral (S1) (I	LRR N,	Iron-Mangan		ses (F12)	(LRR N,				
	147, 148)		MLRA 13	•	/MI D A 4	00 400\	31	d:4£ h		
	Sleyed Matrix (S4)		Umbric Surfa Piedmont Flo							egetation and
-	edox (S5) Matrix (S6)		Red Parent N						rology must to rbed or problem	
	_ayer (if observed):		Neu Faieiil i	viateriai (i	ZI) (WILF	M 121, 141	1	uniess distu	ibed of probl	emanc.
		•								
Type: Non										
Depth (inc	ches): <u>-</u>						Hydric Soi	I Present?	Yes	No
Remarks:										
- None										

Project/Site: Equitrans Expansion Project C	ty/County: Wetzel Sampling Date: 7/14/21
Applicant/Owner: Equitrans	State: WV Sampling Point: UPLJJP006
	ection, Township, Range: No PLSS
Landform (hillslone terrace etc.). floodplain	relief (concave, convex, none): concave Slope (%): <2
Subregion (LRR or MLRA): LRR N Lat: 39.554143	Long: -80.522435 Datum: NAD83
Soil Map Unit Name: Skidmore gravelly loam, occasionally flooded	
	NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year	· · · · · · · · · · · · · · · · · · ·
	sturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally prob	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Area upland comple point for wetland \\ \(\lambda \) \(\lambda \) \(\lambda \) \(\lambda \)	Is the Sampled Area within a Wetland? Yes No
- Area upland sample point for wetland WWVJJ	2006. Within floodplain.
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 Plan	
High Water Table (A2) Hydrogen Sulfide	
	heres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Red	
	ction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surfact Algal Mat or Crust (B4) Other (Explain in	
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):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
N/A	
Remarks:	
No field observations of hydrology observed.	

001	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Acer negundo	10	Y	FAC	That Are OBL, FACW, or FAC: 3	(A)
2. Platanus occidentalis	10	Υ	FACW	Total Number of Dominant	
3					(B)
4					
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100	(A/B)
6.				mat Ale OBE, I AOW, OI I AO.	(700)
7				Prevalence Index worksheet:	
8			•	Total % Cover of: Multiply by:	=-
0		= Total Cov	or	OBL species x 1 =	_
Sapling/Shrub Stratum (Plot size: 15' r)		- Total Cov	CI	FACW species x 2 =	
4 Absent				FAC species x 3 =	
2.				FACU species x 4 =	
3.				UPL species x 5 =	
				Column Totals: (A)	
4				Column Totals (A)	(5)
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	
10				4 - Morphological Adaptations ¹ (Provide supp	orting
Ele	0	= Total Cov	er	data in Remarks or on a separate sheet)	orting
Herb Stratum (Plot size: 5' r)	40	v	E40	Problematic Hydrophytic Vegetation ¹ (Explain	1)
1. Microstegium vimineum	40	<u>Y</u>	FAC		,
2. Monarda fistulosa	15	N	UPL	¹ Indicators of hydric soil and wetland hydrology m	uet
Verbesina alternifolia	15	N	FAC	be present, unless disturbed or problematic.	usi
4. Sanicula canadensis	10	N	UPL	Definitions of Four Vegetation Strata:	
5. Persicaria virginiana	10	N	FAC	Dominiono or rour rogotation estata.	
6				Tree – Woody plants, excluding vines, 3 in. (7.6 c	
7				more in diameter at breast height (DBH), regardle height.	SS OF
8.				110.g.tt.	
9.				Sapling/Shrub – Woody plants, excluding vines,	less
				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb – All herbaceous (non-woody) plants, regard	dless
11.	- ——			of size, and woody plants less than 3.28 ft tall.	
12	90			Woody vine – All woody vines greater than 3.28	ft in
Woody Vine Stratum (Plot size: 30' r)	90	= Total Cov	er	height.	
1. Absent					
2					
3					
4				Hydrophytic	
5				Vegetation	
6				Present? Yes No	
	0	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate s	sheet.)			_1	
- None					
None					

Profile Desc	ription: (Describe	to the de	pth needed to docur	nent the	indicator	or confirn	n the absence	e of indicat	ors.)		
Depth	Matrix		Redo	x Feature	es						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	_	Remark	S	
0-5	7.5YR 4/3	100	-	-	-	-	SiL	dry			
5-17	7.5YR 4/4	80	7.5YR 4/2	20	D	М	SiCL	dry			
	-	-	-			. ———	-				
			-								
	-	-		-	-						
					-	· ——	-				
		-		-	-	· ——		_			
							-				
¹ Type: C=Co	oncentration, D=Dep	letion, RN	/I=Reduced Matrix, M	S=Maske	d Sand Gi	ains.	² Location: F	L=Pore Lini	ing, M=Matri	х.	
Hydric Soil I	ndicators:						Indio	cators for P	Problematic	Hydric So	oils³:
Histosol	(A1)		Dark Surface	e (S7)			:	2 cm Muck	(A10) (MLR	\ 147)	
	pipedon (A2)		Polyvalue Be		ace (S8) (I	MLRA 147,			e Redox (A1		
Black His			Thin Dark Su				_	(MLRA 1			
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)			Piedmont Fl	loodplain Soi	ils (F19)	
	l Layers (A5)		Depleted Ma	trix (F3)				(MLRA 1			
	ck (A10) (LRR N)		Redox Dark	•	,			-	w Dark Surfa)
	l Below Dark Surfac	e (A11)	Depleted Da					Other (Expl	ain in Remar	rks)	
	rk Surface (A12)		Redox Depre								
	lucky Mineral (S1) (I	LRR N,	Iron-Mangan		ses (F12)	(LRR N,					
	147, 148)		MLRA 13	•			3.				
	leyed Matrix (S4)		Umbric Surfa						nydrophytic v	-	
-	edox (S5)		Piedmont Flo					-	Irology must		it,
	Matrix (S6)		Red Parent N	viateriai (F	-21) (MLF	KA 127, 14	()	uniess distu	rbed or prob	lematic.	
	_ayer (if observed):										
Type: Non											
Depth (inc	ches):						Hydric So	il Present?	Yes	No_	
Remarks:							•				
- None											

Project/Site: Equitrans Expansion Project City/C	County: Wetzel Sampling Date: 7/14/21
Applicant/Owner: Equitrans	State: WV Sampling Point: UPLJJP007/008
	on, Township, Range: No PLSS
Landform (hillslope, terrace, etc.): floodplain Local rel	ief (concave, convex, none); concave Slope (%); <2
Subregion (LRR or MLRA): LRR N Lat: 39.547509	Long: -80.512349 Datum: NAD83
Soil Map Unit Name: Skidmore gravelly loam, occasionally flooded (513717)	
Are climatic / hydrologic conditions on the site typical for this time of year?	_
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing san	
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Yes No V No V Remarks:	Is the Sampled Area within a Wetland? Yes No
- Area upland sample point for wetland WWVJJP0	07 and 008. Within right-of-way and floodplain.
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	
High Water Table (A2) Hydrogen Sulfide Od	
Saturation (A3) Oxidized Rhizospher	
Water Marks (B1) Presence of Reduce Sediment Deposits (B2) Recent Iron Reduction	
Sediment Deposits (B2) Recent Iron Reduction Drift Deposits (B3) Thin Muck Surface (0)	
Algal Mat or Crust (B4) Other (Explain in Rei	
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): Water Table Present? Yes No Depth (inches): Dept	
Saturation Present? Yes No Depth (inches):	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre N/A	evious inspections), if available:
Remarks:	
No wetland hydrology indicators or field observation	ons of hydrology observed
Two wettaria flydrology maleators of field observation	ons of Hydrology observed.

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Absent				That Are OBL, FACW, or FAC: $\frac{1}{2}$	۸)
2.				(′
				Total Number of Dominant	
3				Species Across All Strata: 1 (E	3)
4				Percent of Dominant Species	
5					VB)
6				,	,
7.				Prevalence Index worksheet:	
				Total % Cover of: Multiply by:	
8				OBL species 0 x 1 = 0	
Sapling/Shrub Stratum (Plot size: 15'r)	<u> </u>	= Total Cov	er	FACW species $\frac{5}{}$ x 2 = $\frac{10}{}$	
1. Absent				1 AC species X 3 =	
2				FACU species $\frac{50}{100}$ x 4 = $\frac{100}{100}$	
3				UPL species $\frac{10}{}$ x 5 = $\frac{50}{}$	
4.				Column Totals: 100 (A) 265	(B)
					` ′
5				Prevalence Index = B/A = $\frac{2.65}{}$	
6				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
8					
9				2 - Dominance Test is >50%	
10.				3 - Prevalence Index is ≤3.0¹	
10.	0	- Total Cov		4 - Morphological Adaptations ¹ (Provide suppor	ting
Herb Stratum (Plot size: 5' r)		= Total Cov	er	data in Remarks or on a separate sheet)	
Glechoma hederacea	25	Υ	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
l·		· Y			
2. Microstegium vimineum			FAC	¹ Indicators of hydric soil and wetland hydrology mus	
3. Holcus lanatus	15	N	FAC	be present, unless disturbed or problematic.	ot
4. Prunus virginiana	15	N	FACU		
5. Trifolium pratense	10	N	FACU	Definitions of Four Vegetation Strata:	
6 Plantago lanceolata	10	N	UPL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
O				more in diameter at breast height (DBH), regardless	
7. Cyperus strigosus	_ 5	N	FACW	height.	
8				Sapling/Shrub – Woody plants, excluding vines, le	00
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	55
10.				ground man 2211 and ground man oleo it (1 m) tam	
				Herb – All herbaceous (non-woody) plants, regardle	ess
11				of size, and woody plants less than 3.28 ft tall.	
12				Woody vine – All woody vines greater than 3.28 ft	in
201	100	Total Cov	er	height.	
Woody Vine Stratum (Plot size: 30' r)				noight.	
1. Absent					
2					
3.					
4				Hydrophytic	
5				Vegetation	
6				Present? Yes No	
	0	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate	sheet)				
· · · ·	Sileet.)				
- None					

Depth (in the set)	Matrix	0/		dox Feature		Tarduma		Domarka		
(inches) 0-17	Color (moist) 10YR 4/3	<u>%</u> 98	Color (moist) 10YR 5/6	<u>%</u>	Type ¹ C	Loc ²	Texture SiCL	dry	Remark	S
	1011(4/3					- 101	- SIGL	_ ury		
-	•		-		-			_		
			_							
	-	_						_		
-			_		-					
			_							
vne. C=Co	oncentration D=De	epletion RI	M=Reduced Matrix, I	MS=Maske	d Sand G	rains	² I ocation:	PL=Pore Lini	ng M=Matri	x
	Indicators:	<u> </u>	VI TROGGOOD WIGHTIN, I	vic mache	a cana c	i dii io.		cators for P		
_ Histosol			Dark Surfa	ce (S7)				2 cm Muck (
	oipedon (A2)		Polyvalue I		ace (S8) (MLRA 147.	. 148)	Coast Prairie		
_ Black Hi			Thin Dark S					(MLRA 14		-,
	en Sulfide (A4)		Loamy Gle	•	, .	, ,		Piedmont Fl		ls (F19)
	d Layers (A5)		Depleted M	-				(MLRA 13		
_ 2 cm Mu	ick (A10) (LRR N)		Redox Dar	k Surface (F6)			Very Shallov	w Dark Surfa	ace (TF12)
_ Depleted	d Below Dark Surfa	ace (A11)	Depleted D	ark Surface	e (F7)		_	Other (Expla	ain in Remar	ks)
	ark Surface (A12)		Redox Dep							
	lucky Mineral (S1)	(LRR N,	Iron-Manga		ses (F12)	(LRR N,				
	A 147, 148)		MLRA 1	-			2			
	Sleyed Matrix (S4)		Umbric Sui					ndicators of h		-
Sandv R	Redox (S5)		Piedmont F					wetland hyd		
			Red Parent	t Material (F	-21) (MLF	RA 127, 14	7)	unless distu	bed or prob	lematic.
Stripped	Matrix (S6)									
Stripped Restrictive L	Layer (if observed	d):	<u> </u>							
Stripped estrictive L Type: Nor	Layer (if observed	i):								
Stripped estrictive L Type: Nor Depth (ind	Layer (if observed	i):					Hydric Sc	oil Present?	Yes	No _
Stripped estrictive L Type: Nor Depth (inc emarks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No_ <u></u>
Stripped estrictive L Type: Nor Depth (inceparates:	Layer (if observed ne ches): -		orofile at 35%				Hydric So	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (inceparates:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No _ _
Stripped estrictive L Type: Nor Depth (incommerks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No _
Stripped estrictive L Type: Nor Depth (incommarks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No _
Stripped estrictive L Type: Nor Depth (inceparates:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (inceparates:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No 4
Stripped estrictive L Type: Nor Depth (incommerks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommerks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (inclemarks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped destrictive Law Type: Nor Depth (incommerce)	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped Restrictive L Type: Nor Depth (inc.) Remarks:	Layer (if observed ne ches): -						Hydric So	oil Present?	Yes	No
Stripped Restrictive L Type: Nor Depth (inc.) Remarks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (inclemarks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommerks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No
Stripped estrictive L Type: Nor Depth (incommerks:	Layer (if observed ne ches): -						Hydric Sc	oil Present?	Yes	No

Project/Site: Equitrans Expansion Project City/C	County: Wetzel Sampling Date: 7/21/21
Applicant/Owner: Equitrans	State: WV Sampling Point: UPLJJP009
Investigator(s): JJP Section	
Landform (hillslope, terrace, etc.): ridge Local reli	ief (concave convex none). concave Slone (%): 3
	Long:80.505219 Datum: NAD83
Soil Map Unit Name: Gilpin-Peabody complex, 15-25% slopes (513708)	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	ppling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Yes No Yes No Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland? Yes No
Remarks:	
- Area upland sample point for wetland WWVJJP0	09
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 (High Water Table (A2) Hydrogen Sulfide Od-	
Saturation (A3) Oxidized Rhizosphere	
Water Marks (B1) Presence of Reduced	
Sediment Deposits (B2) Recent Iron Reductio	n in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Rer	
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:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
N/A	
Remarks:	
No wetland hydrology indicators or field observation	ns of hydrology observed.

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species	
1. Acer rubrum	10	Y	FAC	That Are OBL, FACW, or FAC: 2	(A)
2. Acer saccharum	5	Υ	FACU	Total Number of Dominant	
3. Nyssa sylvatica	5	Y	FAC		(B)
4					
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 67	(A/B)
6					(,,,,,,
7				Prevalence Index worksheet:	
8.				Total % Cover of: Multiply by:	
		= Total Cov	er	OBL species x 1 =	_
Sapling/Shrub Stratum (Plot size: 15' r)		10101 001	0.	FACW species x 2 =	_
1. Absent				FAC species x 3 =	_
2				FACU species x 4 =	_
3.				UPL species x 5 =	
4.				Column Totals: (A)	
5				、 ,	_ ` ′
6				Prevalence Index = B/A =	_
				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
8				2 - Dominance Test is >50%	
9				3 - Prevalence Index is ≤3.0 ¹	
10	•			4 - Morphological Adaptations ¹ (Provide supp	ortina
Herb Stratum (Plot size: ^{5' r})	0	= Total Cov	er	data in Remarks or on a separate sheet)	3
4 Absent				Problematic Hydrophytic Vegetation ¹ (Explain	า)
2.				¹ Indicators of hydric soil and wetland hydrology m	nust
3				be present, unless disturbed or problematic.	
4				Definitions of Four Vegetation Strata:	
5				Tree Woody plants evaluating vines 2 in 77.6 c	,m) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 c more in diameter at breast height (DBH), regardle	
7				height.	
8				Sapling/Shrub – Woody plants, excluding vines,	locc
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
10					
11				Herb – All herbaceous (non-woody) plants, regar of size, and woody plants less than 3.28 ft tall.	aless
12					
	0	= Total Cov	er	Woody vine – All woody vines greater than 3.28	ft in
Woody Vine Stratum (Plot size: 30' r)				height.	
1. Absent					
2					
3					
4					
5				Hydrophytic Vegetation	
6.				Present? Yes No	
	0	= Total Cov	er		
Remarks: (Include photo numbers here or on a separate					
	311661.)				
Bareground in herb stratum 100%					

Sampling Point: UPLJJP009

SOIL

Profile Desc	ription: (Describe	to the de	pth needed to docu	ment the	indicator	or confirm	the absence	of indicat	ors.)	
Depth	Matrix		Redo	x Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>		Remarks	
0-4	10YR 3/3	100		-	-	-	SiCL	dry		_
4-17	10YR 4/4	90	10YR 4/2	5	D	M	SiCL	dry		
			10YR 5/4	5	С	M	-	· ·		_
-	-			- 						
										_
		-		-	-					
					_					-
										_
										_
1Type: C=C	oncentration D=Den	letion RM	I=Reduced Matrix, M	S=Maske	d Sand G	raine	² I ocation: P	I =Pore I ini	ing, M=Matrix.	_
Hydric Soil		netion, raiv	i-Reduced Matrix, M	0-Maske	u Sanu O	iairis.			roblematic H	
Histosol			Dark Surface	(97)					(A10) (MLRA	-
	oipedon (A2)		Polyvalue Be		ace (S8) (I	MI RA 147.			e Redox (A16)	
Black Hi			Thin Dark St				, \	(MLRA 1		,
	n Sulfide (A4)		Loamy Gley			· · · , · · · • ,	F		loodplain Soils	(F19)
	d Layers (A5)		Depleted Ma		` ,			(MLRA 1		,
2 cm Mu	ick (A10) (LRR N)		Redox Dark		F6)				w Dark Surfac	e (TF12)
Depleted	d Below Dark Surfac	e (A11)	Depleted Da	rk Surfac	e (F7)			Other (Expl	ain in Remark	s)
	ark Surface (A12)		Redox Depre							
	lucky Mineral (S1) (I	LRR N,	Iron-Mangar		ses (F12)	(LRR N,				
	A 147, 148)		MLRA 13	•			3.			
-	Gleyed Matrix (S4)		Umbric Surfa						nydrophytic ve	-
-	Redox (S5)		Piedmont Florent I					-	rology must be	-
	Matrix (S6) Layer (if observed):	•	Red Parelli I	viateriai (i	-21) (IVIL	KA 127, 147) L	iniess distu	rbed or proble	matic.
Type: Nor		•								
							Hudela Cal	I D	Vaa	No_ 🗸
Depth (inc	cnes):						Hydric Soi	i Present?	Yes	_ NO <u>*</u>
Remarks:										
- None										

Project/Site: Equitrans Expansion Project City/C	County: Wetzel Sampling Date: 8/20/21
Applicant/Owner: Equitrans	State: WV Sampling Point: UPLJJP013
	on, Township, Range: No PLSS
Landform (hillslope, terrace, etc.): floodplain Local rel	ief (concave convex none). concave Slone (%): <2
Subregion (LRR or MLRA): LRR N Lat: 39.541845	Leng: -80.653053 Patum: NAD83
Soil Map Unit Name: Elk silt loam, 3-8% slopes (513707)	NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly distur	
Are Vegetation, Soil, or Hydrology naturally problems	atic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks:	Is the Sampled Area within a Wetland? Yes No
- Area upland sample point for wetland WWVJJP0	13
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Water (A1) True Aquatic Plants (Surface Soil Cracks (B6) B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Od Hydrogen Sulfide Od	
Saturation (A3) Oxidized Rhizospher	
Water Marks (B1) Presence of Reduced	d Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Rer	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2) 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):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): -	Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
N/A	
Remarks:	
No wetland hydrology indicators or field observation	ons of hydrology observed.

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30' r)		Species?		Number of Dominant Species
1. Absent				That Are OBL, FACW, or FAC: $\frac{1}{2}$ (A)
·				
2				Total Number of Dominant
3				Species Across All Strata: 1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
15'r	0	= Total Cov	/er	
Sapling/Shrub Stratum (Plot size: 15' r)				FACW species x 2 =
1. Absent				FAC species x 3 =
2				FACU species x 4 =
3.				UPL species x 5 =
				Column Totals: (A) (B)
4				Coldifilit Totals (A) (B)
5				Prevalence Index = B/A =
6				
7				Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
10				4 - Morphological Adaptations ¹ (Provide supporting
51-	0	= Total Cov	/er	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5' r)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Cyperus strigosis	90	Υ	FACW	1 Toblematic Trydrophytic Vegetation (Explain)
2. Digitaria sanguinalis	10	N	FACU	
3.				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree Meaderstander with the contract (7.0 cm)
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8.				g
				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				or size, and troody plante loss than size it tam
	100	= Total Cov	/or	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30' r)		- Total Cov	CI	height.
1. Absent				
·				
2				
3				
4				
				Hydrophytic
				Vegetation Present? Yes No
5				riescht: resno
5		= Total Cov	·or	

Sampling Point: UPLJJP013

SOIL

Depth (inches)			pth needed to docur				i the absence		,	
(Inches)	Matrix Color (moist)	%		x Feature		Loc²	Toyturo		Domark	
0-17	10YR 3/3	90	Color (moist) 10YR 4/6	<u>%</u> 5	Type ¹ C	M	<u>Texture</u> SiCL	moist	Remark	.S
0-17	101K 3/3	90				IVI	SICL	HIOISI		
			7.5YR 4/2	5	D	М				
				-	-	· 				
	-				-	· ——	-			
							-			
						·		-		
							2, ,, ,			
	concentration, D=Deplicators:	oletion, RN	1=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	² Location: P			x. Hydric Soils³:
•			D 10 ((07)						-
Histosol			Dark Surface		(00) ((A10) (MLR	
	pipedon (A2)		Polyvalue Be				148) (e Redox (A1	6)
	istic (A3) en Sulfide (A4)		Thin Dark Su			147, 148)		MLRA 1		ilo (E10)
	. ,		Loamy Gleye		(FZ)				oodplain Soi	iis (F 19)
	d Layers (A5)		Depleted Ma Redox Dark		Te)			(MLRA 1:	w Dark Surfa	200 (TE12)
	uck (A10) (LRR N) d Below Dark Surfac	co (Δ11)	Depleted Dai					-	ain in Remar	
	ark Surface (A12)	c (ATT)	Redox Depre					Otilei (Expi	alli III Nelliai	165)
	Mucky Mineral (S1) (IRRN	Iron-Mangan			I RR N				
	A 147, 148)	LIXIX IN,	MLRA 13		663 (I IZ) (LIXIX IV,				
	Gleyed Matrix (S4)		Umbric Surfa		(MIRA 1	36 122)	3In	dicators of h	vdronhytic v	egetation and
	Redox (S5)		Piedmont Flo						rology must	-
-	d Matrix (S6)		Red Parent N					-	rbed or prob	
	Layer (if observed)) <u>-</u>		(, (,			
Type: No										
							Unadaia Cai	I D	Vaa	No_
	iches): <u>-</u>						Hydric Soi	i Present?	Yes	NO <u>*</u>
Remarks:										
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APPENDIX E Resumes of Personnel Conducting Wetland Delineations





Jeffrey Polonoli

Senior Project Environmental Specialist

Education

BS, Secondary Education/Biology, 1997, California University of Pennsylvania

Skills

Environmental Investigation, Sampling, and Analysis

Wetland Delineation

Threatened and Endangered Plant Species Surveys and Identification

Habitat Assessment

Certifications / Training

40-hour USACE Wetland Delineation Training

Wild Plant Management Permit,
Pennsylvania DCNR, Bureau of Forestry

USFWS approved surveyor for *Scirpus* ancistrochaetus in Pennsylvania

USFWS approved surveyor for *Trifolium* stoloniferum in West Virginia

Field Indicators of Hydric Soils

24-hour MSHA Mining Hazard

John Franklin Lewis Herbarium, Herbarium Practice and Protocol

The Nature Conservancy of Missouri,
Vegetative Identification of Midwestern
Flora and Plant Communities

Industry Experience

GAI Consultants, 2011-Present

ASSET, Inc., 2003-2011

Phipps Conservatory and Botanical Gardens, 1998-2003

Missouri Department of Conservation, 1996-1998

Professional Summary

Mr. Polonoli specializes in environmental investigations, including wetlands and streams, habitat assessments, rare, threatened, and endangered plant species, invasive plant species, and mitigation site monitoring. He has a strong background in plant identification and has performed numerous field surveys utilizing the Pennsylvania Department Conservation and Natural Resources (PADCNR) Protocol for Conducting Surveys for Plant Species of Special Concern. Mr. Polonoli has successfully completed botanical surveys in New York (NY), Missouri (MO), Pennsylvania (PA), West Virginia (WV), and Maryland (MD).

Mr. Polonoli worked as a field botanist for The Nature Conservancy in MO, and in PA, developed and conducted an ex-situ native seed storage research project involving the collection, documentation, storage, and germination of seeds from rare, threatened, and endangered (RTE) plants of PA.

Professional Experience

Habitat Assessments and RTE Plant Surveys

- Confidential Pipeline Project, Illinois and MO. Field Lead. Wetland and waterbody surveys and bald eagle nest surveys for a 66-mile natural gas pipeline.
- Confidential Substation Project located in Ohio (OH). Conducted a Presence/Absence Botanical Field Survey for Gillenia trifoliate and prepared report of findings for submission to OH Department of Natural Resources (ODNR).
- Boland Road Replacement Project, located in Crawford County PA. Conducted a Presence/Absence Botanical Field Survey for Galium trifidum and Potamogeton zosteriformis and prepared report of findings for agency submission.
- Confidential Substation –Substation Transmission Line Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Alopecurus aeqalis, Erythronium albidum, Iodanthus pinnatifidus, Juncus biflorus, Ranunculus flabellaris, Scirpus pedicellatus and Solidago uliginosa and prepared report of findings for agency submission.
- Transmission Line Project, located in OH, for a Confidential Client and the United States Forest Service. Prepared Biological Evaluated Report for OH State Listed Regional Forester Sensitive Plant Species.

- Confidential Substation Substation 138kV Transmission Line Project, located in PA. Conducted a Presence/Absence Botanical Field Survey for Actaea podocarpa, Houstonia serpyllifolia and Uvularia and prepared report of findings for agency submission.
- OPGW Fiber Expansion Project, located in PA. Conducted a Presence/Absence Botanical Field Survey for Meehania cordata, Onosmodium molle var. hispidissimum and prepared report of findings for agency submission.
- Confidential Pipeline Project located in IL. Conducted a Presence/Absence Botanical Field Survey for Asclepias meadii and Astragalus crassicarpus var. trichocalyx and prepared report of findings for agency submission.
- 138kV Transmission Line Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Carex shortiana and Scutellaria saxatilis.
- 19-Mile 69kV Transmission Line Rebuild Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Phyllanthus caroliniensis and prepared report of findings for submission to PADCNR.
- 13-Mile 230kV Transmission Line Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Amelanchier bartramiana, Gaultheria hispidula, and Spiranthes casei and prepared report of findings for submission to PADCNR.
- 0.5-Mile Pipeline Reroute Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Carex shortiana.
- Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Antennaria solitaria, Arnoglossum reniforme, Diarrhena americana, Erythronium albidum, Passiflora lutea, Senna marilandica, Smallanthus uvedalius, Stachys cordata, and Woodwardia areolata.
- 7,000 feet Natural Gas Steel Transmission Project, located in PA. Conducted a Presence/Absence Botanical Field Survey for Aletris farinosa and Frasera caroliniensis.
- 18-Mile Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Meehania cordata and Stenanthium gramineum and prepared report of findings for submission to PADCNR.
- 33-Mile 69kV Transmission Line Rebuild Project, located in PA. Conducted a Presence/Absence Botanical Field Survey for Carex tetanica, Carex alata, Parnassia glauca, Salix serissima and Veratrum virginicum and prepared report of findings for submission to PADCNR.
- Five Transmission Line Rebuild Projects, located in PA. Supervised consultation with the PADCNR, subcontractor present/absent botanical field surveys, report writing and submission of findings to PADCNR.
- Pipeline Project, located in WV. Assisted with Bat Maternity Roost Tree Field Survey.
- Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Meehania cordata and Stenanthium gramineum, and prepared report of findings for submission to PADCNR.
- Pipeline Phase II Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Carex bebbii, Meehania cordata, Stenanthium gramineum, and Veratrum virginicum and prepared report of findings for submission to PADCNR.
- Wind Power Project, located in PA. Conducted a mast survey and vegetation monitoring for known sites of Allegheny woodrat (Neotoma magister) and green salamander (Aneides aeneus).
- Three-mile 500kV Rebuild Project, located in MD. Conducted a Presence/Absence Botanical Field Survey and Habitat Identification and Assessment for all species listed in the current and Historical Maryland Department of Natural Resources RTE Species List of Frederick County, MD.

- 28.5-Mile Expansion and Modernization Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Clematis viorna, Delphinium exaltatum, Iodanthus pinnatifidus, Symphyotrichum drummondii, and Trillium flexipes and prepared report of findings for submission to PADCNR.
- Well Plug and Abandonment Project, located in PA. Conducted a Habitat Assessment Survey as part of consultation with United States Fish and Wildlife Service (USFWS) with regards to the Migratory Bird Treaty Act (MBTA).
- 8" Natural Gas Pipeline, located in PA. Conducted a Presence/Absence Botanical Field Survey for Potamogeton confervoides and Habitat Assessment for Viola selkirkii and prepared report of findings for submission to PADCNR.
- 6.5 Mile Pipeline Project, located in PA. Conducted a Presence/ Botanical Field Survey for Gaultheria hispidula and Muhlenbergia uniflora and prepared report of findings for submission to PADCNR.
- 11-Mile Pipeline Project, located in PA. Conducted a Presence/ Botanical Field Survey for Arnoglossum reniforme, Diarrhena Americana, Senna marilandica, Smallanthus uvedalius, and Stachy cordata.
- 4.5-Mile Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Delphinium exaltatum, Iodanthus pinnatifidus, Passiflora lutea, Ruellia strepens, Baptisia australis, Trillium nivale, and Erythronium albidum, and prepared report of findings for submission to PADCNR.
- 1.5-Mile Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Delphinium exaltatum, Passiflora lutea, Trillium flexipes, Trillium nivale and prepared report of findings for submission to PADCNR.
- 5-Mile Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Carex disperma and prepared report of findings for submission to PADCNR.
- 1.5-Mile Lateral Project, located in PA. Conducted a Presence/ Botanical Field Survey and Habitat Assessment for Trillium nivale and prepared report of findings for submission to PADCNR.
- 2.6- Mile Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Schoenoplectus torreyi and prepared report of findings for submission to PADCNR
- Substation Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Carex aurea, Shephardia canadensis, Parnessia glauca, Galium trifidum, and Alisma trivale and prepared report of findings for submission to PADCNR
- 115kV Transmission Line Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Carex lasiocarpa, Carex lupiformis, Carex retorsa, Carex sterilis, Carex tetanica, Galium trifidum, Juncus articus var. littoralis, and Pedicularis lanceolate, and prepared report of findings for submission to PADCNR.
- PA State Game Lands Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Viola selkirkii and prepared report of findings for submission to PADCNR.
- Natural Gas Pipeline Project, located in PA. Conducted a Presence/Absence Botanical Field Survey and Habitat Assessment for Carex limosa, Carex disperma, Andromeda polifolia, and Deschampsia cespitosa.
- Well Pad Project, located in Ohio. Conducted a Presence/Absence Botanical Field Survey for Equisetum sylvaticum.

Invasive Species

 40-Mile Uprate Project, located in WV. Completed invasive plant species field survey, and drafted report of findings.

- Three-Mile Gas Pipeline Replacement Project, located in PA. Conducted invasive plant species monitoring on pipeline right-of-way within Gallitzin State Forest.
- Mainline Loop Natural Gas Pipeline Project, located in NY. Developed invasive plant species survey protocol, conducted an invasive plant field survey, and drafted report of findings.
- 24-Inch Natural Gas Pipeline Project, located in PA. Conducted invasive plant species monitoring on pipeline right-of-way within Sproul, Rothrock, Tuscarora, and Bald Eagle State Forests and prepared report of findings for submission to PADCNR.
- Propane Pipeline Pre-construction Project, located in WV. Conducted an Invasive Flora Survey within Castleman Run and Cross Creek Wildlife Management Areas within proposed pipeline ROW and prepared report of findings for submission to WVDCNR.

Monitoring and Mitigation

- Phases II and III Project, located in PA. Conducted Galium trifidum population monitoring.
- 40-Mile Uprate Project, located in WV. Developed mitigation protocol for transplanting and monitoring a population of Carex haydenii and completed the transplanting field task.
- Wetland Mitigation Site Monitoring Project, located in PA. Conducted post-construction wetland monitoring.
- Transmission Line Project, located in PA. Conducted post-construction wetland monitoring.
- 5.5-Mile 69kV Transmission Line Project, located in PA. Assisted with Eastern Massassauga Rattlesnake (Sistrurus catenatus catenatus) trap monitoring field work.
- 28.5-Mile Expansion and Modernization Project, located in PA. Created and conducted mitigation protocol for transplanting, and monitoring for a population of Trillium flexipes.
- Transmission Line PFO Wetland Planting Project, located in PA. Conducted wetland habitat assessment and drafted comprehensive planting plants for mitigation of palustrine forested wetlands.
- Creek Mitigation Site, located in PA. Conducted Stream and Riparian Evaluations and prepared report letter submitted to Juniata Conservation District.
- Wind Energy Project, located in PA. Drafted mitigation site monitoring protocols for site survey.
- Wetland Mitigation Site/Expansion Project, located in MD. Conducted Vegetation and Water Level monitoring within mitigation site as required by the MD Department of the Environment.
- Pipeline Project North Project, located in PA. Created and conducted mitigation protocol, transplanting, and monitoring for a population of Trillium nivale.

Wetlands and Streams

- Multiple 69kV Transmission Line Rebuild Projects, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- 60-Mile Pipeline Project, located in IL and MO. Conducted environmental field review identifying streams and delineating wetlands.
- Lateral Pipeline Project, located in MO. Conducted environmental field review identifying streams and delineating wetlands.
- 10-Mile 69kV Rehab Project, located in WV. Conducted environmental field review identifying streams and delineating wetlands.
- R&D Site Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Switch Station Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands within the approximate two-acre project area.

- 138kV Line Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Multiple Gas Valve and Line Replacement Projects, located in NCo. Conducted environmental field review identifying streams and delineating wetlands.
- Substation Project, located in VA. Conducted environmental field review identifying streams and delineating wetlands.
- Road Water Line Replacement Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Substation Project, located in WV. Conducted environmental field review identifying streams and delineating wetlands.
- 69kV Transmission Line Rebuild Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- 13-Mile 230kV Transmission Line Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Pipeline Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Multiple Pipeline Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Plant Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Development Site 4 Airport Area Chamber of Commerce Building, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Pipeline Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- 30-Mile Connector Pipeline Project, located in WV and OH. Conducted environmental field review identifying streams and delineating wetlands.
- 18-Mile Pipeline Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- 20-Mile 138kV Project, located in WV. Conducted environmental field review identifying streams and delineating wetlands.
- Improvements Project, located in WV. Conducted environmental field review identifying streams and delineating wetlands.
- Pipeline Project, located in PA. Conducted environmental field review identifying streams and delineating
- Eight-Mile 138kV Reconductor Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands. Assisted in preparing a Wetland Delineation and Stream Identification Report for the Project.
- 50-Mile Pipeline Project, located in WV. Conducted environmental field review identifying streams and delineating wetlands.
- 30-Mile Natural Gas Liquids Pipeline Project, located in WV. Conducted environmental field review identifying streams and delineating wetlands.

- Gate Valve Replacement Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands.
- Phase II Line 700 Pipeline Project, located in PA. Served as environmental representative for proposed pipeline constructability walk.
- Phase II Line 600 Pipeline Project, located in PA. Conducted environmental field review identifying streams and delineating wetlands. Assisted in preparing a Wetland Delineation and Stream Identification Report (WDSIR) for the Project.
- Generating Station Disposal Site Project, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands. Prepared WDSIR for the Project.
- Pipeline Project, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands.
- Run to Switchyard Project, located in WV. Conducted environmental field reviews, identifying streams and delineating wetlands.
- Pipeline Project, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands.
- Substation Expansion Project, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands. Assisted in preparing a WDSIR for the Project.
- Underground Project, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands.
- Substation Project, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands.
- 115kV Transmission Line Project, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands.
- Multiple Pipeline Projects, located in PA. Conducted environmental field reviews, identifying streams and delineating wetlands.

General

- Phipps Conservatory and Botanical Gardens, Pittsburgh, PA. Developed and conducted an ex-situ native seed storage research project involving the collection, documentation, storage, and germination of seeds from RTE plants of PA.
- Pleasant Hills Arboretum, Pleasant Hills, PA. Worked as an Independent Consultant to complete a botanical inventory and report of the Pleasant Hills Arboretum, establish permanent transect and zones, and outlined specific recommendations to help preserve the diversity of the existing native arboretum flora.
- The Nature Conservancy, Van Buren, Missouri. Worked as a Field Botanist conducting vegetative surveys within a 5,000+-acre preserve as part of a prescribed burn research project.
- John Franklin Lewis Herbarium of California University of PA, California, PA. Served as Herbarium Technician confirming specimen identification, mounting herbarium specimens, and photographic documentation.

Affiliations

Botanical Society of Western Pennsylvania

Southern Appalachian Botanical Society





Senior Environmental Specialist Professional Summary

Education

BS, Biology, 2011, University of Pittsburgh

Skills

Biology

Environmental Investigations and Analysis Wetland and Stream Delineation Threatened and Endangered Species Environmental Permitting Cultural Resources

Certifications / Training

40-Hour Wetland Delineation Course
PA DCNR Wild Plant Management Permit
Scientific Collectors Permit
Ohio Wetland/Stream Training
MSHA Safety Training
CNX On-Site Safety Training
OSHA 10 Hr. Construction Industry
Training
Pymatuning Laboratory of Field Ecology

Industry Experience

Course in Forest Ecology

GAI Consultants, Inc., 2011-Present Villa St. Joseph, 2006-2011 UPMC Children's Hospital of Pittsburgh, 2008-2009 Mr. Krivich specializes in environmental field studies including wetland and stream delineations, rare/threatened/endangered (RTE) species surveys, habitat assessments, soil/water sampling, wetland monitoring, Global Positioning System operation/data collection, and writing supportive wetland reports/documents for natural gas and environmental projects. He also has experience in macroinvertebrate surveys, ArcGIS, biological laboratory work, environmental permitting, surveying, and cultural resources investigations.

Professional Experience

- Over 50 Pipeline Projects, various locations. Senior Environmental Specialist. Performed various tasks including: wetland/stream delineations; Indiana bat telemetry surveys; cultural resources surveys; RTE surveys and habitat assessments; macroinvertebrate stream surveys; invasive species monitoring; and wetland monitoring.
- Over 20 Transmission Line Projects, various locations. Senior Environmental Specialist. Performed various tasks including: wetland/stream surveys; wetland monitoring; RTE surveys; cultural resources survey; wetland/stream delineations; and surveying.
- Four Well Pad Projects, various locations. Senior Environmental Specialist. Performed various tasks including: wetland/stream delineation and RTE habitat assessments.
- Five Compressor Station Projects, various locations. Senior Environmental Specialist. Performed various tasks including: wetland/stream delineation; wetland/stream survey; Massasauga rattlesnake survey; and RTE plant survey/habitat assessment.
- Three Generating Station Projects, various locations. Senior Environmental Specialist. Performed various tasks including: RTE survey and wetland/stream delineation.

Publications / Presentations

2009

Christopher R. Crowe, Kong Chen, Derek A. Pociask, John F. Alcorn, Cameron Krivich, Richard I. Enelow, Ted M. Ross, Joseph L. Witztum, and Jay K. Kolls. "Critical Role of IL-17RA in Immunopathology of Influenza Infection." The Journal of Immunology. 2009.

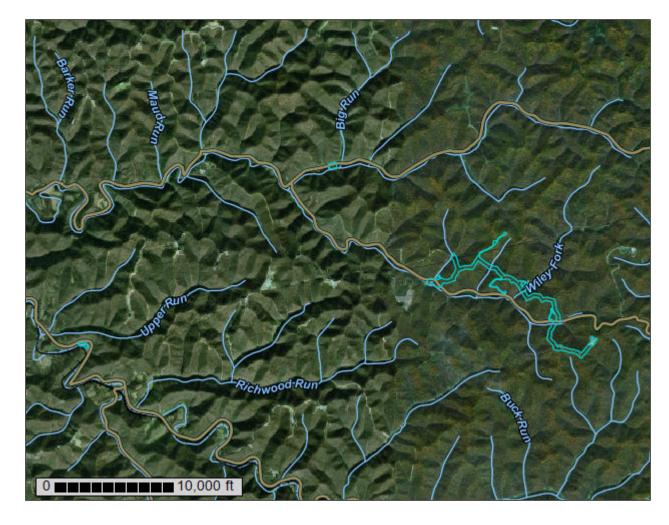
APPENDIX F Descriptions of Soils Found Within the Project Area



NRCS

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Wetzel County, West Virginia



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

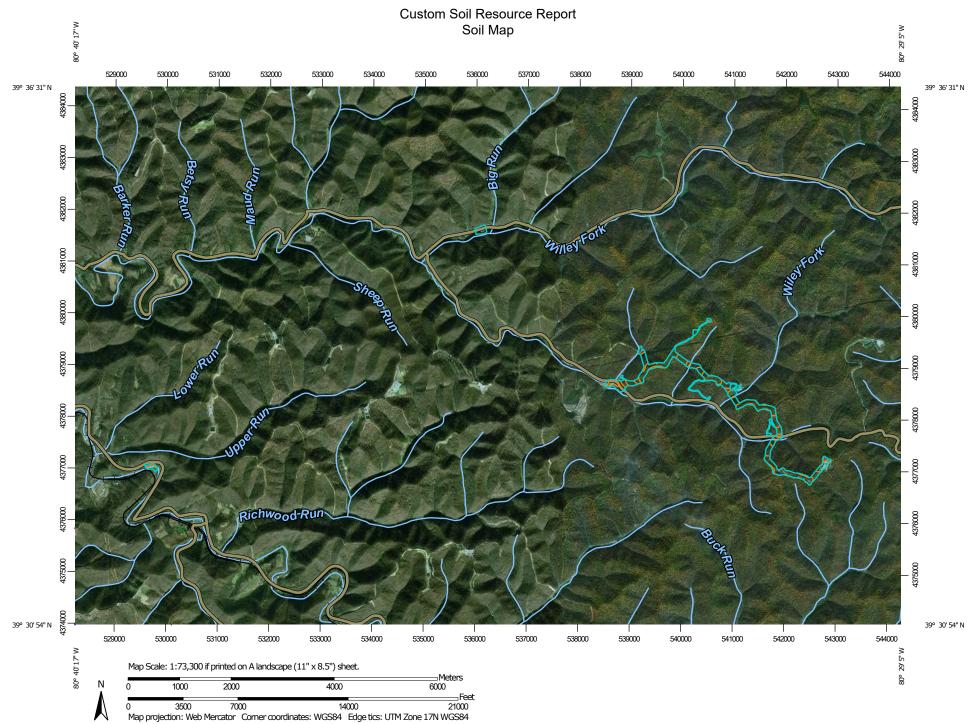
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

 \odot

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot Sandy Spot

Sodic Spot

Severely Eroded Spot

Sinkhole Slide or Slip

Spoil Area Stony Spot

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Very Stony Spot

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Wet Spot Other

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Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

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Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24.000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Wetzel County, West Virginia Survey Area Data: Version 14, Jun 4, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 5, 2014—Dec 27, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EkB	Elk silt loam, 3 to 8 percent slopes	3.4	1.7%
GpD	Gilpin-Peabody complex, 15 to 25 percent slopes	83.8	40.7%
GpE	Gilpin-Peabody complex, 25 to 35 percent slopes, moderately eroded	32.9	16.0%
GpF	Gilpin-Peabody complex, 35 to 70 percent slopes	47.1	22.8%
No	Nolin loam	8.9	4.3%
Sk	Skidmore gravelly loam, occasionally flooded	25.8	12.5%
Us	Udorthents, smoothed	4.1	2.0%
W	Water	0.1	0.1%
Totals for Area of Interest		206.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit

descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Wetzel County, West Virginia

EkB—Elk silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: k7k6

Elevation: 90 to 290 feet

Mean annual precipitation: 36 to 45 inches Mean annual air temperature: 41 to 64 degrees F

Frost-free period: 134 to 167 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Elk and similar soils: 75 percent Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elk

Setting

Landform: Terraces

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Parent material: Fine-silty alluvium

Typical profile

Ap - 0 to 9 inches: silt loam
Bt - 9 to 43 inches: silty clay loam
C - 43 to 65 inches: silt loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Other vegetative classification: Moist Loams (ML3)

Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 22 percent

Landform: Flood plains Hydric soil rating: No

Melvin

Percent of map unit: 3 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

GpD—Gilpin-Peabody complex, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2xqwc Elevation: 600 to 1,690 feet

Mean annual precipitation: 36 to 45 inches Mean annual air temperature: 41 to 64 degrees F

Frost-free period: 134 to 167 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Gilpin and similar soils: 40 percent Peabody and similar soils: 30 percent Minor components: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilpin

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Crest, nose slope, side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from sandstone and siltstone

Typical profile

A - 0 to 3 inches: silt loam BA - 3 to 5 inches: silt loam

Bt - 5 to 30 inches: channery silty clay loam

Cr - 30 to 40 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 25 to 37 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C Hydric soil rating: No

Description of Peabody

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Crest, nose slope, side slope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Residuum weathered from shale and siltstone

Typical profile

A - 0 to 3 inches: silty clay loam Bt - 3 to 23 inches: silty clay

C - 23 to 28 inches: parachannery silty clay

Cr - 28 to 38 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.01 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Upshur

Percent of map unit: 20 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Crest, nose slope, side slope

Down-slope shape: Convex Across-slope shape: Convex

Hydric soil rating: No

Otwell

Percent of map unit: 5 percent Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex Across-slope shape: Convex

Other vegetative classification: Fertile Loams (FL3)

Hydric soil rating: No

Vandalia

Percent of map unit: 5 percent

Landform: Hillslopes

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Linear

Other vegetative classification: Fertile Loams (FL3)

Hydric soil rating: No

GpE—Gilpin-Peabody complex, 25 to 35 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2vyz1 Elevation: 700 to 1,650 feet

Mean annual precipitation: 42 to 48 inches Mean annual air temperature: 50 to 53 degrees F

Frost-free period: 134 to 167 days

Farmland classification: Farmland of local importance

Map Unit Composition

Gilpin and similar soils: 45 percent Peabody and similar soils: 35 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilpin

Setting

Landform: Hillslopes, ridges

Landform position (two-dimensional): Shoulder, backslope, summit

Landform position (three-dimensional): Side slope, nose slope, head slope,

interfluve, crest

Down-slope shape: Convex, linear Across-slope shape: Convex, linear

Parent material: Residuum weathered from sandstone and siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 4 inches: silt loam BA - 4 to 5 inches: silt loam

Bt - 5 to 30 inches: channery silty clay loam

Cr - 30 to 40 inches: bedrock

Properties and qualities

Slope: 25 to 35 percent

Depth to restrictive feature: 25 to 37 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C Hydric soil rating: No

Description of Peabody

Setting

Landform: Hillslopes, ridges

Landform position (two-dimensional): Shoulder, backslope, summit

Landform position (three-dimensional): Side slope, nose slope, head slope,

interfluve

Down-slope shape: Linear, convex Across-slope shape: Convex, linear

Parent material: Residuum weathered from shale and siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 3 inches: silty clay loam Bt - 3 to 23 inches: silty clay

C - 23 to 28 inches: parachannery silty clay

Cr - 28 to 38 inches: bedrock

Properties and qualities

Slope: 25 to 35 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Weikert

Percent of map unit: 10 percent Landform: Hillslopes, ridges

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Side slope, nose slope, crest

Down-slope shape: Linear, convex Across-slope shape: Convex, linear

Hydric soil rating: No

Otwell

Percent of map unit: 10 percent Landform: Stream terraces

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear

Other vegetative classification: Fertile Loams (FL3)

Hydric soil rating: No

Rock outcrop

Percent of map unit: 0 percent

GpF—Gilpin-Peabody complex, 35 to 70 percent slopes

Map Unit Setting

National map unit symbol: k7k9 Elevation: 610 to 1,660 feet

Mean annual precipitation: 36 to 45 inches Mean annual air temperature: 41 to 64 degrees F

Frost-free period: 134 to 167 days

Farmland classification: Not prime farmland

Map Unit Composition

Gilpin and similar soils: 50 percent Peabody and similar soils: 30 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilpin

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope, footslope, shoulder Landform position (three-dimensional): Side slope, head slope, nose slope

Down-slope shape: Convex, concave

Across-slope shape: Convex

Parent material: Fine-loamy residuum weathered from sandstone and siltstone

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material

A - 1 to 4 inches: silt loam

Bt1+Bt2 - 4 to 28 inches: channery silty clay loam Bt3 - 28 to 34 inches: very channery silt loam Cr - 34 to 38 inches: unweathered bedrock

Properties and qualities

Slope: 35 to 70 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Other vegetative classification: Acid Hills (AH3)

Hydric soil rating: No

Description of Peabody

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder, footslope Landform position (three-dimensional): Side slope, head slope, nose slope

Down-slope shape: Convex, concave

Across-slope shape: Convex

Parent material: Residuum weathered from shale and siltstone

Typical profile

A - 0 to 2 inches: silty clay loam Bt - 2 to 22 inches: silty clay

C - 22 to 27 inches: channery silty clay Cr - 27 to 31 inches: weathered bedrock

Properties and qualities

Slope: 35 to 70 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 20 percent

Hydric soil rating: No

No-Nolin loam

Map Unit Setting

National map unit symbol: k7kg

Elevation: 90 to 290 feet

Mean annual precipitation: 36 to 45 inches Mean annual air temperature: 41 to 64 degrees F

Frost-free period: 134 to 167 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Nolin and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nolin

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Linear Across-slope shape: Linear Parent material: Fine-silty alluvium

Typical profile

Ap - 0 to 10 inches: loam
Bw - 10 to 47 inches: silt loam
C - 47 to 65 inches: loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.57 to 1.98 in/hr)

Depth to water table: About 36 to 72 inches Frequency of flooding: OccasionalNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B

Other vegetative classification: Moist Loams (ML3)

Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 15 percent

Landform: Flood plains Hydric soil rating: No

Melvin

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Sk—Skidmore gravelly loam, occasionally flooded

Map Unit Setting

National map unit symbol: 2xqv2 Elevation: 510 to 1,330 feet

Mean annual precipitation: 37 to 49 inches Mean annual air temperature: 41 to 67 degrees F

Frost-free period: 160 to 190 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Skidmore, occasionally flooded, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Skidmore, Occasionally Flooded

Setting

Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear

Parent material: Loamy-skeletal alluvium

Typical profile

Ap - 0 to 6 inches: gravelly loam Bw - 6 to 15 inches: gravelly loam

BC - 15 to 21 inches: very gravelly sandy loam C - 21 to 65 inches: extremely gravelly sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95

in/hr)

Depth to water table: About 36 to 48 inches

Frequency of flooding: OccasionalNone

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Sensabaugh, occasionally flooded

Percent of map unit: 10 percent Landform: Alluvial fans, flood plains Down-slope shape: Convex, linear

Across-slope shape: Linear Hydric soil rating: No

Nolin, occasionally flooded

Percent of map unit: 4 percent Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear

Hydric soil rating: No

Lobdell, occasionally flooded

Percent of map unit: 3 percent

Landform: Flood plains

Down-slope shape: Linear, concave

Across-slope shape: Linear Hydric soil rating: No

Melvin, occasionally flooded

Percent of map unit: 3 percent Landform: Flood plains, depressions

Down-slope shape: Concave

Across-slope shape: Concave, linear

Hydric soil rating: Yes

Us—Udorthents, smoothed

Map Unit Setting

National map unit symbol: k7kk

Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 41 to 64 degrees F

Frost-free period: 134 to 167 days

Farmland classification: Not prime farmland

Map Unit Composition

Udorthents: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Interpretive groups

Land capability classification (irrigated): None specified Other vegetative classification: Not Suited (NS)

Hydric soil rating: No

W-Water

Map Unit Setting

National map unit symbol: k7kq

Mean annual precipitation: 36 to 45 inches
Mean annual air temperature: 41 to 64 degrees F

Frost-free period: 134 to 167 days

Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Physical Soil Properties (Equitrans Expansion 2021 WV)

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrinkswell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than

9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

					Physical S	Soil Properties-V	etzel County,	West Virginia						
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter	_	Erosio factor		Wind erodibility	Wind erodibility index
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
EkB—Elk silt loam, 3 to 8 percent slopes														
Elk	0-9	0-25- 30	50-57- 83	10-18- 27	1.20-1.30- 1.40	4.00-9.00-14.00	0.19-0.21-0.2	0.0- 1.5- 2.9	0.5- 1.8- 3.0	.49	.49	5	5	56
	9-43	0-10- 50	50-55- 83	0-35- 40	1.20-1.35- 1.50	4.00-9.00-14.00	0.18-0.20-0.2	0.0- 1.5- 2.9	0.0- 0.5- 1.0	.37	.37			
	43-65	0-25- 50	40-57- 88	0-18- 60	1.20-1.35- 1.50	4.00-9.00-14.00	0.14-0.17-0.2	0.0- 1.5- 2.9	0.5- 0.5- 0.5	.55	.55			
Other soils	_	_	_	_	_	_	_	_	_					
Melvin	0-7	0-25- 35	50-61- 83	12-15- 17	1.20-1.40- 1.60	4.00-9.00-14.00	0.18-0.21-0.2	0.0- 1.5- 2.9	0.5- 1.8- 3.0	.49	.49	5	5	56
	7-24	0- 8- 25	40-63- 73	20-30- 40	1.30-1.45- 1.60	4.00-9.00-14.00	0.18-0.21-0.2	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.32	.32			
	24-65	0- 8- 25	40-63- 73	20-30- 40	1.40-1.55- 1.70	4.00-9.00-14.00	0.16-0.20-0.2 3	0.0- 1.5- 2.9	0.2- 0.6- 1.0	.37	.37			

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter	1	Erosio facto		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
GpD—Gilpin- Peabody complex, 15 to 25 percent slopes														
Gilpin	0-3	2-16- 43	51-70- 84	6-14- 27	0.80-1.20- 1.45	4.00-9.00-14.00	0.20-0.21-0.2 4	0.1- 0.6- 1.9	1.0- 3.9- 4.0	.37	.37	3	5	56
	3-5	2-15- 34	43-67- 84	8-18- 27	1.34-1.48- 1.55	4.00-9.00-14.00	0.17-0.20-0.2 4	0.2- 1.0- 2.3	0.1- 0.8- 1.0	.55	.55			
	5-30	3-19- 43	31-53- 73	14-28- 39	1.37-1.55- 1.77	4.00-9.00-14.00	0.08-0.15-0.2	0.4- 1.7- 4.9	0.0- 0.6- 1.0	.24	.43			
	30-40	_	_	_	_	1.40-2.70-4.00	_	_	_					
Peabody	0-3	10-15- 20	50-56- 61	27-29- 33	1.24-1.33- 1.42	1.40-2.70-4.00	0.21-0.22-0.2	1.6- 2.0- 2.7	0.8- 1.9- 3.0	.32	.32	3	6	48
	3-23	0- 5- 20	25-47- 60	35-48- 60	1.35-1.39- 1.40	0.40-2.20-4.00	0.09-0.15-0.2	2.5- 4.4- 6.5	0.3- 0.6- 1.3	.28	.28			
	23-28	0- 7- 20	40-43- 60	27-50- 55	1.33-1.33- 1.33	0.40-2.20-4.00	0.09-0.11-0.2	0.5- 3.5- 6.2	0.1- 0.3- 0.4	.28	.28			
	28-38	_	_	_	_	0.10-0.70-1.40	_	_	_					
Upshur	0-6	2- 6- 19	50-60- 71	27-34- 39	1.28-1.37- 1.46	1.40-2.82-4.23	0.21-0.22-0.2	2.5- 3.9- 4.7	1.0- 1.7- 4.0	.37	.37	4	6	48
	6-9	2- 4- 9	33-53- 59	35-43- 58	1.30-1.50- 1.60	0.42-0.92-1.41	0.11-0.17-0.2 3	3.3- 5.1- 7.2	0.1- 0.9- 1.5	.32	.32			
	9-25	1- 2- 9	32-42- 60	40-56- 59	1.30-1.45- 1.55	0.42-0.92-1.41	0.09-0.11-0.1	3.2- 6.6- 7.2	0.1- 0.2- 0.8	.24	.24			
	25-35	1- 2- 9	32-57- 60	35-41- 59	1.30-1.45- 1.65	0.42-0.92-1.41	0.09-0.15-0.2	3.0- 4.4- 7.2	0.1- 0.2- 0.8	.37	.37			
	35-40	2- 2- 15	37-65- 72	27-33- 48	1.40-1.50- 1.80	0.42-0.92-1.41	0.08-0.14-0.2	2.0- 2.8- 5.7	0.1- 0.2- 0.8	.49	.49			
	40-50	2- 2- 15	37-68- 78	21-30- 61	1.35-1.40- 1.80	0.42-0.92-1.41	0.08-0.14-0.2	0.4- 1.8- 7.5	0.1- 0.2- 0.8	.49	.49			

					Physical S	Soil Properties-V	etzel County,	West Virginia						
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter		Erosio		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
	50-60	_	_	_	_	1.41-2.82-4.34	_	_	_					
Otwell	0-10	0-25- 30	50-52- 80	18-23- 27	1.25-1.33- 1.40	4.00-9.00-14.00	0.22-0.23-0.2	1.5- 2.1- 3.0	0.5- 1.3- 2.0	.43	.43	4	6	48
	10-27	0-25- 49	50-50- 83	1-25- 40	1.30-1.38- 1.45	1.40-2.70-4.00	0.18-0.20-0.2	0.0- 1.9- 4.8	0.0- 0.3- 0.5	.55	.55			
	27-51	0-20- 52	28-60- 87	2-20- 40	1.60-1.70- 1.80	0.10-0.20-0.40	0.06-0.07-0.0	0.0- 0.9- 2.8	0.0- 0.3- 0.5	.64	.64			
	51-65	5-22- 30	40-52- 75	20-27- 35	1.50-1.55- 1.60	1.40-2.80-4.20	0.18-0.20-0.2 1	0.9- 1.8- 3.4	0.1- 0.3- 0.5	.43	.43			
Vandalia	0-6	15-18- 20	53-59- 69	12-23- 27	1.27-1.29- 1.31	1.40-7.70-14.00	0.19-0.21-0.2 4	0.8- 2.1- 3.0	1.0- 2.0- 2.5	.43	.43	5	6	48
	6-13	12-19- 20	50-57- 70	18-24- 30	1.22-1.30- 1.37	1.40-7.70-14.00	0.18-0.20-0.2 4	1.3- 2.1- 3.6	0.5- 1.0- 1.4	.43	.43			
	13-31	10-19- 20	39-46- 63	27-35- 42	1.36-1.42- 1.47	0.42-2.20-4.00	0.09-0.15-0.2	1.3- 2.6- 3.8	0.4- 0.5- 0.6	.37	.37			
	31-46	8-10- 15	40-48- 65	27-42- 45	1.36-1.40- 1.43	0.42-2.20-4.00	0.10-0.15-0.2	1.3- 3.0- 4.1	0.2- 0.3- 0.4	.32	.32			
	46-54	10-12- 14	39-45- 60	30-43- 47	1.48-1.49- 1.50	0.42-2.20-4.00	0.08-0.14-0.2	1.3- 2.9- 4.5	0.1- 0.2- 0.3	.28	.28			
	54-65	9-13- 14	44-52- 63	28-35- 42	1.36-1.42- 1.48	0.42-2.20-4.00	0.10-0.15-0.2	1.5- 2.6- 5.1	0.1- 0.1- 0.2	.37	.37			

					Physical S	Soil Properties-V	Vetzel County,	West Virginia						
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter		Erosio facto		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
GpE—Gilpin- Peabody complex, 25 to 35 percent slopes, moderately eroded														
Gilpin	0-1	_	_	_	0.05-0.10- 0.20	42.00-92.00-14 1.00	0.00-0.01-0.0	_	52.0-69.0- 86.0			3	5	56
	1-4	2-16- 41	48-70- 84	6-14- 27	0.80-1.20- 1.45	4.23-9.17-14.11	0.20-0.21-0.2 4	0.2- 0.7- 1.9	1.0- 3.9- 4.0	.37	.37			
	4-5	2-15- 34	43-67- 84	8-18- 27	1.34-1.48- 1.55	4.23-9.17-14.11	0.17-0.20-0.2 4	0.3- 0.9- 2.2	0.1- 0.8- 1.0	.55	.55			
	5-30	3-19- 43	31-53- 73	14-28- 39	1.37-1.55- 1.77	4.23-9.17-14.11	0.08-0.15-0.2	0.4- 1.7- 4.9	0.0- 0.6- 1.0	.24	.43			
	30-40	_	_	_	_	1.41-7.76-14.11	_	_	<u> </u>					
Peabody	0-1	_	_	_	0.05-0.10- 0.20	42.00-92.00-14 1.00	0.00-0.01-0.0	_	52.0-69.0- 86.0			3	6	48
	1-3	10-15- 20	50-56- 61	27-29- 33	1.20-1.35- 1.50	1.40-2.70-4.00	0.21-0.22-0.2	1.6- 2.0- 2.7	0.8- 1.9- 3.0	.37	.37			
	3-23	0- 5- 20	25-47- 60	35-48- 60	1.30-1.45- 1.60	0.42-0.90-1.40	0.09-0.15-0.2	2.2- 5.6- 8.9	0.3- 0.6- 1.3	.28	.28			
	23-28	0- 7- 20	40-43- 60	27-50- 55	1.30-1.45- 1.70	0.42-2.20-4.00	0.09-0.11-0.2	1.1- 4.3- 6.6	0.1- 0.3- 0.4	.28	.28			
	28-38	_	_	_	_	0.01-0.70-1.40	_	_	_					
Otwell	0-10	0-25- 30	50-52- 80	18-23- 27	1.25-1.33- 1.40	4.00-9.00-14.00	0.22-0.23-0.2	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.43	.43	4	6	48
	10-27	0-25- 50	50-50- 83	0-25- 40	1.30-1.38- 1.45	1.40-2.70-4.00	0.18-0.20-0.2	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.55	.55			
	27-51	0-20- 52	28-60- 87	0-20- 40	1.60-1.70- 1.80	0.01-0.21-0.42	0.06-0.07-0.0	3.0- 4.5- 5.9	0.0- 0.3- 0.5	.64	.64			

					Physical S	Soil Properties-W	etzel County,	West Virginia						
Map symbol and soil name			Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter		rosio		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
	51-65	5-22- 30	40-52- 75	20-27- 35	1.50-1.55- 1.60	1.41-2.82-4.23	0.18-0.20-0.2 1	3.0- 4.5- 5.9	0.1- 0.3- 0.5	.43	.43			
Weikert	0-7	-26-	-53-	15-21- 27	1.20-1.30- 1.40	14.11-28.23-42. 34	0.08-0.11-0.1 4	0.0- 1.5- 2.9	1.0- 2.0- 3.0	.15	.32	1	7	38
	7-19	-26-	-53-	15-21- 27	1.20-1.30- 1.40	14.11-28.23-42. 34	0.04-0.06-0.0	0.0- 1.5- 2.9	0.0- 0.3- 0.5	.10	.43			
	19-29	_	_	_	_	4.23-72.69-141. 14	_	_	_					
Rock outcrop	_	_	_	_	_	_	_	_	_					

					Physical S	Soil Properties-V	etzel County,	West Virginia						
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter		Frosio Factor		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
GpF—Gilpin- Peabody complex, 35 to 70 percent slopes														
Gilpin	0-1	_	_	_	0.10-0.18- 0.30	42.00-92.00-14 1.00	_	_	50.0-60.0- 70.0			3	6	48
	1-4	10-25- 35	50-54- 70	15-21- 27	1.20-1.30- 1.40	4.00-9.00-14.00	0.12-0.15-0.1 8	0.0- 1.5- 2.9	0.5- 2.3- 4.0	.37	.37			
	4-28	0-10- 52	28-55- 73	7-35- 40	1.20-1.35- 1.50	4.00-9.00-14.00	0.12-0.14-0.1 6	0.0- 1.5- 2.9	0.2- 0.4- 0.6	.37	.37			
	28-34	0-25- 52	28-54- 83	15-21- 27	1.20-1.35- 1.50	4.00-9.00-14.00	0.08-0.10-0.1	0.0- 1.5- 2.9	0.2- 0.3- 0.5	.15	.49			
	34-38	_	_	_	_	1.40-2.70-4.00	_	_	_					
Peabody	0-2	0-10- 20	40-55- 73	27-35- 40	1.20-1.35- 1.50	1.40-2.70-4.00	0.12-0.14-0.1 6	3.0- 4.5- 5.9	0.5- 1.8- 3.0	.28	.28	3	6	48
	2-22	0- 5- 45	0-45- 73	27-50-100	1.30-1.45- 1.60	0.42-2.20-4.00	0.10-0.12-0.1 4	6.0- 7.5- 8.9	0.3- 0.7- 1.2	.24	.24			
	22-27	0- 5- 20	40-45- 73	27-50- 60	1.30-1.45- 1.60	0.42-2.20-4.00	0.10-0.12-0.1	6.0- 7.5- 8.9	0.2- 0.3- 0.4	.10	.28			
	27-31	_	_	_	_	0.00-0.70-1.40	_	_	_					
Other soils	_	_	_	_	_	_	_	_						

					Physical S	Soil Properties-W	etzel County,	West Virginia						
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter	_	Erosic factor		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
No—Nolin loam														
Nolin	0-10	23-37- 52	28-45- 60	10-18- 25	1.20-1.30- 1.40	4.00-9.00-14.00	0.14-0.16-0.1 8	0.0- 1.5- 2.9	2.0- 3.0- 4.0	.43	.43	5	5	56
	10-47	0-15- 50	50-60- 83	0-25- 40	1.25-1.38- 1.50	4.00-9.00-14.00	0.18-0.21-0.2	0.0- 1.5- 2.9	0.3- 1.1- 2.0	.43	.43			
	47-65	0-37- 52	28-45- 83	0-18- 27	1.30-1.43- 1.55	4.00-23.00-42.0 0	0.10-0.17-0.2	0.0- 1.5- 2.9	0.3- 1.1- 2.0	.49	.49			
Other soils	_	_	_	_	_	_	_	_	_					
Melvin	0-7	0-25- 35	50-61- 83	12-15- 17	1.20-1.40- 1.60	4.00-9.00-14.00	0.18-0.21-0.2	0.0- 1.5- 2.9	0.5- 1.8- 3.0	.49	.49	5	5	56
	7-24	0- 8- 25	40-63- 73	20-30- 40	1.30-1.45- 1.60	4.00-9.00-14.00	0.18-0.21-0.2	0.0- 1.5- 2.9	0.5- 1.3- 2.0	.32	.32			
	24-65	0- 8- 25	40-63- 73	20-30- 40	1.40-1.55- 1.70	4.00-9.00-14.00	0.16-0.20-0.2	0.0- 1.5- 2.9	0.2- 0.6- 1.0	.37	.37			

					Physical S	Soil Properties-V	letzel County,	West Virginia						
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter		Erosio factor		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
Sk—Skidmore gravelly loam, occasionally flooded														
Skidmore, occasionally flooded	0-6	32-46- 50	40-42- 48	10-12- 20	1.46-1.52- 1.57	14.00-28.00-42. 00	0.15-0.18-0.1 9	0.4- 0.7- 0.9	0.5- 1.3- 2.0	.24	.37	3	6	48
	6-15	27-40- 59	33-46- 49	8-14- 24	1.35-1.40- 1.45	14.00-28.00-42. 00	0.10-0.15-0.1 9	0.3- 0.8- 1.5	0.5- 1.3- 2.0	.24	.43			
	15-21	48-67- 74	18-20- 34	8-13- 18	1.54-1.58- 1.61	14.00-28.00-42. 00	0.06-0.09-0.1 4	0.2- 0.4- 0.9	0.3- 0.4- 0.6	.05	.24			
	21-65	50-72- 78	15-18- 38	7-10- 12	1.47-1.55- 1.63	14.00-28.00-42. 00	0.01-0.03-0.1	0.0- 0.1- 0.4	0.1- 0.2- 0.3	.02	.28			
Sensabaugh, occasionally flooded	0-7	30-40- 52	28-44- 50	8-16- 26	1.43-1.48- 1.54	4.00-23.00-42.0 0	0.12-0.15-0.1 8	0.4- 0.9- 1.9	1.0- 2.0- 3.0	.28	.28	4	5	56
	7-26	22-32- 50	30-43- 60	8-25- 35	1.41-1.46- 1.52	4.00-23.00-42.0 0	0.10-0.13-0.1 6	0.3- 1.4- 2.6	0.4- 0.6- 0.8	.17	.28			
	26-30	26-39- 58	28-37- 60	8-24- 26	1.50-1.56- 1.63	4.00-23.00-42.0 0	0.09-0.12-0.1 5	0.2- 1.1- 1.6	0.2- 0.4- 0.6	.10	.24			
	30-65	26-44- 63	28-35- 60	8-21- 28	1.40-1.44- 1.49	4.00-23.00-42.0 0	0.08-0.11-0.1	0.2- 0.8- 1.7	0.1- 0.2- 0.3	.10	.28			
Nolin, 0-2 occasionally flooded	0-12	5- 7- 40	40-70- 75	10-23- 40	1.20-1.35- 1.50	4.00-9.00-14.00	0.18-0.21-0.2 3	0.7- 2.1- 4.8	1.0- 3.0- 4.0	.32	.32	5	6	48
	12-74	5- 7- 40	40-68- 75	10-25- 40	1.25-1.53- 1.70	4.00-9.00-14.00	0.18-0.21-0.2 3	0.7- 2.3- 4.7	0.2- 1.0- 1.5	.49	.49			

					Physical S	Soil Properties-V	etzel County,	West Virginia						
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk	Saturated hydraulic	Available water	Linear extensibility	Organic matter		Erosio factor		Wind erodibility	Wind erodibility
					density	conductivity	capacity			Kw	Kf	Т	group	index
	In	Pct	Pct	Pct	g/cc	micro m/sec	In/In	Pct	Pct					
	74-80	5-21- 70	20-67- 75	6-12- 30	1.30-1.55- 1.70	4.00-23.00-42.0 0	0.10-0.17-0.2 3	0.2- 0.9- 3.1	0.1- 0.5- 0.5	.55	.55			
Lobdell, occasionally flooded	0-6	38-42- 45	31-37- 42	20-21- 24	1.41-1.47- 1.53	4.00-9.00-14.00	0.18-0.20-0.2	1.6- 1.8- 2.3	1.0- 2.0- 3.0	.28	.28	5	6	48
	6-20	36-40- 43	34-40- 51	13-20- 23	1.42-1.42- 1.43	4.00-9.00-14.00	0.16-0.20-0.2	0.9- 1.7- 2.1	0.1- 0.3- 0.5	.43	.43			
	20-38	35-39- 45	33-43- 52	13-18- 22	1.41-1.42- 1.44	4.00-9.00-14.00	0.17-0.20-0.2	0.9- 1.4- 2.0	0.1- 0.3- 0.4	.43	.43			
	38-65	38-40- 46	36-45- 51	11-15- 18	1.42-1.46- 1.50	4.00-9.00-14.00	0.16-0.20-0.2	0.7- 1.2- 1.4	0.1- 0.2- 0.3	.49	.49			
Melvin, occasionally flooded	0-7	0-14- 46	36-71- 86	12-15- 28	1.30-1.40- 1.50	4.00-9.00-14.00	0.18-0.21-0.2 3	0.8- 1.1- 2.9	0.5- 1.8- 3.0	.43	.43	5	5	56
	7-31	2- 7- 30	53-69- 86	12-24- 35	1.30-1.40- 1.50	4.00-9.00-14.00	0.18-0.21-0.2	0.8- 2.2- 3.9	0.5- 1.2- 2.0	.49	.49			
	31-80	1-11- 35	45-68- 80	7-21- 32	1.40-1.40- 1.50	4.00-9.00-14.00	0.16-0.20-0.2 3	0.4- 1.7- 3.4	0.2- 0.6- 1.0	.49	.49			
Us— Udorthents, smoothed														
Udorthents	_	_	_	_	_	_	_	_	_					
W—Water														
Water	_				_	_	_		-					

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